Social Justice Approach to Road Safety in Kenya: Addressing the Uneven Distribution of Road Traffic Injuries and Deaths across Population Groups

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Road traffic injury and deaths (RTID) are an important public health problem in Kenya, primarily affecting uneducated and disenfranchised people from lower socioeconomic groups. Studies conducted by Kenyan experts from police reports and surveys have shown that pedestrian and driver behaviors are the most important proximal causes of crashes, signifying that the occurrence of crashes results directly from human action. However, behaviors and risk factors do not fully explain the magnitude of RTID neither does it account for socioeconomic gradient in RTID. Instead, a social justice approach to RTID highlights the need for emphasizing distal causal factors. They allow us to understand how social inequities determine risk for RTID. Hence, designing policies that focus on behaviors will simply mask the underlying systemic causes of this growing phenomenon. To eradicate the RTID and address the gradient, a broader policy framework that includes the social dimension of injury, a strong political will to address the underlying causes of RTID and an effective partnership with stakeholders needs to be developed.

Introduction

The central thesis of this paper is that safety policies and strategies designed to prevent road crashes need to address the social inequities that sustain road traffic injuries and deaths (RTID) risk and mortality differentials. Road crashes disproportionately affect vulnerable groups of road users, with more than half of those killed being young adults, pedestrians or public transport users aged between 15 and 44 years (Peden *et al.*, 2004). Most of the victims of road crashes come from lower socioeconomic groups (Nantulya and Muli-Musiime, 2001). These underprivileged individuals often ride risky means of transport and/or live in unsafe neighborhoods. Material deprivation and social exclusion prevent them from ensuring safety. Thus, social inequities are an important contributor to RTID. Existing research outlines, in a decisive manner, the magnitude of road casualties and emphasizes the need for developing an approach to safety and prevention that considers the social dimension of road injury.

Madison Powers' and Ruth Faden's account of justice as well-being provides the theoretical tools to design policies that address issues of equity in RTID (Power and Faden, 2006). Powers and Faden believe that the social context of health should inform and shape policy design and development. I would like to use this approach to justice to challenge the behavioral approach to safety currently used by the National Road Safety Council of Kenya (NRSCK). The NRSCK's approach to road safety policy is shortsighted because it results in ethical claims and legalistic views that focus on individual behavior and fails to address structural issues that determine risk for injury (Odero *et al.*, 2003). Due to the interconnectedness that exists between the spheres of justice, a social justice approach does not separate social policies from road safety policies. This approach thereby calls for a political commitment to address the social determinants of RTID and an active participation of all constituencies in prevention initiatives.

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Epidemiology of Road Traffic Injuries and Deaths

The 1987–1996 police reports on road traffic safety demonstrate a substantial upward trend in the number of crashes as well as associated fatalities and injuries in Kenya. Nantulya and Muli-Musiime showed that over this ten-year period, the annual number of crashes rose by 65%, with the total number of road crashes being 114,741, resulting in 23124 deaths and 125 907. About 39% of the injuries were reported to be severe (Nantulya and Muli-Musiime, 2001). The evaluation of police statistics points to two major causes of crashes—driver error and pedestrian behavior. Pedal cyclists and vehicle defects were only a minor cause of crashes (Nantulya and Muli-Musiime, 2001). Later, Wilson Odero *et al.* showed that Kenya has one of the highest road fatality rates in relation to vehicle ownership in the world, with an average of 7 deaths from the 35 road crashes that occur each day. There are 68 deaths per 10,000 registered vehicles, which is 30–40 times greater than in highly motorized countries (Odero *et al.*, 2003: 53). Odero *et al.* mention that the road fatality rate per 100, 000 population during the period 1985 to 1998 ranged from 7.8 to 10.6 (2003: 54). In both studies, a socioeconomic gradient in RTID is evident, with poor people being more at risk than others. The overall burden of injuries and deaths resulting from road crashes consequently exacts an important economic loss for Kenya.

