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Full Length Research Paper

Road crashes trends and safety management in Nigeria

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This paper is concerned with traffic accidents and safety management in Nigeria. It focuses on trends in road crashes and carries out a critical review of current road safety approaches with a view to identifying their defects and deficiencies in tackling the traffic accident problem in the country. Accident records and details of current safety measures obtained from such relevant agencies as the Federal Road Safety Corps, The Nigeria Police and Department of Road Transport Services in addition to maps and photographs provided the basic data for the study. The results show the generally high rate of accidents in Nigeria with the driver as the main culprit, the functional limitations of FRSC as the lead agency for road safety matters, the practical difficulties of implementing the driver licence and vehicle registration schemes, and poor driving culture of Nigerians arising from weak traffic education, public awareness and enforcement programmes. Restructuring and re-tooling of the lead agency, declaration of traffic accidents as a national health problem and institution of driver identity management system among others are proposed to improve safe motoring in Nigeria.

Key words: Road crashes, road safety, lead agency, enforcement, safety education, crash response.

INTRODUCTION

Although transportation has liberated man and makes him more mobile, his increasing reliance on vehicular movement has conferred great facilities on him and his activities. The greatest culprit of all the modes of transport is road of which traffic accident is the most disturbing repercussion of its use.

Road traffic accident is therefore an issue of great international concern as it has emerged as the single greatest source of death all over the world. In the developing countries where the number of motor vehicles relating to population is generally much lower than in the developed countries, fatalities from automobile crashes are higher. It has been shown, for instance, that accidents in developing countries cost almost one percent of these countries Annual Gross National Product utilizing scarce financial resources they can ill-afford to lose (Akpoghomeh, 1998).

Nigeria, with a total land area of 910,771 square kilometres and human population of about 167 million, is the most populous country in Africa, and the 7th most populous nation in the world. Its large land mass and burgeoning population correlate with its high level of vehicular population estimated at over 7.6 million with a total road length of about 194,000 kilometres (comprising 34, 120 km federal, 30,500 Km, State and 129,580 km of local roads). Nigeria ranked as the country with the second largest road network in Africa in 2011. Its population density which varies in rural and urban areas (approximately 51.7% and 48.3% respectively) translates to a population- road ratio of 860 persons per square kilometres indicating intense traffic pressure on the available road network. This pressure contributes to the high road traffic accidents in the country (FRSC, 2012).

The Nigeria situation has reached such an alarming proportion even to the point of sheer frustration and near helplessness. Nigeria continues to feature in the bottom half of World Health Organisation country rankings of road traffic accidents. The country's 149th ranking in 2009 out of 178 member states indicates the hazards associated with road transportation in a country that is largely dependent on its road network for economic, social and physical activities.

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Asian countries like China, India and Indonesia with their teeming populations posses better fatality indices even up to 50% less than Nigeria's statistics. Western countries on the other hand are rated even better, recording less than 10 deaths per 100,000 population on average, with even the UK having one of the lowest with only 5.4 deaths per 100,000 population (FRSC, 2012).

Indeed news of road traffic accidents in Nigeria no longer stirs any surprise. What may be shocking, however, is the magnitude of the fatality. Daily, Nigerian Newspapers carry news of road traffic accidents that are considered significant only in severity. Sometimes the papers sum up the number of lives claimed as if they were providing an expenditure account. e.g. "over 100 lives lost to fatal accidents in the Nyanya area in the last one year'. Such news indicates that we live in accidents every day. According to Sumaila (2001) road traffic accidents have claimed more lives than deaths resulting from all communicable diseases put together including the dreaded Acquired Immune Deficiency Syndrome (AIDS).

Thus, the government and people of Nigeria are deeply concerned about the continuing high rate of road accidents and the unnecessary consequential waste of lives and properties. What is worrisome is the fact that road traffic crashes and mortality rates are still high despite various remedial measures taken in recent years to combat the problem. This clearly suggests one thing that we are yet to get it right. This paper therefore provides a critical review of current road safety management approaches in Nigeria with a view to identifying their defects, deficiencies, and limitations in tackling the road traffic accident problem in the country. On the basis of these the paper offers suggestions on how to improve the effectiveness of the measures and also proposes new strategies for ameliorating the problem.

