

School Road Safety Education in Uganda: Progress and Lessons Learned

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Key Findings

- URRENO has led advancement in school road safety education in Uganda since 2003;
- Government launched URRENO's primary school pilot as a national curriculum;
- Students' road skills increased, with 66% reduction in crashes near their schools;
- Teachers retained capacity, lost in some (esp. rural) schools due to transfers;
- URRENO efforts continue, with valuable lessons learned shared for others.

Abstract

The Uganda Road Accident Reduction Network Organisation (URRENO) is a non-profit, non-government organisation (NGO) mandated in 1997. From a modest pilot project funded by the World Bank in 2003, it has become a leader in the development, implementation and advocacy for road safety education in primary schools across Uganda. Through URRENO efforts, the pilot program was adopted as the national curriculum and was shown to improve students' road safety skills and behaviours and reduce their involvement in crashes from 15% to 5%. Many other related worthwhile initiatives followed, including: improvements in pedestrian facilities; integrated road safety publicity and enforcement campaigns; and expansion of road safety NGOs to supplement Government efforts. Lessons learned of value for like organisations include: striving to collect and analyse data to attain a project evidence base; building strong partnerships with influential individuals, community groups, businesses and Government stakeholders; adopting participatory approaches in which stakeholders and beneficiaries play significant roles in project implementation; and building capacities and empowering beneficiaries. URRENO continues in its efforts to strengthen and further roll-out the road safety education curriculum across Uganda, following evidence that transfers of trained teachers has contributed to decayed expertise and attention to road safety, particularly among schools in rural areas. URRENO will continue to strive to empower young people to learn and strengthen their capacity in road safety, to grow out of dependence and become independent safe road users.

Keywords

road safety education, children, school, advocacy, resources, low-income country

Glossary

MoWHC Ministry of Works, Housing and Communications, Uganda

PEMSIS Production of Engineering Manuals, Specifications and Institutional Support project

RSE Road Safety Education

URRENO The Uganda Road Accident Reduction Network Organisation

Introduction

Uganda Road Accident Reduction Network Organisation (URRENO) is one of the largest non-political, non-profit organisations in Uganda. Established in 1995 from humble beginnings it has grown into the leading NGO for road safety promotion in Uganda. Through its dedication, advocacy, select funding applications and collaboration with local and international partners, it has made a number of achievements in progressing road safety awareness, investment and improvements in Uganda.

The objective of this paper is to document URRENO's progress in advancing road safety education (RSE) in Ugandan primary schools and to share the lessons learned, as efforts continue to expand the reach and evaluate impacts. URRENO implemented a Road Safety Education project to enhance safer road use behaviors in order to reduce and minimize the impact of injury and death caused by road crashes involving pupils in primary schools in Uganda. To set the scene for this body of work, a brief introduction to Uganda and its road safety history, and URRENO activities and achievements, is first provided.

Uganda and Road Safety Context

Uganda is a landlocked country in Africa with a population of over 40 million (UBOS, 2014). During the financial year 2018-19, the total national road length was 20,856 kilometres and the total number of registered vehicles was 1,594,962, including an increase of 136,977 privately-owned newly-registered motor vehicles.

The Uganda Government has invested in the transport sector particularly in upgrading the national road network to paved bituminous standard over the years. The Government budgetary allocation to the transport sector has grown from UGX 564 billion in 2007-08 to 5,317 billion in 2019-20, the bulk of which is spent on the roads sub-sector (over 76%). However, a recent United Nations performance review (UNECA & UNECE, 2018) found that road safety has not benefitted from the increased funding: while transport represented 18-19% of the national budget in recent years, road safety allocations remained at less than 1%.

Whereas there are efforts by the Uganda Government to address road safety management, the overall national results are far short of the changes urgently needed to reduce road fatalities and injuries. According to the Uganda Police (2019), over 3,407 people were killed and 9,451 injured in road crashes during 2018; continuing the trend of annual increases as motorisation also increases. The majority of fatalities were vulnerable road users, pedestrians (38%) and motorcyclists (27%), with passengers and drivers of car-type vehicles proportionally much smaller (12% and 5% respectively). Among those of known age, approximately 17% of fatalities and 13% of serious injuries were aged under 18, which includes those of school age, of interest in this article. This is in part due to Uganda having a young population, with the median age just 16.7 years.