The Economic Burden of Road Traffic Injuries and Deaths

Road transport contributes to the socioeconomic development of Kenya by facilitating movement of goods and people, opening up isolated areas, and promoting trade (Khayesi, 2005b). Unfortunately, the current road transport system is worrisome because the prevailing road traffic anarchy causes crashes that impact both household income and the national economy (Nantulya and Reich, 2002). RTID often strips families of their breadwinner, leading to increased poverty. Healthcare or funeral costs are common causes of impoverishment among affected families (Peden *et al.*, 2004). Road crashes also exact a tremendous financial loss for Kenya. The cost elevation is due to the lost opportunity cost of injured persons, disabled persons, and family care, as well as loss of income, costs of health services, and damage caused to property. Road crashes consume massive financial and human resources that the country can ill-afford to lose (Afukaar *et al.*, 2003: 73). In 1984, the estimated annual economic cost of road traffic injuries, using the human capital approach that comprises health care costs, administrative expenses, and vehicle and property damage, was 1.5 billion Kenyan shillings (approximately U.S. $ 19 million), an equivalent of 1.6% of country's gross national product (GNP) in 1988 and 3.8 billion or 5% of the GNP by 1991. In 1996, the costs were estimated to be between 5 and 10 billion Kenyan shillings. This translates into a loss of 26–52% of the total earnings from road transport (Odero *et al.*, 2003: 58).

Road crashes are undoubtedly a cause of poor health and material deprivation. Public resources are used to solve a problem which could have been prevented through safety measures and equity-promoting programs. The underprivileged are extremely disadvantaged in the situation, primarily because they are more likely to be injured or die from road crashes with consequent effects on their family. Since the underprivileged rely heavily on public institutions, the decrease in economic development adversely affects the poor more than the rich. The risk factors for RTID should be understood within the whole context of Kenyan social life.

Risk Factors for Road Traffic Injuries and Deaths

RTIDs are shaped by both proximal and distal causes. The evaluation of the respective contribution of each set of causal factors help in identifying the origin of the gradient and facilitate the development of adequate policies to address RTID differentials across population groups.

Proximal Causal Factors

Based on the Accident Cause Code Classification, Kenyan police reports reveal that 85.5% of crashes are caused by poor behavior, of which driver error represents 44.4%, pedestrians and passengers 33.9% and pedal cyclists 7.2% (Odero *et al.*, 2003: 58. Other proximal factors include vehicle defects 5.1%, road environment 2.9%, and other factors 6.4% (2003: 58). The relative contribution of human behavior to RTID has remained unchanged over time. Behavioral factors include drunk driving, speeding, distraction of drivers by passengers, perilous overtaking, under-utilization of seat belts, absence of child restraints, overloading of vehicles with people, ignorance about road safety procedures, and pedestrian negligence (Khayesi 2005a). It is not surprising that the prevailing risky behavior of road users is shocking to visitors to Kenya. Extreme cases of violation of traffic rules and lack

of road use courtesy are clearly evident in Kenya. Other actions of drivers that led to road traffic injuries are loss of control of vehicles, misjudgment while overtaking improperly, failure to keep to the lane, turning left or right without due care, swerving, failure to comply with traffic signs, pulling out from near side or from one traffic lane, and cutting in and crossing without due care at road junctions (Khayesi, 2005a).

Over the years, Kenyan police reports have consistently indicated that the risks for road crashes due to human behavior are increased by environmental conditions and vehicle characteristics (Odero *et al.*, 2003). Poor road conditions and roadway environment, absence of pedestrian sidewalks, absence of visible road signs, and neighborhood design all pose significant hazards to both drivers and pedestrians. The absence of seat belts in cars and the poor enforcement of seat belt regulations increase risk for injury and the odds of death when a crash occurs. Of 213 crash victims, only 1% said they were wearing a safety belt; 32% said they were not, while 67% said it was not applicable (Nantulya and Muli-Musiime, 2001: 218). Although proximal causal factors help in understanding the behavioral origins of road crashes, they fail to show how social forces set the stage for risk for injury and vulnerability to crashes.

