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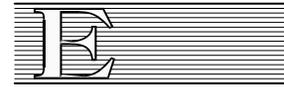
Sixth Session of the Committee on Food Security and Sustainable
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Africa Review Report on Transport

A Summary

Contents

Acronyms

CAI-SSA	Clean Air Initiative in Sub-Saharan African Cities
CDM	Clean Development Mechanism
CEMAC	Central African Economic and Monetary Community
CNG	Compressed Natural Gas
CO	Carbon monoxide
CO_2	Carbon dioxide
COMESA	Common Market for Eastern and Southern Africa
COSCAP	Cooperative Operational Safety and Continuing Airworthiness Development Programmes
EC	European Commission
ECA	United Nations Economic Commission for Africa
ECOWAS	Economic Community of West African States
EIA	Environmental Impact Assessment
ERTTP	Ethiopian Rural Travel and Transport programme
EU	European Union
FCB	Fuel Cell Bus
FCFA	French *Communauté financière africaine* "African financial community"
FESARTA	Federation of East and Southern Africa Transporters Association
GDP	Gross Domestic Product
GEF-SGP	Global Environmental Facility- Small Grant Programme
GHG	Greenhouse Gas
IATA	International Air Transport Association
ICA	Infrastructure Consortium for Africa
ICAC	International Civil Aviation Commission
ICAO	International Civil Aviation Organization
ICT	Information and Communication Technology
IEE	Initial Environmental Examination
ILO	International Labour Organization
IMO	International Maritime Organization
IMT	Intermediate Means of Transport
IPPF	Infrastructure Project Preparation Facility
IRF	International Road Federation
JICA	Japanese International Cooperation Agency
LTDP	Long Term Development Plan
LVSR	Low Volume Sealed Road
MDG	Millennium Development Goal
NEPAD	New Partnership for Africa's Development
NMT	Non Motorized Transport
NTB	Non Tariff Barrier
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
OSBP	One-Stop Border Post
PASDEP	Plan for Accelerated and Sustained Development and Eradication of Poverty
PCFV	Partnership for Clean Fuels and Vehicles
PPM	Parts per Million
PPP	Public-Private Partnership
PRS	Poverty Reduction Strategy
PRTSR	Poverty Reduction and Transport Strategy Review

REC	Regional Economic Community
RIT	Regional Integration and Transport
RMF	Road Management and Financing
RTFP	Regional Trade Facilitation Programme
RTTP	Rural Travel and Transport Programme
SADC	Southern Africa Development Community
SARPs	Standards and Recommended Practices
SIDA	Swedish International Development Cooperation Agency
SME	Small and Medium Enterprise
SO$_2$	Sulfur dioxide
PIDA	Programme for Infrastructure Development in Africa
SQ. KM	Square kilometre
SSA	Sub-Saharan Africa
SSATP	Sub-Saharan Africa Transport Policy Programme
TCC	Transport Coordination Committee
TRB	Transport Research Board
UATP	*Union Africain des Transports Publics* (African Association of Public Transport)
UEMOA	West African Economic and Monetary Union
μg	Micro gram
UNCTAD	United Nations Conference on Trade and Development
USAID	United States Agency for International Development
USOAP	Universal Safety Oversight Audit Programme
WB	World Bank

I.   Introduction

1.   United Nations General Assembly (UNGA) Resolution 58/218 mandates Regional Commissions in collaboration with the Secretariat of the United Nations Commission on Sustainable Development (CSD), regional and subregional organizations and bodies, as well as regional offices of funds, programmes, international finance and trade institutions and other organizations of the United Nations system, to organize multi-stakeholder Regional Implementation Meetings (RIMs) and to provide regional inputs into CSD work. In this context, the United Nations Economic Commission for Africa (ECA) has been organizing RIMs in collaboration with partner organizations since 2003.

2.   The 2009 RIM held in October 2009 under the auspices of the Sixth Session of the Committee on Food Security and Sustainable Development (CFSSD-6), is being organized in collaboration with the United Nations Department of Economic and Social Affairs (UN-DESA), the United Nations Environment Programme (UNEP), the United Nations Industrial Development Organization (UNIDO) and other partners. It will deliberate on regional inputs into the eighteenth session (CSD-18) and review progress on implementation of Agenda 21 (A21), the Programme for Further Implementation of Agenda 21 (PFIA21) and the Johannesburg Plan of Implementation (JPOI) commitments relative to the thematic areas of Transport, Chemicals, Waste Management, Mining, and a Ten-year Framework of Programmes on Sustainable Consumption and Production (SCP).

Scope of the report

3.   This summary report on transport was drawn from the main report that was jointly commissioned by ECA and its partners and which provides an overview of the significance of the transport sector in advancing Africa's sustainable development agenda. It also raises important emerging issues in the transport sector in Africa, outlines measures taken and progress made towards implementing the transport-related commitments and goals contained in A21, PFIA21 and JPOI, identifies implementation challenges and constraints, and highlights the way forward, including policy measures and actions needed to accelerate implementation.

Submission to the RIM

4.   This summary report on transport is submitted for RIM consideration. It is intended to stimulate discussions aimed at generating inputs to inform the Africa RIM Statement. It is also intended to elicit comments and additional inputs for finalization of the main regional review report on transport. The final report, when complete, will serve as a reference document for CSD-18 deliberations and will be disseminated to member States, African regional and subregional organizations, and all relevant partners and organizations. The aim is to highlight the status of implementation of transport-related commitments in Africa and to serve as an advocacy tool for promoting appropriate actions by all stakeholders at all levels, with a view to accelerating progress towards sustainable development of the transport sector in Africa.

