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Aid and the environment: The case of Kenya

WIDER Working Paper, No. 2013/133

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# WIDER Working Paper No. 2013/133

# Aid and the environment

The case of Kenya

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December 2013

### **Abstract**

We investigate allocations of foreign aid by donors to the environment sector in Kenya covering the period 2001-12. Our data are largely obtained from official government and global aid databases complemented with donor interviews. We find that donor funding remained significant with emphasis on economic sectors such as agriculture, industry infrastructure and public debt. Allocations to environment have not been priority for donors in spite of several policy statements. Further, aid flows remained unpredictable, with huge disbursements occurring as emergency funds during disasters.

Keywords: foreign aid, environment, Kenya

JEL classification: F35, F64, O55

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# **Acronyms**

AERC African Economic Research Consortium AFD Agence Française de Dévelopment

AfDB African Development Bank

Danida Danish International Development Agency

ERS the Economic Recovery Strategy

EU European Union
GoK government of Kenya
IMF International Monetary Fund
KfW Kreditanstalt für Wiederaufbau

OECD-DAC Development Assistance Committee (of the OECD)

KNBS Kenya National Bureau of Statistics MDGs Millennium Development Goals

Sida Swedish International Development Cooperation Agency

UNICEF United Nations Children's Fund

WB World Bank

GIZ Deutsche Gesellschaft für Internationale Zusammernarbect

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### 1 Introduction

The last decade or so has seen radical criticism of foreign aid. This has been driven by the perception that foreign aid has not produced the desired results. Much has been written over the last decades about what makes external financing work better and what inhibits it from doing so (Herfkens 1999; Burnside and Dollar 2000). To make aid more effective, the Paris Declaration provides a blueprint for the poorest and wealthiest countries, as well as for the development institutions, for improving aid quality and enhancing efficiency. The Paris Declaration calls for recipients to take the lead in co-ordinating aid at all tiers in combination with other developmental resources in consultation with donors, private sector and civil society.

Kenya's future sustained economic growth depends on better environmental management. In the midst of a degrading environment, donors emphasize the need to protect the environment, improve environmental management and prepare for climate change challenges. However, information on actual allocations to environmental activities, including climate change, is lacking. There is, in addition, little information on the relative importance of environmental activities undertaken by various donors.

In recognition of the dearth of information on the sector, the African Economic Research Consortium (AERC) has commissioned research on aid and the environment in six countries, including Kenya. Together these studies will provide a preliminary assessment of donor resources and to what extent they tackle environmental challenges. Each report provides an analysis of existing arrangements and sets out country-specific recommendations.

This study forms the country study for Kenya. The study seeks to draw policy insights from the country's experience with aid and the environment. The case study features environment as a tracer sector to compare and contrast trends and experiences in dealing with aid.

The research has two methodological components: quantitative and qualitative. The quantitative component entails collecting and analysing data from relevant databases such AidData, OECD-DAC and KNBS. Additional information is gathered from donor, government and other sources including interviews with relevant stakeholders.

The overall objective of the study is to determine what aid flows have been doing and what they are doing in the area of aid and environment in the eight selected countries namely Botswana, Burkina Faso, Ghana, Kenya, Mozambique, Senegal, Tanzania and Uganda. The specific objectives of the study are therefore to:

- (i) analyse Kenya's sectoral development expenditure in the last decade;
- (ii) analyse various foreign donor interventions in the country;
- (iii) identify and discuss the most prominent aid donors in Kenya;
- (iv) estimate the amounts of aid and government development expenditure allocated to environmental interventions; and
- (v) analyse the perceptions of foreign donor agencies on environmental issues in Kenya.

The rest of the paper is organized as follows. The next section discusses the country's priority development and environmental challenges on a sector by sector basis. Section 3 examines trends in government expenditure across sectors and expenditure in the environment sector

for the past decade. Section 4 looks at external aid by sector, also presenting the major donors to the country. Section 5 outlines the major trends based on AidData sources, while section 6 discusses projects that are viewed as successes or failures and the underlying reasons for these outcomes. Section 7 concludes.

# 2 Kenya: priority development and environmental challenges

Since gaining independence in 1963, Kenya has pursued a path of economic development that, despite setbacks in the early 1990s, has helped the country emerge as the largest economy in East Africa. Political turmoil continues to underlie economic advancement and some degree of violence and tension has accompanied all elections since 1992. This was particularly evident during the 2007 post-election crisis during which over 1,000 people lost their lives. Kenya's recovery from these events has been hampered by the global economic downturn and unpredictable rainfall that has led to incidents of prolonged flooding or drought.

Poverty and inequality remain key obstacles to Kenya's development despite recent political and economic gains. Population rates have risen by about 35 per cent over the last decade, with the population reaching about 41 million in 2012. This is placing increased stress on the country's natural resources, environment and development of infrastructure systems, including access to basic social services. On its current trajectory, Kenya will struggle to meet the Millennium Development Goals (MDGs).

Environmental and natural resource degradation constitutes a major challenge to Kenya's development process (GoK 2012). These resources are increasingly under pressure as a result of unsustainable utilization that has resulted in pollution, soil erosion, resource depletion and specie extinctions. The country confronts a major challenge in planning for the sustainable use of natural resources in the face of limited arable land, water, rapid population growth, poverty and limited financial capital. Increased economic activity is in conflict with the environment.

Kenya's future sustained economic growth depends on better environmental management. Forest ecosystems, wetlands and semi-arid and arid lands encompass Kenya's key biodiversity habitats and many of its cultural sites, supply much of its domestic energy, and provide crucial environmental services, such controlling erosion, maintaining water quality and absorbing carbon. Despite the importance of sound environmental management to both agriculture and tourism, which together account for over one-third of Kenya's GDP, widespread degradation of the environment and overexploitation of natural resources remain serious problems.

### 2.1 Water

The high population growth rate and expansion of economic activities have put pressure on water resources. National development plans (2002-08, 2008-12) recognize Kenya as a water-scarce country where demand exceeds renewable fresh water sources. Per capita availability is estimated at 647m³, and is projected to fall to 245m³ per capita by the year 2025 which is far too below the recommended minimum of 1000m³. Moreover, the available resources are unevenly distributed both spatially and seasonally. With over 80 per cent of the country arid or semi-arid, rainfall is highly variable and this poses serious environmental challenges.

Water resources are also under pressure from soil erosion and siltation, water catchment destruction, low level compliance to water quality regulations, inefficient water use strategies, over-abstraction of water resources and invasive species.