Distal Causal Factors

It is not enough to state that driver error, for example, increases risk for crash without linking driver error to deficiencies in the legal, socioeconomic, policy, and institutional framework. To understand RTID and design appropriate safety policies, it is necessary to view the road user, the vehicle and the built environment as elements of a system that work together to either cause or prevent injuries (Nantulya and Muli-Musiime, 2001: 213). This holistic framework of analysis does not dissociate behavior from its context or omit the impact of the social environment on individuals. Hence, the development of safety policy cannot be separated from social policy. The interaction that exists between all proximal causal factors is presently sustained by a social atmosphere that promotes social discrimination, political exclusion, poor law enforcement and surveillance system, civil disobedience, and an unregulated transport system.

The high incidence of road crashes in Kenya is due, in part, to poor enforcement of traffic safety regulations caused by inadequate resources, administrative problems, and corruption. Corruption extends to transport administration, the public services which issue driving licenses, and the police (Odero *et al.*, 2003). The many years of political dictatorship which followed the post-colonial era have created an atmosphere of social instability and public mistrust that prompted and reinforced people's resistance to the rule of law and fostered the development of survival strategies rooted in corruption and nepotism (Monga, 1996). In such a context, the regulation of the transport market becomes difficult. The expansion of the informal sector with its increasing number of vehicles that do not follow official norms, therefore, becomes uncontrollable. It is within this context that RTID disproportionately affects the underprivileged because factors influencing exposure to risk (distal factors) and factors directly influencing occurrence and severity of crashes (proximal factors) are often connected with social conditions (Nantulya and Reich, 2002: 16).

Existence of a Socioeconomic Gradient

According to the social epidemiologists, Marmot and Bell, education, income disparities, and residential segregation are three factors driving health inequalities in society (Marmot and Bell, 2006). Studies conducted by Kenyan public health researchers also confirm the gradient between RTID and social status based on education, income and residential location (Odero *et al.*, 2003). The socioeconomic gradient simply means people of higher education and income level living in safe neighborhoods are less exposed to RTID than people of lower social status people living in slums and overcrowded neighborhoods.

Lack of Formal Education Correlates with Being a Pedestrian or Passenger

Individuals lacking formal education are often the most at risk for RTID because they cannot afford a car or ride a safer means of transport. A 2002 study done in Kenya found that 27% of commuters with no formal education travelled on foot, 55% used buses or minibuses and only 8% used private cars. By contrast, 81% of people with a secondary-level education travelled in private cars, 19% used buses and none walked (Nantulya and Muli-Musiime, 2001: 219; Nantulya and Reich, 2002: 16). Hence, there is a relationship between education, income and means of transport. Level of education affects income, which in turn influences choice of transport and the associated road traffic risks.

Being a Pedestrian or Passenger, which Often Means Being Poor, Is Associated with Increased Risk for RTID

Individuals from the lower socioeconomic status are more likely to walk or ride public means of transport, which is often associated with increased risk for injury (Nantulya and Muli-Musiime, 2001; Nantulya and Reich, 2002). On average, pedestrians represented 42% of all crash victims killed between 1971 and 1990, whereas passengers accounted for 38%, drivers 12% and pedal cyclists 8%. Thus, approximately 80% of the total annual road fatalities involve pedestrians and passengers (Odero *et al.*, 2003: 57). Pedestrian vulnerability to road crashes is likely due to a number of factors, including lack of sidewalks, poor road design, poor knowledge and practice of road safety measures by the general population, discourteous behavior of motorists, high speed driving, and low levels of vehicle ownership (Nantulya and Muli-Musiime, 2001). The high proportion of passenger fatalities appears to be associated with extensive use of public transport, types and condition of such vehicles, and driving skill of their operator (Odero *et al.*, 2003).

Higher Fatality Rates Occur in Rural Rather than Urban Roads

Pedestrian collisions occur more frequently in urban areas while car crashes involving passengers are more frequent in rural areas (Afukaar *et al.*, 2003; Odero *et al.*, 2003). In spite of this pattern difference, 60% of all injury-producing crashes occur on roads in rural areas while only 40% take place in urban areas (Odero *et al.*, 2003: 55). Injuries are typically more severe on rural roads with case fatality rates being 5.4% higher than those in urban areas (Odero *et al.*, 2003: 55). The most severe form of collision is the vehicle-pedestrian type, which has the highest case fatality rate (24%) compared to other types of collision which include single vehicle (18%), vehicle-bicycle (17%), vehicle-vehicle (12%), and vehicle-motorcycle (8%) (Odero *et al.*, 2003: 58).