II. The transport sector in Africa: significance, trends and emerging issues

5.   Sustainable economic growth and poverty reduction address a complex set of issues that call for the development of all sectors of the economy to meet the needs of the current generation without compromising the long-term needs of future generations. Transport is one of the key sectors that play crucial roles in achieving the goals of poverty eradication and sustainable development. The transport sector is very much linked and influences developments in other sectors of the economy. Indeed, it affects attainment of all eight Millennium Development Goals (MDGs).

6.   Road transport is the most dominant mode of motorized transport in Africa, accounting for 80 per cent of the goods traffic and 90 per cent of the passenger traffic on the continent. African countries together have about 2.06 million km of roads in 2001, resulting in a road density of 6.84 km per 100sq.km. Whereas the average road-to-population ratio for the whole continent is 26 km per 10,000 inhabitants, there is a large subregional variation. Central Africa and Southern Africa have the highest road distribution, with 49.5 km and 56.3 km, respectively, for every 10,000 population. In 2005, only 580,066 km or 22.7 per cent of the total African road network was paved.

7.   Most African countries face huge costs associated with transportation. In accessing foreign markets, on average, Africa's transport and insurance costs represent 30 per cent of the total value of exports, which compares unfavourably with 8.6 per cent for all developing countries. Although most share the problem of high transport costs, landlocked countries face the most excessive transport costs recorded on the continent.

8.   Road traffic accidents kill 1.2 million people in the world. Of this number, over 225,000, or 19 per cent, were accounted for by deaths on African roads. Moreover, Africa has the highest number of road traffic accidents per capita.

9.   In 2005, the continent had a total railway network of 90,320 km or 3.1 km of per 1,000 km2, most of which is disjointed. With the exception of North Africa, railways in Africa generally have a low level of traffic. The railways carry only one per cent of the global railway passenger traffic and two per cent of goods.

10.   Maritime transport is the most dominant mode of transport for moving freight from and to Africa. It accounts for over 92 per cent of Africa's external trade. With a total coastline of 30,725 km, Africa has 90 major ports and a number of other ports providing services for fishing and tourism. African ports handle only 6 per cent of global traffic, of which about 6 ports, three each in Egypt and South Africa, handle about 50 per cent of Africa's container traffic.

11.   Africa is also endowed with a number of rivers and lakes that have great potential of being inexpensive, energy-efficient and environment-friendly inland waterways. Twenty-nine African countries have navigable bodies of water, but only a small number have been well developed for transport services.

12.   The continent had over 4,000 airports and airfields in 2007, of which only 20 per cent had paved runways. Although the number of airports and airfields in the region seem enormous, a significant number of them do not meet International Civil Aviation Organization (ICAO) standards and recommended practices. Only 117 of Africa's airports are classified as international airports. The s share of global air transport remains modest at about 5.2 per cent of the passenger traffic, approximately 3.6 per cent of freight and roughly 8.5 per cent of the number of departures for 2006.

13.   Transit times on African transport corridors are unduly long due to factors such as unclear and sometimes conflicting rules and regulations, inefficient service providers, road blocks, as well as cumbersome administrative and customs procedures. These have created a serious challenge to transport facilitation and trade on the continent. It leads to excessive traffic delays, resulting in substantial increase in transport costs.

14.   Globally, the transport sector accounts for approximately 25 per cent of world energy demand and for more than 55 per cent of all the oil used each year. The sector depends on petroleum products for 95 per cent of its energy requirements.

15.   Road transport accounts for about 85 per cent of the total energy consumption in the transport sector in developed countries, the balance of the energy consumption in the transport sector being shared by rail, maritime and air transport. The high energy intensity of road transport in Africa can be attributed to aging and inefficient vehicles.

16.   Africa's demand for energy will keep on rising with the ever-increasing need for mobility in the efforts to eradicate poverty and achieve sustainable development. This growth will call for increased consumption of energy, mainly petroleum products, or emerging alternatives.

17.   Transport has significant negative impacts on the environment and human health. These impacts are associated with the construction of infrastructure and provision of transport services. Transport is associated with, among other challenges, air pollution, congestion in cities and ports, soil erosion as well as destruction of fauna and flora. Transport accounts for approximately 20 per cent of total world greenhouse emissions. With the rapidly increasing motorized means of transport in Africa, the sector has become the fastest growing source of greenhouse emissions on the continent.

18.   The destruction of forests and other ecosystems including wildlife habitats, land degradation particularly through soil erosion on land adjacent to infrastructure, and changes made in drainage systems and geological formations associated with the construction of roads, railways, airports and seaports are major environmental concerns in the transport sector.

19.   Although health problems resulting from air pollution in Africa are still low by the standards of other developing and developed countries, these problems are increasingly a source of concern. The cost of air pollution in a number of African cities can be as high as 2.7 per cent of GDP.

20.   In order to achieve its goals of poverty reduction and sustainable development, Africa needs to invest about US$ 40 billion annually in building new infrastructure and another $40 billion for maintenance and operation of existing infrastructure.