# 2.2 Forestry

Kenya has a low forestry cover, as less than 10 per cent of its total land area is classified as forest. Forests play a vital role in the livelihood of the Kenyan population through the provision of invaluable forest related goods and services. The most significant contribution is in the energy sector for both domestic and industrial processes, provision of timber for construction and trees for regulation of water flows. It is estimated that about 80 per cent of the population use biomass energy while hydro energy generation relies heavily on water.

Approximately 5,000 ha of forest cover are lost every year through illegal logging, encroachment, cultivation and development projects in forest reserves. In addition to the unsustainable utilization of these resources, poor capacity to value forest goods and services as well as forest fires and the lack of harmonized guidelines on the management of transboundary forest resources have exacerbated this trend. Decrease in forest cover has led to the decline of ecological functions, including prevention of soil erosion, water yield and the conservation of wildlife habitat and genetic resources. This has also led to sedimentation and siltation of downstream water resources.

### 2.3 Biodiversity

Biodiversity is defined as the number and variety of living organisms on earth, the genes they contain and the ecosystems, ecological processes and landscapes of which they are an integral part. Kenya has a wide range of plant and animal life. There are an estimated 35,000 known species of plants and animals and micro-organisms. These are important sources of food, beverages, medicine, forage, vegetables, hides and skins. Furthermore, many species still remain unknown.

One of the major threats facing Kenya is the loss of biological diversity. Land use changes favouring agriculture and urban development have led to the reduction and modification of wild areas resulting in the extinction of, or threat of extinction to, wildlife species and natural areas which serve as habitat.

### 2.4 Soils

Deforestation and forest degradation result in severe erosion and siltation of lakes and other water bodies. Soil nutrient levels are declining and yields falling due to poor farming practices and low use of fertilizers. This, in part, drives agricultural expansion into marginal areas and into indigenous forests, putting further pressure on biodiversity.

### 2.5 Extreme weather events

Kenya is highly vulnerable to extreme weather events. The 1997-98 floods followed by the 1998-2000 drought cost the Kenyan economy US\$4.8 billion or about 14 per cent of GDP. Weather shocks of this magnitude severely challenge the capacity of the government and of the private sector to maintain growth. At the household level, weather shocks are equally devastating. In 2005/06 alone, nearly 3.5 million people required food aid and other humanitarian assistance following poor rains. Livestock losses of up to 70 per cent were

reported in the semi-arid and arid regions. Climate change is therefore not only an environmental problem but one that also affects the foundations of human and economic development. There is a risk that climate change will worsen. The UN Intergovernmental Panel on Climate Change predicts that there will be a 2°C temperature rise by 2035. The implications would be devastating: more and worse droughts, floods and rising sea levels.

# 3 Trends in overall development expenditure in the past decade

Kenya's development agenda and policies are spelt out in documents such as the 'Vision 2030', and the attendant 'Medium-Term Plans' and the '1999-2015 National Poverty Eradication Programme'. Kenya is set to become a middle-income rapidly industrializing economy providing a high quality life to all its citizens in a safe healthy environment. For the 'Vision' to be realized there must be massive investment in systemic reforms, infrastructure, and human and institutional capacity-building. External resources should thus be instrumental in closing the resource gaps that arise in the implementation of national development programmes.

During past decade, development expenditure has been disbursed through four broad pillars, namely: general public services, economic affairs, health and education. The scope of these pillars may have changed over the period under study because various regimes occasionally redefined the sectoral structure of the economy with the aggregation of several independent ministries. This poses a challenge in determining and tracking the trends of expenditure by the various ministries which appear and/or disappear during the study period. Nevertheless, analysis of available statistics shows that development expenditure has improved gradually through the years.

Over the period in question, the government progressively funded sectors and projects that were deemed to have a rapid and strong link to economic growth. The urgency to reach the targets set out in the MDGs and the Vision 2030, to a great extent, determined, guided and explained the previous fund allocation regimes. Unemployment, sustainable growth, poverty and macroeconomic stability are hurdles that have underpinned national budgets (Budget Statement, Fiscal Year 2013/14)1.

Table 1 in the appendix gives the annual development allocation to various sectors for the financial years 2002/03 to 2012/13. The data show, a total of Kshs 1,380 trillion was set aside for development over the period under study. The figure grew steadily from Kshs 18,706 billion in the 2002/03FY to Kshs 363.232 billion in 2012/13, implying an average annual growth of Kshs 28.71 billion in development expenditures. The increase validates the commitment of the government of Kenya to economic recovery since 2002, after about two decades of a sharp economic decline. According to the Economic Recovery Strategy (2003), the sectors for prioritized attention included agriculture, tourism, trade and industry. As a result, funding to these sectors has remained high. Tourism may be the exception, as related data were not available for the analysis. Obviously, explicit spending on environmental issues is absent.

Emphasis was put on the development, renovation and construction of transport infrastructure which received 28.1 per cent of all disbursements during the years under review. Of the total

<sup>&</sup>lt;sup>1</sup> Kenya:2013/2014 Budget Statement by National Treasury Cabinet Secretary.

development funds disbursed during the period, fuel and energy received 20.17 per cent, agriculture, forestry, fishing and hunting 9.82 per cent while housing and community amenities were allocated 7.53 per cent. The percentage share of total development expenditure by sectors between the 2002/03 and 2012/13 financial years is given in Table A3 in the appendix.

Over the years the government of Kenya has invested extensively in transport infrastructure with the aim to cultivate foreign direct and local investment in the economy. The sectors that formed the backbone of the economy when the Economic Recovery Strategy (ERS) 2003 was formulated, were closely linked to the transport network. Consequently, major roads were repaired to open up key agricultural zones, tourist attraction sites and business centres. A milestone achievement is the Thika-Nairobi superhighway, constructed between 2009 and 2012, to ease traffic flows in and out of Nairobi. However, in spite of the record-breaking shares to infrastructural development, some of the country's regions are still waiting for the upgraded transport infrastructure. Northern Kenya still suffers poor roads (GoK 2008) and remains isolated from key economic transactions.

