

FOCUS ISSUE 3: INFRASTRUCTURE

I. Overview of Commitments

Africa:

Overall infrastructure sector

The NEPAD founding statement of 2001 identified infrastructure as a key sectoral priority, calling for increased investment both in maintenance and in new infrastructure, new regulatory frameworks, and the promotion of public-private partnerships.

Water and sanitation

- ◆ The African Water Vision 2025, which was adopted in 2000 (at the Second World Water Forum) promoted the establishment of river-basin organizations and set two targets more ambitious than the existing MDG target e.g. the reduction of 75% by 2015 and of 95% by 2025 of the proportion of people without access to safe water and sanitation. The Water Vision also encouraged the use of appropriate pricing and full cost recovery for all countries.
- ◆ The African Ministerial Conference on Water (AMCOW) was established in 2002 to coordinate African efforts to expand access to safe water and sanitation.
- ◆ At the Africa Water Week (2008), African Water Ministers reiterated support for trans-boundary infrastructure development and recommended tapping into private and public resources for building infrastructure, improving service delivery, and boosting capacity development in the water sector.
- ◆ The Sharm El Sheikh AU Summit (2008) called for accelerating achievement of water & sanitation goals in Africa and mobilising domestic financial resources for implementing water and sanitation development plans. It reaffirmed its support for the eThekweni Declaration on Sanitation in South Africa (2008) that called on member countries to establish one national plan for accelerating progress to meet national sanitation goals by 2015. The Summit further requested that the RECs and River and Lake Basin Organizations initiate dialogue and consider adaptation measures for climate change.

Energy

- ◆ In 2001, the African Union (AU) adopted the NEPAD's Short Term Action Plan (STAP) that calls for raising access to electricity to at least 35% of the population within 20 years, with a focus on rural areas and on promoting co-operation and regional integration in the energy sector. At the same event, the AU also created the Convention of the African Energy Commission (AFREC).
- ◆ The First AU Conference of Ministers Responsible for Electrical Energy (2006) adopted the African Energy Vision 2035 which calls for the development of a continental electrification master plan and established the Conference of African Ministers of Energy as the central coordinating organ.
- ◆ The Khartoum AU Summit in 2006 called for strengthening cooperation in the petroleum sector and decided on the creation of an African Petroleum Fund to be managed by the African Development Bank. It also called for the setting up of regional storage facilities.

Transport

- ◆ The Conference of African Ministers responsible for Transport and Infrastructure (2005) set the development of regional infrastructure as a priority, and in particular, transport to support economic integration. In 2006, it set the target of halving by 2015 the proportion of people living beyond 2 km of an all-season mode of transport.
- ◆ The AU Conference of Ministers Responsible for Transport (2006) set the targets of halving by 2015 the rate of accidents arising from transport.
- ◆ The Ouagadougou Declaration by the Ministers of Transport and Infrastructure (2007) called for the effective elimination of non-tariff barriers on African's inter-state corridors.

Information and Communication Technology (ICT)

- ◆ The African Ministers Responsible for ICT (2006) adopted a 10-year African Regional Action Plan on the Knowledge Economy (ARAPKE) to guide the roll-out of the Information Society in Africa.
- ◆ The Connect Africa Summit (2007) committed to mobilizing the human, financial and technical resources required for closing ICT gaps throughout Africa.

Development partners:

- ◆ At the International Conference on Financing for Development (Monterrey 2002), developed and developing countries agreed that improved infrastructure was essential for sustained economic growth, poverty eradication and employment creation, and underlined the need for both public and private investment.
- ◆ In Kananaskis (2002) and in the context of launch of the Africa Action Plan, the G8 declared its support of African efforts to improve water resource development and management and to expand digital opportunities.
- ◆ The EU Energy and Water Initiatives (2002) were set up to help Africa accelerate its achievement of the MDGs.
- ◆ The G8 Evian Water Action Plan (2003) went further to support the implementation of the World Summit on Sustainable Development (WSSD) in the water and sanitation sectors. In addition, the G8 Plan gave high priority to official development aid allocation to safe drinking water and basic sanitation, promoted the environmentally sustainable development of water resources, facilitated the preparation of drinking water and sanitation projects in both rural and urban areas, and supported efforts to generate greater efficiency in these sectors including reforms in the water sector (decentralization, cost-recovery and enhanced user participation), and promoted river basin co-operation in Africa and support for trans-border river basin commissions.
- ◆ The Gleneagles G8 Summit (2005) decided to establish the Infrastructure Consortium for Africa (ICA) to facilitate the mobilization of infrastructure investment in African infrastructure. The G8 committed to mobilise and prioritise support to safe water and sanitation and also asked the World Bank and other multilateral development banks to develop a clean energy investment framework to encourage energy efficiency and accelerate investment and the deployment of cleaner technologies within the context of each country's national circumstances.
- ◆ The St Petersburg G8 Summit (2006) declared its support for energy security and the adoption of a Plan of Action on Global Energy Security.

- ♦ The Heiligendamm G8 Summit (2007) declared its support for climate change adaptation, energy efficiency and energy security and for the German G8 Initiative on trans-boundary waters with capacity building for the Regional Economic Communities (RECs).
- ♦ The Africa-EU Energy Partnership (2007) was adopted by the Africa-EU Summit on energy access, energy security & climate change challenges. The EU-Africa Partnership on Infrastructure (2007) will support regional development in four priority areas: transport, energy, water, and information technology and telecommunication networks.
- ♦ The Hokkaido G8 Summit (2008) reiterated its support for the promotion of integrated water resource management (IWRM) and good water governance.

