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## Addressing Road Traffic Injuries in Low- and Middle-Income Countries: A Kingdon Policy Analysis

Fazila Kassam<sup>1</sup>, Hasan Merali<sup>2</sup>

<sup>1</sup>McMaster University

### Abstract

**Background:** Road traffic injuries (RTIs) are a leading cause of morbidity and mortality worldwide. Unfortunately, this burden disproportionately affects Low and Middle-Income Countries (LMICs) due to inadequate institutional capacity development for road safety. Despite global initiatives for reducing RTIs, two nations that continue to suffer most are Nepal and Uganda.

**Objective:** To identify the tools necessary to get RTI prevention/road safety on the policy agenda of LMICs.

**Methods:** The Kingdon Multiple Streams Framework is applied to Nepal and Uganda to identify successful and damaging elements to getting RTI prevention/road safety on the policy agenda.

**Results:** Nepal lacks RTI evidence, limiting its ability to define a prominent road safety issue. Accordingly, governmental efforts have been minimal, and the issue is largely being addressed by non-governmental organizations. The introduction of the Decade of Action for Road Safety 2011-2020 functioned as a brief policy window for Nepal, but due to political instability and absence of a policy entrepreneur, the streams have not aligned, and road safety remains a low priority. Akin to Nepal, Uganda's RTI evidence is insufficient. However, the 2018 Road Safety Performance Review can be understood as strengthening Uganda's problem definition and opening a policy window. The problem, defined as the worst RTI fatality rate in the African region, converged with existing national and international policy solutions. Some of these solutions are easy to implement, and considering the current favorable political climate as well as the presence of a pivotal policy entrepreneur, efforts are underway to improve Uganda's road safety.

**Conclusions:** Political stability is primarily needed before any progress can be made for agenda item prioritization. Secondly, the problem must be well-defined as well as feasible and valuable solutions must be available to address the issue. Above all, the three streams, problem, policies and politics must align, and there is greater likelihood of this occurring if a LMIC has a prominent policy entrepreneur.

### INTRODUCTION

Road Traffic Injuries (RTIs) are defined as “fatal or non-fatal injuries incurred as a result of a road traffic crash.”<sup>1</sup> Principally, injuries can be classified in one of two categories: intentional or unintentional. RTIs are characterized as the latter since for most cases there is no identifiable predetermined intent to cause harm.<sup>2</sup> Consequently, RTIs are perceived as accidents, which results in them being understudied in spite of their significant global mortality and morbidity burden for all ages.<sup>3,4</sup>

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Send correspondence to: INFO@GHJOURNAL.ORG

In 2016, RTIs were the eighth leading cause of death worldwide.<sup>5</sup> Since 2007, RTIs on average have claimed 1.25 million lives per year and injured up to 50 million people; many of whom live on with functional and psychological impairments.<sup>6</sup> In 2016 alone, RTIs constituted 2.99% of total disability adjusted life years globally.<sup>7</sup> Ultimately, RTIs and associated deaths result in a loss of productivity leading to a decrease of 1-3% in gross domestic product.<sup>8</sup> Approximately 90% of these RTI deaths are concentrated in low- and middle-income countries (LMICs)<sup>6</sup>; with the highest rates occurring in the African region and Southeast Asia.<sup>6,8</sup>

Despite the United Nations (UN) declaration of the *2011-2020 Decade of Action for Road Safety* and the inclusion of road safety in the Sustainable Development Goals (3.6 and 11.2) – a set of 17 goals adopted by UN member states in 2015 to address global challenges and achieve prosperity for all by 2030— LMICs' RTI and associated death rates are double those of High Income Countries (HICs).<sup>3,9</sup> Differential progress is largely attributable to numerous LMICs lacking national road safety strategies.<sup>10</sup> For the select LMICs that have national plans, such as Guinea-Bissau and Mexico, they are not comprehensive enough nor in line with best practice, particularly one or more national laws for addressing five key behavioral risk factors - speed, drunk driving, helmet use, seat belt use, and child restraint use – is absent.<sup>6</sup> Recent evidence demonstrates when road safety policies and legislation align with best practice, rates of RTI fatalities are significantly reduced.<sup>6</sup> Hence, enhanced institutional capacity (e.g. policy development and implementation) functions as an upstream change to reduce RTI mortality burden.

