IMPROVING SAFETY OF THE USE OF SADC'S ROADS

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INTRODUCTION

The SADC road network is a valuable asset very essential for achieving the goals of regional integration and promoting economic growth. However, the use of the SADC network of various categories of road in the Member States has a poor record of safety by world standards. Thousands of lives are lost, a lot of people are injured, and an elevated value of damage is caused to property through road accidents. The situation is alarming such that it is one of the two major problems that need to be resolved urgent in the transport subsector.

Some Road Accident Statistics

Some statistics on accident reported on the SADC road network are as in annex A.

Some of the causes of road accidents are as listed below not necessarily in order of rank:

- Drunk and Driving
- Road Conditions
- Vehicle Conditions
- Driver Behaviour/training
- Overloading
- Poor Road Signals and Signage
- Substandard Road Design Standards
- Pedestrians Carelessness
- Overspeeding
- Lack of Effective Enforcement

The above situation has been and is still a big cause of concern by those responsible for transport in the SADC Member States. Thus, the Ministers, Officials of government, road users and other organisations have in several fora discussed ways and means of reducing the levels of road accidents, in order to improve on the safety aspect of use of the SADC road network. Some of the interventions proposed are contained in actions to be implemented in a harmonised manner. The responsibility to make SADC's roads safe to use lies with all stakeholders.

Poor Infrastructure

As a measure to reduce accidents caused as a result of the road infrastructure standards, design Standards are being harmonised, so that the drivers encounter similar road conditions they are used to in their own country. This includes the harmonisation of road signs, signals and furniture. The implementation of SADC harmonised road signs and signals will be done over a period. Thus, new construction and sign replacement projects will conform to the SADC harmonised standards.

As a measure to improve the general condition of the road network, alternative selfsustaining mechanism for financing for road maintenance and rehabilitation have been agreed upon whereby the road user-pay principle is adopted, and the revenues so collected through road funds are managed by the users themselves through creation of road funds and road boards with private sector majority membership.

Vehicle Condition

Vehicle testing and certification is one area which is being strengthened and harmonised, such that vehicles declared roadworthy in one country are of acceptable condition in all the other SADC Member States.

Overloading

As noted above, overloading, be it of passengers or goods vehicles is one of the identified major causes of accidents, and in the case of passenger vehicles, high mortality rate per vehicle population. Measures are being taken to decriminalise overloading offences so that offenders are fined on the spot administratively. The fines themselves are gradually being raised to such levels as to deter would be offenders. It is, as further step, being proposed to make use of the private sector for the policing of overloading on SADC's road network.

Driver Behaviour

Most accident caused as a result of bad driver behaviour are ultimately as a result of poor driver training. At SADC level efforts are underway for harmonising Driver Training Standards as well as certification. In this respect, a common driving licence format has been agreed upon by SADC Member States and some Member States have already started issuing the SADC driver's licence. On the other hand, the work for harmonization of the SADC Manual for Learner Drivers, SADC Manual for Driver Instructors and SADC Manual for Driver Examiners has been finalized by the Working Group. It is expected that the printing process will start soon so that the manuals can be used in the Region. As regards overspeeding, the Region is yet to come up with a coherent policing mechanism to ensure posted speed limits in various sections of the road network are respected by drivers. As an example of the point of effective policing, South Africa in 1999 embarked on a three month long Arrive Alive campaign, a period during which the level of enforcement was increased for speeding and other requirements to make the use of the road network safer, e.g. respecting road signs, traffic lights, drunk and driving, "drunk and walking" and other unacceptable habits on the road. South Africa saw road accidents reduce drastically during the period, especially for those accidents whose principal cause were bad driver or pedestrians behaviour. The one factor one may guess, that limits how long such campaigns can be sustained, is lack of adequate resources both in terms of funding, human resources and equipment.

Plan Regionally, Act Nationally

While it is commendable that the SADC Region is planning at regional level in a harmonised manner on investments to improve on the safety of the use of SADC's road network, the realisation of the plan can only be achieved by interventions at national level. In this respect, there is need for Member States of SADC to translate the Regional programmes into national projects which among others should include:

- Establishing national institutional capacity for vehicle testing and certification.

- Establishing or improving effectiveness of driver training.