21. In recent years, African governments have allocated 6-8 per cent of their GDP annually to infrastructure development. This amounts to $16-20 billion, which is a significant improvement in annual government allocation compared to the $US8-8.5 billion allocated to infrastructure in the 1990s. It is, however, clear from the above that government allocation for infrastructure falls far short of the requirement.

22. The investment requirements for new transport infrastructure and maintenance in Africa are conservatively estimated to be $14.2 billion annually. The 2007 financing requirements for transport infrastructure for 13 sub-Saharan Africa (SSA) countries alone was estimated to be $6.4 billion.

III. Actions taken and progress made

23. African countries have taken a number of concrete actions and made some progress towards implementation of transport-related commitments and goals contained in A21, PFIA21, JPOI and other sectoral declarations. Some of the measures taken and under implementation are highlighted below.

24. ***Transport policies, strategies and programmes:*** Subregional, regional and international entities as well as ministerial conferences and Heads of State Summits have adopted resolutions with the view to accelerating development of an integrated transport system in Africa.

25. In recognition of the important role of transport infrastructure and services in meeting the MDGs, the meeting of African Ministers responsible for transport and infrastructure held in Addis Ababa, Ethiopia, 6 April 2005 adopted a declaration setting a number of targets for 2015. These targets included:

- Reducing the proportion of rural population living beyond 2 km of an all-season mode of transport by half, in order to improve access to inputs and markets and generation of employment opportunities;

- Narrowing down the difference in average transport cost within Africa by 50 per cent as compared to Asia;

- Reducing the rate of accident fatalities arising from road and other means of transport by half;

- Reducing the number of urban and rural residents for whom mobility problems severely constrain access to employment and essential services by half;

- Promoting environmental sustainability in all transport operations and development programmes;

- Phasing out production and use of leaded petrol; and

- Dismantling all physical and non-physical transport barriers.

26.   A number of programmes have been developed to improve transport in Africa. These include the United Nations Transport and Communications Decade in Africa (UNTACDA-I), which was launched in 1978. The second decade programme, UNTACDA-II was launched in 1991 with the long-term objective of establishing an efficient and integrated transport and communications system as the basis for the physical integration of Africa. Out of the 708 projects approved, 466 projects had been fully or partly implemented by 2000. The level of resources mobilized for the projects was $9.0 billion, compared to the financing requirement of $16.6 billion, indicating 54 per cent achievement. In addition to the infrastructure projects, UNTACDA-II incorporated four special initiatives: human resources and institutional development, the Yamoussoukro Declaration on a New African Air Transport Policy, the regional transport database and the Trans-African Highway Bureau.

27.   Satisfactory results have been achieved as a result of the implementation of UNCTADA II. These results include expansion of the transport network, improvement of quality of infrastructure and services and strengthening of institutional capacity.

28.   The Programme for Infrastructure Development in Africa (PIDA), jointly initiated by African Union Commission (AUC), African Development Bank (AfDB) and the New Partnership for Africa's Development (NEPAD) Secretariat, is underway. It aims at ensuring integrated development of Africa's infrastructure, avoiding duplication of efforts, establishing a strategic framework for the development of subregional and regional infrastructure, and developing an infrastructure investment programme with a clear and viable implementation strategy. PIDA is currently at its initial stage.

29.   The Sub-Saharan Africa Transport Policy Programme (SSATP) Poverty Reduction and Transport Strategy Review (PRTSR) underway in many countries is helping to integrate transport planning within poverty reduction strategies, and has the potential to serve as a tool for policy development in all aspects of the transport sector. Eighteen member countries of the SSATP, including Burkina Faso, Central African Republic, Ethiopia, and the Gambia that were added in 2007, had completed their PRTS reviews and started work on implementing the recommendations of the reviews by the end of 2007. In Cape Verde, Burundi and the Niger reviews were also underway in 2007.

30.   In Central Africa, the Democratic Republic of Congo (DRC), Mali, Malawi, Rwanda and Senegal, the review proposals shaped the way transport was perceived as part of poverty reduction strategies. In other countries, the sensitization process initiated the demand for updating transport strategies in response to the changing development environment that currently feature the MDG objectives.

31.   DRC, Ethiopia, Lesotho, Malawi, Mali and Zimbabwe completed preparation of their transport sector policy documents and master and investment plans by 2007, while Benin, Burkina Faso, Cameroon, Central Africa, the Niger, Senegal, Tanzania and Uganda, started to draft their policy documents in the same year.

32.   In the railways subsector, the Brazzaville Declaration and Plan of Action on African Railways adopted by the first meeting of the African Ministers responsible for railway transport that was held in Brazzaville in 2006, reaffirmed the commitment of African governments to develop an effective railway system that would promote Africa's development and integration. A follow-up conference organized by AUC in collaboration with the Republic of South Africa for railway professionals looked into issues such as

interconnection and interoperability of continental railway networks and made recommendations on harmonization of standards for infrastructure, equipment, practices and procedures.

33. With regard to Africa's maritime transport, the first AU Conference of Ministers responsible for maritime transport held its meeting in Abuja, Nigeria, in February 2007 on the theme "*The role of maritime transport in the development of Africa.*" The meeting adopted the "*Abuja Declaration for effective revitalization of maritime transport in Africa*", as a key component of an African socio-economic development policy and the associated Plan of Action on Maritime Transport for Africa.