To identify factors necessary for securing RTI prevention and reduction on LMICs' policy agenda, agenda setting of road safety policies within Nepal and Uganda were analyzed using Kingdon's Multiple Streams Framework (MSF).<sup>12</sup> Although Nepal and Uganda possess similar population sizes, GNI and government type (table 1), in the face of a high RTI burden, they have exhibited divergent institutional progress in public policy prioritization. Specifically, Uganda has demonstrated greater success than Nepal in maintaining RTIs on the national policy agenda; this is due to a stronger problem definition, a more favorable political environment, and a salient policy entrepreneur. Analyzing countries with similar national indicators, yet varied outcomes provides a unique opportunity to examine factors that contribute to the success and failure of addressing RTI burden through policy. Ultimately, this paper aims to bring awareness to RTIs and contribute to the wider MSF policy literature through investigating the policymaking process to address the growing burden of RTIs.

## METHODOLOGY

Kingdon's MSF provides an explanation for nearly the entire policymaking process even though it is most often used to understand agenda setting. Kingdon's MSF has five main structural features: problems, policies, politics, policy windows and policy entrepreneurs. According to Kingdon, problems, policies, and politics are three independent streams that exist within the political system. Each stream has its own dynamics and guiding principles.

The problem stream consists of defining the policy problem to garner attention of decision-makers and the public to address the issue.<sup>11,12</sup> Problems are defined by influence from three factors: personal values, comparisons to past performance or between countries and categorization of conditions.<sup>12,13</sup> Only certain situations become problems significant enough to draw attention. Attention is drawn by three methods: indicators, focusing events and feedback.<sup>11,12,13</sup> Indicators are data gathered from routine monitoring methods such as surveys or research studies.<sup>13</sup> They are used to establish the existence and assess the magnitude of a problem.<sup>13</sup> Focusing events are occurrences such as a crisis, disaster, symbols that have been attached to a problem, or a policymaker's personal experience.<sup>12</sup> Focusing events are situations that the government or public cannot ignore, thereby aiding in the movement of a problem up the governmental agenda.<sup>12</sup> The function of these events is to reinforce an already known situation, not to primarily draw attention.<sup>12</sup> Feedback consists of information gathered from monitoring and evaluation studies of previous initiatives.<sup>12</sup> Feedback helps inform decision makers on successful factors and limitations.<sup>13</sup>

In the policy stream, competing solutions created by policy specialists are considered.<sup>13</sup> Solutions are constantly being developed and often may exist long before a problem has caught the attention of policymakers; nonetheless, once a relevant problem arises it is attached to the appropriate solution.<sup>11</sup> Proposed solutions can be reconsidered or modified by multiple actors across time until the solution is deemed viable.<sup>11,13</sup> Viability of an appropriate solution is determined by the fulfillment of two criteria: technical feasibility (how difficult it is to implement the proposed solution) and value acceptability (the extent proposed solutions conform to the values of policymakers and the political system).<sup>13</sup>

Policymakers also consider the efficiency of alternative solutions, preferentially selecting for the most beneficial and cost-effective proposals.<sup>14</sup>

The politics stream involves the political context that influences item prioritization on the policy agenda. There are three main political factors that contribute to creating a favorable or unfavorable environment for proposed solutions: national sentiment (the general orientation of the public towards a problem or solution), advocacy campaigns launched by interest groups, and administrative or legislative turnover.<sup>11,13</sup> Of all three factors, national mood and administrative or legislative turnover have the greatest effect on policy agenda prioritization.<sup>13</sup> The reason being, administrative or legislative control often falls under a single governing party or coalition with certain political ideologies that influence perception of an issue, and by extension designation of issue priority.<sup>13</sup> Going from one party to another, this ideological composition differs, as such so does the political agenda. Nevertheless, a fundamental concern of every governing party is the likelihood for re-election.<sup>13</sup> This concern motivates parties to embrace proposals for issues not only of importance to them, but more importantly deemed 'popular' among voters.<sup>13</sup>