II. What has been done to deliver on these commitments?

Africa:

Development of sector strategies

1. Overall for the infrastructure sector, co-ordination has improved both at the national level and for cross-border projects. Many countries have prepared strategic frameworks for road transport and ICT. Progress in water resources management has been weaker, and few if any countries in Africa have credible long-term strategies for the energy sector.
2. The African Union Commission (AUC), NEPAD Secretariat and the African Development Bank (ADB) are jointly commissioning a study on a 'Programme for Infrastructure Development in Africa' (PIDA) with, as the main objective, establishment of a strategic framework for the development of regional and continental infrastructure for four separate sectors (Transport, Energy, Information and Communication Technology and Trans-boundary Water) with different time horizons (short-, medium- and long-term) together with an implementation action plan.
3. Within the framework of the SSATP (Sub-Saharan Africa Transport Policy Programme), 23 countries are at different stages in developing National Poverty Reduction and Transport Policy Strategies (PRTPS). Throughout sub-Saharan Africa, there are now 20 road agencies/authorities and 30 'second-generation road funds' in place. These are partly funded by a dedicated levy on fuel prices and other revenue sources and managed by boards that include representatives of road users.
4. There is the beginning of an effort for a comprehensive and integrated approach to water resource management which recognises that water has both ecological, social and economic uses. However, only five of 38 countries in Africa have incorporated integrated water resource management (IWRM) principles in their national strategies. Sanitation has received less attention than providing safe water; currently less than ten countries in sub-Saharan Africa have sanitation strategies.
5. Through the UNECA-led African Information Society Initiative (AISI), 35 countries have developed national ICT policies including sectoral initiatives in the fields of e-trade and e-health. Nine countries have begun their involvement with e-schools, an initiative to provide Internet access in schools. However, in contrast to other infrastructure sectors, private companies both from Africa and overseas are playing an important role in transforming the role of ICT in Africa.

Funding

6. Most governments in sub-Saharan Africa spend about 6–12% of their gross domestic product (GDP) each year on infrastructure. Roughly half of the countries spend more than 8% of GDP, while only a quarter of countries spend less than 5%. Expressed as shares of GDP, these fiscal efforts seem larger than when put in dollar terms. Most countries of the region spend less than US\$600 million a year on infrastructure services—less than US\$50 per person. Among landlocked countries, whose infrastructure needs tend to be particularly high, the annual total is less than US\$30 per capita. South Africa, Namibia and Cape Verde spend significantly more per person, with levels ranging from US\$300 to US\$500. Transport and energy sectors together absorb the lion's share of infrastructure spending—about 80% in low-income countries. Heavy spending on power is a response to the widely recognized power crisis on the continent. Furthermore, most of these resources are spent for recurrent expenditures and more particularly on wages and salaries (Source: AICD¹).

7. The MDG Country Status Reports for Water and Sanitation for 16 SSA countries show that many countries have detailed estimates of resources required to meet the MDG targets, with figures ranging from US\$40-50 million per year for Benin, Madagascar, Rwanda Uganda and Zambia to US\$200-300 million per year for the larger countries, such as Democratic Republic of Congo and Ethiopia. But only three of the 16 countries surveyed have allocated sufficient domestic resources to meet either the water or sanitation MDG targets or both. National budget allocations are weaker for sanitation needs. (Source: Water and Sanitation Programme 2006).

8. In 2007, Nigeria launched the Africa Finance Corporation². The AFC is expected to play an important role, as a private sector-led investment bank and development finance institution, in promoting private sector investment in power, transport and telecom infrastructure projects. The institution is looking to increase the number of public-private sector partnerships to close the infrastructure gap.

9. The creation of the Pan-African Infrastructure Development Fund (PAIDF) to be managed by the African Development Bank (AfDB), is a South Africa-led initiative to tap resources from potential shareholders including public and private pension funds and asset management firms.

10. During Africa Connection (2007), more than US\$55 billion for investment in ICT infrastructure between 2007-2012 was committed for Africa (including US\$50 billion from the private sector and US\$2 billion for the World Bank Group). The development finance institutions (DFIs) and other international organizations (e.g. International Telecommunications Union) are closely monitoring implementation of these commitments.

Regulatory reforms

11. In the telecommunications sector, the mobile telephone sector has been liberalized in almost all African countries. The African mobile market has been the fastest-growing market of all regions, growing at twice the rate of the global market, with a leap from 16 million to 136 million subscribers between 2000 and 2005. Mobile now outnumbers fixed line penetration by nearly five to one in Africa. However, only

¹ The Africa Infrastructure Country Diagnostic (AICD) is a project designed to expand the world's knowledge of physical infrastructure in Africa. AICD will provide a baseline against which future improvements in infrastructure services can be measured. The first phase of AICD focuses on 24 countries that together account for 85% of the gross domestic product, population, and infrastructure aid flows of sub-Saharan Africa. The countries are: Benin, Burkina Faso, Cape Verde, Cameroon, Chad, Congo (Democratic Republic of Congo), Côte d'Ivoire, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Sudan, Tanzania, Uganda, and Zambia. Under a second phase of the project, coverage will be expanded to include additional countries.

² The fund was endorsed by the Africa Union Summit in July 2007 and has so far raised US\$625 million.

half of the countries allow competition in the fixed-line and international markets, and only a few have more than two operators in these segments. The popularity of the Internet has resulted in growing demand, and most countries have issued licenses to several Internet service providers (ISPs).

12. In the transport sector, there has been a perceptible transition in many countries in sub-Saharan Africa from traditional government bodies to performance-based executive agencies. Output-based maintenance contracts are gaining ground, with about a dozen countries either experiencing or about to engage in these new, innovative contracts.

13. Most power sector reform in Africa has been primarily designed to bridge short-term generation shortfalls and to enhance the financial health of state-owned power utilities. About half of the countries in Africa have established independent regulatory bodies, but most lack significant capacity -- and autonomy remains, in most cases, problematic.

14. In the water sector, performance-based lease contracts have been developed in a small number of countries, with noticeable progress in Cote d'Ivoire, Senegal, Mali in West Africa and in Zambia and Mozambique in East Africa.

15. In only a limited number of countries (Cote d'Ivoire, Cameroon, Malawi, Burkina Faso, Senegal, Zimbabwe, South Africa and Mauritius) has increased access of electricity by the poor been an important policy consideration. These were accompanied by electricity tariff reforms (low or zero tariffs for up to 50kWh per household per month) and/or cross-subsidies financed by levies on urban consumers.