ROAD SAFETY MANAGEMENT FRAMEWORK

Today, the work of Haddon (1980) is the most commonly used paradigm in the injury prevention field. Developed through the application of basic principles of public health to the problem of traffic safety, the Haddon matrix as it is popularly called is used as a tool to assist in developing ideas to preventing injuries of many types. It provides a compelling framework for understanding the origins of injury problems and for identifying multiple countermeasures to address the problem.

The Matrix of four columns and three rows combines public health concepts of Host-Agent-Environment as targets of change with the concepts of Primary - Secondary - Tertiary prevention. More specifically the columns in the matrix define the interacting factors that contribute to the injury process. For instance the host column refers to the person at the risk of injury while the agent of injury is energy e.g (mechanical, thermal or electrical) that is transmitted to the host through a vehicle (inanimate object) or vector (person or other animals). Physical environment on the other hand covers all the characteristics of the setting in which the injury event takes place such as a roadway or building , while the social environment covers such social and legal norms as alcohol consumption or policies about licensing drivers. In summary, the Matrix identifies and considers the importance of human, vector or agent, and environmental factors as both causative variables and control measures before, during, and after an injury (Table 1).

Using the framework, the 4-Es namely: Engineering (Roads and vehicles), Enforcement (laws) Education (Public awareness) and Emergency response (Post-crash Medicare) have been developed as the main thrusts of accident prevention and control across the world. But most recent attempts at managing road safety in developing countries are encapsulated in the Safe system approach which regards road users as the weakest link in the transport chain, unpredictable and capable of errors in spite of his level of education and access to information. The approach transfers a major share of the responsibility from road users to those who design the road transport system since the goals of the safe system is to ensure that crashes do not result in serious human injury.

Key distinguishing features of the safe system approach are the following:

(i) Recognizing that prevention efforts notwithstanding, road users will remain fallible and crashes will occur.
(ii) Shared responsibility among the designers of the road transport system (to make it safe) and users of the system (obligation to comply with rules and constraints of the system)
(iii) Alignment of safety management decisions with broader transport and planning decisions
(iv) Shaping interventions to achieve long-term goal

Based on these, the approach has five main cornerstones namely: Safe vehicles, safe roads and mobility; safe road user behaviour, and post- crash response and care. These have formed the focus of safety management strategies in Nigeria in the last decade and thus the subject of our evaluation in this paper.

METHODOLOGY

This study relied on information obtained from secondary sources especially published materials and documents of relevant government institutions and agencies. The Federal Road Safety Corps provided access to the following documents.

(i) The Establishment and Enabling act of the organisation and its various amendments.
(ii) The Accident Record files.
(iii) The Road Transport Safety Standardization Scheme (RTSSS)
(iv) Public Awareness Manuals and Printed Materials
(v) The Nigerian Road Safety Strategy (NRSS)

From these documents required information was obtained on the

Table 1. Typical Haddon matrix.

Phase	Human factors	Vehicles and equipment factors	Environmental factors
Pre-crash	- Information - Attitudes - Impairment - Police Enforcement	- Roadworthiness - Lighting - Breaking - Speed management	- Road design and road layout - Speed limits - Pedestrian facilities
Crash	- Use of restraints - Impairments	- Occupant restraints - Other safety devices - Crash-protective design	– Crash-protective roadside objects
Post-Crash	- First-aid skills - Access to medics	– Ease of access - Fire risk	- Rescue facilities - Congestion

Source: After Haddon, 1970.

establishment and growth of FRSC into a lead agency for safety, its roles and functions, accident statistics, operational activities and strategies of the Corps, enforceable laws and regulations including infractions and penalties and its data management system. To provide visual impression of the accident problem, we took photographs of typical accident scenes and produced maps of the spatial pattern of road crashes in Nigeria.