However, the actual size of the problem is likely to be greater than this because of significant under-reporting of road crashes; a problem known to exist in many low- and middle-income countries. Many road casualties are working men and women whose families depend on their income; as a consequence, the social cost of crashes often goes far beyond the simple statistics of those actually involved. In addition, road crashes put considerable strain

on an already over-stretched health service – with annual costs currently estimated at UGX 4.4 trillion (\$1.2 billion), representing more than 2% of Uganda's gross domestic product.

The Government of Uganda passed the Traffic and Road Safety Act 1998 to formalise the administration structure, rules and requirements for registration and licensing of vehicles, driving permits, licences for public service/private omnibus/goods, use of motor vehicles, control of traffic and enforcement, and to establish a National Road Safety Council. After passing the Act, URRENO and other road safety partners carried out road safety advocacy for Government to implement interventions to reduce crashes.

URRENO's arguments for RSE were based on key reports at the time (GRSP, 2000; Thomson, Tolmie, Foot, McLaren, & Department for Transport, 1996) and advice from the British Council when delivering in-country training in 2000: "if road safety education could be introduced in primary schools in Uganda it would be the single most important contribution to road safety ever seen in the country" (unpublished communication). The GRSP report emphasised that younger children are not yet aware of the concept of danger unless they learn this through RSE. In addition, a survey conducted in Kampala Schools in 1999 revealed that primary children were receiving no formal RSE and were generally unaware of safety rules.

Following passing of the Act, the Uganda Government, with assistance from the World Bank, began a Road Safety Audit and Improvement Study. The study comprised a 5-year Accident Site Improvement Programme and a 3-year Road Safety Action Plan focused on capacity building and institutional support. Both programs were tasked to a unit within the Ministry of Works, Housing and Communications (MoWHC), with the latter program implemented as the Production of Engineering Manuals, Specifications, and Provision of Institutional Support (PEMSIS) project (MoWHC & TRL, 2008).

The PEMSIS project started in September 2003. The Transport Research Laboratory (TRL; United Kingdom (UK)) was chosen as the lead agency supported by URRENO, as well as engineering safety specialists from Sweden (SweRoads, now part of the Swedish Road Administration) and a medical institution in the UK. The PEMSIS project had four main components:

- *Capacity building*: development of road safety engineering manuals and a feasibility study on establishing a road safety unit within the MoWHC.
- *Medical*: a feasibility study on the establishment of a public emergency ambulance system for Kampala, strengthening trauma research capability of the Injury Control Centre, and improvement and expansion of the national trauma care training program into Uganda's main regional/referral hospitals.

- *Education*: development of an up-to-date highway code, novice driver training curriculum and training program for driving instructors, and primary school RSE resource materials.
- *Crash data and safety audit*: improvements to the previously established road crash data collection and analysis system and development of training in road safety audit procedures to help identify and remedy safety problems during the design and monitoring of roads.

This article focuses on URRENO involvement in the PEMSIS school-based RSE component and its subsequent efforts and initiatives to continue to improve and expand school RSE in Uganda.

URRENO Establishment and Scope

The URRENO idea was conceived by a multi-disciplinary group of professionals who perceived the road safety situation of Uganda as precarious and hitherto perceived the need for advocacy and promotion initiatives for a radical transformation of the road safety perspective. It was agreed that an NGO be initiated to articulate strategies to address the fundamental causes of road injury in Uganda. Thereafter, a situation survey and brainstorming meetings were organised and, subsequently, a mission and vision for URRENO collectively developed.

URRENO's mission is to reduce the incidence and impact of road crashes through training and advocacy, research, design and evaluation of interventions and implementation of traffic safety management programs. This includes several key objectives:

- To promote road safety awareness among the public especially school children and other vulnerable road users through seminars, workshops and training programs.
- To increase traffic safety awareness among motorists through community participation, training and sensitisation.
- To enhance safe roads, safe vehicles and safe people through legal and policy framework interventions, research and advocacy.
- To promote post-crash interventions through education, advocacy and rehabilitation.