Promoting trans-boundary resources

16. In 2007, the African Union, NEPAD and the RECs agreed on a sharing of responsibilities for regional projects. But implementation of this contract has been slow.

17. In the transport sector, there has been improvement in the management of major transport corridors, including experimenting with one-stop border posts. The REC-TCCs (Transport Co-ordination Committees) are promoting the establishment of such management groups, involving the private sector, to improve corridor performance (source: SSATP, 2007).

18. In the power sector, power system interconnections have been established in all sub regions of Africa to facilitate regional energy trade. The inter-connectivity of Southern Africa (SADC) is more advanced. The Southern African Power Pool (SAPP) is well established and some countries in the region benefit from power-sharing arrangements.

19. In the ICT sector, several regional initiatives have been developed. The Submarine fiber-optic cable linking East-African countries (EASSy) financed by private investors and DFIs with the active involvement of African Governments is currently been deployed. The Regional Connectivity Infrastructure Program (RCIP) led by the World Bank aims at increasing broadband connectivity and e-government activities. This program covers 25 countries for an amount of US\$424 million. NEPAD has established the NEPAD Broadband ICT Network (NBIN) initiative which aims to ensure that all countries on the continent have access to at least two independent international fibre cable links. In the first phase of the project, a US\$2 billion network called UhuruNet has been proposed to cover Eastern and Southern Africa with onward links to Europe, Asia and South America, supported by a policy and regulatory framework called the Kigali Protocol which came into force in February 2008. It has been ratified by seven countries so far.

Participation of the Private Sector and Other Stakeholders to Improve Access

20. The establishment of road agencies has led to reduced maintenance costs, most of which are contracted out. The private sector is now active in other transport sectors. Concessions began earlier with railways, but more recently new concessions combined with investments also cover ports and airports.

21. In the power sector, major reforms have taken place in Africa involving ownership/management changes, including privatisation. The most common reforms have entailed awarding management contracts to foreign private firms and South African entities, which are now actively involved in management contracts in Malawi, Uganda and Tanzania. Independent Power Producers (IPPs) constitute an important form of private sector participation in Africa's power sector and are active in Cote d'Ivoire, Ghana, Kenya, Senegal and Tanzania. A few countries (Namibia, South Africa, Zimbabwe, Uganda and Ghana) have experienced the development of independent power distributors.

22. In the ICT sector, investment in Africa has improved dramatically in recent years, representing a total of US\$8 billion in 2005, up from US\$3.5 billion in 2000. These figures reflect an increasingly vibrant private sector investment environment, which has been stimulated by the opening of most African telecommunication markets to competition.

23. Regional guarantee facilities are also emerging to support private investors. The BOAD's (West African Development Bank) new Infrastructure Guarantee Facility is being developed in collaboration with by the World Bank, MIGA, and the AfD (Agence Française de Développement).³

Development partners:

Support for Overall Strategic Vision

24. In 2007, at the mid-point of the MDG process the UN Secretary General Ban Kim Moon set up an Africa Steering Group, which was launched in July 2008 at the AU Summit in Sharm El Sheikh. As part of this process, an Infrastructure Working Group was set up with representatives from the EC, World Bank, AfDB and the ICA Secretariat. The specific recommendations of the Steering Group are as follows: (i) Launch a "New Deal" for the energy sector to plan and build transformational generation and transmission facilities across Africa, and improve the performance of power utilities; (ii) the international community should assist in financing regional infrastructure (e.g., road corridors, power pools, multipurpose water infrastructure, information and communications technology), as outlined in the African Union NEPAD Infrastructure Short-Term Action Plan and other regional plans; (iii) the international community needs to support African countries in implementing national strategies to achieve water supply and sanitation targets; (iv) ODA for infrastructure in Africa, including for water and sanitation facilities, needs to be at least doubled by 2010. All infrastructure investments in Africa need to be systematically climate-proofed; (v) multilateral and bilateral donors should increase the use of public-private partnerships (PPPs) to leverage public financing and strengthen collaboration with non-DAC donors and other partners through project co-financing; and (vi) the Infrastructure Consortium for Africa (ICA) should be strengthened to support the monitoring of infrastructure results.

25. The African Development Bank, European Commission and World Bank, which together account for around 70% of all donor money to the infrastructure sector in the continent, have agreed to improve collaboration in their interventions in the various infrastructure sectors through so-called Sector-wide

³ This facility offers three types of guarantee instruments which cover both commercial and political risks, thus providing flexible guarantees to small and medium infrastructure projects in the West African Economic and Monetary Union. See Matsukawa et. al. (2007) for detail.

Approaches (SWAPs) and to give priority to: i) support to regional projects; ii) support to AU/NEPAD ‘flagship’ projects; iii) increasing funding and encouraging private sector interventions through joint funding; iv) joint analytical work.

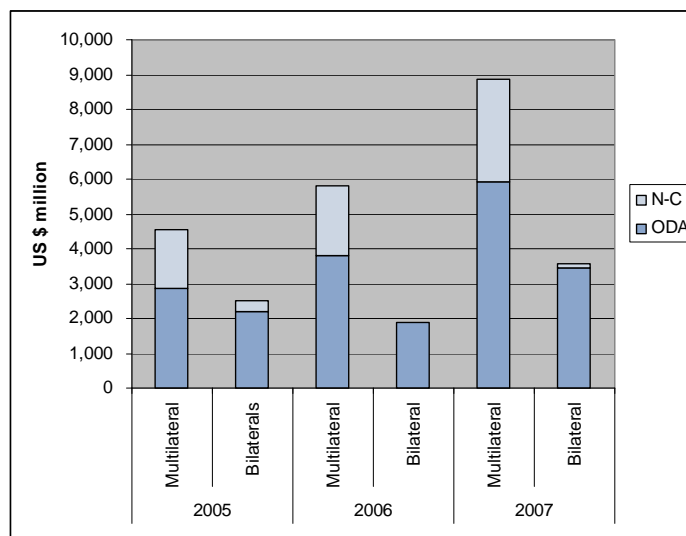
26. The World Bank and the AfDB jointly elaborated the Clean Energy Investment Framework to help to promote stronger collaboration in support of energy development in Africa.