These three streams can be influenced by a policy entrepreneur, an individual within or outside the policymaking institution. Policy entrepreneurs are knowledgeable, well-connected and have resources (time and money) to bring about policy change for problems in which they have a vested personal interest.<sup>13</sup> Entrepreneurs utilize three strategies to align the streams: persuasive problem framing that provides a simple yet factual and compelling definition of a complex problem, selecting viable solutions before attention is directed to the problem, and adapting to policy environments, either by creating opportunities to act or exploiting an existing transient policy window.<sup>15</sup> The reality is, policymakers are bombarded by lots of information and required to make decisions in a short period of time, consequently they resort to utilizing rational and irrational heuristics to prioritize items.<sup>15</sup> Policy entrepreneurs understand this nature of decision-making and so, are skilled at manipulating information to bias policymakers' choices towards their solution.<sup>11</sup> Essentially, when these three streams are brought in alignment by policy entrepreneurs during a window of opportunity, i.e., a policy window, there is an increased possibility that significant policy change will occur.<sup>11,13</sup>

## RESULTS

### *Nepal Case Study*

**Problem Stream.** *Indicators.* In Nepal, the number of registered vehicles increased from 317,284 to nearly 2,000,000 between 2000-2001 to 2015, respectively.<sup>19</sup> This rapid increase in motorization has contributed to a rising number of RTIs. During 2001-2013, 95,902 road crashes occurred, resulting in 100,499 injuries and 14,512 fatalities.<sup>19</sup> According to police reports, for the fiscal year of 2013, 1,744 road traffic fatalities occurred in the country.<sup>6</sup> However, it should be noted that this statistic may not entirely reflect reality. 80% of Nepal's death registration data is incomplete and police officers only record deaths occurring within 35 days of a crash with no distinction among road users; as such the WHO estimates road traffic fatalities for the 2013 year to be closer to 4,713 based on annual vital registration data received from Nepal.<sup>6</sup> Additionally, the WHO estimates Nepal's road traffic fatality rate to be 17.0 per 100,000 people.<sup>6</sup> *Focusing Events.* Two major events garnered attention of policymakers and the public to the global and national burden of RTIs. Foremost, the declaration of the UN Decade of Action for Road Safety 2011-2020, which prompted the Nepalese government to begin developing a national plan. This event was followed by the road traffic collision death of former Minister of Home and Foreign Affairs, Madhav Prasad Ghimire.<sup>20</sup>

**Policy Stream.** In 2013, Nepal's cabinet adopted the National Road Safety Action Plan 2013-2020. This plan is organized around the five pillars that form the core of the UN's Global Plan for the *Decade of Action for Road Safety 2011-2020*. Regrettably, the national plan has not produced positive results; RTI fatalities increased to 2,006 in 2015.<sup>21</sup> This failure has been recognized by road safety advocates within and outside the region, prompting numerous proposals. Notable is a proposal from the Non-Resident Nepalese Association (NRNA), a group of diverse international professionals of Nepalese origin who recognize the growing issue of RTIs within Nepal and are working towards a vision of zero serious RTIs and deaths on Nepal's roads.<sup>22</sup> The group has designed the 'Big Picture' proposal, outlining interventions to target six main components; database development, governance and planning, pre- and post-crash system responses, road safety research and collision investigations.<sup>23</sup> These components were identified based on principles of the Safe System Approach, which accounts for human error and distributes the

responsibility to prevent serious and fatal RTIs among all stakeholders, i.e. road users and system designers and implementers. This approach has produced successful outcomes in HICs, especially Sweden, which currently has the lowest RTI fatality rate in the world.<sup>6</sup> Strengthening these components will facilitate creation of a national road safety management system. The project calls for collaborating with the Government of Nepal to immediately work on low-cost, high-benefit initiatives that the NRNA team has identified.<sup>22</sup> The theme of the proposal is focused on developing the skill, knowledge and innovation of the Nepalese community; in doing so, road safety efforts will be sustainable.<sup>22</sup>