- Incorporation of the SADC harmonised sign and signal Standards in New Construction Projects, and in rehabilitation and maintenance works as well as programmes for replacement of the SADC Signs and Signalling systems in the existing road network.

- Strengthen the capacity for enforcement of road traffic regulations.

- Strengthen the capacity of National Road Safety Councils, and where feasible involve the private sector, (the road users) in their road safety programmes.

- Invest in Road Safety related Information, Education and Communications programmes, and design programmes for road safety education for schools' and colleges' curriculum.

Some of these programmes could easily be funded from already established revenue sources, e.g. part of the roads funds being established in SADC Member States could be allocated to implementing road safety programmes, or revenue collected from offenders for road safety related offences would be invested in strengthening the enforcement capabilities of the various authorities responsible for road safety matters.

SADC Programme of Action - Road Safety Related

SADC has on its programmes of Action the following road safety projects approved by SADC Council that await funding in order to be implemented:

(2.14) Regional Plan for the Road Traffic Safety

The Project aims at preparation of a regional plan for Regional Road Traffic Safety initiative. The plan shall identify all actions of regional relevance and specify implementation procedures at the regional and national level.

(2.16) Regional Road Transport and Road Traffic Training

The objective of this project is to train managers in road transport industry and training for accident reduction and harmonized and more effective law enforcement.

Finally, under bilateral agreement with ADB (Africa Development Bank), a project on improvement of Road Safety has been approved. The project will address some of the main causes of accidents on the Beira Corridor through the implementation of road safety Programmes. Assistance will also be provided for training of drivers, instructors, and the development of road safety education programmes.

OTHER USEFUL INITIATIVES - (COLLABORATION WITH OTHER REGIONAL ORGANISATIONS).

SATCC in collaboration with the Norwegian Institute of Transport Economies has developed, inter-alia, valuable frameworks for harmonization of traffic laws, traffic signals and road markings, driver licensing, highway codes, guidelines for setting up of National Road Safety Councils and various training modules. These frameworks could provide useful information for use by other subregions in their developing road safety programmes at both national and subregional levels.

Useful initiatives that have been developed recently entail the development targeted road safety programmes and safety auditing. OECD defines a road safety target as a quantified road safety goal with an explicit quantitative limit and time frame. An example could be as follows: **South Africa plans to reduce traffic accidents by 10 per cent by the year 2000 through the implementation of the road traffic management strategy**.

The introduction of targeted road safety programmes lead to better and more realistic programmes with wider scope; better use of scarce public funds and other resources while improving the credibility of those responsible for the road safety policy, government officials and politicians; improvement in planning through the provision of rational bases for national consensus on priorities, etc.

Safety Auditing as adopted by a number of developed countries, (United Kingdom, Australia, New Zealand) and defined as a formal examination of an existing or future road traffic project, or any project, that interacts with road users, in which an independent, qualified examiner looks at the project's accident potential and safety performance is another aspect which should be adopted by African member States. The Safety Audits are expected to minimize the risk severity of road accidents that may be affected by the road project at the site or on the nearby network, and the need for remedial works after construction, reduce the whole-life costs of the project, and improve the awareness of the safe design practices by everyone involved in the planning, design, construction and maintenance of roads.

The adoption of these new concepts by African countries could improve the design, management and development of their road safety programmes.

REQUIREMENTS FOR PROGRAMME IMPLEMENTATION OF THE PRIORITY AREAS

The need to address the priority areas identified in 1989 is even more apparent now. An assessment of what needs to be addressed, and what has been done, where applicable is given below.

Sustainable transport policies

The need to ensure a sustainable transport policy backed by political will is a pre-requisite for the implementation of efficient programmes as demonstrated by the World Bank/ECA sponsored Road Maintenance Initiative. These policies must have embedded in them road safety measures.

Strategic approaches to road transport system operations are needed in the short, medium and long-term planning, programming, budgeting and decision-making processes.

The institutions must commit themselves to ensure well-defined policies that in the long run will prove cost-effective. Hence proper administrative structures and institutional building will be required to ensure the sustainability of the policies that are put in place.

The administrative structures required to address, inter alia, road safety issues will have to be composed of all stakeholders to ensure that all inputs for the development of the Programme will take into consideration the needs of the society at large. Two organizations viz the National Road Safety Council which will operate as an advisory body and the Road Safety Unit which will undertake the implementation of the programmes will have to be set up.