34. Measures have been taken to liberalize air transport in the region. These include actions taken by African countries to implement the Yamoussoukro Declaration and subsequent decisions of African governments, with the objective of promoting cooperation and solidarity in protecting and developing international air transport services in Africa. Member States of the Central African Economic and Monetary Community (CEMAC), six countries in East Africa and eight in Western Africa have complied with the Yamoussoukro Decision. Other African countries have not yet fully complied with the Decision.

35. Human and institutional capacity-building is being undertaken with the support of development partners. Through SSATP, counties have established and are restructuring road agencies, and are enhancing the capacity of local governments to coordinate rural transport infrastructure and services effectively. Other capacity-building initiatives are also underway as part of the cooperation agreements with AfDB, ECA, EU, Infrastructure Consortium for Africa (ICA), World Bank and bilateral donors.

36. *Improving rural transport:* SSATP analytical work to provide methodologies for the assessment of rural transport services was carried out in the 2004-2007 period. At the same time, a review was carried out of the progress made in terms of promoting intermediate means of transport (IMT) and evaluation of the success and bottlenecks of the Rural Travel and Transport Programmes (RTTP) that have been implemented by many African countries, supported by the World Bank and bilateral donors. The findings revealed the poor state of motorized rural transport services, and the absence of regulatory frameworks and institutional structures. They indicated the need to address the regulatory, institutional and financing aspects of rural transport that restrict the provision of affordable transport to the poor. To address the issue of the knowledge gap, training material on the management of rural transport was developed and the first training of its kind was conducted in 2007.

37. Some SSA countries such as Ethiopia, Malawi and Nigeria have taken the principles of RTTP further by launching large scale rural access improvement programmes linked to rural development. Nigeria, for example, has integrated its rural travel and transport programme with its National Transport Policy. Following the development of its draft rural travel and transport policy in line with the RTPP framework of SSATP, Nigeria is currently implementing a major Rural Access and Mobility Project (RAMP). RAMP was funded by the Federal Government of Nigeria, in collaboration with state governments and development partners such as the World Bank and AfDB.

38. *Transport facilitation, safety and security:* A number of international and bilateral agreements and protocols aimed at simplifying and harmonizing trade and transport between States have been signed in Africa. In Central, East, Southern and West Africa, inter-state

conventions and protocols have been adopted, many of which are being implemented. These include: transportation of miscellaneous goods by road; multi-modal transport; regulation of transport of dangerous goods, highway and civil aviation codes; maritime cooperation; common vehicle insurance schemes, joint border posts as well as transport corridor management mechanisms.

39. As part of the initiative of the United Nations Secretary-General to refocus attention on timely achievement of the MDGs, the United Nations has established the MDG Africa Working Group, including the Infrastructure and Trade Facilitation Thematic Working Group, which is supported by AfDB, the European Commission (EC), World Bank and the ICA Secretariat.

40. The Almaty Programme of Action initiated by UNGA in 2003, for example, was launched to address transit transport and trade issues by developing efficient transit systems for landlocked developing and transit countries. As a follow-up to this international initiative, African Governments have developed the African Programme of Action focusing on development of the major transit corridors that were selected at a preparatory meeting on the Almaty Programme of Action in 2003, in Addis Ababa.

41. Transport safety and security is an area of serious concern in Africa. Having recognized the significant health hazard and economic cost of poor road safety, African governments are working with the SSATP to formulate and implement sound transport policies that will, among other goals, improve road safety. The African Road Safety Congress jointly organized by the Government of Ghana, the World Health Organization (WHO) and ECA was held in Accra, Ghana 5–8 February 2007. It reviewed the progress made by African countries in improving road safety and in developing national action plans.

42. The Conference adopted the Accra Declaration which called upon developed countries to recognize the urgent need to improve road safety in Africa and systematically include road safety in their cooperation programmes. The Declaration also highlighted the commitment of the African governments represented at the Conference, inter alia, to work together to stop the growing epidemic of deaths and injuries on African roads.

43. In the water transport sub-sector, a number of measures have been taken to address the important issues of safety and security. With regard to inland water transport, the International Maritime Organization (IMO) has developed a model safety regulation for inland waterway vessels and non-conventional craft, including fishing vessels operating in Africa.

44. To combat the increasing threat of maritime piracy in the Horn of Africa and the Gulf of Aden, many governments are taking steps in cooperation with IMO. The United Nations Security Council recently authorized the naval powers of the world to conduct patrols off Somalia. Since then warships including those from the North Atlantic Treaty Organization (NATO), EU, India and Russia have been patrolling the sea off the coast of Somalia and in the Gulf of Aden.

45. A code of conduct aimed at combating acts of piracy and armed robbery against ships was also adopted following a high-level meeting held in Djibouti on 26 January 2009 under the auspices of the IMO and attended by representatives of 17 States from across the western Indian Ocean, Gulf of Aden and Red Sea areas. The code requires signatories to share and

report relevant information, interdict ships suspected of engaging in acts of piracy or armed robbery, apprehend and prosecute persons committing or attempting to commit acts of piracy and armed robbery as well as facilitate proper care, treatment and repatriation for seafarers, and other shipboard personnel and passengers subject to acts of piracy or armed robbery.