The ratio of pedestrian deaths to injuries on the rural roads is about three times that on urban roads and even within rural areas, pedestrian fatality is more than three times higher than that of car occupants (Afukaar *et al.*, 2003: 75). The reasons for these statistics are that most rural-living individuals are uneducated and cannot read road signs (Nantulya and Muli-Musiime, 2001); or they have to walk many kilometers along highways, without properly-constructed or lit sidewalks, in search of a means of subsistence. Therefore, the difference in fatality rates observed between the rural and urban areas cannot be attributed solely to the difference in traffic and injury pattern but also to the rural-urban divide because cities tend to be better equipped and more resourceful in preventing and handling RTID than rural areas (Odero *et al.*, 2003). The high fatality rates in rural areas cannot be solely explained by driver behavior but also by lower police presence, inadequacy or absence of emergency medical services, and greater distance to hospitals, all of which can contribute significantly to the high frequency of crashes and/or poor survival rate in casualties.

The socioeconomic gradient in RTID versus the behavioral approach

Four main reasons justify the study of the relationship between the socioeconomic status and the risk for RTID in Kenya. First, it demonstrates that the underprivileged, people living in rural areas and poor inner city dwellers, suffer a disproportionate burden of road crashes and that reducing the magnitude of RTID in Kenya requires a special attention to non-behavioral factors that increase exposure (Nantulya and Muli-Musiime, 2001). Second, the gradient points to the social dimension of RTID distribution and management in a country where road safety policies focus on individual risk factors and human behaviors. The social dimension of road injury calls for the adoption of an epidemiological approach that goes beyond proximal causal factors in order to account for factors that determine exposure within the social context, shape the risk for injury, and structure the odds of death through the relationship between injury and social status. This epidemiological trend leads us into a deeper understanding of the etiology of RTID and indicates the need for a more comprehensive approach to road safety and injury management. Third, the analysis of the gradient helps identify the social determinants of road crashes. In the context of less advanced roadways and poor enforcement systems, the mix of different types of means of transport sets the scene for an unprecedented confluence of risks on roadways that pedestrians and public transport users cannot avoid. Without the intervention of public institutions, injury risk will be greater for pedestrians and public transport users than for car owners (Afukaar *et al.*, 2003). That is why, in predominantly low- and middle-income countries, the disparities in the distribution of injury risks and morbidity and mortality rates associated with road traffic injuries, are socially determined. The key determinants are social class and income (Nantulya and Muli-Musiime, 2001). Fourth, social

forces that determine the distribution of resources and participation in society's affairs also determine risks for injury. To address RTID at its roots, policy formulation should be informed by the relation that exists between risks for injury and other dimensions of human flourishing. Policy development should, then, take into account the socio-historical factors in which actual opportunity for human flourishing is located. This approach to policy formulation places the needs and concerns of the underprivileged at the center of public policy and challenges policymakers to concomitantly address differences in power, income, privilege, and education level. By doing so, this policy perspective captures both the welfarist orientation of public health intervention and the public health commitment to the needs of those whose welfare is the lowest (Power and Faden, 2006).

However, a libertarian approach to RTID may reject the fact that RTID is graded by socioeconomic status by arguing that the underprivileged are simply unwilling to convert available opportunities and means of safety into real functioning or that the underprivileged fail to use means of safety to prevent crashes and death when an injury occurs. This libertarian view does not account for what truly happens in Kenya where opportunities for success are not equal and ability to convert these opportunities into actual functioning is also unequal. The existence of a socioeconomic gradient situates safety policy in the realm of social justice and public policy because human behavior is broadly, but not exclusively, influenced by adverse circumstances and lack of opportunity. Individual behavior is less significant for safety promotion than for the overall structural change. Emphasis is placed on the fact that RTID cannot be addressed in isolation from major societal challenges because, at the core of the disproportionate distribution of RTID, there is a problem of justice in relationships between social institutions and individuals as well as among population groups. Social institutions that distribute dimensions of well-being are not always shaped by public will but rather by political elites. For example, the 2003 Kenyan healthcare reform movement, which sought to promote universal access to healthcare based on pro-poor policies was not approved by certain politicians who had vested interests in healthcare business itself. Political leaders shape social institutions and relationships which, in turn, determine the relationships that exist between individuals and among population groups. Consequently, unjust relationships between groups shape characteristics of the groups themselves, including their health and their level of exposure to environmental hazards (Nantulya and Reich, 2002).