27. The EU-ACP Energy facility has allocated €220 million to fund energy access and regional cooperation in 2007. The facility was replenished to promote access to energy services using renewable energy sources and has contributed to the EU-Africa Infrastructure Partnership. The first EC-AUC high level dialogue on energy concluded with the signing of the Joint Statement on the main priorities and governance setup for the implementation of the Partnership.

External Funding

28. Having stagnated for over a decade, significant progress has been achieved since 2001 on external support to infrastructure. The establishment of the Infrastructure Consortium for Africa (ICA) in 2005 was a key development. In 2007, total commitments by ICA members to infrastructure projects in Africa reached US\$12.4 billion in 2007, representing an increase of 61% over the US\$7.5 billion committed in 2006 and more than doubling the level of external support provided in 2000-2003. Non-concessional flows accounted for about US\$2 billion of this amount (Figure 1).

Figure 1: Flows of ICA commitments to infrastructure projects in Africa



Source: ICA Annual Report 2007

29. According to the ICA, while commitments by bilateral donors almost doubled from US\$1.9 billion in 2006 to US\$3.6 billion in 2007, multilateral funding is still responsible for over two-thirds of ICA commitments. Official Development Assistance (ODA) commitments to infrastructure in sub-Saharan Africa increased by 59% to reach US\$8.2 billion. Record replenishments of multilateral funds (IDA, ADF and EDF), along with the launch of the EU-Africa Infrastructure Trust Fund in 2007, which is already also receiving considerable financial pledges of support from a growing number of EU member states, will likely continue to sustain this effort.

30. The water and energy sectors received the major share of new commitments, which have risen by 43% for water and 62% for energy.

Support for the Development and Management of Shared Trans-Boundary Resources

31. Funding for all regional projects has also risen sharply for Africa as a whole from less than US\$100 million in 2000 to US\$2.8 billion⁴ in 2007. This represents a 23% share of total ICA commitments. The bulk of these resources are provided by multilateral agencies.

32. The Sub-Saharan Africa Transport Policy Program (SSATP) -- which is a partnership of 35 countries in sub-Saharan Africa, 8 RECs, UNECA, AU/NEPAD, AfDB and seven active development partners -- has been actively involved in improving the management of transport corridors.

33. Germany is leading an effort to develop capacity of the RECs in water management. The first step involves the mapping of requirements needed to undertake work programs over the next three years by individual RECs given existing capacity.

34. Donors are involved in 17 of Africa's 59 river basins with primary support to large, well-established river basins with dense populations: Nile, Senegal, Niger and Zambezi. Financial support has risen sharply since 2002. External support has favoured regional initiatives where there exist institutional organisations such as river basin organisations.

Support to Reducing Road Fatalities

35. Pursuant to a resolution of the UN General Assembly in 2004 on the global road safety crisis, The World Bank, in close collaboration with the World Health Organisation, has created the Global Road Safety Facility.

III. What are the results?

Access

36. Africa lags behind all other regions of the developing world in its infrastructure endowment, except in ICT⁵. The largest gap is in the power sector. Furthermore, Africa's position relative to other developing regions has deteriorated over time. The overall regional picture masks significant geographic variations in infrastructure endowments from country to country. The best performer among African sub-regions is North Africa, which not only has the largest level of infrastructure stocks in the African region but is also the only region that, on average, shows an increase in infrastructure assets in 2001–5 relative to 1991–5⁶. Southern African countries show the second-highest levels of infrastructure stocks, while Central Africa displays the smallest stocks of infrastructure in 2001–5. Only North Africa and Central Africa have shown an improvement in infrastructure service quality over the 15-year study period.

37. Lack of investment and maintenance indeed play an important role in keeping access rates to modern infrastructure services low in sub-Saharan Africa. Other factors also play a significant role and

⁴ This figure is an underestimate since the EC could not fully report on commitments to regional projects for 2007 (ICA, 2007).

⁵ Results from database of AICD.

⁶ This is based on a dataset covering the stocks of key infrastructure—including information and communication technology (ICT), power, roads, and water—across 155 developing countries over the period 1960 to 2005. World Bank (2007).

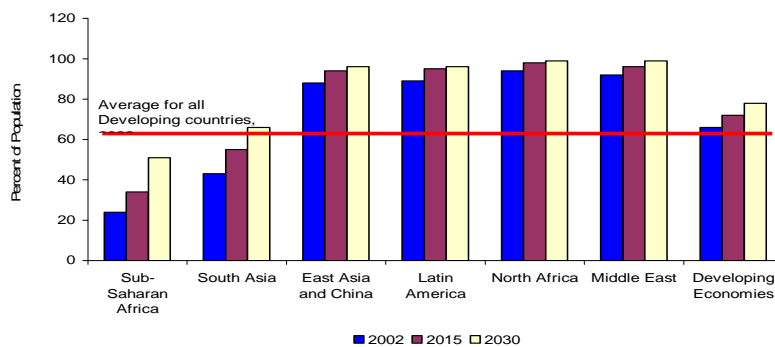
are worth some mention for a fuller understanding of the situation⁷. First, the level of income plays an important role. Based on world averages, middle-income countries have access rates to piped water, flush toilets and telephone landlines that are three times as high as those found in low income countries, and electricity access rates that are twice as high. Second, more highly urbanized countries have access rates to piped water, flush toilets and telephone landlines that are twice as high as those found in less urbanized countries, and electricity access rates that are three times as high. Third, because of its high demographic growth rates and higher-than-average urbanization growth, African countries are not increasing access rapidly enough to keep up with demographic growth, particularly in urban areas. Fourth, decreasing household size and the fact that the total number of households causing is actually growing even faster than the total populations -- the estimated rates are 3.2 % per year for households as opposed to 2.5 % for population -- require that access needs to expand faster just to maintain constant coverage rates than if household size remained unchanged.