We also consulted documents of the Traffic Division of Nigeria Police Force where we obtained information on their safety roles, safety measures and approaches, accident records and safety offences and penalties. From the Department of Road Traffic services popularly known as Vehicle Inspection Officers (VIOs), we obtained information on their roles with regard to Vehicle Registration, issuance of driver licence, and enforcement of safety laws on highways. We supplemented and enriched the information obtained through these sources by looking into activity reports of Non-Governmental Organisations such as Alive Road Safety Initiative and the Nigerian Road Safety Partnership. We also examined consultancy reports, academic research papers, including speeches and addresses of top Nigerian Government Officials on road safety. The obtained information enabled our critical review of current road safety measures in the country.

RESULTS AND DISCUSSION

Trends in road crashes in Nigeria

The world road accident problem dates back to 1863 when J.J Lenoir built the first car in Paris, France. But, it was not until after 1896 that the first motoring facility was experienced. Indeed the first recorded death due to mechanical vehicle in the United States of America was in 1899 (Haddon, 1968). Nigeria recorded her first traffic accident in Lagos in 1906 (Oluduro, 1999). For more than half a century thereafter, accident rates in the country remained low due largely to low vehicular population (Ogunsanya, 2004). But from the 1970s following remarkable improvements in the economic prosperity in the country arising from the oil boom, the magnitude of the accident problem increased. According to Ogunsanya (2002), the period witnessed a substantial increase in private vehicle ownership (motor car fleet was reported to have increased by 183% between 1978 and 1987). This was followed by the economic recession of 1980s characterised by increasingly inadequate and poorly maintained road infrastructure. The situation today has been exacerbated by the near absence of alternative modes of transportation as an estimated 90% of passengers and freight in Nigeria rely on the road network with the attendant challenge of increased number and incidence of road traffic crashes.

In 1976, there were 53, 997 road traffic accidents resulting in 7,717 deaths. In 1981 the magnitude reduced to r35,114 accidents but the deaths increased to 10,236, while in 1984 Nigeria was said to have the highest rate of road traffic deaths in Africa and indeed the world over with the chances of a vehicle killing someone in Nigeria was 47 times higher than Britain (Bolade and Ogunsanya, 1990). In 1988 there were 25,292 road traffic accidents with as high as 9,077 deaths. From these statistics, it can be induced that as the number of accidents reduced, the number of deaths increased. Secondly using the 1988 accident data alone, it was observed that on the average there was an embarrassing rate of 69 accidents and 24 deaths every day of that year. In 1989, the country led 37 other nations with 240 deaths in 10,000 vehicle crashes followed by Ethiopia with 200 and Malawi with 180 deaths per10, 000 vehicles.

Sadly, the character of Road Traffic Accidents in terms of frequency of occurrence and fatality rate has not changed over the years in Nigeria. Table 2 presents the statistics of the last five years. Within the period, an annual average of 8,153 crashes was recorded with 5,084 annual deaths and an average fatality rate of 5 per 100,000 population (FRSC, 2012). The highest number of 11,341 cases was recorded in 2008 as against the figure of 8,477 cases in the preceding year. Since 2008 however the trend has been a declining one. Perhaps one can safely conclude that this may be attributed to the activities of the Federal Road Safety Corps which assumed full road safety responsibilities in 2007.

In terms of spatial spread, the FRSC has shown that about 50% of the total accidents and fatalities were

Table 2. Road traffic accidents in Nigeria.

Year	Number of cases	Number of killed	Number of injured	Fatality rate per 100,000 Pop	Fatality rate per 10,000 vehicles
2007	8,477	4,673	17,794	9	NA
2008	11,341	6,661	27,980	6	NA
2009	10,854	5,693	27,270	5	NA
2010	5,330	4,065	18,095	4	NA
2011	4,765	4,327	17,464	4	6
Average	8,153	5,084	21,721	5	NA

Source: FRSC Documents, 2012.

recorded in most of the states that constitute the North Central and NorthWestern zones. They are therefore ranked respectively as the first and second high risk zones in the country (Figure 1). The interstate trunk routes that traverse the zones form the major link between the north and the south and thus constantly carry significantly higher traffic volumes. The fact that most of the routes are dual carriageways coupled with poor enforcement of traffic regulations provide sufficient temptation for drivers to drive recklessly. The Southwest which ranks third in the hierarchy is the most urbanized zone in the country with relatively high traffic volumes on its road links. In addition this zone records the highest number of taxi cabs and private cars in the country which are the high risk vehicles. The Northeast zone on the other hand recorded the lowest number of crashes perhaps due largely to its rural nature with consequently low vehicular traffic.