The focus on transport infrastructure in the country's development ambitions implied that it had far reaching effects on other closely linked sectors. The government's expectations in this respect are evident from the allocation trends to these sectors. For instance, heavy infrastructural projects over the period meant that energy requirements surged up. The implementation of the ERSs also spurred a persistent growth in energy consumption. In effect, energy consumption increased from 734 kilo tons of oil equivalents in January 2002 to a staggering 1241.83 kilo tons in January 2009 (Trading Economics 2013). Simultaneously, there was a continued emphasis on the need to empower the energy sector in order to be able to deliver the Vision 2030 (Glopolis 2012). Kenya has good potential in renewable sources of energy, such as geothermal, wind, biomass and solar energy sources, which were targeted for improvement. The government also sought to set up a nuclear plant to quench the soaring demand for energy. This overwhelming reliance on fuel and energy maintained the high allocations to the sector over the period, which received on average over 20 per cent of total development expenditures each financial year. Expenditure to the renewable energy sector acknowledges the intricate links to climate change both as a cause and part of the solution. Globally, energy-related emissions account for about two-thirds of the anthropogenic greenhouse gas emissions and 80 per cent of the global carbon dioxide emissions (World Energy Council 2007).

Considerable shares of government funds to non-developmental entities include public debt transactions and defence. Prior to 2002, public debt exceeded 50 per cent of GDP, forcing the government to substantial investments in order to curtail the burden on growth and development. Spending Kshs 363.632 billion on public debt-related transactions (GoK 2013), the government in effect reduced the debt-to-GDP ratio from 60.6 per cent in 2003/04 to 45.5 per cent in 2008/09. The debt-to-GDP ratio was 46.5 per cent in the 2012/13 financial year. Kenya's strategic position in the face of regional instability and conflicts, especially in the then tension-prone South Sudan and Somalia, triggered spending on defence. Kenya was instrumental in peace-keeping missions in DR Congo, South Sudan and Somalia in the period under study.

Having discussed the backdrop of allocations to some of the presumably integral recipients of development funding, it is also necessary to examine their yearly trends. The next section discusses the manner and nature of flows to sectors that were considered to be linked to

environmental issues, and received therefore quite a considerable share of development allocations during the period.

# 3.1 Trends in sectoral development allocations

The following figures show the trend of development allocations by the Kenyan government to the various sectors during the years under review.

# **Transport**

Figure 1 shows the trend in development allocations to the transport sector over the period 2002-13.

140,000
120,000
100,000
80,000
40,000
20,000
0
Transport

Figure 1: Development allocations to transport, 2002-13

Source: Author calculations based on data from KNBS-(Economic Survey).

# Agriculture, forestry, fishing and hunting

Allocations to agriculture, forestry, fishing and hunting increased steadily during the period of the study, with a peak in 2011/12FY. This was followed by a significant slump in the 2012/13FY, but overall the sector seemed to have benefited immensely over the years.

# Fuel and energy

As fuel and energy was among the sectors that attracted large share of funds, funding towards its development also grew significantly, as Figure 3 shows. The one noticeable slump was not only small, but also occurred between 2003/04 and 2004/05, just before the period of study, showing that there was a continued emphasis on the sector throughout the years. The period under study witnessed recurrent hikes in international oil prices (GoK 2008), and as Kenya was on the receiving end of such fluctuations, it was natural for the country to seek other sources of energy (Glopolis 2012). At the beginning of the last decade, there were numerous power blackouts that disrupted economic production. Furthermore, a great percentage of Kenyans lacked access to electricity. In 2006, the government invested on rural electrification (Abass 2010) to bring electricity to rural areas. The sector was considered so significant that while the allocation to agriculture in the 2012/13FY dropped to a mere 7.84 per cent of the

total annual development expenditure, the share for fuel and energy was hiked up from 17.7 per cent to 22.93 per cent as shown in Table A3 in the appendix.

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Figure 2: Development allocations to agriculture, forestry, fishing and hunting, 2002-13

Source: Author calculations based on data from KNBS-(Economic Survey).

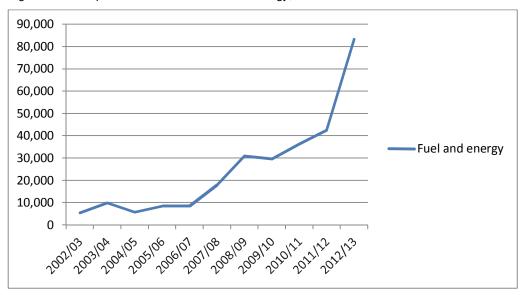


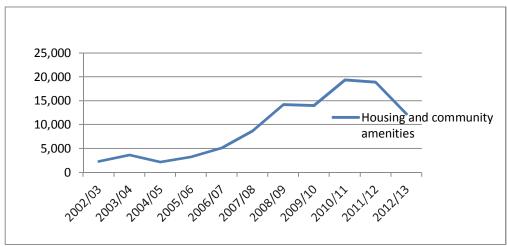
Figure 3: Development allocations to fuel and energy, 2002-13

Source: Author calculations based on data from KNBS-(Economic Survey).

### Housing and community amenities

As Figure 4 shows, allocations to the development of housing and community amenities grew steadily until the 2010/11FY before dwindling slightly. The proposed improvement of housing conditions among Kenyans living in urban areas expanded the requisite funds for housing (GoK 2010).

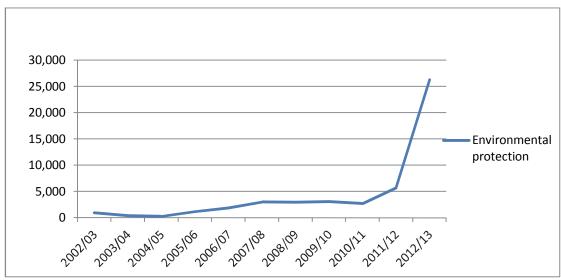
Figure 4: Development allocations to housing and community amenities, 2002–13



Source: Author's calculations based on data from KNBS-(Economic Survey).

Environmental protection is clearly one of the sectors that received considerably smaller development allocations from the Kenyan government, as figure 6a shows. Receiving only 3.49 per cent of the total funds allocated during the period, the sector compares poorly against agriculture, transport, fuel and energy, and housing and community amenities, all of which have a direct influence on the quality of environment. Funds allocated to environmental protection are not only small, but have also stagnated, with the exception of the 2012/13FY, as indicated by Figure 5. After omitting the 2012/13FY allocation, the percentage directed to environmental protection over the entire period accounts for just 2.15 per cent of the total outlay. The allocation for development in the sector for the 2012/13FY exceeds the sum of the preceding decade by Kshs 4.41 billion. Evidently, the government prioritized other areas but was hesitant on environment, despite the numerous policy decisions to employ a multisectoral development framework which should have incited a simultaneous approach to economic recovery (Thaxton 2007) with environment at its core.

Figure 5: Development allocations to environment protection, 2002–13



Source: Author's calculations based on data from KNBS-(Economic Survey).