For more than 20 years, URRENO has established close working links with local and international partners to advocate and implement many safety projects to improve road safety in Uganda. Several early examples include:

- A one-year motorcycle rider safety awareness project in Nakawa Division of Kampala City, funded by World Bank Small Grants Program, 2001, including

assessment of road safety compliance, development of resource materials, awareness raising on speed, helmet use, traffic signs, laws and penalties.

- A subcontract from RITES Limited to carry out road safety awareness in the five divisions of Kampala city as part of the Kampala Urban Traffic Improvement Project in 2002, with funding from World Bank.
- With TRL and other safety specialists from the UK and Sweden, implementation of Uganda's National Road Safety Action Plan from 2003 to 2007 (concurrent to PEMSIS).

More recently, URRENO with Civil Society Coalition on Transport Uganda presented to the Parliamentary Committee on Infrastructure on amendments to the 1998 Act, which were subsequently acceded to in May 2020 with the passing of the Traffic and Road Safety 1998 (Amendment) Bill 2019. Some of the key amendments include: strengthening the road transport regulation and road safety management; amending the grouping of motor vehicles to conform to international standards; empowering the Minister to provide for condition of market entry, oversight and exit in public transport services; providing for a demerit point system; and revising offences and penalties due to inflation.

Currently, URRENO with Family Rescue Initiative-Uganda is implementing road safety awareness activities targeting motorcycle riders on speed, helmet use, traffic laws and traffic signs for a Northern by-pass road construction project. Furthermore, URRENO, together with the Ministry of Works and Transport, recently successfully secured a United Nations Road Safety Trust Fund project, currently underway. Objectives include strengthening Uganda's capacity in data collection, analysis and research for evidence-based intervention, including monitoring and evaluation, and establishment of a Road Crash Data Base System.

URRENO and School Road Safety Education

As noted earlier, URRENO's journey in progressing school RSE in Uganda commenced with the PEMSIS project in 2003. This was intended as a short-term, externally-led demonstration project in a small number of schools. However, URRENO contributed to efforts to widen the reach and since has taken on a leadership role to advance school RSE in Uganda.

PEMSIS Demonstration Project

Prior to PEMSIS, URRENO had established a good relationship with TRL as a key source of road safety research information. When the Uganda Government advertised the PEMSIS consultancy, there was an agreement between URRENO and TRL to team up and implement the project. URRENO was chosen to handle

the development and full incorporation of RSE into the primary school curriculum from Primary 1 to 4 (P1 to P4) classes, which included much of the writing and supervision of illustration design.

The collaborative team worked with the National Curriculum Development Centre in Kampala to review and revise the then current primary school curriculum to integrate RSE. Originally it was intended for RSE to be a core subject within relevant units such as Science, English and Social Studies. However, at the time of the project, the Ministry of Education decided to progressively introduce a new thematic curriculum. As a result, it was decided to produce dedicated RSE materials that could readily be incorporated into the new curriculum as it was developed year by year. This strategic approach resulted in producing dedicated student textbooks, teacher guides and more specialised materials such as posters, wall charts and videos, as well as a teachers' resource book that demonstrated the need for RSE in Uganda, to motivate and inform teachers about its delivery.

All these materials were pre-tested in a small representative sample of schools (both urban and rural) following teacher training. Feedback from both children and teachers resulted in some redrafting of the materials, converting some to videos tailored to each class learning level, and development of a system of 'training-of-trainers' so that training could be cascaded down in a sustainable way in future.

It should be noted that the PEMSIS RSE element was never intended to be a national program. The project was intended to produce a curriculum that could be fully integrated into the evolving education system in terms of both materials and teacher training. The program was originally intended to last for 41 months (i.e., finish in February 2007) but an extension was agreed to allow additional RSE materials to be accepted, printed and disseminated. In the end, the PEMSIS project provided materials for 80 schools in 20 different districts across Uganda through to 2008.