The issue at hand is not only to set up these organizations but to ensure their effective operation through support from the highest political level and the availability of a stable flow of funds. As mentioned earlier Some countries like Kenya had a very effective National Road Safety Council in the late 80s: this same Council had its last meeting in 1992 and efforts have since been made to set up a non-governmental organization to address the road safety problems in Nairobi initially. Algeria, Benin, Botswana, Burkina Faso, Cameroon, Cote d'Ivoire, Egypt, Gabon, Kenya, Mauritius, Morocco, Nigeria, Senegal, Tanzania, Tunisia, South Africa, Zambia and Zimbabwe have gone a long way towards setting up such bodies.

Integration of safety measures

In urban areas, promotion of local activities and facilitation of traffic lead to the setting of multiple objectives often under competing interests. Although road safety is usually not a leading priority issue for policy-makers, there is a need to create an awareness at the highest political level and have safety measures embedded in other policies thus extending actions and measures across functional boundaries.

Integration of safety measures, which requires both inter-sectoral coordination of measures supporting each other, and introduction of accident prevention aspects in other policies, has been identified as one of the key factors for achieving progress in road safety.

An integrated approach to safety action development appears to be the best way for ranking problems, articulating measures aimed at the same targets, avoiding the likely contradictions between measures applied in different sectors, and finally optimizing the use of funds.

Integration requires decision-making structures which allow or enable the key people in different sectors of activity to communicate, participate in strategic choices, and implement decisions. The setting up of national road safety councils composed of members from relevant departments and organizations is an important pre-requisite for the implementation of integrated programmes.

These structures need the full support of a technical organization in charge of diagnosis and evaluation. Such institutional structures are complex, and several African countries still experience difficulties in getting one to work. Some examples of achievement (for instance in Botswana, Malawi, South Africa and Nigeria) are encouraging however, and show that integrated safety policies and programmes are not a utopia.

In the development of policies and goals for road safety programmes, it is pertinent to systematically outline the essential elements for formulating, implementing and monitoring programmes based on concrete and realistic safety targets.

This implies that road safety should not be considered as a stand-alone activity. Instead when planning road project schemes, for example, safety aspects should be a priority focus. Safety audit mechanisms should also be introduced as they allow for substantial savings in that they grant advanced treatment of potential safety hazards at much lower cost (both in economic and social terms) than post facto actions.

Financing road safety actions

Road safety problems do not avail themselves to immediate solutions. They also require strong political commitment to ensure on a long-term basis, appropriate monitoring of the road accident situation on which pertinent decisions can be made. The financial requirements are enormous, but the budgetary constraints, especially in Africa, are extreme. A cost-effective approach to tackle and better address the road safety issues is to implement innovative and well-structured pilot programmes, rationally allocate funds for research, identify problems calling for remedial actions and co-ordinate road safety policies at national, subregional and regional levels.

Two basic ways of financing road safety operations are used in African countries: these are; (a) self-financing; and (b) development aid financing.

Self-financing: The most common method of self-financing is by earmarking funds. In Botswana a levy of 1 Pula is paid annually by all users or owner of cars living in or visiting Botswana. In the Federal Republic of Germany, a proportion of the Government fuel tax is used for road safety action. In Switzerland 1 per cent of motor vehicle insurance premiums is collected by Government and used for road safety. This method is recommended for adoption by African Governments given the ever increasing scarcity of external funding inflows for African programmes.

In general, while the role of most insurance companies in Africa is still very minimal and weak in road safety activities, some companies recognize that they have a social role to play and try to project a positive image by taking part in some road safety activities. These activities include financing research, cooperation with driving schools, development and production of teaching materials, training of children, financing information campaigns etc.

Development Aid Financing: There are two types of aid financing: (a) bilateral aid; and (b) multilateral aid. Bilateral assistance most often takes the form of technology transfer through technical assistance and training to develop local road safety agencies. Assistance from financial institutions may encompass technical assistance for training, studies, institution building, and finance for equipment and infrastructure improvements. The Malawi Road Safety Project is one example funded by the African Development Bank. The Tanzania and Ethiopia Road Safety Programme are also examples funded as component of the Roads Sector Development programmes.