46.   To enhance air transport safety, ICAO has embarked on the Universal Safety Oversight Audit Programme (USOAP). The lessons learnt from the ICAO safety audits have led to the commitment by the Directors of Civil Aviation to implement an action plan aimed at strengthening their capabilities with respect to safety oversight, particularly with regard to the areas of licensing, airworthiness and the operation of aircraft. The Second Conference of African Ministers responsible for air transport held in Libreville, Gabon in May 2006 reviewed the progress made in USOAP implementation.

47.   ***Energy efficiency and environment sustainability in the transport sector:*** In order to ensure more energy-efficient mass transit systems, Bus Rapid Transit (BRT) was recently added to Africa's transport system. The BRT simulates a mass transit system using exclusive right of way lanes in line with the metro systems well known in developed countries, but using bus technology instead of rail. In recent years, Cairo, Lagos, Johannesburg, Dar es Salaam, Dakar and Kampala have either introduced the BRT or are preparing to do so. Given the rising concern regarding the impact of emissions on the environment from motorized modes of transport, initiatives are also underway to address sustainable transport in Africa by promoting non-motorized transport, among other strategies.

48.   An example of such an initiative is one carried out by the Institute for Transportation and Development Policy (ITDP) under the programme called *Access Africa* and it is being carried out in Ghana, Senegal, South Africa and Tanzania. It aims at promoting healthy and environment- friendly cities by making sure that the mode of transport meets the needs of the people and is energy-efficient. Some elements of the ITDP efforts, as part of implementing the *Access Africa* programme include the California Bike Coalition, which aims at improving the quality of bicycles available in SSA through a unique partnership with the international bicycle industry.

49.   *Access Africa* has a component to improve safety for bicyclists and pedestrians, by promoting safe space for all modes of transportation. ITDP is working with officials in each country to provide safer and more attractive routes for bicyclists and pedestrians.

50.   As part of the Clean Air Initiative, African countries adopted the Dakar Declaration of 2001 in which they expressed commitment to phase out leaded gasoline in their respective countries by December 2005. Accordingly, nearly all African countries have met their commitments. Virtually all of SSA countries phased out leaded gasoline effective 1 January 2006. By the end of 2008, only two African countries (Algeria and Tunisia) had not phased out leaded gasoline, having set early 2009 as their target for marketing lead-free gasoline in their respective countries.

51.   African countries have also embarked on initiatives to reduce the level of sulphur in the motor fuels to the globally recommended level. For instance, South Africa, whose sulphur dioxide concentration in its largest cities is already lower than that of Cairo, has planned to reduce the maximum sulphur content in petrol from its level of 500 ppm in 2004 to 50 ppm in 2010, with a similar target of 50 ppm of sulphur in diesel from its level of 3,000 ppm in 2004.

52.   With regard to the development of cleaner fuels, demonstration projects in a number of countries have shown the advantages of bio-fuels as a cleaner energy source compared to the traditional fossil fuels. In this regard, biodiesel projects involving the planting of Jatropha trees for biodiesel production have been undertaken in Ghana, Mali, Mozambique and Tanzania in 2004 and 2005. Although the projects were initially intended to provide biodiesel for use as household fuel, the eventual aim is scaling up for supplying fuel for transport.

53.   In recognition of Africa's minimal role in global carbon emissions, the 12th Session of the Heads of State and Government of AU held in Addis Ababa in January 2009 reiterated the need for those countries that have contributed the most to global warming to compensate Africa for the damage done to its economy in line with the 'polluter-pay principle'.

54.   Many countries in Africa have put legislation in place for protection of the environment. An important provision of these laws is a requirement for project sponsors/developers to undertake environmental impact assessments (EIA) for proposed projects before they are implemented. In addition to the national environmental laws, a number of these countries including Egypt, Ethiopia, Nigeria, Tanzania, South Africa and Uganda have also developed supporting regulations and sectoral guidelines for implementation of these policies and laws.

55.   Other measures taken to address potential environmental impacts of transport include amendment of legal provisions in the importation of vehicles. For example, new cars imported into Benin, Cape Verde, Kenya, Mauritius and Tanzania are required to be fitted with catalytic converters. Import of second-hand cars is another area where some countries have either implemented or are planning to implement regulations limiting the age of imported vehicles or levying heavy taxes on older vehicles. Eritrea, Mauritius and Tanzania fall in this category.

56.   In addition to controlling imports of old vehicles and setting the requirement of fitting anti-pollution devices in new vehicles, Kenya's National Environmental Management Agency is working together with the Kenya Bureau of Standards to put standards in place for emissions from vehicles. In Morocco, the Emissions Monitoring and Reduction project named *Amelioration of Air Quality and Reduction of Air Pollution from Vehicles* was undertaken to support implementation of a government decree against air pollution. The project involved the testing of a total of 100,000 vehicles in a number of cities in Morocco, for levels of emission.

57.   ***Health:*** Africa's transport corridor development programmes have incorporated mechanisms to address the HIV/AIDS epidemic and, more specifically, prevent the transport sector from continuing to be a vehicle for the spread of the virus. The project undertaken, with support from the World Bank, is to study the correlation between transit transport movements and HIV/AIDS on the Abidjan-Lagos Corridor (ALCO). The project covers four countries of West Africa (Benin, Cote d'Ivoire, Ghana and Nigeria). The findings of the study showed that the cumbersome border-crossing procedures resulting in delays at the borders have created demand for overnight lodgings thus attracting commercial sex workers to such places. This in turn has exposed drivers, passengers and traders to the risk of HIV/AIDS.