38. Affordability is another significant barrier to further expansion of access. Based on household surveys, spending on utilities and transport typically absorbs 10 to 20% of household budgets, and this can rise to as much as 40 % in some countries. Spending on water typically accounts for no more than 5 % of household budgets while spending on telecommunications varies widely across countries. Taking all modern infrastructure services together, it is not unusual for infrastructure spending to absorb 40 % of nonfood household budgets.

Access to modern energy

39. More than 550 million Africans lack access to electricity and the gap with other developing regions has been growing over time. Most recent information shows that less than 25% of African households (excluding North Africa) have access to electricity, with household access to electricity in Africa at around half the levels observed in South Asia which has comparable levels of per capita income. National averages mask huge geographical variations between urban areas and rural areas. In 21 sub-Saharan African countries, less than 10% of the population can access electricity.

Figure 2: Electrification rates by region (%)



Source: IEA World Energy Outlook 2004, reference scenario

⁷ See Banerjee (2007) for more detail.

40. Underlying these low levels of access are exceptionally low levels of installed generation capacity, most of which is in North and South Africa. At 68,000 megawatts (GW) the entire generation capacity of the 48 countries of Sub-Saharan Africa is no more than that of Spain. There is a chronic shortage of electricity supply in at least 25 countries in SSA including highly publicised power outages in South Africa where no tangible investments in generation capacity have occurred in the last 20 years. North Africa displays the largest electricity-generating capacity in the region (0.8 megawatts per 1,000 workers in 2001–5), while Central Africa displays the lowest electricity-generating capacity (0.025 megawatts). Energy scarcity, compounded by high fuel prices, has resulted in high costs for transport, industrial and commercial sector operations in most African countries.

41. The mismatch between power demand and available supply has grown: more African countries are vulnerable to power crises. Yet, Africa has a huge but unevenly distributed energy potential: the continent holds 9.5% of the world's proven oil reserves, while only 4% of its hydroelectric power has been realized. As the result of the shortage in power generation, own generation by firms, which has been on the rise in recent years, accounts for about 6% of installed generation capacity and to double this level at around 12% in the low-income countries and post-conflict countries. According to a recent report⁸ released at the Africa Carbon Forum in Dakar, Senegal, Africa also has an unprecedented opportunity by choosing a cleaner development pathway through low-carbon alternatives that can reduce greenhouse gas (GHG) emissions to meet its future energy needs and, at the same time, receive support from carbon finance schemes⁹ and the Clean Development Mechanism (CDM) of the Kyoto Protocol

42. As a result, electricity tariffs in sub-Saharan Africa are on average twice or three times higher than rates in most developing countries that range from about US\$0.04 to US\$0.08 per kilowatt hour. West Africa, a region without much access to hydropower, pays as much as US\$0.20/kWh.

Access to safe drinking water and sanitation

43. Despite the fact that a larger percentage of the population in sub-Saharan Africa has access to safe water – up from 49% in 1990 to 56% in 2004 – approximately 340 million people remain without any access to safe drinking water, and that number has increased by around 60 million – a result explained by both lack of investment in new infrastructure and by population growth¹⁰. The situation is sharply better in North Africa, with an access rate exceeding 90% (see Figure 3). On current trends, few sub-Saharan Africa countries are on track to meet the MDG target of 75% access, although six of the ten countries making fastest progress on access to safe drinking water are low-income African countries, namely Burkina Faso, Central African Republic, Eritrea, Ghana, Malawi and Namibia. There are also major disparities between urban and rural areas (see Table 1).

⁸ de Gouvello et al (2008).

⁹ The carbon market is the most tangible result of efforts to mitigate climate change. By creating a market for emission reductions, in effect paying people and businesses to reduce GHG emissions, the carbon market provides a financial incentive to invest in clean energy projects, energy efficiency, in fuel switching, in waste management and in forestry.

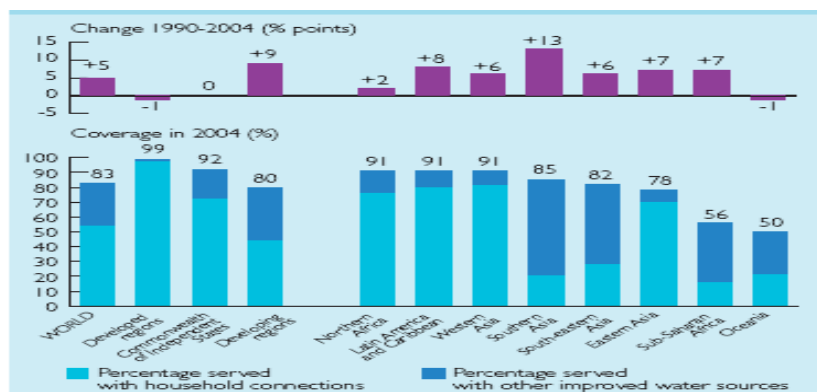
¹⁰ From a comprehensive analysis by UNICEF and the WHO designed to assess the progress being made towards the water MDG. UNICEF/WHO Joint Monitoring Report 2006.

Table 1: Safe Water and sanitation coverage in sub-Saharan Africa

	1990			2004		
	Total population (million)	Access to safe water (%)	Access to sanitation (%)	Total population (million)	Access to safe water (%)	Access to sanitation (%)
Urban	145	82	52	268	80	53
Rural	372	36	24	467	42	28
Total	517	49	32	735	56	37

Source: WHO/UNICEF, 2006.

Figure 3: Coverage with improved drinking water sources (2004)



Source: WHO/UNICEF, Meeting the MDG Drinking Water and Sanitation Target, 2006.