Training, education and information

The initial step is to consider all education problems within the broader framework of mobility patterns; traffic education participates in the assimilation by human beings of new technical tools, and in human adaptation to new modes of transport.

Emphasis should be laid on the training of "trainers", for instance teachers (in the case of school education) or driving instructors (as far as driver training is concerned).

The importance of the need to follow-up and evaluate education and information dissemination measures is gradually being recognized. Appropriate methodologies have still to be developed.

The measures applied, whether dealing with traffic education for children, driver training, or information campaigns, are now being more and more designed with the active participation of all actors involved (teachers and pupils, driver instructions etc.). Another new development is the implementation of pilot actions, which are evaluated prior to wide-scale implementation of similar measures.

In an endeavour to assist member States, the ECA in collaboration with the Eastern and Southern African Management Institute (ESAMI) organized the first UNTACDA II training workshop on the Design and Management of Road Safety programmes for Eastern and Southern African countries in 1992.

ESAMI continues to offer, to English speaking African countries, a regular two-week course on the Design and Management of Road Safety Programs.

Within the SADC transport Programme the Zimbabwe Ministry of Transport Training Centre has been designated as the subregional training Centre for drivers and vehicle inspectors.

Accident Data Collection and Treatment

A number of countries have improved their police road accident data collection and analysis systems and have already installed microcomputer systems. Adoption should be made, wherever possible, of existing systems which are available in other countries.

Egypt has already linked medical data with police road accident data and is also collecting information about accident costs. More countries are considering the adoption of accident costing procedures and the carrying out of cost/benefit analysis of road safety improvements so that funds for road safety could be more efficiently allocated.

Niger and Côte d'Ivoire are collecting additional data on road user behaviour and attitudes to be used for planning improvements.

The British TRL Microcomputer Accident Analysis Package (MAAP) first used in the field 14 years ago, is now widely used in many African countries such as Botswana, Ghana, Ethiopia, Malawi, Swaziland, Tanzania and Zimbabwe.

The proposed African Road Data Bank by ECA and the International Road Federation (IRF) is also intended to cover data collection and treatment for road safety activities.

It should be reiterated that data collection is the foundation for developing effective intervention measures for improving the impact of road safety programmes.

Traffic regulations and enforcement

The need to harmonize regulations in subregions is strongly felt. The Southern African Transport and Communications Commission has instituted studies on the harmonization of Traffic Laws and Regulations for the Southern African subregion.

The importance of having a legal framework in the form of a road act that relates to what is happening on the roads is very critical. The information at ECA shows that most countries are using road traffic acts drawn up during the colonial era. Zimbabwe has drafted a revised act with a provision of implementing a penalty points related system for traffic offences, a system that is similar to the Swedish practice.

The business plan for the implementation of Road Traffic Management Strategy in South Africa, inter alia, proposes the setting up of regular road blocks to control driver and vehicle fitness, on the road traffic courts, with a focus on reducing drunken driving and the lowering of alcohol limits. An awareness campaign was also built in the business plan and this will be undertaken through extensive education and advertising campaigns.

There are strong needs for efficient training and re-training systems within the police forces. This should also be supported with an improvement in the remuneration of the police force to reduce the temptation to accept bribes.

It is evident that enforcement requires very strong technical and financial support by the State. This is why most countries still experience so much difficulty in implementing efficient regulatory policies.

Low-cost physical measures

A lot of research has been undertaken in Kenya and Egypt in the implementation of low cost counter-measures. On the basis of the research undertaken in Kenya and funded by Finland, an ECA manual on low-cost engineering counter-measures to accident black-spots was developed.

It is still too early to make general recommendations for any particular low-cost counter-measures as their evaluation is only just starting, and the conditions of their transferability to other countries still remain unspecified. There are strong reasons to believe, that this type of safety action, which is more dependent on human ingenuity than on heavy financing, is likely to be very cost-effective.

Although measures cannot be exported, the methodologies used to design them can be transferred. Some safety teams with field experience have already published manuals which could help others to start similar work.

The development of countermeasures should be closely linked to the introduction of traffic calming measures.