Figure 6a plots the allocation trends in agriculture, forestry, fishing and hunting, fuel and energy, and housing and community amenities against those of environmental protection. As shown, these display an increasing trend, and exceed the disbursements earmarked to environmental protection. The amounts to the environment sector remained near the original level, while other allocations shot up exponentially. Clearly, throughout the period there were attempts to ease the crunch of slow economic growth at the expense of environmental protection, a situation which could have triggered the sudden and sharp allocation in 2012/13 in a bid to fill the gap.

The picture emerging from Figures 5 and 6(a) may be distorted, particularly if some entry contributing to environmental protection is omitted. Therefore, it is fitting to include the shares to agriculture, forestry, fishing and hunting with the allocations to environmental protection (Figure 6b). As Figure 6b shows, the inclusion of the agricultural sector shares to environmental protection to shows an increasing trend over time. This fact notwithstanding, allocations for development in the transport and fuel and energy sectors still surpass the combined shares for the agricultural sector and environmental protection. However one views these allocations, the conclusion is that environmental issues, in comparison to other sectors, were regarded as less important.

### 4 Trends in external disbursements

This section provides a brief overview of external disbursements to Kenya, examining the magnitude, purpose and sources of aid to various sectors during the years 2000-12. Donor funding forms an important ingredient in Kenya's quest for development. Assistance can redress the capital gap that arises from a country's development needs; it acts as a catalyst in the implementation of national development programmes and plays a complementary role in the government's efforts to alleviate poverty.

# 4.1 Total aid flows by donors

As Figure 7 shows, Kenya has experienced relatively unpredictable flows of aid since 2000. After a slackening of donor support in 2002, with some recovery between 2003 and 2004, there was a sharp increase in 2009 followed by another steep dip in 2010, and again a steep rise in 2011. The sharp rises are the result of increased government borrowing to finance infrastructure projects as well as increased inflows of grants to support government efforts in the social sectors and humanitarian aid to drought-afflicted regions.

Table 1 ranks the contribution of donors' total aid flows to Kenya against their total commitments over the period 2001-12. According to statistics Kenya has experienced a dramatic increase in aid in nominal terms. The largest donor is the World Bank's International Development Association (IDA) followed by the United States and the International Monetary Fund (IMF).

140,000 120,000 Environmental protection 100,000 Agriculture, forestry, 80,000 fishing, and hunting Fuel and energy 60,000 40,000 Transport 20,000 Housing and community 0 amenities

Figure 6a: Comparison of development allocations to environment versus other sectors

Source: Author's calculations based on data from KNBS-(Economic Survey).



250210602010200108000200120201222112222123

Transport

Figure 6b: Development allocations to agriculture, forestry, fishing and hunting added to environmental protection versus transport and fuel and energy sectors

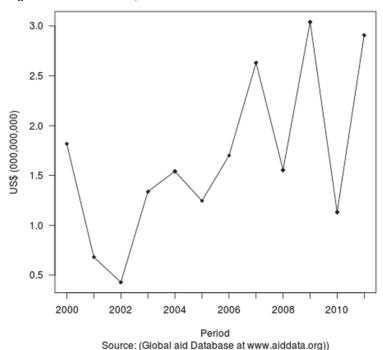
Source: Author's calculations based on data from KNBS-(Economic Survey).

40,000.00

20,000.00

0.00

Figure 7: Total aid flows, 2000-11



Notably, the share of multilateral donors is indicative of the fairly high need for emergency response and disaster management. The country faced extended droughts during the period 2000/01 and 2004/05 which had a direct bearing on the proportion of external assistance given as emergency response.

If we aggregate overall aid into various subsectors excluding emergency and food aid, administrative costs show how much aid has actually gone into development programmes. Table 2 shows the aggregated aid directed to each of the sectors during the period of this study. The sector most prominent in donor funding was general public services, which entails donations to public debt, among others. Second was social services and environment, respectively. It is difficult to determine the exact amount of resources that goes into what could be termed as 'environment' because environment is a cross-cutting issue and therefore includes expenditures in other sectors that have both indirect and direct impact. For example included in environment are such subsectors as agriculture, fishing and forestry while energy is listed on its own.

Table 2 also shows that the Kenya government navigates around the pertinence of quality environment, an impression that contrasts with the flow of donor funds. However, without disaggregation of the volumes of aid and aggregated values, it is difficult to observe the trends. The next subsection examines the annual trends.

Table1: Ranking donors by contribution amounts, between 2001-12 in US\$

Rank	Donor	US\$	Rank [	US\$	
1	WB International Development Association	3,538,952,225	30	UN Population Fund	35,449,911
2	United States	3,476,114,748	31	Nordic Development Fund	33,244,728
3	International Monetary Fund	3,286,708,419	32	Kuwait	30,530,254
4	European Communities	1,241,329,052	33	World Bank Carbon Finance Unit	22,716,912
5	United Kingdom	1,206,533,083	34	Switzerland	22,529,002
6	African Development Fund	1,133,604,388	35	Australia	20,416,534
7	Japan	919,674,749	36	Austria	18,781,385
8	France	866,953,537	37	Saudi Arabia	15,715,556
9	Germany	749,533,535	38	African Capacity Building Foundation	14,122,812
10	Global Fund to Fight Aids		39	United Arab Emirates	9,907,391
11	Denmark	434,197,979	40	Joint UN Programme on HIV/AIDS	6,405,928
12	Sweden	338,743,143	41	New Zealand	6,017,160
13	Netherlands	221,633,753	42	Slovak Republic	5,577,416
14	Canada	197,059,836	43	Greece	4,259,392
15	Finland	154,357,967	44	Luxembourg	3,876,820
16	WB International Finance Corporation	144,856,825	45	Islamic Development Bank	1,928,913
17	Belgium	141,668,608	46	WB Managed Trust Funds	1,273,529
18	Spain	131,214,611	47	Brazil	1,041,185
19	International Fund for Agricultural Development	104,948,197	48	UN Democracy Fund	948,402
20	Norway	102,541,338	49	Czech Republic	381,995
21	Ireland	90,858,999	50	South Africa	289,208
22	African Development Bank	89,420,743	51	Monaco	110,907
23	UNICEF	83,704,175	52	Estonia	69,507
24	Arab Bank for Economic Development in Africa	76,426,809	53	Cyprus	64,244
25	Italy	73,555,513	54	Iceland	61,351
26	OPEC Fund for International Development	66,211,679		Hungary	39,035
27	Global Environment Facility	58,633,542	56	Portugal	35,569
28	Global Alliance for Vaccines & Immunization	46,982,258		Thailand	9,384
29	UNDP	39,133,853			

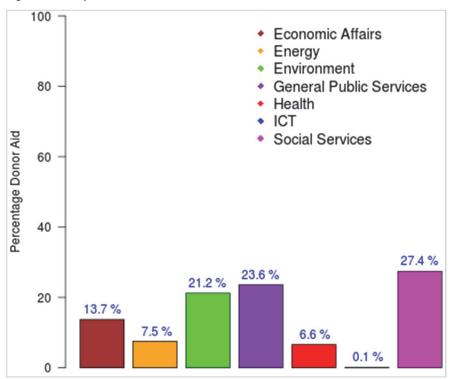
Source: Author's calculations based on data from Aiddata.org.