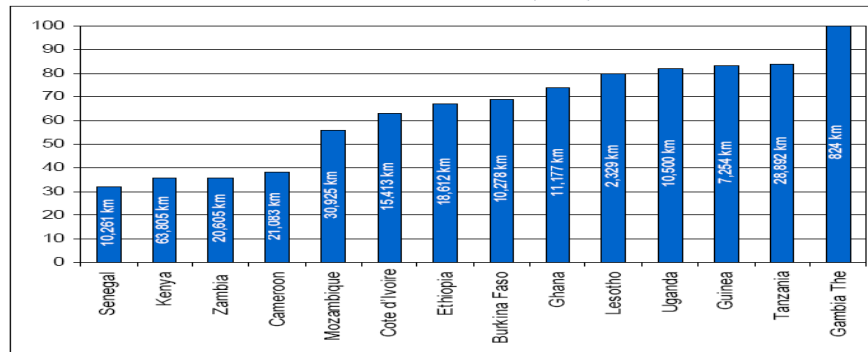
44. The situation is even more difficult for basic sanitation, where sub-Saharan Africa has the lowest coverage at 37% compared to 50% for all developing countries. Coverage in urban areas (53%) is almost twice the level in rural areas (28%). Moreover, urban sanitation is a particular challenge in slum areas due to a combination of factors including poor infrastructure, high population density and habits such as open defecation.

45. Increased rainfall variability due to climate change has made water management and its sustainable use a more pressing problem. In particular, more water storage facilities need to be built to help smooth out seasonal variations of water supply.

Access to transports

46. Due to lack of maintenance, there are fewer kilometres of roads today in sub-Saharan Africa compared to 30 years ago (see Figure 4). However, the road funds with earmarked funding have led to improved maintenance of the existing road network and in some countries, to arrest or even reverse the long-term decline in road quality. In a sample of 24 low-income countries, only between 30 and 40% of rural populations have access to all-season roads¹¹.

Figure 4: Percentage of main road networks in good or fair condition (2005)



Source: SSATP Annual Report 2006.

47. Transport in the urban areas of many African countries is characterised by declining standards of public transport, massive growth in the use of private vehicles (minibus, cars and motorcycles), inadequate and deteriorating infrastructure, and poor facilities for pedestrians and cyclists. Although most African countries have a relatively good network of rural roads, management and financing arrangements are often unclear with too many agencies involved with not enough money and human resources, which has led to declining quality of the network overtime.

48. With support by the SSATP, there has been progress in the management of major transport corridors, including experimenting with one-stop border posts. But regional trade and integration in sub-Saharan Africa continues to be hampered by high freight rates with significant differences across the various sub-regions. Central Africa is by far the most expensive, with rates double those of Southern and West Africa. Transport tariffs for most land-locked countries range from 15% to 20% of import costs. Also, internal transport costs are often far more expensive than external transport. The OECD/AfDB African Economic Outlook of 2005/06 reports that the cost of trucking a 22-24 ton container from Maputo to northern Mozambique is nearly 2.5 times higher than that of shipping the same container from Dubai. While poor infrastructure accounts for the high cost, other factors such as high vehicle operating costs, the existence of monopolies of freight allocation in many countries and poor logistics with multiple road blocks/controls and clearance are other factors.

49. Rail traffic has been declining for decades due to poor management and old and dilapidated lines and equipment through lack of investment. The total rail network - made up of a little over 89,000 km on a continent with a surface area of about 30 million square km - gives sub-Saharan Africa a rail system with a mean density of 2.9 km per 1,000 square km - one of the lowest in the world. Sixteen African countries do not have railway lines at all or sections of international lines.

¹¹ Defined as living within 2 kilometres of an all-season road.

50. The international shipping container business is growing. The region's ports saw substantial increases in both containerized and general cargo growing at 7% between 1995 and 2005. Port congestion constitutes a major obstacle to further rapid growth. Experiences with concessions (South Africa and Mozambique) promise interesting examples of new management practices.

51. There has been significant investment in airports. In Egypt, Aéroports de Paris Management (ADPM) recently took over the management of Sharm El Sheikh-Ophira Airport's new 4.5 million passenger-per-year capacity terminal. In 2007, the Turkish company TAV won the contract to build and operate a new 5.5 million passengers-per-year airport in Enfidha, Tunisia. In Senegal a consortium of companies recently won a 25-year operating contract for the planned new 5 million passengers-per-year capacity airport in Dakar, Senegal. Some airlines are also thriving – Ethiopian Airlines has doubled passenger numbers from 1 to 2 million over the past 3 years, with revenue growing from US\$350 million to US\$800 million over the same period.

Access to telecommunications

52. Africa is undergoing a revolution in information and communications and technology (ICT) that is bringing telecom services within the reach of hundreds of millions of people. The revolution is based on wireless technologies and basically bypasses the fixed-line networks. In the 24 countries surveyed by the AICD, while fixed-line subscribers grew by just 1.4 million, from 8.1 million lines in 2000 to 9.5 million in 2005, mobile networks subscribers jumped from 10 million in 2000 to more than 110 million in 2006. But in spite of this rapid surge in ICT penetration rates, sub-Saharan Africa still fall behind other developing regions (see Table 2).

Table 2: ICT coverage – Access per 100 inhabitants, 2005

	Fixed telephone lines	Mobile subscribers	Internet users
East Asia and Pacific	20.5	28.4	8.7
Latin America	17.8	42.8	16.2
South Asia	3.9	7.5	2.8
Middle East and North Africa	12.5	22.6	7.4
Sub-Saharan Africa	1.5	12.4	2.2

Source: AICD.

53. While these numbers point towards positive changes, they also mask vast differences between countries. Besides South Africa and Nigeria, Egypt and the other North African countries, Kenya, Sudan, and Zimbabwe are the other countries with internet users in excess of 1 million.¹² The most common form of access to the Internet is through shared facilities such as Internet cafes and telecentres.