**Politics Stream.** When the *Decade of Action for Road Safety* was declared in 2011, Nepal's government was facing instability. The Prime Minister Jhala Nath Khanal resigned as a compromise could not be reached with the opposition for a new constitution. The major political parties subsequently decided to form a multiparty consensus government and initiate the peace process.<sup>24</sup> As a result, the political agenda was crowded by efforts to achieve the peace process, delaying formulation of any road safety initiatives. Despite this political environment, the National Road Safety Action Plan was passed in February 2013, however subsequent road safety efforts were limited due continuing political instability. From 2012 to 2016 there have been nine turnovers of parties in government.<sup>25</sup> The power struggle has dominated the political agenda, discounting many vital issues such as road safety. Overall, the nation's socioeconomic development remains severely depressed, the economic growth rate was 3.3% in 2015 and decreased to 0.4% in 2016.<sup>26</sup> Furthermore, as of 2016 outstanding public debt is 26.0% of GDP and outstanding foreign debt is 38.3% of GDP.<sup>26</sup> This reflects the government's inability to fund new initiatives leading to road safety remaining a low priority.<sup>26</sup>

Public opinion in Nepal is difficult to gauge; however, a recent survey of 7,202 Nepali individuals aged 18 or older and randomly selected from 599 out of 6554 total wards across the nation's seven provinces provides some insight regarding the national mood.<sup>27</sup> The Nepali public have mixed views of the country's leadership and future direction. A major concern among them is the poor condition of roads (49% of respondents), a significant issue for residents of mountain areas and Kathmandu Valley.<sup>27</sup> In addition to these findings, media sources report on major RTI fatalities occurring within the nation. The police also consistently report road traffic collision injury statistics. Nonetheless, the exact perception of the public regarding RTI mortality rates and their understanding of road safety practices is unknown.

From a governmental perspective, current road safety efforts are limited in scope. Nepal's Ministry of Physical Infrastructure and Transport produced a five-year strategic plan called the *Development of Road, Rail and Transportation for Prosperous Nepal 2016-2020*; this functions as the guiding document for current development activities chiefly involving improvement of road infrastructure.<sup>28</sup> Advocacy groups recognize the issue of RTIs in Nepal and place emphasis on physical road infrastructure development. Nevertheless, other road safety activities targeting road user behavior and education, vehicle standards, and legislation are lacking from a governmental aspect. This gap is being fulfilled by non-governmental organizations (NGOs) such as the NRNA, Nepal Red Cross Society, and Swatantrata Abhiyan Nepal.

**Policy Window and Entrepreneurs.** A very brief window of opportunity to launch road safety strategies was created during the declaration of the *Decade of Action for Road Safety 2011-2020*. Unfortunately, it appears the three streams failed to align. After consulting academic and grey literature sources there seems to be no evidence of a policy entrepreneur.

#### *Uganda Case Study*

**Problem Stream. Indicators.** In Uganda there has been a doubling of vehicles on its roads between 2010 to 2014, an estimated increase from 635,556 to 1,228,425 vehicles, respectively.<sup>29</sup> As of 2013, 2,937 road traffic fatalities were reported in the annual traffic report by the Uganda Police Force.<sup>6</sup> The WHO estimated a road traffic fatality rate of 27.4 per 100,000 population for the country, refer to figure 1.<sup>6</sup> This fatality rate surpasses that of the African region, 24.1 per 100,000 population, as well as the global RTI fatality rate of 18.0 per 100,000 population.<sup>30</sup> **Focusing Events.** In 2010, residents of Kampala, Uganda, were photographed fishing out of potholes as a protest towards government officials to emphasize the city's inadequate road infrastructure. Additionally, in 2015, the National Resistance Movement (NRM) party treasurer, Rose Namayanja was involved in a major collision resulting in serious injuries. *Feedback.*

A road safety performance review conducted in 2018 by the UN Special Envoy for Road Safety evaluated Uganda's road safety progress. According to the report, 10 people die daily due to RTIs and Uganda had the highest rate of RTI fatalities in the East African Region.<sup>29</sup>