Priority areas for research

Selected research priority areas include, inter alia, accident data collection, treatment and analysis; the interaction between different aspects and elements of road infrastructure and safety; comprehensive and integrated road safety schemes; traffic law enforcement for different violations and for different road user groups; high risk groups; road user behaviour including mental

conditions, social acceptance, road user psychology, etc.; paratransit; training, education and campaigns.

ECA has carried out a study in 1994 on the improvement of pedestrian and child safety in urban areas, with a bureau in the cities of Cairo and Nairobi. The study proposed policies and remedial measures that are meant to enhance the traffic safety for pedestrian and child safety in urban areas as well as to improve their road environment. This study is considered as an initial step towards developing guidelines for pedestrian and child safety in Africa through the undertaking of further studies in selected cities.

Technology Transfer and Assistance Policy.

Parallel to continued and extended African research on road safety, there is an immediate need for knowledge from other parts of the world, both for research, planning and implementation purposes. There are examples of active technology transfer schemes through the creation of multi-national highway technology transfer Centres linked to a central institution and fed with information on a regular basis. The United States Federal Highway Administration, estimates that benefits from such technology transfer schemes exceed the input costs by more than 8 to 1.

In order to ensure effective technology transfer and implementation of assistance policy, the following should be undertaken:

- the existing research institutions should be strengthened;
- the new institutions should be encouraged to take up road safety research;
- cooperation between research institutions should be encouraged;
- a technology transfer scheme designed to maximize the use of and/or application of the research findings should be considered;
- regional and subregional cooperation should be encouraged to participate in all phases in the process leading to safer road traffic, i.e. planning, financing, research, monitoring and evaluation;
- training of road safety should be encouraged.

Special emphasis should be put on training on road safety researchers through cooperation and coordination with research institutions in all parts of the world.

The role of vehicle manufacturers is essentially one of providing safe, durable and well designed vehicles. Considerable efforts have been made and large sums of money spent to ensure that their vehicles are as safe as possible. This aspect is however beyond the control of African countries, since most African countries have not established technical and safety standards for the vehicles they purchase. With regard to the importation of second hand vehicles, while it is a very effective way for improving mobility for the low to middle income groups in Africa, it is pertinent to ensure that this vehicles meet pre-determined safety standards in order to curb the increase of accidents arising from vehicle mechanical failure. The implementation of this measure will require African countries to set up some form of bureau standards to assess the quality of the imported vehicles.

During the Third Congress deliberations it was repeatedly stressed that road safety is a human right and that the best level of safety for all road users should be sought. The understanding of the inherent problems faced in the development of road safety programmes has been enhanced and clearly indicates the need for better design of studies and research, training of staff to support the efforts of National Road Safety Councils or other coordinating bodies, training of experts to

assess the relevance of existing road safety knowledge, strengthening inter-sectoral coordination in Programme implementation; provision of stable flow to ensure continuity between preparatory study phases, Programme implementation and follow-up of the actions undertaken entailing further improvements.

The Congress presentations clearly showed that improved road safety can only be achieved at some costs to society in terms of funding for road safety work as well as imposing restrictions on the road user such as speed limits, limits to alcohol and drug use, standards for maintenance of infrastructure, vehicles, road side furniture, the enforcement of rules and regulations, etc..

Some progress has also been achieved at subregional and regional levels notably the work undertaken by the Southern African Transport and Communication Commission and the manuals jointly prepared by ECA and its cooperating partners.

There is therefore a need to implement some of the priority areas presented above in an integrated manner. A logical follow up to the foregoing is undoubtedly the dissemination the findings of the Congress, the initiation of in-depth studies and action plans to improve road safety situation in Africa at national, subregional and regional levels and the collection of experience results in order to gradually increase available relevant knowledge. The success in developing such a Programme will require coordination, harmonization and cooperation among all involved in the process.

CONCLUSIONS AND RECOMMENDATIONS

As demonstrated in the preceding, the road accident situation in Africa is still far from being satisfactory from the social as well as the economic points of view. Significant technical and financial resources backed by support from the highest level in government will be required to improve road safety in Africa. In order to develop sustainable progammes, African Governments should:

(a) Put in place comprehensive transport policies which encompass, inter alia, road safety activities, a programme for which will be drawn up in consultation with a National Road Safety Council and executed by a Road Safety Unit;

(b) Provide adequate financial and human resources and institutional arrangements for road safety activities;

(c) Adopt a balanced approach to provision of accessibility and mobility.