58. As part of the regional effort to minimize the role that the transport system plays as a vehicle for HIV/AIDS, the SSATP programme has included a component to address HIV/AIDS problems in Africa. Under this component, the following have been accomplished: HIV/AIDS policies have been developed in 10 countries; HIV/AIDS transport strategy has been developed with support from the International Labour Organization (ILO); and the Poverty Reduction Transport Strategy (PRTSR) reviews have included actions and recommendations to limit the spread of HIV/AIDS.

59*. **Investments, funding and technical support in the transport sector:** African countries have established Road Funds to help mobilize additional resources for financing the transport sector. By 2007, twenty-seven countries in the region had established Road Funds with the aim of providing a predictable and sustainable source of finance for road maintenance. The establishment of Road Funds was one of the important results of the Road Management and Financing initiative launched under the SSATP.

60. Developed countries have provided financial and technical support to African countries to help develop the transport sector. The Infrastructure Consortium for Africa (ICA), financed by the G-8 Group and other bilateral donors, has committed an increasing volume of financing for Africa's transport projects during the past few years. Financing commitments from ICA sources increased from about $2.6 billion in 2005 to nearly $3.6 billion in 2007. The bulk of the financing from ICA sources for the transport sector is provided by EU, World Bank and AfDB, with EU contributing the highest share. There is also an encouraging development in the composition of donors, with the addition of non-OECD members, such as Arab countries, China and India.

61. Africa's private sector participation in transport investment had lagged far behind other infrastructure sectors until 2005. It had an average share of 11 per cent, limited to port and railway concessioning in a few countries. In 2006, the share of private sector investment in transport improved to 21 per cent compared to private sector investment in all infrastructure (Energy, ICT, Transport and Water) sectors.

IV.   Challenges and constraints

62. In spite of the efforts made by African governments and their development partners in formulating and implementing measures, polices, strategies and programmes to develop an adequate, safe, secure and affordable transport system that supports efforts to eradicate poverty and bring about sustainable development, a wide gap still exists between planned targets and the level of achievement. This can be attributed to the numerous challenges and constraints that the region faces in relation to the development of sustainable transport systems. The major challenges and constraints include the following.

63*. **Inappropriate national policies and limited implementation of national, subregional and regional agreements:** The lack of appropriate and well-formulated policies and strategies as well as the slow implementation of subregional and regional agreements remain major obstacles to the development of sustainable transport in Africa. Many African countries do not have policies that allow and promote private sector participation in transport infrastructure development and operation. Liberalization and privatization in rail, air and maritime transport are still in their infancy. Efforts to harmonize policies and regulations pertaining to cross-border movement of goods, services and people have not yet been effective, as many African countries have not fully implemented agreements aimed at

facilitating cross-border movement of goods and passengers by road and rail, or the much anticipated and long overdue Yamoussoukro Decision in relation to air transport.

64.   ***Low transport network connectivity and poor state of network***: In many African countries, transport networks are characterized by several missing links within each country and between countries, forcing a significant percentage of the rural population to live without access to market and essential economic and social services. Coupled with the problem associated with the missing links in the road, rail, inland waterway and air transport system, a large proportion of the existing infrastructure is aging and in a poor state.

65.   ***Inadequate human and institutional capacity:*** Although the number of workers in African public transport enterprises and agencies is relatively high, the availability of skilled personnel is limited in most transport organizations. In addition to lack of adequate skilled human resources, institutions are also lacking, that have appropriate powers and technical capacity to formulate, plan, and manage infrastructure development and services and to regulate and enforce policies and regulations.

66.   ***Negative impact of transport on the environment:*** Despite the critical importance of the transport system in economic development and poverty reduction, it is also associated with significant adverse effects on the environment. The most serious environmental concerns usually associated with the construction of roads, railways, airports and seaports are the destruction of forests and other ecosystems including: wildlife habitats; land degradation particularly through soil erosion on land adjacent to the infrastructure; and changes made to drainage systems and geological formations.

67.   ***High transport costs***: Africa has the highest transport costs in the world. Transport services are unaffordable to many African citizens as transport costs are high compared to the average incomes of the citizens. Travel costs in African cities have a share of 21.7 per cent of GDP. Freight costs in Africa are significantly higher than the average cost in Asia. The already high transport costs have been exacerbated in the last few years by the energy crisis associated with high and volatile oil prices. Factors, including limited skills of managerial and operational staff as well as poor transport facilitation, play significant roles in the high transport costs in Africa.

68*.*   ***Poor transport safety and security:*** The prevailing poor state of road safety remains a serious challenge in Africa, as accidents and the resulting loss of life and destruction of property has assumed intolerable proportions. A major weakness in this area is the absence in some countries and the weakness in other countries of lead institutions that are responsible for road safety. Coupled with this, there appears to be a lack of consistent enforcement of traffic regulations. In most cases, the major constraint common to all the weaknesses in the management of road safety is the lack of adequate financial resources. The poor safety record of many African airlines is another area of major concern in Africa.

69*.*   ***Poorly developed transport information systems:*** Statistical information is a key input at every stage of the development process, including in the planning and implementation of programmes and projects. Adequate and well-organized statistical information provides tools for making informed decisions in identifying gaps, formulating policies and strategies, developing effective investment programmes and for monitoring and evaluation. However, in Africa, such data availability is at best limited and poorly organized. Likewise, despite the importance of ICT in facilitating decision-making through rapid data

processing, storing, retrieving, transferring over long distances, the transport sector has not taken full advantage of the technology due mainly to lack of a proper policy for ICT development and limited financial and human capacity.