Road Traffic Injury and Death, an Issue of Social Justice

The principal explanation for the socioeconomic gradient is the greater exposure of people in deprived areas to various hazards coupled with poorer access to health services consequent to accidents in these deprived areas rather than on a purely behavioral explanation (Nantulya and Muli-Musiime, 2001). Behavioral factors may provide an understanding of direct causality but not an explanation of the gradient. A behavioral explanation lacks the factual basis for emphasizing social responsibility for safety as a requirement of justice. The determinants of RTID are not only individual knowledge and skills, but also the socioeconomic environment in which a crash takes place. Socioeconomic position not only shapes choice of means of transport, but determines injury outcomes and access to life-saving solutions when an injury occurs. The existence of a gradient calls for a theory of justice that explains why social factors that determine vulnerability to RTID are just or unjust.

To address social inequalities and design health policy, Madison Powers and Ruth Faden develop a non-ideal theory because inequalities provide a real-world context to address issues of justice. Their approach to justice goes beyond issues of distributive justice to embrace the well-being of people in social communities and groups because distributive principles cannot address RTID and serve as foundations for safety policy in isolation from larger issues of social justice (2006: xi).

Powers' and Faden's account of social justice as well being is helpful in clarifying how the problem of road accidents in Kenya is a matter of social justice. Faden and Powers are less concerned with how one individual fares in comparison to others than with how a group of people is doing. Hence, the realm of social policy central to human well-being becomes an important locus for safety promotion. Here, the question of justice arises from the operation of the totality of social institutions, practices, and policies that both independently and in combination have the potential for a profound and pervasive impact on human well-being (2006: 5). An analysis of social policy based on well-being is almost always concerned with whether a group affected by a given policy is being treated fairly.

Their approach is concerned with human flourishing which can be understood as including many dimensions each of which represents something of independent moral significance (2006: 6). Each dimension of well-being provides prisms through which the justice of political structures, social practices, and individual behavior

can be understood and assessed. This approach shows how differences in exposure across populations can be understood as resulting from the lack of important dimensions of well-being in the population at risk. The lack of some dimensions of well-being prevents the underprivileged from having what is needed to avoid injuries or deaths. Respect, education, health, safety, and participation are fundamental dimensions of human well-being which are important for road safety. Justice requires that every citizen be provided, in one way or another, with the possibility of having a sufficient amount of each of the essential dimensions of well-being. By emphasizing well-being in our approach to justice, we seek to improve human well-being by promoting the public's health and placing the concerns of the most vulnerable at the center of public policy dealing with road safety. Our commitment to justice attaches a special moral urgency to remediating the conditions of those who are more vulnerable to crashes because they lack multiples dimensions of well-being.

Respect

Respect means treating others as dignified moral beings deserving of equal moral concerns. In other words, respect for others requires an ability to see others as independent sources of moral worth (Power and Faden, 2006: 22). Our respect for others is grounded in our shared humanity and does not simply refer to the freedom to leave the other person alone, but to the necessity of providing each member of society with what is needed to live a dignified life. Kant's understanding of respect for person provides the ground for the categorical imperative which he formulated in five different ways (Kant, 1785). Kant challenges everyone to act so that one treats humanity whether in one's own person or in that of another, always as an end and never as a means only. When Kant talks about autonomy, he does not imply that one should act according to one's own desires, unconstrained by a balanced consideration of one's situation as a being-among-others (Gillett, 2008). Instead, he refers to the dignity of humans who are capable of making for themselves and others universal law. The categorical imperative is more than just viewing respect as simply not harming others; Kantian autonomy is applied to actions performed when the will is freed from any selfish determination. When humans treat each other as subjects and never merely as means for an end, there arises a systematic union of rational beings under common objective laws. On the societal level, respect for others requires the provision of social arrangements and institutions that protect freedom and equality. This very foundation of our shared humanity is at stake when people, living in a state of abject poverty and enduring the hardships imposed on them by an unfair ruling of the country, bear disproportionately the burden of injury. The link between social conditions and risk of injury shows that differentials in risk for road crashes engage all the dimensions of well-being, but perhaps most importantly the dimension of respect.