(d) Develop integrated approaches with clearly defined and realistic targets. This will require effective data capture for defining the programme and setting the targets.

(e) Give a priority focus to road safety aspects when planning road project schemes such as the Tanzanian Integrated Roads Project. Safety audits should be introduced early enough to ensure inter alia the cost effectiveness of measures introduced.

(f) Encourage implementation of pilot road safety schemes and countries should adopt whenever possible existing schemes in other countries. In this regard a subregional/regional approach should be adopted.

(g) Accord education and information campaigns a high priority. Special emphasis should be put on the training of trainers.

(h) Develop strategies for short, medium and long term programme implementation. The short term strategy could be the reduction of the speed limit in urban areas, while the medium and long term strategies could comprehensively address the priority areas identified in the preceding sections.

(i) support programmes pertaining to research, technology transfer and assistance policy with adequate funding and encourage cooperation between research institutions .

(j) Consider cultural and social issues when implementing some of the corrective measures on existing and/or new schemes.

In conclusion, it is recommended that all organizations involved in road safety activities should pool together their resources to support all initiatives in addressing road safety issues in Africa. In this regard, successful road safety programme implementation being multi-disciplinary in nature, will require effective and sustained cooperation from the various agents involved.

There is therefore a need to develop an African Road Safety Initiative based on a unified action plan drawn from the findings of this Congress. The initial step in implementing this action plan would require a setting up of fora for exchanging experiences and disseminating best practices in Africa and worldwide.

The initiative will ultimately be expected to:

- increase the awareness of decision makers and politicians and achieve a common understanding of the magnitude of the road safety problem; this cannot be achieved without also increasing awareness of the public of the risks generated by road traffic more specifically the enormous social and economic cost of road traffic accidents and its impact on GNP;

- Increase the motivation and commitment of top-level decision makers and politicians in addressing the road safety problem;

- Development of better information systems and increased action by international and regional organisations should be of help to reach this goal;

- Involve the citizens in the design of road safety programmes and policies, at all levels, as the success of a programme can be extended only if the whole population supports it;

- Develop and implement sustainable transport policies that incorporate road safety;

- Assist member States in adopting inter-sectoral and multi-disciplinary integrated approaches to road safety programme development with clearly defined targets and properly constituted administrative structures comprising, inter alia, national road safety councils (with representatives from all walks of life) and road safety units to undertake programme operation;

- Assist member States in the development of short medium and long term strategies to comprehensively address the priority areas identified for road safety improvement on the basis of a thorough road safety diagnosis;

- Develop a human and technical resource capacity building programme for implementing the various activities identified and provide adequate financial resources, human resources should be developed for basic road safety work (development of methods, diagnosis, evolution) as well as for programme design and implementation; technical resources should be developed both on the basis of relevant knowledge available from the international scientific community and on the experiences developed in African countries. Financial resources sought should be both public and private, involving a balance between involvement of the state in entering safety as a human right and involvement of the public to demonstrate that ownership and sharing of responsibility;

- Develop cooperation programmes which will result in coordination and harmonization of subregional and regional road transport operations;

- Develop programmes for research, technology transfer and assistance policy taking into account the need for North-South and South-South cooperation, ensuring gathering, assessing and disseminating the experience acquired in Africa, and promoting better interaction between politicians, field professionals and researchers.

Annex A

ROAD ACCIDENT STATISTICS FOR MOZAMBIQUE

Year	NO. OF ACCIDENTS	NO. OF FATALITIES	SERIOUS INJURY	MINOR INJURY	TOTAL CASUALTIES	NO. OF DAMAGED VEHICLES (SEVERE)	NO. OF DAMAGED VEHICLES (SLIGHT)
1990	3916	731	2045	2112	4888	1064	346
1991	4545	946	2536	2553	6035	1376	1049
1992	5126	1053	2851	1271	5175	1536	1575
1993	5260	921	2922	2855	6698	1659	1662
1994	5575	1089	3208	2994	7291	1929	1803
1995	5341	960	2977	3338	7275	2172	1901
1996	5084	1007	2745	3077	6829	1989	2079
1997	4748	805	2526	3160	6491	1991	2124
1998