70.   *Limited financial resources:* Despite efforts by African governments and their international and domestic development partners to mobilize financial resources for investment in transport infrastructure and maintenance of existing facilities, huge gaps remain between the demand and available resources. Sustainable transport development requires huge financial outlays to build infrastructure, and provide energy-efficient and environment-friendly transport equipment, among others.

V.   Lessons learnt and the way forward

71.   Transport infrastructure and services are critical to Africa's sustainable development. Effective mobility and timely access to goods and services require well-developed, safe, secure and affordable transport network and services. However, Africa's transport system has not yet been developed even to the level of other developing countries in Asia and the rest of the world.

72.   Lessons learnt from ongoing initiatives have shown that the potential for speeding up implementation of commitments and achievement of goals and targets exists. This, however, requires the right set of measures to be undertaken in the area of policy, strategy, resource mobilization and capacity-building. The biggest challenge remains the translation of policies and strategies to concrete action in a timely manner. To address this aspect requires provision in a timely manner of financial and other resources, and strengthening and achieving good corporate and public governance. More specific lessons learnt and recommended policy and other measures necessary are presented under each of the major interventions below.

73*.   National policies and subregional and regional agreements:* African countries have to prove their commitment to improving the domestic investment environment by taking practical actions in the following areas:

(a)   Fully liberalizing the transport sector to attract private sector financing;

(b)   Strengthening the regulatory and enforcement mechanisms in order to create level playing fields for infrastructure investment and services; and

(c)   Improve coordination in the development and implementation of regional and subregional agreements on transport facilitation and air transport liberalization.

74.   *Human and institutional capacity-building:* Efficient institutions having appropriate mandates and staffed with highly motivated and skilled human resources are key elements in the development of a safe, secure, affordable and environmentally sound transport system.

75.   To enhance the environment for improving and expanding transport infrastructure and services, the following measures need to be taken in the area of capacity-building:

(a)   Ensure that appropriate institutional frameworks are put in place and separate regulatory and operational functions for all modes of transport;

(b)   Strengthen existing and establish new entities responsible for the planning, regulating and implementing activities that will support the development of sustainable transport;

(c)   Strengthen and expand national and regional institutes and centres of learning and specialized training;

(d)   Eliminate physical and non-physical barriers to the movement of goods and passengers at ports, border crossings and inland terminals, including cumbersome clearance procedures and road checks along the corridors serving landlocked countries, among other reasons, to prevent transport sector workers from being exposed to HIV/AIDS;

(e)   Develop and implement capacity-building programmes to upgrade the knowledge and skills of staff involved in policy formulation, planning and implementation as well as those engaged in regulatory and enforcement functions; and

(f)   Raise public awareness and participation of key stakeholders in all phases of policy- making and implementation.

76.   *Transport and the environment*: The development of sustainable transport which adequately meets the mobility and access needs of African countries and, at the same time, reduces greenhouse emissions has been demonstrated, albeit in a limited way, to be possible in Africa.

77.   Africa, although not by design, is a good example of the advantages of low motorized transport from the environment point of view. Because of its low motorized modes of transport compared to other regions of the world, Africa's contribution to global greenhouse gas emissions and the associated climate change impacts, air pollution, land usage for transport infrastructure, as well as impact on fauna and flora is low.

78.   Although the continent is not currently among the big polluters, if the continent continues along the path of business-as-usual, it will not only retard its own development but also significantly contribute to the global problem of climate change. Africa should draw lessons from the other countries which have significantly contributed to global warming by avoiding the path they followed to develop their fossil fuel-dependent transport system. Given the embryonic stage of the transport system in Africa, the continent has a unique opportunity to develop low carbon and environmentally sound transport systems.

79.   Apart from mitigation measures based on thorough EIAs that should be incorporated into infrastructure development plans, the following measures need to be taken to minimize carbon emissions and avoid environmental degradation:

(a)   Ensuring that projects pass through rigorous EIA processes before approval;

(b)   Establishing appropriate incentives to encourage the development and use of more efficient and cleaner modes of transport, including use of energy-efficient modern vehicles, locomotives, vessels and aircrafts;

(c)   Promoting the use of low-energy consuming passenger and freight transport systems;

(d)   Removing obstacles and disincentives to the development of cleaner energy sources;

(e)   Developing properly planned infrastructure and upgrading existing ones to acceptable standards;

(f)   Improving traffic management to reduce congestion and delays and their associated emissions;

(g)   Strengthening measures to minimize the number of vehicles in operation, particularly aging fleets, and other transport equipment with high emissions;

(h)   Integrating transport infrastructure planning into land use planning to ensure sustainable transport, which meets accessibility, mobility and environment needs and requirements;

(i)   Involving all stakeholders, including local authorities, ministries, airport authorities and representatives of residents in the neighbourhoods of prospective airport locations to have their say about land use and airport planning;

(j)   Taking into account the ICAO work on aviation and environmental protection when developing air transport and environmental policy;

(k)   Ensuring that wastes arising during the construction of transport infrastructure and operations, including oil spills and scraps are kept to the minimum; and

(l)   Encouraging reduction of travel through such mechanisms as the use of tele-conferencing and other electronic modes of message transfer as a substitution for air travel or driving to meetings, conferences, and so on.