In all these activities, URRENO played a major role in developing the resource materials and the reorienting and capacity building of primary school teachers in RSE. Importantly, during the project the resource materials were fully approved by the Ministry of Education's Academic Steering Board. As a result, the materials were publicly launched by the Minister of Education at a workshop held in Kampala in May 2008, adopting the materials as part of a full continuing national program. With the Ministry's support, several thousand individual resource materials were placed within all Ugandan schools with support for future teacher training in their use.

Beyond PEMSIS

PEMSIS was a technical project with very specific terms of reference. It aimed to help the Uganda Government lay down *some* of the foundations for a successful, longer term road safety strategy. It was not expected alone to produce an immediate improvement, but to advocate urgent future actions to stakeholders. While accomplishing a national RSE curriculum was a great achievement, this nonetheless related only to four years of primary school without commitment to evaluation or on-going efforts to enhance, sustain and extend RSE into the remaining primary school years (P5-P7).

URRENO had high hopes that an extended RSE curriculum would immediately follow and organised meetings with the Ministry of Works and Transport, Ministry of Education and Sports, National Curriculum Development Centre, Parliamentary Committee on Social Services and Infrastructure Development and the Office of the Prime Minister. However, funding for such extension is yet to be realised, despite further regular national calls and international recommendations, such as the recent United Nations review (UNECE & UNECA, 2018).

Alternatively, opportunity to continue promoting RSE in Ugandan schools was provided by the competitive CrossRoads Challenge Fund 2013 (European Union and UK Aid funded). URRENO's application was approved to implement the Roll-out of Primary 1 to Primary 4 Road Safety Education Curriculum in Ugandan Schools Project: an assessment to both determine the impact of the pilot project and serve as a benchmark on which scaling up of the curriculum would be based.

The first roll-out project activity was a survey to assess outcomes since the pilot project. The focus was the original 80 project schools and additional surrounding schools in the 20 districts. Consultation was undertaken with key stakeholders, including head teachers, classroom teachers, District Education Officers, Inspectors of Schools and Uganda Police officers in charge of traffic in the respective districts. Findings were based on 140 respondents from 75 (93.7%) of the original project schools and 57 surrounding (control) schools. The results were overwhelmingly positive:

- Teachers trained during PEMSIS showed continued capacity and good techniques, with 96% of those interviewed knowledgeable in teaching RSE.
- Pupils from project schools showed a better ability to apply the correct road crossing rules (i.e., look first left, second right and left again before crossing) and to move their gaze within photo-based scenarios in order to identify potential risks compared to control pupils.
- Involvement of school students in road crashes around the schools had reportedly reduced in the targeted schools to 5% compared to 15% before the project had started in the previous year.

Despite these positive findings, however, only 26% of the originally trained teachers were still in their respective schools. This was partly due to the Ministry of Education transferring teachers to different schools and districts without attention to this specialty, such that some schools, particularly in rural areas, were left with no RSE trained teachers. When asked about adequate availability and reliable use of the materials, 83% of project school respondents agreed compared to only 26% of controls. Reported use decreased with increasing rurality. This was particularly concerning as schools in rural areas contribute the highest number of road victims and visual aid charts were found to be more practical in sensitising pupils in rural schools as only a few of the pupils take the initiative to read the resource books. Of the schools that were involved in the project, only half of the schools had the videos, but also half of these did not have other equipment, such as generators, in order to play the videos. This demonstrated the importance of ensuring sufficient saturation of learning throughout the teacher population to ensure sustainability.

Enhanced Roll-out of Primary School RSE

After the survey, the roll-out project was implemented targeting a much larger number of primary schools. A total of 180 primary schools were selected along highways and in urban centres considered to be more prone to road crashes and therefore a more urgent priority for increased capacity in RSE. The roll-out had four main components:

1. Advocacy (road safety stakeholders' fora): two fora were organised by URRENO; one to inform stakeholders of the roll-out project, seek their inputs for successful implementation and to advocate for the promotion of RSE; and another to inform stakeholders of the achievements and success so far reached after the pilot project. The fora resulted in a set of community informed and agreed recommendations to advance RSE in remaining schools.
2. Training of Coordinating Centre Tutors: 30 tutors were selected from 10 core Primary Teachers Colleges and trained in the four-day training-of-trainers program, covering RSE background information and safe road use, and the specific instructional methods and materials for delivering the RSE curriculum.
3. Producing RSE resource materials: the project produced and distributed Trainers' Manuals, P1-P4 Teachers' Guides, P1-P4 Learners' books, Teachers' Resource books, 9 series of posters/charts, road safety DVDs and copies of a specially produced road safety song CD to 180 primary schools in 9 regions of Uganda.
4. Training of teachers: a total of 720 classroom teachers from 180 schools were trained in teaching the RSE curriculum.

Road Safety Education Innovation

The RSE project was a case where URRENO, an NGO, partnered with a Government agency, the National Curriculum Development Centre, to set standards and apply them in road safety teaching resource materials development and amounts to be given to a learner. The resource materials developed demonstrated a high level of compliance and relevance to Uganda's context. The road safety training approach took the format of participatory, instructional and demonstrational approaches to train the Centre Coordinator Tutors, teachers and pupils. The imparting of knowledge and skills to all learners focused on road safety awareness, behaviour change and correct participation in road use. Major contents of the training program included workshop objectives, competencies content, procedure, instructional methods and materials for delivering RSE.

Music, dance and drama were found to be an effective learning method, more especially involving children. URRENO made an innovation by composing a road safety song "I'm On the Road", which has become a road safety anthem for all participating schools in the project and the song carries road safety children's messages.

Continued Advocacy for RSE in Schools

After the completion of the roll-out project, URRENO continued to advocate for RSE funding in primary schools. From July 2014 to June 2016, URRENO carried out serious road safety advocacy among high government official and policymakers to support and promote road safety in Uganda with funding from the European Union and UK Aid. The aim of the project was to gather support from government and legislators to support RSE and reduce road carnage among school children. Activities included: development of evidence-based tools to advocate for RSE and establishing costs-benefit analysis of investing in RSE; a breakfast meeting for Members of Parliament, Ministries of Works and Transport and Education officials, development partners and NGOs to discuss means and ways to improve RSE in Uganda; a meeting with the Ministry of Education's Steering Monitoring Committee to start the discussion about road safety promotion among their planning agenda; and a meeting with the Prime Minister in which he directed the Minister of Works and Transport to start budgeting for RSE in subsequent financial years.

URRENO with Hope for Victims of Traffic Accidents advocated and implemented a Safer School Zone Project in two primary schools in 2018, with support from Global Alliance of NGOs for Road Safety. The Star Rating for Schools project combined an easy-to-use School Assessment Android tablet app and a Global Reporting for Schools web application. The project activities included: collection of data to assess road safety infrastructure around the school to establish how safe school children

are using the roads from and to school; analysing the data to establish star ratings for the selected schools; and advocating for safer school zone intervention through establishing road safety partners for the project – including the Parliament, Kampala Capital City Authority, Uganda National Roads Authority, Ministry of Education and Sports and The Global Alliance for NGOs for Road Safety, among others.

URRENO will continue to advocate for RSE promotion and seek funding to complete development and roll-out of the P5-P7 curriculum and to conduct evaluation. URRENO is also seeking funding to further develop the RSE curriculum for Primary Teacher Education in Uganda for sustainability of RSE in primary schools. All teachers need knowledge, skills and resource materials to enable them to understand and apply road safety principles and practices to all school children. This would be done right from the colleges (pre-service and in-service) and to the practicing teachers in the primary schools.