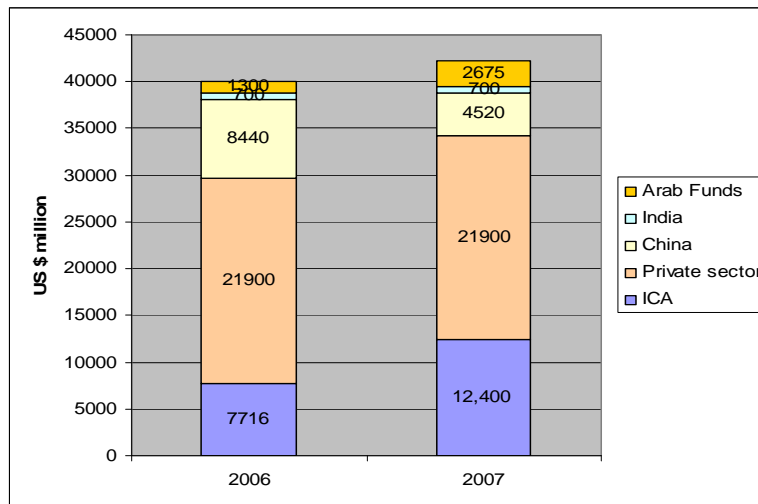
54. As mobile network coverage increases across the region, the primary determinant of popular access to services is price, which is high by international standards and in relation to household incomes in the region. In 2006 the average monthly prepaid package for mobile service in the countries studied was priced at US\$12.58, marginally lower than the average price for fixed lines, which was about US\$14.60 that same year. There is great variation across countries, with average mobile prices ranging from a high of US\$24 to a low of US\$4. The average price of a fixed-line package covers a similar range, from less than US\$5 per month in Ethiopia to more than US\$30 per month in Côte d'Ivoire.

¹² "Booming telecoms and internet growth", The Africa Report, No. 12, August-September 2008.

Funding of infrastructure

55. Investment in new facilities is a major determinant to increasing access. According to the Infrastructure Consortium for Africa (ICA), African countries received about US\$40 billion in external financial support to infrastructure in 2007 (see Figure 5). As noted above, commitments by ICA members reached US\$12.4 billion, an increase of 61% from the previous year with a major concentration in the road, water and sanitation sectors. China, along with other emerging economies, constitutes another major source of finance for African infrastructure with commitments estimated at above US\$5 billion. Railways and large hydropower projects dominate China's project portfolio and are often related to the exploitation of major natural resources.

Figure 5: Funding commitments to infrastructure in Africa



Source: ICA Annual Report 2007

56. Although it has grown sharply in recent years, public investment in infrastructure is still not sufficient. At the same time, private investment towards infrastructure in Africa is growing rapidly. The World Bank Private Participation in Infrastructure (PPI) project database -- for energy (electricity and gas), transport, telecommunications, and water and sewerage -- indicates that between 1990 and 2006, a total 332 PPI contracts were concluded in sub-Saharan Africa representing investment commitments for about US\$50 billion. The PPI¹³ database estimates that the investment in Africa from private sources was in the region of US\$21.9 billion in 2006. A time of writing this report 2007 data was not available, though given the upward trend in both North Africa and SSA over the last few years, it was assumed that US\$21.9 billion would be a minimum figure for 2007.

57. These investments are, however, concentrated in the telecommunication and energy sectors and are located in relatively few countries with South Africa, Nigeria and Mozambique being the main recipients. There is also a growing trend towards the use of Public-Private Partnerships (PPPs) with several governments setting up specialist units for that purpose.

¹³ The PPI database is an estimate of the levels of private sector investment based on tracking press announcements and other media sources of information. It includes management and lease contracts, concessions, greenfield projects and equity stakes in state-owned enterprises (so called divestitures). It does not include social infrastructure PPP projects like schools and hospitals.

Making more efficient and effective use of existing infrastructure

58. Maintenance of the stock of existing infrastructure (particularly for roads), reducing water wastage, and combating the inefficiency of public utilities that generate substantial hidden costs are high priorities in national programs to increase the supply, and thus access to, infrastructural services. In the road sector, the advent of second-generation road funds which are jointly managed by private sector operators and benefit from dedicated funding have helped to increase road maintenance budget. But on average, these funds only cover about half of the requirements for operation and management (O&M) and thus continuing reliance on public funds is thus needed.

59. Through the SSATP trade facilitation strategy, significant measures have been adopted including transit traffic observatories, the setting up and/or modernisation of transport corridor management together with the signing of agreements to establish one-stop border posts (Kenya/Uganda, Burkina Faso/Ghana, Mali/Burkina, Senegal/Mali). Most rail infrastructure is poorly used and deteriorating because of lack of maintenance. Using rail for local transport could reduce dependence on roads, especially during the rainy season, as well as the costs of maintaining them. Maintenance of transport networks could also provide employment opportunities in the informal sector.

60. The inefficiency of many of Africa's energy utilities generates substantial hidden costs. Mispricing, low rates of revenue collection, and losses in transmission due to ageing infrastructure and theft can account for up to 4.5% of GDP. As a consequence of these inefficiencies, the bulk of public expenditure is therefore allocated to operating costs leaving little or no resources left over to invest in new generation capacity. Tackling these issues, which can bring rapid benefits in increased revenues and lower costs with minimal investments, must be the highest priority in national energy programmes.

61. Regulatory reforms in water and sanitation and energy sector are moving slowly and little progress has taken place in reducing water leaks and waste. According to a survey of 45 water utilities from 23 countries in Africa collected during 2006–07 by the AICD, about 60 % of the utilities surveyed are meeting their full O&M cost, and only 9 % are meeting O&M costs plus a part of their capital costs at relatively high levels of consumption. African water utilities operate in a high-cost environment, with an average O&M cost of US\$0.6/m³. These high costs, combined with the mandate to cover at least partial O&M costs, make tariffs higher in Africa than in other regions of the world, thus undermining access through low affordability by households as discussed earlier.