The claim of justice comes from the fact that every human being is, in him/herself, a certain 'ought' with respect to his or her fellow human being (Hollenbach, 1977: 211). The principle of humanity challenges both the focus on individual behavior and the contextual blindness often seen in road safety policy by recognizing road crashes not merely as the result of driver or pedestrian behavior but also as the contribution of institutional arrangements and prevailing structures of socioeconomic power. These, in turn, result in differential vulnerabilities to road crashes. Therefore, respect for others forces us to shift the strategic question from examining the best ways to influence crash-related behaviors for RTID prevention to exploring the socioeconomic roots and social relationships that increase vulnerability among marginalized population groups. As an important dimension of human well-being, respect should bring about an acute sensitivity to conditions that diminish agency and perpetuate social discrimination. The basic anthropology that sustains this analysis understands the individual as nested within the social environment. Accordingly, the focus is not on the individual as the endpoint of causal processes and actions, but on the behavioral tendencies of individuals and groups as an outcome of causal relationships with people and the environment. RTID is thus viewed in relational terms, and preventive measures involve public policy.

Health

Our understanding of health focuses on the biological or organic functioning of the human body. It allows us to differentiate between health and other dimensions of well-being. Health has an important moral significance in that it is crucial in sustaining human functioning and well-being across the lifespan. Health conflates with many elements which are important characteristics of public health and biomedicine (Power and Faden, 2006: 17). Some of these elements are important for injury prevention and management since they include premature mortality, preventable morbidity and disability, loss of mobility, and the social and biological basis of human behavior.

Matatus are small-scale, unsafe public transport vehicles in Kenya. Matatu drivers often violate traffic regulations; for example, they may work long hours because of their poor wages; they may often be sleep deprived and not have any outlet for their stress because their time is taken up by their job. They may also drive under the influence of emotional stress which may lead to depression or substance abuse including alcohol or drug dependency. These factors (sleep deprivation, emotional stress, and substance dependency) may alter their ability to anticipate and prevent a crash and might contribute to an increased risk for RTID. Similarly, most materially deprived individuals who are the most vulnerable to RTID are often poorly nourished or work in blue collar jobs or in unsafe environments which expose them to harmful chemicals, irritants or pollutants. Exposures to these harmful chemicals and/or poor nourishment may weaken these individuals' immune systems, which are important for post-trauma recovery. Furthermore, most of those who are vulnerable to road injury may not go to a physician for regular health check-ups since they cannot afford to take time from work to schedule a visit, or they may not be able to afford basic preventive healthcare. As a result, these individuals may have undiagnosed conditions that may increase their vulnerability to RTID. For example, undiagnosed diabetes may lead to coma when blood sugar elevations are high and symptoms of undiagnosed heart disease may include syncope. If either of these symptoms occurs while a person is driving a vehicle, the consequences could be fatal.

Even though access to healthcare is a right in Kenya, access to quality healthcare depends on one's ability to pay and one's geographical location. The healthcare system discriminates between poor and rich as well as between urban and rural areas. This systemic discrimination further explains the high mortality due to RTID among the urban poor and people living in rural areas. In large part, this is due to unfair distribution of trauma care services in the country and income differentials between population groups (Nantulya and Muli-Musiime, 2001). However, social discrimination alone cannot fully account for injury risk and mortality differentials between individuals and population groups but also the lack of public leadership. Poor public leadership is also to be faulted. Poor leadership goes hand in hand with the inadequacy of health infrastructures. Compared to private and faith-based hospitals, government run hospitals are the least prepared to treat trauma cases. In 1999, only 40% of public, faith-based, and private hospitals were prepared to treat trauma cases from traffic crashes, with 74% of the least-prepared being public health facilities (Nantulya and Muli-Musiime, 2001). Most of the material needed to manage trauma is usually found in private hospitals, whereas government health facilities rarely had the material to treat trauma. Access to trauma care is related to the question of respect since inability to access the needed care is an important dimension of well-being which, when lacking, interferes with other dimensions of well-being. The underprivileged use public health services the most, not because these services provide them with quality care but rather because they cannot afford care in private clinics. Society's obligation to ensure universal access to healthcare (including trauma care) rests not only on the effects of access on health but also on what justice requires with regard to what is necessary for being respected as being endowed with a dignity that cannot be violated (Power and Faden, 2006: 18).