**Policy Stream.** As table 2 demonstrates, the Government of Uganda has developed many initiatives for addressing RTIs. However, none of them have come to fruition in the field. For instance, the road crash data system created for improving road crash data collection, analysis and utilization in decision-making processes as well as intervention structuring, was prematurely halted due to a lack of funding for the transport sector development program.<sup>31</sup> The 2010 proposal based on WHO and World Bank recommendations, to establish a single autonomous lead agency for road safety activities within the country also failed to materialize. The National Road Safety Authority (NRSA) would be solely responsible for all road safety related matters extending from action plan implementation to management. Unfortunately, in 2014 the NRSA was prevented from being operationalized due to insufficient data n, despite the rising number of RTIs.<sup>30</sup>

Solutions have also been constructed externally, by regional and international groups. In January 2016, the African Road Safety Charter was adopted to formalize political commitment of member countries and serve as an advocacy tool to improve the continent's road safety.<sup>32</sup> Unfortunately, presently Uganda is not party to the charter.<sup>29</sup> In line with the Global Action Plan for the UN Decade of Action for Road Safety, the *African Road Safety Action Plan 2011-2020* targets the five pillars of the Safe System Approach and an additional one specific to the continent: road safety management, safer roads and mobility, safer vehicles, safer road users, post-crash care and response, and rural transport safety. The action plan provides a thorough outline of the activities required to be undertaken for each pillar, their associated indicators for progress evaluation and the responsible parties for conducting the activity.<sup>33</sup> This action plan has not yet been fully embraced by Uganda, as the country continues to lack a comprehensive national strategy and hence, has adopted piecemeal regulations specified in table 3.<sup>6</sup> The UN has also created eight core road safety legal instruments, and Uganda is only party to two of them: Convention on Road Traffic and Protocol on Road Signs and Signals, 1949.<sup>29</sup>

**Politics Stream.** In 2011 and 2016, Uganda underwent presidential, parliamentary, and mayoral elections. In both presidential elections, incumbent President Yoweri Museveni, leader of the NRM, emerged victorious.<sup>34</sup> Museveni has been in office since 1986 and perceived as a liberator and innovative leader, until recently. In the last two terms, the party's focus has been on survival politics as Museveni is nearing the presidential age limit outlined in the constitution, resources are being redirected to find methods to keep him in office.<sup>35</sup> Partly for this reason, Museveni and the NRM have failed to create a transformative agenda and efforts to advance development have been minimal.

From the 2011 to 2016 there has been a shift in party priorities as evidenced by the change in NRM's manifestos prior to each election campaign. The 2011-2015 NRM manifesto explicitly mentions road safety as an agenda item, while the NRM's 2016-2021 manifesto has the category eliminated. The latter places emphasis on road infrastructure development. This uncertainty about Uganda's political future and lack of political commitment has deterred investments into the nation. According to the World Bank, foreign direct investment fell from \$1.2 billion USD in 2012 to \$870 million in 2016.<sup>35</sup> The lack of investment limits the ability of the country to fund development initiatives, in turn reducing Ugandans quality of life and increasing their susceptibility to RTIs. Due to this series of political and socioeconomic setbacks, Ugandans have expressed sentiments that the country's leadership is failing them.<sup>36</sup>

Media from print to television have consistently been reporting on road traffic fatalities on Ugandan roads and the country's road safety status for more than a decade. Based on these reports and rising statistics, the public recognizes road safety as an issue that needs to be addressed. Additionally, considering road safety is a global development priority, supporting road safety activities will assist with Museveni's re-election. His support for road safety is strengthened by almost no opposition from interest groups. Non-governmental organizations such as Safe Way Right Way Uganda, Ugandan UN representatives, and Uganda Road Sector Support Initiative, along with the Reassembly of the

Parliamentary Forum for Road Safety, have strongly been advocating for advancement in the road safety sector.