The accident statistics also identified the high risk vehicles as cars, buses, and motorcycles. Plates 1 and 2 are photographs of typical accident scenes in the country. But regardless of the vehicle type involved, road crashes in Nigeria are caused by various factors which include human error, engineering defects, poor vehicle alignment, and inadequate or absence of road furniture among others. Table 3 shows road traffic crashes by causative factors. Table 3 reveals that human factor (speed violation, dangerous driving, loss of control, and dangerous overtaking) is the major cause of traffic accidents in the country. Indeed, in each year of the period, the driver was responsible for over half of the accident cases. When combined with the figures for vehicle defects, it becomes glaring that as high as about 80% of accident cases are attributable to the driver and his vehicle, while the remaining 20% is accounted for by other factors relating to the road, the environment, and other 'unclassified' causes. The implication of this is that the driver is the most liable requiring the focus of safety management approaches.

Establishment of a lead agency

The process of establishing a Lead Agency for road safety matters in Nigeria is a chequered one spanning over a period of almost a century. Table 4 presents a synthesis of actions that culminated in the official establishment of the Federal Road Safety Corps as the lead and coordinating agency for road safety management in Nigeria. This status has conferred on the FRSC the responsibility of playing its role as the key driver of all road safety efforts in Nigeria. While this is essential for achieving the goal of the safe system approach, unfortunately it has become unattainable due to its current involvement in managing road safety at operational level, a position it shares with several other agencies also duly empowered to perform similar functions. While a shared road safety responsibility provides the benefits of coverage where cross-functional gaps exit, it portends the dangers of role- submergence and conflict which may arise out of competing interests. It is disturbing to note that such conflicts currently characterize road safety activities in Nigeria.

The Nigeria Police Force is constitutionally empowered to act as the primary enforcement agency of all traffic laws and regulations of the Federal, State and Local governments in the country. This function it performs through its Motor Traffic Division. Thus like the FRSC, the Police carries out road patrols, vehicle checks, and prosecute traffic offenders. The Vehicle Inspection Officers (VIO) is constitutionally mandated to issue and renew Licences for all private and commercial vehicle drivers, and issue such permits as Hackney Carriages, Stage Carriages, and Goods Carriages. They also regulate fares and register new vehicles and keep a register of such in all states of the Federation. It is with this body that FRSC faces the greatest conflict especially in carrying out some of its important road safety activities.

There are other Federal Ministries (e.g. Transport, Works), State Ministries e.g. Works and Transport; Transport Regulatory Authorities; Local Government Councils; and Trade Unions e.g. National Union of Road Transport Workers(NURTW) who are empowered to play either persuasive, preventive or punitive safety roles in the country. Conventionally, the FRSC is expected to coordinate the activities of these bodies in order to improve road safety, but their linkages are either non-existent or at best weak and in a few cases they even operate at cross-purposes.

Table 3. Causative factors of road traffic accidents.

Factor	2008		2009		2010		2011	
	Total crashes	Percentage	Total crashes	Percentage	Total crashes	Percentage	Total crashes	Percentage
Over speeding	2488	21.9	2681	24.7	1419	26.6	1253	27
Dangerous driving	2190	19.3	2376	21.9	878	16.5	692	15
Loss of control	630	5.6	774	7.1	508	9.5	721	15
Dangerous overtaking	791	7	955	8.8	296	5.6	293	6
Light/sign violation								
Tyre burst	127	11.3	314	2.9	188	3.5	219	5
Brake failure	631	5.6	703	6.5	246	4.6	394	8
Mechanical fault	477	4.2	354	3.3	249	4.7	335	7
Route violation	380	3.3	391	3.6	137	2.6	126	3
Bad road	273	2.4	265	2.4	133	2.5	128	3
Obstruction/stationary	107	0.9	185	1.8	178	3.3	76	2
Vehicle	279	2.5	163	1.5	168	3.2	108	2
Unclassified	1518	13.4	1094	10.1	301	5.6	251	5

Source: FRSC Documents, 2012.