Facilitating involvement of other stakeholders

62. The private sector is now active in most infrastructure sectors. The 1980s and 1990s witnessed a major withdrawal of the public sector, both domestic and foreign, from infrastructure. The expectation that the private sector would step in was not realized given the inadequate regulatory frameworks and the perception of high risks. The situation has changed significantly and private operators are now involved in infrastructure in many countries, changing the dynamics of the sector by bringing new management expertise and innovative approaches to improve access to modern infrastructure services. These take a variety of forms including management and lease contracts of public utilities (in Cote d'Ivoire, Senegal, Mali in West Africa and Zambia, Mozambique in East Africa) and in performance-based contracts that have been developed in a small number of countries. For example, the intervention of private water operators has sharply increased access to safe drinking water in small Ugandan towns while maintaining high performance (metering, functionality of service and quality norms). There are also successful examples of the public partnering with the private sector to deliver water and waste management services in Senegal, Morocco, Niger, and Algeria.

63. Independent Power Producers (IPPs) constitute an important form of private sector participation in Africa's power sector and are active in Cote d'Ivoire, Ghana, Kenya, Senegal and Tanzania. A few countries (Namibia, South Africa, Zimbabwe, Uganda and Ghana) have experienced the development of independent power distributors.

64. In the road sector, innovative forms of maintenance contracts such as output-based maintenance contracts -- where companies are paid to maintain roads to agreed contractual standards -- are gaining momentum. Long-term performance contracts, such as those practices in Nigeria, have attracted new forms of private participation in road maintenance. Toll roads in North and South Africa are also being piloted, for example in Kenya and in Mozambique.

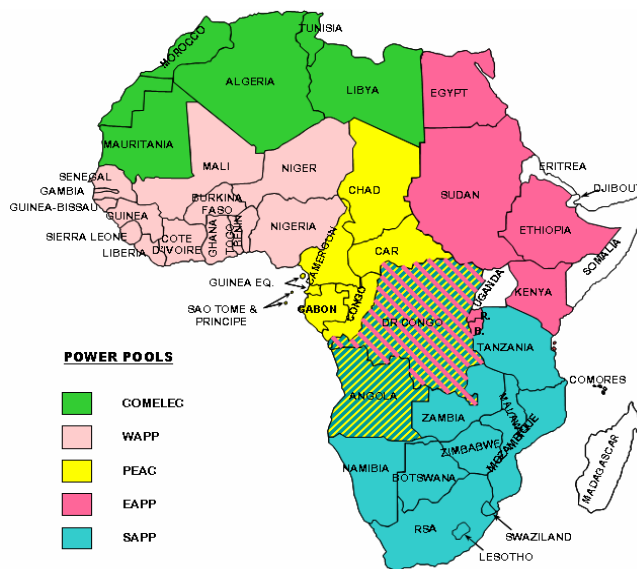
65. Railway and airport concessioning was pursued in the mid-1990s in an attempt to attract private sector involvement but has had mixed results, although concessioning appears to be gathering pace again especially in Central and West Africa, with a particular focus on freight traffic. In Southern Africa, Airports Company South Africa (ACSA) with foreign private participation took over the management of nine airports and railway concessions in Madagascar, Mozambique, Zambia, and Zimbabwe. In Eastern Africa, Hutchinson Port Holding manages the Dar-es-Salaam container terminal. In West Africa, a private entity, the Abuja Gateway Consortium, now operates and manages the Lagos airport on a 25-year concession. In North Africa, Egypt's Alexandria International Container Terminals, Damietta International Port, Suez Canal Container Terminal and Tunis Airport's are managed by private companies.

Strengthening regional initiatives

66. Africa's multiple borders limit market size, create opportunities for administrative and trade barriers at border crossings and push up energy generation costs and prices. Greater cross-border trade of energy would encourage expanding generating capacity and the reduction of investment and operating costs, thus promoting access.

67. Progress has already been made in developing regional energy interconnections and facilitating regional energy trade. The establishment of the regional power pools is a notable example, although much work is still to be done to broaden and deepen these energy markets (see Figure 6). The inter-connectivity of Southern Africa (SADC) is more advanced. The Southern African Power Pool (SAPP) is well established, and some countries in the region benefit from power-sharing arrangements.

Figure 6: Power pools in Africa



Source: The NEPAD MLTSF, Infrastructure Development Gaps

IV. What are the key priorities?

Action by Africa:

- ◆ Build on progress in sectors such as road transport, develop strategic frameworks on integrated water resources management, the energy sector, and other transports along the lines of the proposed work under the ‘Programme for Infrastructure Development in Africa’ (PIDA);
- ◆ Develop aggressive business plans for bridging Africa’s infrastructure funding gap;
- ◆ Continue efforts in removing obstacles to the timely implementation of infrastructure projects, including a renewed emphasis on project preparation. The lack of projects with good feasibility studies has been identified as a major obstacle to private sector participation;
- ◆ Sustain efforts on regulatory reform, and improve the efficiency of existing infrastructure (and in particular the performance of energy utilities) as an essential element lowering costs;
- ◆ Give increased priority to regional projects;
- ◆ Put in practice co-ordination mechanism signed by AU, NEPAD, RECs and AfDB, and clarify roles of RECs and regional technical bodies; and
- ◆ Intensify efforts to ensure more equitable provision of basic services to rural areas.

Action by development partners:

- ◆ Sustain the recent trend of increasing investment in infrastructure including for regional projects -- expansion of international transmission lines, greater intra-country trade and stronger power pools are all important to reducing capital, maintenance and operating costs and improving energy security;
- ◆ Ensure adequate resources for upstream project preparation, in order to accelerate the implementation of projects and programmes;
- ◆ Provide capacity support for the RECs, regional sectoral bodies, and infrastructure agencies at country level;
- ◆ Take into account the impact of climate change in programmes of support for infrastructure;
- ◆ Increase the number of joint-financing opportunities by playing a greater role in bringing China and other partners and the private sector into regional infrastructure projects.

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