Table 2: Total donations by sector in US\$

Economic affairs	Energy	Environment	General public services	Health	ICT	Social services
3,623,749,826	2,196,308,705	5,292,341,050	7,752,173,147	1,629,581,736	17,712,719	6,585,597,560

Source: Author's calculations based on data from KNBS-(Economic Survey).

Figure 8: Aid by sectors between 2001-11



Source: Author's calculations based on data from KNBS-(Economic Survey).

Disaggregation by sector shows that the combined environment subsector accounted for 21 per cent. The largest share was in social services with 27 per cent followed by general public services.

# 4.2 Flows of aid by year by sector by donor

Although the majority of donor commitments in 2000 acknowledged the importance of the environment, funding commonly strayed from the environment towards other sectors. Only eight of the donors gave greater priority to the environment than non-environmental projects.

The number of donors in Kenya who exceeded their commitments towards environmental projects dropped to six in 2001 (Figure 9, Panel B). Despite an increase in their number to seven in 2002, the difference between environmental and non-environmental commitments by donors dropped further. In 2003, donations to environmental projects were minimal. Significant environmental commitments were recorded only for such donors as the Global Environment Facility (which is specifically meant to support environmental development), Ireland and New Zealand. In 2004, still a small number of commitments were directed towards the environment with only eight of the donors allocating more on environmental issues than other sectors.

Figure 9- Panel C

Figure 9-Panel A

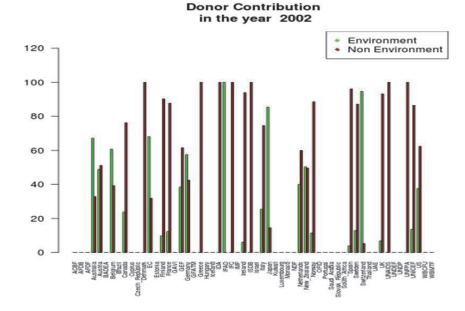
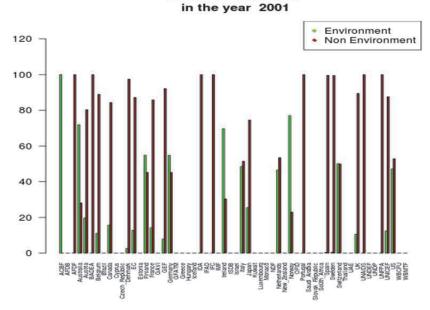


Figure 9-Panel B



**Donor Contribution** 

Figure 9-Panel D



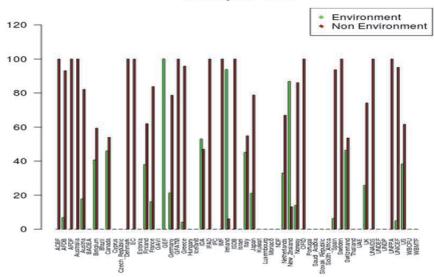
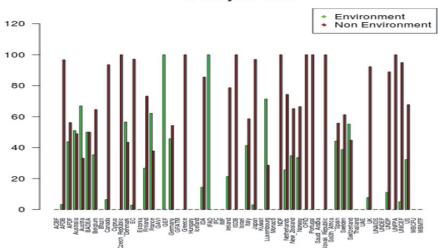
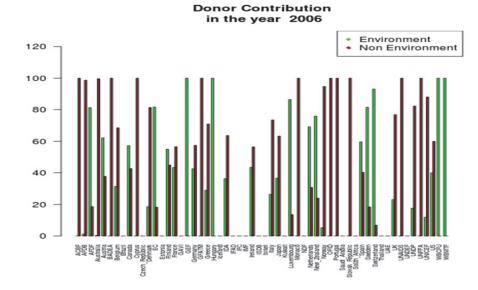


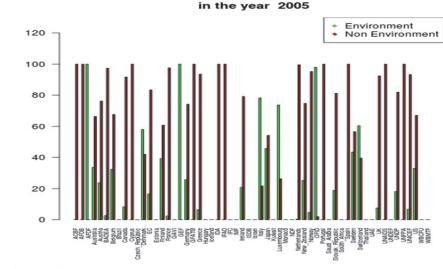
Figure 9 - Panel E **Donor Contribution** in the year 2004 Environment 120 Non Environment 100



5 Figure 9 - Panel G



Figue 9 - Panel F



**Donor Contribution** 

Figure 9 - Panel H

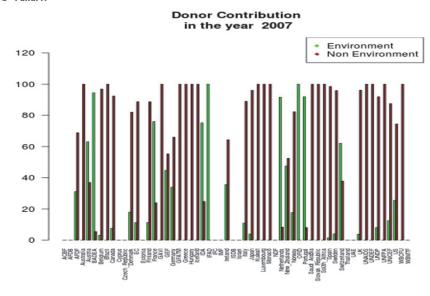
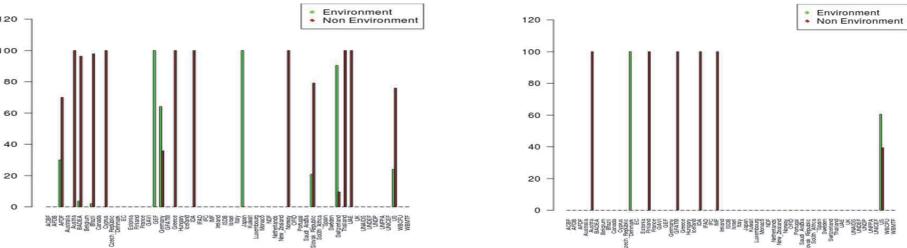


Figure 9- Panel I Figure 9 - Panel J **Donor Contribution Donor Contribution** in the year 2008 in the year 2009 Environment 120 120 Non Environment 100 100 80 80 60 60 40 40 20 20 6 Figure 9- Panel K Figure 9 - Panel L **Donor Contribution Donor Contribution** in the year 2010 in the year 2011 Environment 120 120 Non Environment 100 100



Environment

Non Environment

Source: Author's calculations based on data from Aiddata.org.