Table 4. Sequence of establishment of a lead agency.

Date	Event
1913	-Promulgation of the Highway (Motor Traffic) Ordinance of Laos Colony and Southern Protectorate.
1916	-Ordinance for nationwide applicability following Amalgamation of Northern and Southern Protectorates in 1914.
1940-1945	-Revisions of the Ordinance. - Road Traffic Act, Federal Highway Act, and Law of Carriage were passed. - Motor Vehicle Inspection was transferred to Nigeria police.
1960	-Establishment of the Traffic Police Unit of Nigeria Police Force
1962	-Establishment of Motor Transport Departments in all the Regions of the Federation.
1963	-Establishment of Vehicle Inspection Officers in Northern Nigeria through Road Traffic Act Cap 118.
1965	-Establishment of VIOs for Western Nigeria through cap 115.
1967	-Establishment of VIOs for Eastern Nigeria through cap 116.
1974	-Federal Government declaration as National Road Safety year. -Establishment of Road Safety Advisory Commission under the Federal Ministry of Works and Housing.
1977	-Establishment of Oyo State Road Safety Corps.
1980	-Creation of National Road Safety Commission under the Federal Ministry of Works and Housing and in all States of the Federation under State Ministry of Works and Transport.
1988	-Establishment of Federal Road Safety Commission vide Decree 45 of 1988
1999	-Merger of FRSC and Nigeria Police.
2003	-De-merger of FRSC and Nigeria Police.
2007	-Enactment of the Federal Road Safety Corps Act

Source: Analysis of Government Documents, 2012.

Driver licence

Having shown earlier in this paper that the driver is a major factor in the accident causation process, it follows therefore that the first major step in our safety effort is to ensure that those behind the wheels are properly licenced to drive. But the management of driver licence is a major challenge in Nigeria. Apart from the fact that safe

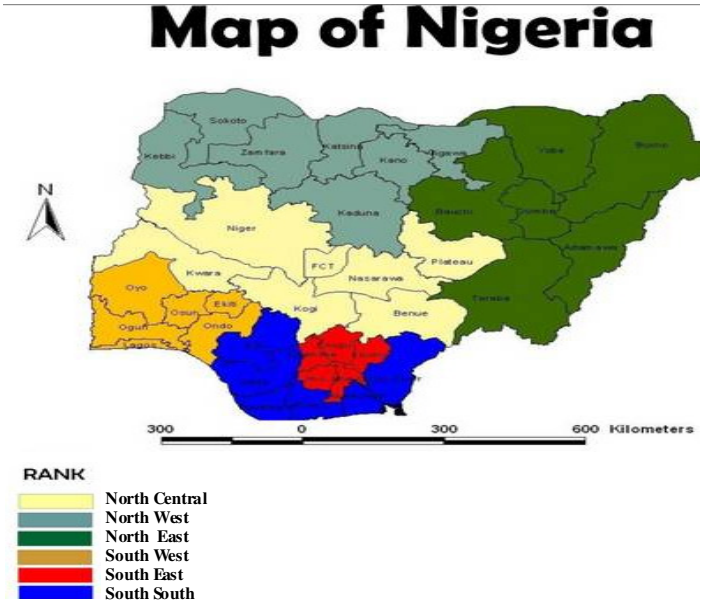

Figure 1. FTSC zonal rankings of road crashes

Plate 1. Typical accident scene.