**Policy Window and Entrepreneurs.** Museveni's continued reign in government and need to renew faith in his leadership combined with the selection of Uganda as the pilot country for a road safety performance review has led to an unpredicted policy window opening. Museveni vocalized his support for beginning a road safety campaign similar to the one conducted for HIV/AIDs.<sup>37</sup> This window of opportunity was taken advantage of by Right Honorable Rebecca Kadaga, the Speaker of Uganda's Parliament. To date, Kadaga persists as a pivotal policy entrepreneur in the road safety sector. She has a significant personal interest in maintaining road safety as a high priority on the national political agenda due to many of her parliamentary colleagues becoming part of the RTI fatality statistics.<sup>38</sup> Kadaga spearheaded the reconstitution of the Parliamentary Forum on Road Safety in April 2017. Due to her influential position in the legislature, Kadaga is immersed in a powerful social network both within the government system and the community. As a result, she has the means to bridge and engage various stakeholders relevant to achieving road safety targets. She recognizes parliamentarians have the capacity to hold the government accountable, by not only generating attention to the RTI problem, but also drafting policy, legislation and budgets.<sup>38</sup> Through her efforts of ensuring road safety remains of national concern, she developed and launched the Road Safety Legislative Action Plan in partnership with the local NGO, Safe Way Right Way, as well as other government ministries.<sup>38</sup> Aside from her position in parliament, Kadaga is an active advocate both in the social media realm and offline. She continuously draws attention to Uganda's RTI problem by publicly highlighting major fatalities and voicing her perspective on the actions necessary to improve Uganda's position.

## DISCUSSION & CONCLUSION

Nepal and Uganda have similar population sizes, GNI and government type, (Table 1) allowing for country comparisons. These two nations have had drastically different experiences in prioritizing items on their political agendas. By utilizing Kingdon's MSF to assess the process and progress of agenda setting for road safety in Nepal and Uganda, some key findings have been revealed. Foremost, problem framing is critical for capturing public and policymaker attention. For both countries, the values of their indicators are gathered from police reports, hospital records and scant number of research studies focusing on different perspectives of the problem. Consequently, the data available is not wholly representative of the issue. Furthermore, some of these indicators are amalgamated, standalone figures, preventing an individual from being able to draw comparisons between values to perceive a change, see a trend and in turn, recognize the existence of a problem. For instance, country specific data for Uganda is limited as many studies utilize aggregated data for the Sub-Saharan African region when evaluating RTI status. Accordingly, these statistics do not hold value for the Ugandan public, as they are grouped into a larger data point and essentially detached. Further, a lack of road safety education among the public leads to these statistics conveying little meaning.<sup>29</sup> Ultimately, Nepal and Uganda's indicators alone are insufficient to seize and sustain attention. Another contributor to problem framing is focusing events, Nepal and Uganda had similar ones as influential and well-known individuals were involved in road traffic collisions. However, Nepal's problem framing was weaker in comparison to Uganda's due to one differentiating aspect – feedback. The element of an international body highlighting weaknesses in Uganda's approach to addressing the issue and neglect of its global commitment to reducing RTI fatalities, functioned as a wake-up call. This external evaluation made the issue more salient among leaders and emphasized their negligence and failure of accountability. Attention was largely drawn to restore their reputation among member states. This suggests performance reviews may be necessary to re-galvanize action in other LMICs that have lost sight of achieving their road safety targets.

The policies stream for both nations was nearly analogous. National solutions for both Nepal and Uganda were drafted using the Global Plan for the *Decade of Action for Road Safety* as a guiding document. Additionally, both nations had interest groups invested in advancing road safety initiatives, whether government formulated or an organization's interventions. The NRNA's big picture proposal is quite comprehensive. The team has underlined, the Nepal Road Safety Management System they propose will not be developed in the immediate future. The purpose of their proposal is to provide a detailed

strategy on how to achieve a road safety management system. They provide a timeline detailing short, medium, and long-term goals. As a result, their proposal appears to be technically feasible, particularly the short-term goals of advancing pre-crash systems as few resources are needed. However, if political instability persists and Nepal's economy continues to suffer, it is unlikely the envisioned management system will have enough funding to materialize. Nevertheless, the components proposed for intervention align well with the values conveyed through the government's National Road Safety Action Plan. However, what exists on paper may not necessarily represent Nepalese politicians' true sentiments regarding the RTI issue.