Lessons Learned

With long experience in the field road of safety, there are a number of lessons that URRENO has learnt in advocating for RSE in low-income countries like Uganda. The DOs and DON'Ts helps an organisation to achieve its objectives and targets. The key lessons learnt include:

- Road safety interventions are dependent on evidence-based facts from assessment, surveys and research. One of the main challenges faced in low-income countries is implementation of road safety measures to address road crashes that are not evidence-based and not well researched. Data collection and analysis of any project informs and deepens the content.
- Building strong partnerships in any road safety intervention is one of the keys for success. Working in partnership helps to demonstrate broad-based support. Partners may include (but are not limited to) government ministries, departments and agencies, business communities, civil society organisations and individuals with influence. At every inception of the project URRENO undertakes, there is always a series of consultations with partners and stakeholders to obtain opinions, suggestions and recommendations for successful implementation of the project.
- Participatory approaches where stakeholders and beneficiaries play significant roles in the implementation of the projects are also key. Community participation is applied in most URRENO projects by involving all target groups in all project cycle activities where all participating partners are equal in developing solutions, sharing success and assuming risks.
- URRENO's strategy for sustainability is always building capacities of beneficiaries through training and empowering them with materials, equipment and tools to continue with their activities.

Whereas there are efforts by the Uganda Government to address road safety management, the overall national results are far short of the changes that are urgently needed to reduce a large number of national road fatalities and injuries. This is supported by the recent United Nations review (UNECE & UNECA, 2018), which made several strategic recommendations, including: accession to and implementation of the United Nations road safety conventions; strengthening of the technical and financial capacity of the National Road Safety Council to better conduct the functions expected of a lead national road safety entity and to raise political priority on road safety; strengthening traffic and road safety legislation; establishing and implementing a road crash data base system; improving implementation of road safety audits and assessments, especially in urban areas to address the safety of vulnerable road users; improving vehicle safety through periodic and mandatory vehicle inspections; improving RSE in primary schools; improving driver training and testing; and strengthening and expanding emergency medical services.

Concluding Comments

Uganda has been gradually increasing attention and implementing reforms in road safety over the past two decades. URRENO is striving to ensure school RSE is rolled out and sustained as part of these efforts. The PEMSIS project was a key turning point that attracted Ministerial attention and RSE was established as part of the national primary school curriculum. Five years on, URRENO was able to secure funding and applied innovative methods in the Ugandan context to better understand on-going teachers' RSE activities and children's road safety behaviours. While this determined that great gains had been achieved, it was clear that that these were decaying over time through lack of support and attention to teacher relocations. Therefore, URRENO is continuing its efforts to strengthen and further roll-out RSE through Ugandan schools. Strong data and partnerships, participatory approaches and capacity building with stakeholders and beneficiaries are key elements to this on-going success.

It is important to acknowledge that many factors contribute to safer roads with a lower rate of crashes which can affect school children. Thus it cannot be said that the RSE activities reported alone led to a decrease in the number of road crashes involving school children. Nevertheless, trained pupils in targeted schools showed an improved ability to apply the knowledge needed to cross the roads, which contributed to their ability to move safely along the roads to and from schools, despite the aggravating traffic circumstances in Uganda.

Primary schools that participated in the PEMSIS project expressed their willingness to continue raising road safety awareness for future generations through Road Safety

Club activities. Despite the teachers' ability to retain the awareness-raising capacity years after the initial training, schools will benefit from continuing support, since a number of teachers are either assigned to a different school or retire each school year. The results of this impact assessment will always contribute to a revision of the techniques used to build teacher capacity in RSE and to teach pupils not to memorise rules, but to correctly apply them when facing a real situation.

It is worthwhile to note that many other associated worthwhile initiatives have resulted from these RSE efforts, including: improvements in pedestrian facilities in towns, and villages on main roads; road safety publicity campaigns – integrated with traffic law enforcement campaigns; and expansion of road safety NGOs to supplement government efforts to improve road safety. URRENO will continue to strive to ensure this momentum is not lost, to empower young people to learn and harness skills in road safety education, to grow out of dependence and become independent safe road users.

Acknowledgements

First and foremost, we would like to express our sincere gratitude to Ms. Tusiime Patience, Mr. Ainerukundo Edwins and Mr. Atwine Edmond for the tireless effort in the typing, proof reading and correction of our drafts. We also appreciate the following organisations that participated as stakeholders in the project who provided data and support: Ministry of Works and Transport, Ministry of Education and Sports, Uganda Police Force, National Curriculum Development Centre, National Road Safety Council and Coordinating Centre Tutors.

We are also thankful to the Journal of Road Safety Mentorship Program for bringing us together to write this article.

Funding: This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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