driving requires that drivers hold valid licence, efficient driver licence management facilitates effective enforcement of safety rules. By law, the FRSC is empowered to produce while the VIOs are to issue driver licence in the country. The operational procedure is that VIOs carry out driver testing and recommend successful candidates to FRSC for production of their licence. The produced licence would be forwarded to the VIO for issuance. This legal arrangement makes the management of driver licence rather untidy. The result is that the Nigerian driving population is faced with many forged and invalid driver licences, multiple issuance from different states of the country and underage and sometimes aged licensed drivers. The fact that the issuing authorities are agencies of state governments, it is not surprising that emphasis is on revenue generation casting doubts on the credibility of the process and the competence of the recipients. In order to sanitize the system, the FRSC recently launched

Plate 2. Typical accident scene.

a National Driver Licence Scheme which provides for centralisation of the production with uniform data base. But the scheme is facing serious challenges at the political level especially resistance from the States.

Vehicle registration

The lead agency has at the national level the overall responsibility of regulation, coordination and monitoring of vehicle certification, testing and inspection as well as making contribution to the setting of standards for vehicles brought into the country. But the existing law only allows the FRSC to produce vehicle number plates while general vehicle registration is the responsibility of state governments through the Vehicle Inspection Offices. Like the driver licence, many vehicles ply the roads with forged and invalid documents. The situation is aggravated and worsened by the fact that most vehicles used for public transport especially the mini buses and taxis are imported fairly-used vehicles. Apart from their non-compliance with set standards, they also do not carry valid papers. The problem becomes compounded when the vehicles change hands as new registration documents are generated. All these make vehicle tracking and motoring very difficult. The new number plate designed by the FRSC is expected to address the problem, but it requires the cooperation and buy-in of the States and their responsible agencies.

Road transport safety standardisation scheme

This scheme was launched by the FRSC in 2009 with the objective of setting safety standards for fleet operators in the country. The scheme provides for the registration of operators with minimum of five vehicles. Such operators include Organised Transport, Independent Operators, Multinationals and Private Companies, Government Institutions at Federal, State and Local Government levels. Operationally, all registered fleet operators are visited to audit their personnel and ground facilities especially termini and vehicles. Every fleet operator must appoint a safety manger or officer to oversee compliance with safety standards and rules. The scheme commenced with advocacy drive involving aggressive enlightenment of all operators which officially lasted till December 31st 2009.

Laudable as the scheme is, its success and overall effects on safety in the country are not clear. But more importantly the scheme caters for only a small proportion of the motoring public in Nigeria. There is a preponderance of individual vehicle owners in the country operating either privately or as public transport. Indeed, about 90% of vehicles plying Nigerian roads both public and private are individually owned and operated. Thus the scheme targets just about 10% of vehicles on the roads and therefore fails to address the safety challenge especially in the Southwest zone where most vehicles are individually owned and operated.

Enforcement

Enforcement can be defined as a process by which adherence to specific rules and regulations are imposed in a society by force of punishment initiated by the laws of the land. Generally road safety laws and regulations are

targeted at preventing breaches or the occurrence of accidents. Such laws cover setting vehicle standards, technical standards for road design and construction, and service quality and delivery standards. There are laws that also focus on persuasion of road operators and users to avoid transport offences. All laws relating to compulsory education and training fall under this category. Finally traffic laws also target at apprehending and punishing traffic law offenders. These laws include those dealing with quality and quantity licensing of vehicles and drivers, traffic violations, other infractions and enforceable penalties.

In Nigeria existing road safety laws and regulations do not adequately cover these three components. For instance safety standards for road design and construction rarely exist, while vehicle standards, safety education and training laws are also not available. The bulk of the existing laws cover the punitive aspects of road safety. Even with that enforcement has remained an intractable problem. The challenges include issues earlier identified in this paper such as numerous individual operators, ambiguous laws, sharp practices, and lack of transparency in the administration of penalties.

Effective enforcement requires a system of realistic penalties for all infringements, the most popular with universal application being financial penalties. But a major problem in many countries is that financial penalties are often inadequate deterrents. In Nigeria, fines for offences such as excessive speed, licence infringements, or operation of unroadworthy vehicles are often regarded as normal operating expenses by drivers. Most drivers prepare for such fines setting funds aside at the start of daily operations to sort their encounters with road safety officials. This is simply because most of the penalties are not severe enough to dissuade traffic infringements.