80.   *Energy efficiency and transport cost:* Transport services in Africa are associated with high costs, attributable to a complex set of factors, including inadequate and poor infrastructure, aging and inefficient fleets, poor transport facilitation as well as limited competition and low traffic on some routes.

81.   Lessons show that availability of goods and services in close proximity to consumers minimizes the need for movement of passengers over long distances. Land use planning can make an important contribution in this regard by, for example, limiting urban sprawl, which is associated with the formation of a settlement pattern calling for the less energy-efficient transport modes, such as the proliferation of taxis and private vehicles.

82.   In order to improve on energy efficiency and reduce costs in the transport sector, the following actions need to be undertaken:

(a)   Integrating transport planning with land use patterns with the view to minimizing transport demand;

(b)   Encouraging the development of more energy-efficient mass transit systems;

(c)   Developing and utilizing energy-efficient modes and means of transport;

(d)   Improving the management of enterprises by upgrading the capacity of managerial and technical staff as well as streamlining operations and administrative functions;

(e)   Carrying out institutional reforms, including liberalization and privatization;

(f)   Improving and properly maintaining infrastructure and transport machinery and equipment;

(g)   Ensuring full implementation of transport facilitation initiatives; and

(h)   Promoting intra-modal and inter-modal transport competition to improve efficiency.

83.   *Transport safety and security:* The loss of human life and property caused by traffic accidents has assumed alarming proportions in all modes of transport in Africa, but more so in road transport. The Road Safety Initiative underway in Africa under the auspices of SSATP has contributed to improving awareness of the impact of road accidents on human life and the economy. African countries need to build on such initiatives to improve safety in all modes of transport by taking the following measures:

(a)   Establishing effective institutional framework and strengthening existing ones to manage traffic and ensure safety;

(b)   Allocating adequate funds for safety programmes in line with the call made by the Commission for Global Road Safety for the allocation of at least 10 per cent of the total road infrastructure investment for safety related activities;

(c)   Ensuring compliance with safety and security regulations and standards established by the relevant international and regional bodies in all modes of transport; and

(d)   Addressing maritime security problems, particularly in relation to escalation of maritime piracy in recent years, in a holistic manner, including through an in-depth look at the root causes of piracy.

84. As a short-term measure to combat the recent escalation of piracy and armed robbery against ships passing through the Gulf of Aden and off Somalia, the naval powers of the world, in close collaboration with transnational corporations, continue patrolling the waters in the area and ensure the safety and security of ships. States across the western Indian Ocean, the Gulf of Aden and Red Sea areas should contribute to the safety and security of their ships and cargo by complying with and implementing the code of conduct on the repression of piracy and armed robbery adopted in Djibouti under the auspices of IMO.

85.   *Transport information systems:* Given the high intensity of use of information in the transport sector and inadequacy of the necessary information in many African countries, ICT offers a powerful tool in accessing, processing and disseminating large volumes of information in the shortest time possible. ICT can also help save time and energy by avoiding trips to conduct meetings and collect data, with the associated reduction of emissions from

road vehicles, railways and aircrafts. However, due to the ubiquitous constraint of financial and skilled human resources, the transport sector in Africa has not adequately embraced ICT.

86. The transport sector in the region should take advantage of the possibilities offered by ICT through:

(a) Developing policies that promote increased use of ICT in all aspects of the transport system;

(b) Building adequate databases of transport information; and

(c) Developing strategies that encourage the use of ICT (e.g. video conferences and electronic information exchange mechanisms) as a substitute for trips and physical movement of goods and people.

87. *Financial resources:* Despite the efforts of African governments to allocate up to 8 per cent of their GDP for transport development, the amount is far below that required to finance even maintenance of the existing transport network and operations. Following the policy reforms undertaken by many African countries in the recent past, private sector participation in infrastructure development, although modest, is increasing. Involvement of the private sector in infrastructure development and operations, in addition to its contribution toward easing public resource constraints, has the potential of enhancing the productivity and efficiency of infrastructure services. However, as only few of past public-private partnership (PPP) arrangements, particularly in rail concessions, have achieved their objectives of improved services, enhanced efforts during the planning and implementation phases are required to make future PPPs succeed.

88. In order to secure adequate finance for the development and maintenance of transport infrastructure, the following measures need to be taken:

(a) Enhancing public source financing by ensuring that an adequate share of GDP is allocated to the sector, either directly from the government budget or through government borrowings or guarantees;

(b) Raising external resource mobilization capacity to take advantage of resources from multilateral and bilateral donors, as well as other innovative funding mechanisms, including those related to the global Clean Air Initiative;

(c) Encouraging PPPS in the construction and operation of transport infrastructure to complement public funding. This undoubtedly calls for improving the investment climate, by updating institutional and regulatory frameworks and eliminating unnecessary bureaucratic procedures and practices; and

(d) Reducing the rehabilitation and replacement funding requirements of infrastructure and rolling stock by proper and timely maintenance.

VI.   Conclusion

89.   Transport is among the key sectors that play crucial roles in the effort to achieve sustainable economic growth and poverty reduction thereby bringing about sustainable development in Africa. In order for the transport sector to play its rightful role, it has to be developed in a coordinated manner, with the ultimate aim of bringing about a reliable, efficient, safe and environmentally sound system of moving passengers and goods.