On the other hand, for Uganda, the solutions proposed vary in their degree of technical feasibility. In terms of government projects, some solutions appear to be easily implementable within the region. For instance, novice learner, instructor and primary school curriculums require few resources to be materialized; current teachers' knowledge and skill base would need enhancement. In contrast, the national database's feasibility slightly diminishes due to budgetary constraints. The transport sector in Uganda is given 18.7% of the national budget, of that only 1% is allocated to road safety, which includes maintenance of recording road traffic crashes by police, road safety awareness programs, and the driver licensing system.<sup>29,39</sup> The remainder of the budget is directed towards air, railway, and inland water transport initiatives as well as road infrastructure, policy and planning, and monitoring and evaluation.<sup>39</sup> The least feasible solutions are establishing a lead agency and adopting international policy and legal recommendations, as these activities involve legislative change, which requires a significant amount of resources. All the proposed solutions would contribute to improving RTI statistics, which benefits the entire nation and for this reason, the solutions' value acceptability is heightened. Premature deaths in the population would also be averted, providing an equitable opportunity for all to achieve a decent quality of life. This outcome aligns with the NRM government's mandate to improve the lives of Ugandans, through providing equal opportunities while promoting peace, prosperity and unity among the community.<sup>40</sup> Therefore, the solutions possess a high value acceptability amongst decisionmakers. By meeting the two criteria, the policy stream was found to be the strongest out of all three streams for both nations.

The political stream for Nepal and Uganda differed greatly. For Nepal, this was the weakest stream as the political arena is concerned with other more pressing issues, specifically legislative turnover and a failing economy. Alternatively, for Uganda, Museveni's desire to be re-elected, alongside significant public support for reducing RTI fatalities, has prompted renewal of political commitment to achieving road safety targets. It could be inferred that LMICs attempting to get road safety on their political agenda, require a stable political environment as well as a favorable national mood.

Currently, Nepal shows no evidence of a window of opportunity or a policy entrepreneur to couple its streams together. Solutions are available to address the issue, but they require a well-defined problem to be attached to. Given the difficulty to define the condition in Nepal's national context, there is a small degree of misalignment between the problem and policies streams. However, the greatest shortcoming arises from the politics stream. The political context is unfavorable for road safety as the government's current motivation for agenda prioritization is attainment of power. Again, due to a weak problem definition and resource restraints generated by rampant administrative turnover, addressing road safety matters is insufficient to gather voter support as intervention results will not be immediate nor supported by the current economic state. The absence of an individual to couple the three streams, severely hinders the probability of RTI fatalities being attended to. The policy entrepreneur is crucial, as he/she corroborates the issue by utilizing manipulative strategies, pushes for a well-designed solution to be adopted and has access and the power of influence in decision-making circles. One may argue the NRNA could fulfill this role, but it is a team of individuals volunteering their expertise, as such there is rapid turnover in the members involved, limiting their ability to exert pressure and hold influence over decision-makers. Most of all, Kingdon defines a policy entrepreneur as an individual, thus, an organization cannot fulfill this role due to the resource investments required. Consequently, road safety remains a low priority on the national political agenda.

Contrastingly, in Uganda, the Rt Hon. Rebecca Kadaga has been pivotal figure in manipulating emotive and cognitive functions of decision-makers, thereby succeeding in coupling the three streams together. When combined with the heightened attention to the issue due to the performance review, a window of opportunity was open to be exploited by Kadaga. These diverging trajectories illustrate that policy windows occur randomly and are short-lived. The moment they transpire, a keen individual with influence must act if policy change and progress is to occur. Nevertheless, based on the analysis here it is evident that LMICs' governments face a lot of turmoil, experiencing both internal and external conflicts. They often have limited funds and priority generally goes to issues that will generate votes or foreign investment. Unfortunately, RTI fatalities are perceived as inevitable, impacting only a handful of individuals when they occur, as opposed to a national crisis affecting millions. Thus, another essential factor will be changing public attitudes/beliefs about RTI fatalities.

In conclusion, RTI fatalities are a rising global epidemic, requiring policy action if they are to be reduced. LMICs vary in their ability to make road safety a priority on their political agendas. Various lessons can be drawn from this paper's analysis. Foremost, political stability is necessary before any achievements can occur as such LMICs including Nepal require their political spheres to be settled before road safety receives priority. According to Uganda's current success of maintaining road safety on its political agenda, it is evident that Nepal and other LMICs require a policy entrepreneur. These lessons should be interpreted and applied cautiously to other LMICs as national contexts differ from this paper's specific case studies. Some governments cannot support the recommended policy instruments due to structural and resource restraints. Further, in some LMICs the right to free assembly, role of civil society and access to decision-making circles are suppressed, in turn limiting the ability to influence policy change. Ultimately, future studies can further advance the field of road safety policy by analyzing the tools needed for successful policy formulation and implementation within LMICs.