In 2006, more donor commitments were directed towards environmental projects. Allocations towards many non-environmental projects were more or less equal to those to the environment. In 2006, fifteen donors committed more funds to environmental projects than non-environmental ones, implying some form of improvement, but again in 2007 donor emphasis was on the non-environmental programmes. Only nine donors recorded substantial commitments towards the environment, the rest completely ignored the environment and directed their funds elsewhere in the economy.

In 2008 and 2009, donations to Kenya were pro-environment, and the majority of commitments were acknowledged environmental projects. In 2010, donors backed-off and there was reduction of total commitments. Nevertheless, four out of the 16 sources of donor funds recorded for that year were earmarked for the environment. Environmental projects suffered a setback in 2011. Only two donors committed funds to the environment: Denmark and the US.

# 5 Case study of a successful aid project

# 5.1 Water resource management and sanitation

Kenya is a water-scarce country; moreover, its water resources are unevenly distributed, depending on the seasons and localities. This situation is made worse by climate variability. Although the bulk of Kenya's land mass is either arid or semi-arid, it is inhabited by more than a third of the country's population and half of its livestock (UN-WATER 2005). In the country's development blueprint, the Vision 2030, the government recognizes Kenya's water scarcity but also underscores the importance of water for the key sectors of the economy and the livelihoods of the people. Thus, priority is given to improving access to safe water and sanitation in both rural and urban areas, and increasing the area under irrigation. Indeed, rehabilitation and expansion of water supply and sanitation in urban areas and construction of water storage dams are the country's flagship projects. In the National Water Sector Strategy (2007-15), the country aims to improve access to safe water and sanitation in the urban areas to 75 per cent and to 70 per cent of the rural areas. Water inaccessibility is to be reduced to less than 30 per cent.

The commitment to reform, and to transforming the country's water management, has attracted the support of development partners, who have committed about US\$950 million towards water and sanitation projects. This amount includes support to the sector institutions. Notable contributions have come from the World Bank, KfW, Japan, African Development Bank (AfDB) and AFD. Currently Athi Water Services Board (AWSB) and Coast Water Services Board (CWSB) are supported by the World Bank and AFD, Lake Victoria North Water Services Board (LVNWSB) is supported by the WB and KfW while Rift Valley Water Services Board (RVWSB), Lake Victoria South Water Services Board (LVSWSB), Tana Water Services Board (TWSB), Nairobi Water Services Board (NWSB) and AWSB are supported by the AfDB. Other donors to the sector include the EU, Sida, Danida, UNICEF, government of Netherlands, UN Fund for International Partnerships (UNFIP), government of Finland (contributing to the Water Services Trust Fund) and UN-Habitat. Most of the funding is implemented by the respective water services boards, with the exception of sector-wide or regional projects that are executed by Kenya's Ministry of Water and Irrigation, donor agencies or NGOs. As donors do not implement the projects, they insist on setting up the right structures for project implementation, and monitoring and evaluation before disbursements are made. In essence, the government implements the projects in accordance with donor guidelines.

A closer look at the donor projects implemented for the water sector indicates that over 60 per cent have been targeted to urban water supply and sanitation; the rest have had a rural, regional or national coverage. According to available statistics (2009), the World Bank is by far the largest financier to the sector followed by KfW (see Figure 10). About 84 per cent of the funds are provided as loans, where bilateral arrangements dominate; only 16 per cent are provided as grants.

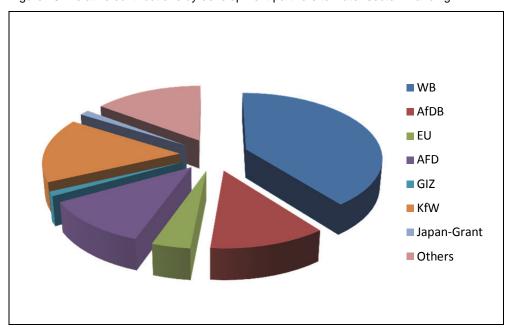


Figure 10: Relative contributions by development partners to water sector financing

Source: Author's computation, based on data from OECD-DAC.

Collaboration of the donors in the water sector has been scaled up with the formation of the Water Sector Technical Group (WSTG) which meets once every two months. The group is currently chaired by KfW. Based on interviews conducted at the world Bank, donors have two approaches to project financing: *parallel financing* in which donors agree on the components that each partner will finance and then the money is given to the government to manage in accordance with the agreed framework; and *co-financing* in which donors provide funds to a trust fund administered by the Bank which, in turn, signs a grant agreement with the government. The usual conditions apply as and when deemed appropriate. World Bank loans are based on investment operations and may assume either specific investment loan/credit (SIL) or adaptable programme loans, given in phases.

Projects to be funded are identified by the government and derived from its development plans, although donors allow for some degree of flexibility based on the importance of the project being proposed. However, donors, especially the WB, participate in the preparation and approval of project proposals. Stakeholder engagement takes place during the project proposal development. Donors agree that capacity constraints and fiduciary issues are among the key challenges in financing the water and sanitation sector. Procurement delays are blamed for project overruns while failure to abide by fiduciary management guidelines and rules causes disagreement between donors and the government. To overcome these challenges, donors have proposed capacity-building and strict adherence to rules and

guidelines. The World Bank itself tries to make use of the local staff to monitor the progress of projects and provide prompt advice. Donor participation in planning meetings is also recommended. The African Development Bank Report (2009) singles out six factors for the success of water and sanitation projects as follows:

- adequate audit and oversight arrangements;
- adequate funding for exhaustive site investigations to avoid increases in measured work and engineering claims during project implementation;
- incorporating recommendations of project panel of experts in dam design before tendering;
- close monitoring of the conditions related to land acquisition to avoid delays and escalation of costs;
- adequate allowance for increased physical and price contingencies; and
- proper sensitization of communities about resettlement and compensation arrangements.

### **Conclusion**

While donor funding has remained significant over the last decade, emphasis has been placed on such economic sectors like agriculture, industry, infrastructure and public debt at least by the majority of the donors. It is, nonetheless, self-evident that these commitments have had a lasting impact on the development of Kenya, particularly in infrastructure. The problem is that the environment has not been prioritized in the process to assist Kenya realize its development goals. Even when funding has been initiated for the environment, it is seen as a slice of a different project. This arrangement has had huge consequences for the quality and safety of the Kenyan environment.