Safety

Socioeconomic exclusion and political marginalization of disenfranchised groups cause harms in other dimensions of well-being including education, participation in society's affairs, health, and respect. Social exclusion and marginalization function as a threat to people's physical and psychological integrity no matter who they are. Every human being has a right to safety, including road safety (Montreal Declaration, 2002). The violation of this right, through political inaction and discrimination and socioeconomic exclusion by the very people and public institutions entrusted with the duty to protect and implement it, creates a state in which hazards and conditions leading to physical, psychological or material harm are not controlled. Consequently, unnecessary injuries and preventable deaths may occur. When a local government fails in its regulatory role to protect vulnerable groups, individuals' interactions among themselves and with their environment become hazardous. The Kenyan government cannot eliminate all road traffic risks, but, it can, at least, control these risks in order to promote public safety.

Education

The importance of education in providing opportunities to achieve well-being is simply indisputable. Education can be acquired by schooling or by means of nurturing human reasoning. Education can provide the skills and abilities both theoretical and practical that increase an individual's capacity to function. As it relates to RTID, education should provide individuals with the ability to read road signs. Of importance also is the fact that education can improve an individual's socioeconomic status by increasing his/her chances of finding a better-paying

job, which in turn, allows him/her to use a less risky means of transport, to have adequate nutrition that may boost the quality of the immune response to any health challenge, to live in a better environment with well-lit and properly designed roads, and to have access to medical services. Such access may prevent or remediate any preexisting conditions that might increase fatality when injury occurs. Epidemiological studies have shown that education is an important determinant of risk for RTID and for health in general (Lynch *et al.*, 1997). The value of education and the fact that the right to education is a fundamental right challenge us to argue that the right to education should be part of the body of laws ensuring a citizen's right to it. Universal access to primary education is one the greatest achievements of President Mwai Kibaki's regime. Since 2003, every Kenyan child can access free primary education. However, access to primary education may not significantly reduce risks for injury among the underprivileged because epidemiological evidence shows that completion of, at least, secondary education tends to have a protective effect against road injury (Peden *et al.*, 2004). Thus, equal access and opportunity to primary and secondary education should be provided to all. To avoid discrimination, educational institutions and programs must be accessible to everyone, especially the most vulnerable, in law, and in fact, within the jurisdiction of the State party (United Nations, 1999).

Participation

The democracy supports and calls for social participation in the decision-making processes and requires that people be empowered to directly or indirectly participate in making society a livable place for all. Democracy presupposes fair procedures in decision-making and transparent institutions that promote well-being and political equity. Since the socioeconomic gradient in RTID is related to the lack of social equity, the first step in setting up long term prevention strategies is essentially political. The quest for social equity is always linked to issues of governance, which include accountability and broad representation of all social groups in road safety decision-making processes. The involvement of local communities and the civil society in road safety may create a forum of discussion within which the concerns of those who are most at risk are brought to the table. People's participation in developing safety policy is an important dimension of well-being because it leads to the improvement of individual and collective agency. Neglecting this dimension of well-being can have important implications on other dimensions of human life because the lack of participation might lead to the development of unjust policies and social institutions that compromise human well-being.

As a political concept, participation presupposes the recognition of the substantive and instrumental roles of freedom, the need of empowering disenfranchised populations and the necessity of supporting social relations and political arrangements required to sustain and expand that empowerment (Hofrichter, 2003). In rural areas, for example, local communities have been working to provide people with the public necessities for their lives. Social activism within these communities provides a basis for envisioning and actualizing multilateral cooperation in programs and policies which ensure access to basic social goods and favor participation in decision making.