Education and training

It is generally acknowledged that Nigeria has poor driving culture. This is evidenced by the utter disregard by operators for traffic laws underlined by deep belief by Nigerians that accidents are acts of God, while punishments for traffic offences can be waived through negotiation or amicable settlement. Education is about the only instrument that can be used to change people's behaviour and attitudes.

In Nigeria, driver training has remained largely at the informal level. Majority of drivers especially those operating public transport acquire the skills through apprenticeship system. This is because they are mostly illiterates who cannot cope with formal driver training. This, therefore, is the bane of public transportation and thus the root cause of the poor driving culture in the country. In compliance with the provision of its Act, the FRSC is working on the establishment of some Standard Model Driving Schools, while also finalizing the modalities for accreditation of driver training providers in the country. FRSC, in partnership with Nigerian Institute of Transport Technology (NITT) has prepared standard curriculum for the driving schools. Possession of driving school certificate is now to be part of the requirement for issuance of driver licence in the country. But the current efforts are still limited in scope and coverage. The focus is mainly on the operators leaving out other vulnerable groups such as children, students, pedestrians, the elderly and physically challenged. For effective safety measures, these groups of road users must receive safety education for the evolvement of a safe national driving culture.

Publicity and awareness

The FRSC has in the last few years accorded due recognition to public awareness in its safety efforts. It has embarked on aggressive campaigns targeted at various groups (drivers, market women, students and pupils, and fleet operators) among others. They also sponsor television and radio adverts and jingles, and organize other public relation programmes. They are also partnering with stakeholder organisations such as Arrive Alive Road Safety Initiative to pursue and prosecute safety campaigns. In October 2012, the FRSC declared an Enforcement Patrol Free Week to carry out massive campaigns distributing handbills, safety pamphlets and posters to road users across the country. On the whole, illiteracy remains a major hinderance to the success of the campaigns.

Post crash response

Prior to 1995, report of hospital rejection of road crash victims were rife and patrol men and rescue marshals were compelled by both government and private hospitals to pay money up front or produce staff identity card prior to the commencement of treatment of victims. This situation led to FRSC's decision to establish Road –Side Accident Clinics. The clinics were established to provide first aid post-crash care towards reducing trauma, stabilize the victims, promote recovery and refer those with serious injuries to hospitals.

In a bid to care for road crash victims and reduce road traffic fatalities, a pilot programme was conducted in the FCT Abuja whereby an Emergency Ambulance Service Scheme was launched in 2009. Expansion of this programme is gradually spreading to other parts of the country in order to ensure full coverage along the critical corridors.

Reports of road crashes are channelled mainly through several informal and unstructured media. Currently, only one toll- free emergency line is designated for crash/ incident reporting. The call is directed to a call centre, manned by FRSC staff who then locates an FRSC patrol

vehicle nearest to the crash scene via the use of vehicle tracking suit.

FRSC has also introduced and commenced implementtation of the Six Fatality Threshold Investigation plan in which inquiries are made into all road traffic crashes which result in six or more deaths.

Nigeria Road Safety Strategy (NRSS)

Based on the gaps identified in the safety strategies so far adopted in the country, intervention strategies are been defined to bridge the gaps and move the country closer to achieving its road safety vision of "Zero deaths occurring from road traffic crashes". Such strategies are contained in the Nigeria Road Safety strategic vision from 2012 to 2016. It has as its goal reduction of current road traffic crash fatality figure by 50% in 2016. To achieve this goal the following objectives are spelt out.

(i) To establish a cohesive and efficient road safety system.
(ii) To provide road infrastructure that accommodate the needs of all road users.
(iii) To ensure all vehicles on Nigerian roads meet defined standards.
(iv) To instil a culture of personal responsibility for safe road use.
(v) To deliver prompt and effective response to road crashes.