# Appendix

Table A1: Donor aid agencies in Kenya between 2000-11

	Donor	Commitment (US\$)
1	African Capacity Building Foundation	14,122,812
2	African Development Bank	89,420,743
3	African Development Fund	1,133,604,388
4	Australia	20,416,534
5	Austria	18,781,385
6	Arab Bank for Economic Development in Africa	76,426,809
7	Belgium	141,668,608
8	Brazil	1,041,185
9	Canada	197,059,836
10	Cyprus	64,244
11	Czech Republic	381,995
12	Denmark	434,197,979
13	European Communities	1,241,329,052
14	Estonia	
		69,507
15	Finland	154,357,967
16	France	866,953,537
17	Global Alliance for Vaccines & Immunization	46,982,258
18	Global Environment Facility	58,633,542
19	Germany	749,533,535
20	Global Fund to Fight Aids, Tuberculosis and Malaria	745,303,902
21	Greece	4,259,392
22	Hungary	39,035
23	Iceland	61,351
24	World Bank International Development Association	3,538,952,225
25	International Fund for Agricultural Development	104,948,197
26	World Bank International Finance Corporation	144,856,825
27	International Monetary Fund	3,286,708,419
28	Ireland	90,858,999
29	Islamic Development Bank	1,928,913
30	Israel	0
31	Italy	73,555,513
32	Japan	919,674,749
33	Kuwait	30,530,254
34	Luxembourg	3,876,820
35	Monaco	110,907
36	Nordic Development Fund	33,244,728
37	Netherlands	
		221,633,753
38	New Zealand	6,017,160
39	Norway	102,541,338
40	OPEC Fund for International Development	66,211,679
41	Portugal	35,569
42	Saudi Arabia	15,715,556
43	Slovak Republic	5,577,416
44	South Africa	289,208
45	Spain	131,214,611
46	Sweden	338,743,143
47	Switzerland	22,529,002
48	Thailand	9,384
49	United Arab Emirates	9,907,391
50	United Kingdom	1,206,533,083
51	Joint United Nations Programme on HIV/AIDS	6,405,928
52	United Nations Democracy Fund	948,402
53	United Nations Development Programme	39,133,853
54	United Nations Population Fund	35,449,911
55	United Nations Children's Fund	83,704,175
56	United States	3,476,114,748
50 57	World Bank Carbon Finance Unit	
JI	World Bank Managed Trust Funds	22,716,912 1,273,529

Source: Author's analysis based on raw data collected from Aiddata.org.

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Table A2: Total aid commitment by sector in Kenya between 2000-11 (US\$)

Sectors	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Agriculture	42,147,956	39,002,608	16,253,748	25,039,609	97,068,741	66,505,352	116,395,991	93,432,229	66,301,630	169,356,437	1,575,146	-
Banking and financial services	3,300,931	45,400,209	682,356	1,127,808	466,825	28,271,275	29,643,767	3,523,936	47,729,894	29,374,359	-	-
Business and other services	10,313,243	12,068,740	20,404,548	3,328,812	45,475,714	4,577,694	34,759,734	21,521,332	2,550,649	32,921,940	989,971	-
Civil society	298,830,552	54,766,693	46,203,237	45,104,269	87,319,987	94,811,869	99,020,905	159,847,284	92,587,270	147,280,909	29,671,833	97,911,653
Disaster preparedness	294,720	-	-	76,360,205	1,172,934	321,794	98,199,982	88,488,421	1,426,679	523,281	130,933	1,124,272
Education	49,753,534	30,421,663	17,011,428	168,763,480	24,229,724	37,004,956	233,268,366	68,952,837	64,748,055	42,290,983	3,017,417	-
Emergency response	52,738,468	32,000,883	21,001,732	31,065,161	71,497,721	67,899,609	217,968,440	152,127,033	242,039,602	319,091,827	31,125,034	1,487,799
Energy	186,349,300	29,147,378	1,526,749	2,308,541	229,232,020	156,906,327	44,186,039	115,781,230	39,196,907	297,421,969	398,415,138	-
Environment	22,844,610	9,298,601	20,597,040	6,497,332	9,202,521	65,640,130	40,879,336	94,097,576	10,067,750	118,175,939	12,424,696	8,301,811
Forestry	1,304,703	20,159	25,201,012	2,508,638	-	43,312,811	2,433,566	70,892,493	-	389,178	-	-
General budget support	659,193,118	-	178,827	273,257,319	180,735,366	3,803,443	16,378,643	14,363,646	64,507	257,224,956	528,355	2,399,672,049
Health	139,930,710	105,370,087	20,064,459	84,882,433	108,826,968	240,427,272	111,252,816	88,432,340	97,903,277	176,570,563	130,263,703	9,411,421
ICT	2,371,466	48,512	365,924	2,192,645	536,867	1,223,000	1,343,359	2,160,524	1,053,890	3,208,266	-	-
Industry/mining/construction	48,615,092	16,323,490	6,011,728	1,955,116	33,392,567	4,639,127	56,436,807	45,331,173	16,317,054	26,303,692	-	-
Others	43,741,927	29,519,278	45,103,792	107,630,742	56,659,553	94,172,722	22,668,283	50,447,693	79,391,402	84,328,870	198,456,368	97,220,845
Population policy	160,328,334	33,016,712	83,599,710	288,866,221	121,195,262	166,704,975	318,085,272	469,915,194	675,629,705	504,670,770	61,864,298	340,318
Reconstruction and rehabilitation	24,919,099	-	552,738	-	-	313,659	2,535,373	1,659,155	3,252,218	420,371	14,187,696	1,546,072
Relief	13,212,336	14,022,467	29,396,690	31,167,843	16,426,839	19,969,638	43,219,017	17,435,808	11,469,499	44,282,787	-	-
Social services	13,775,553	15,662,734	41,566,480	9,807,369	24,484,041	23,614,610	30,428,448	198,953,148	36,617,283	82,209,423	122,107,290	-
Support to NGOs	11,800,403	1,912,823	16,616,991	17,434,364	12,103,849	14,390,325	11,218,883	4,432,124	6,189,713	13,938,111	-	-
Trade and tourism	-	37,826,580	-	-	1,380,182	119,435	-	-	1,413,931	-	-	-
Transport and storage	10,104,990	140,777,049	3,980,877	139,933,385	277,189,442	43,987,212	59,090,498	570,742,586	2,836,828	407,867,808	73,208,040	291,662,535
Water and sanitation	20,002,314	32,771,346	10,989,073	18,849,501	142,607,654	54,934,030	107,329,165	298,940,201	55,482,696	282,911,108	53,394,607	-
Women	818,495	567,578	909,396	163,588	432,094	11,395,353	2,549,313	583,206	551,589	-	-	-

Source: Author's analysis based on raw data collected from KNBS.