## APPENDIX: TABLES & FIGURES

TABLE I. COUNTRY PROFILES FOR NEPAL AND UGANDA

	Nepal	Uganda
<b>Population</b>	29,304,998 <sup>16</sup>	37,817,300 <sup>17</sup>
<b>GNI</b>	\$790 USD <sup>16</sup>	\$550 USD <sup>6</sup>
<b>Government type</b>	Federal Democratic Republic <sup>18</sup>	Republic <sup>18</sup>

TABLE II. YEAR AND CORRESPONDING RTI SOLUTION DEVELOPMENT BY UGANDAN GOVERNMENT

Year	Solutions Developed by Ugandan Government
2004	<ol style="list-style-type: none"> <li>1. National driver instructor curriculum<sup>29</sup></li> <li>2. National road safety curriculum for primary school children to teach them about road safety practices from an early age<sup>29</sup></li> </ol>
2008	Standardized driver training program for novice learners
2010	<ol style="list-style-type: none"> <li>1. Road crash data system project in partnership with the World Bank<sup>29</sup></li> <li>2. Proposed establishment of National Road Safety Authority<sup>29</sup></li> </ol>
2014	Standardized driver training program for motorcyclists, bus drivers and drivers of heavy goods vehicles <sup>29</sup>



TABLE III. PIECES OF LEGISLATION UGANDA HAS ADOPTED AND THOSE THAT ARE STILL ABSENT. ALL EXISTING LEGISLATION IS POORLY ENFORCED BY AUTHORITIES.<sup>6</sup>

National Laws in Existence	National Laws in Absence
<ul style="list-style-type: none"> <li>• Speed limit</li> <li>• Drinking and driving</li> <li>• Motorcycle helmet use</li> <li>• Seat-belt use</li> <li>• Prohibition of mobile phone use while driving</li> <li>• Licensing system</li> </ul>	<ul style="list-style-type: none"> <li>• Child restraint use</li> <li>• Good Samaritan law</li> <li>• Transport of dangerous goods</li> <li>• Driving standards</li> </ul>

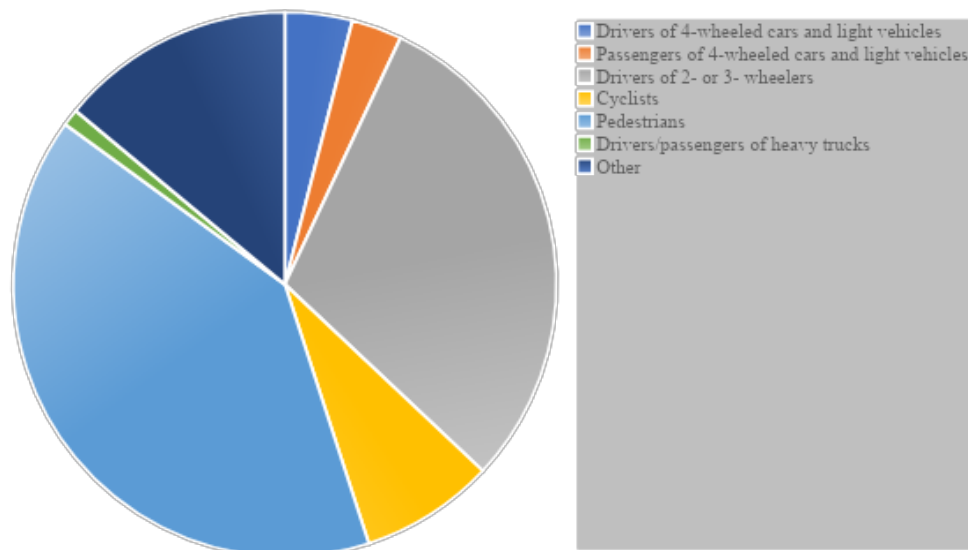


Figure 1. Uganda's road traffic mortality distribution among road users.<sup>6</sup>

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