A number of strategic activities are to be put in place to achieve these objectives.

RECOMMENDATIONS

This paper has found that accident rates are still generally high in the country with the driver being the major culprit. In terms of spatial spread, the north central and northwest are the high risk zones. The FRSC which assumed the role of the lead agency since 2007 is incapacitated by the activities of other government agencies leading to conflicts and confusion. These have affected the effectiveness of such important safety programmes as driver licence and vehicle registration. Traffic law enforcement is generally weak, while safety education and public awareness programmes are poorly designed and implemented with the result that Nigerians have poor driving culture. Based on these, the following recommendations are made not only to strengthen the effectiveness of the measures, but also to facilitate the realization of the objective attainment of the goal of the Road Safety Strategic Vision.

The Federal Road Safety Corps must restructure and reposition itself to effectively and truly play the role of a lead and coordinating agency for road safety matters in the country. It must be seen to take the lead in all matters of road safety. It must go beyond the rhetoric of stakeholder collaboration to build strategic partnerships with Federal, State and Stakeholder organisations to achieve effective results. This can be done through clarifying the roles of various government agencies and defining the responsibilities of other stakeholders. In this way, it would play a dominant role across the key institutional management functions which form the bedrock on which road safety initiatives are built. All these would require well trained and skilful staff. A bold and credible human resource development programme is therefore recommended.

The FRSC must take the issue of enforcement more seriously especially in the high risk zones in order to check the excesses of drivers on the highways. Road patrols should be intensified and severe penalties imposed on offenders. The recent introduction of Highway Mobile Courts for instant prosecution of traffic offenders should be sustained and strengthened.

To tackle the problem of multiple vehicle registration and duplication of driver licence especially as a driver moves with his vehicle from one state of the Federation to another, the FRSC should build on its present effort and work towards the realisation of the slogan of "One Driver One Licence; One Vehicle, One Document'. The success of this identity management system is very key and highly strategic to road safety improvement in the country.

As is the case all over the world, majority of accident cases are due to human error. This underscores the importance of the driver in road safety management. In Nigeria, very little is known about the drivers. A comprehensive nationwide study is therefore recommended. This would provide information on who they are (old, young, novice etc), what competences they have, and what impairs their driving (such as drugs, alcohol, distractions e.g. phones) among others. Building such a credible data base is a necessary condition for the success of road safety programmes in the country.

Safety education is a must. The country should go back to the basics by incorporating safety education into the curricula of Primary and Junior Secondary Schools. Simultaneously, Driving Schools should be encouraged and both issuance and renewal of driver licence should henceforth require certification from a driving school. The training in such schools must focus on developing a safe driving culture.

At the political level, road safety should be declared a National Health Problem. This can be justified by the fact that road crashes are responsible for most deaths in the country. By so doing the problem would constantly get national attention and attract the required policy actions especially funding which is a major success factor.

Given the fast technological changes in road transport, safety management measures should leverage on technology especially Information and Commutation

Technology (ICT). There are a number of developments in the world that the country can borrow from. What is important is to factor in driver behaviour which is central to and at the heart of the nation's safety problem. Such IT-based measures would permit more effective control of driver behaviour thereby making enforcement easier and thus greater improvement in safe motoring in the country.

Conclusion

This paper has focused on one of the most disturbing consequences of man's reliance on transportation. It highlighted the road traffic accident problem in Nigeria and provided a review of current safety management approaches with the objective of identifying their deficiencies and inability to tackle the road traffic accident problem in the country. Arising from the review, the paper made some recommendations targeted at strengthening current road safety management approaches, while also proposing new initiatives capable of affecting drastic reduction in the carnage on Nigerian roads.

This study contributes to the search for policy actions on road safety management. In this regard we must emphasize that within the variable traffic equation, one constant element remains which is the human being at the wheels. Roads can be built or improved, and vehicles may be better designed to tolerate errors and operate under adverse conditions, while a more forgiving environment for transport can be created, but shaping and reconstructing human behaviour remains a major challenge. This understanding and consideration must form the focus of all road safety management actions in the country.

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