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Table A3: Percentage of sectoral donor aid commitment between 2000-11

Sector	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Agriculture	2.32	5.74	3.8	1.87	6.3	5.34	6.85	3.55	4.26	5.57	0.14	0
Banking and financial services	0.18	6.68	0.16	0.08	0.03	2.27	1.74	0.13	3.07	0.97	0	0
Business and other services	0.57	1.77	4.76	0.25	2.95	0.37	2.05	0.82	0.16	1.08	0.09	0
Civil society	16.45	8.05	10.79	3.37	5.66	7.62	5.83	6.07	5.95	4.84	2.62	3.37
Disaster preparedness	0.02	0	0	5.71	0.08	0.03	5.78	3.36	0.09	0.02	0.01	0.04
Education	2.74	4.47	3.97	12.61	1.57	2.97	13.73	2.62	4.16	1.39	0.27	0
Emergency response	2.9	4.71	4.9	2.32	4.64	5.45	12.83	5.78	15.57	10.49	2.75	0.05
Energy	10.26	4.29	0.36	0.17	14.87	12.6	2.6	4.4	2.52	9.78	35.22	0
Environment	1.26	1.37	4.81	0.49	0.6	5.27	2.41	3.58	0.65	3.89	1.1	0.29
Forestry	0.07	0	5.89	0.19	0	3.48	0.14	2.69	0	0.01	0	0
General budget support	36.29	0	0.04	20.42	11.72	0.31	0.96	0.55	0	8.46	0.05	82.5
Health	7.7	15.5	4.69	6.34	7.06	19.31	6.55	3.36	6.3	5.81	11.51	0.32
ICT	0.13	0.01	0.09	0.16	0.03	0.1	0.08	0.08	0.07	0.11	0	0
Industry/mining/construction	2.68	2.4	1.4	0.15	2.17	0.37	3.32	1.72	1.05	0.87	0	0
Others	2.41	4.34	10.53	8.04	3.68	7.56	1.33	1.92	5.11	2.77	17.54	3.34
Population policy	8.83	4.86	19.52	21.59	7.86	13.39	18.72	17.85	43.45	16.6	5.47	0.01
Reconstruction and rehabilitation	1.37	0	0.13	0	0	0.03	0.15	0.06	0.21	0.01	1.25	0.05
Relief	0.73	2.06	6.86	2.33	1.07	1.6	2.54	0.66	0.74	1.46	0	0
Social services	0.76	2.3	9.71	0.73	1.59	1.9	1.79	7.56	2.36	2.7	10.79	0
Support to NGOs	0.65	0.28	3.88	1.3	0.79	1.16	0.66	0.17	0.4	0.46	0	0
Trade and tourism	0	5.56	0	0	0.09	0.01	0	0	0.09	0	0	0
Transport and storage	0.56	20.7	0.93	10.46	17.98	3.53	3.48	21.68	0.18	13.41	6.47	10.03
Water and sanitation	1.1	4.82	2.57	1.41	9.25	4.41	6.32	11.36	3.57	9.3	4.72	0
Women	0.05	0.08	0.21	0.01	0.03	0.92	0.15	0.02	0.04	0	0	0

Source: Author's analysis based on raw data collected from KNBS.

#### References

- Abass, F. (2010). Rural Electrification Programme in Kenya. Mombasa: Rural Electrification Authority.
- African Development Bank (2009). AfDB Group Annual Report 2009. www.afdb.org. Accessed 20/7/2013.
- Budget Statement, Fiscal Year 2013/14 Budget Statement by National Treasury Cabinet Secretary Nairobi: GoK. Available at: www.treasury.go.ke (accessed 19 July 2013).
- Burnside, C. and D. Dollar (2000). 'Aid, Policies and Growth'. *American Economic Review*, (90)4: 847-68.
- Glopolis (2012). Renewable Energy Sources in Kenya. http://glopolis.org. Accessed 19 July 2013.
- GoK (Government of Kenya) (2010). Strategic Plan 2008-2013. Nairobi: Ministry of Housing.
- GoK (Government of Kenya) (2012). 'National Environment Policy Available at: www.environment.go.ke (accessed 21 July 2013).
- GoK (Government of Kenya) (2013). 'Budget Speech 2013/2014'. Nairobi: GoK. Available at: www.treasury.go.ke (accessed 20 July 2013).
- GoK (Government of Kenya) (2008). *Interim Strategic Plan 2008-2012*. Nairobi: Ministry of State for Development of Northern Kenya and other Arid Lands.
- Herfkens, E. (1999). 'Aid Works-Let's Prove It'. Journal of African Economies, 8(4): 481-6.
- *Kenya and Renewable Energy,* Federation of Universities of Applied Sciences, Accessed on 23rd July 2013 http://www.laurea.fi/en/connect/
- Kenya National Highways Authority (2013). Nairobi: Accessed 23 July 2013 from www.kenha.co.ke
- Kenya Producers Coalition (2010). 'Resource Allocation and Utilization in Kenya's Agriculture Sector. A Public Expenditure Review'. Nairobi: Kenya Producers Coalition.
- KNBS (Kenya National Bureau of Statistics) (2007). *Economic Survey* 2007. Nairobi: Government Printer.
- KNBS (2011). Economic Survey 2011. Nairobi: Government Printer
- KNBS (2012). Economic Survey 2012. Nairobi: Government Printer.
- Thaxton, M. (2007). *Integrating Population, Health and Environment in Kenya*. Washington, DC: Population Health Bureau.
- Trading Economics (2013). *Kenya Government Debt to GDP*. Available at: www.tradingeconomics.com/kenya/government-debt-to-gdp (accessed 23 July 2013).
- UN-DESA/UNDP (2012). 'Sustainable Development in Kenya: Stocktaking in the Run Up to Rio+20'. Available at: www.risk1.net/Sustainable-Development-in-Kenya-Stocktaking-in-the-run-up-to-Rio20-download-w12057.html

- UN-WATER (2005). Building the resilience of nations and communities to disasters: Framework for action 2005-2015. UN- Water series vol.1
- World Energy Council (2007). 2007 Survey of Energy Resources, www.worldenergy.org/publications/survey. (Accessed on 19 July 2013).