The social dimension of injury needs to be taken into account if progress in a certain level of road security has to be achieved. Road security does not happen by accident (Khayesi, 2005b). Instead, it is the result of deliberate and concerted efforts by many sectors of society, both governmental and non-governmental, that recognize safety as a public good that can only be achieved if adequate policies and programs are developed to promote it. Partnership composed of stakeholders both inside and outside the Kenyan government offers a promising basis for policy discussion which goes beyond government control. It can be a real policy forum that presents the prospect of making decisions that conform to public interests rather than interests of political opportunists. A consensual manner of decision-making in such a forum provides the opportunity for everyone's voice to be heard.

Human rights, distribution of social/public goods, and socioeconomic inclusion

RTID is a critical public health challenge located within social, political, economic and historical contexts. The connection between RTID and these dimensions of social life emphasizes the need for a population-based approach to tackle the underlying causes of the disproportionate distribution of crashes, injuries, and deaths across the population groups. Education, safety, participation, and health are considered important human rights by the international community (United Nations, 1948, 1999, 2000). The rights to education, health, and safety have a population-based orientation because they belong to the realm of socioeconomic and cultural rights. This is true even though their realization depends upon the government's willingness and ability to provide what is needed to fulfill these rights. This governmental obligation rests not only on the health benefits of universal access to healthcare but also on the fundamental

basis of respect for a human being. A liberal approach to these rights will not properly address the social inequities which are at the roots of the disproportionate distribution of RTID. The mainstream human rights movement considers socioeconomic and cultural rights as the preconditions for civil and political rights and well-being and also as a framework for analysis and direct societal response to social determinants of health (Evans, 2002). A moderate-communitarian reconstruction of human rights is needed to balance the needs of the individual and to serve the public's health. Safety, education, and trauma care services are goods of public importance. An individualistic understanding to these goods could potentially conflict with public well-being, whereas, if rights are vested in a group, public health benefits are easily viewed as consonant with a (group) rights argument. Even though the individual is the subject of these rights, it is always important to highlight the need to deliver the necessary services in response to the claim of right in the context of the community by governments (London, 2006).

The Kenyan government does not respect, protect, and fulfill these rights since road safety measures are not enforced and the basic conditions to avoid injury are not ensured. Vulnerability to road traffic crashes reflects the extent to which people are, or are not, capable of protecting their dignity, assuring their own safety, having access to education and healthcare, and participating in policy-making processes. A social justice approach to RTID challenges policy makers to create conditions for just social relationships, guarantee the basic material necessities for individual dignity, and promote society's economic progress. The fact that the underprivileged are the most affected by RTID demonstrates that social relationships within the country are not conducive to solidarity. The lack of basic institutional solidarity transforms the public space into a hierarchical sphere where the privilege, political prestige, and socioeconomic position are the major distributive principles. Following the late 1980s implementation of Structural Adjustment Plans, as in many other developing countries, Kenya adopted economic liberalization of a public policy framework. These adjustment plans focused essentially on individual ability to participate in the market so as to improve market competition. The reduction of government spending on public infrastructures resulted in the exclusion of poor people from mainstream economy and the increase in social inequities.

In the public health community, distributive justice is often understood as providing the practical means to promote a healthy society and to ensure the public's health. Distributive justice provides the practical tools to reduce the magnitude of RTID and to challenge discriminatory practices that sustain social inequities. The distributive role of governments consists of investing in public goods, designing welfare programs, and supporting community-based initiatives to provide an acceptable baseline for all citizens. Justice requires an equitable distribution of social goods such as well-designed roads, social institutions that promote road safety, police presence, education, road surveillance system, access to hospitals and trauma services, and other goods and services necessary for road safety and treatment of injuries. The distributive aspect of justice specifies the claim that all persons have some share in those goods which are essentially public or social since all members of society are at least indirectly involved in their production through their membership in public society (Hofrichter, 2003). The criterion for distribution should focus not solely on economic efficiency and gain, but also on the nature of the good to be distributed and the type of society that such a distribution can create. It is within this approach to justice which promotes mutuality and interdependence, subsidiary and participation, accountability and honesty, solidarity and care for less fortunate, local and international contribution that the state can effectively play its distributive and regulatory role.

Social Justice and Road Traffic Safety Policy

Understanding the root causes of RTID from a social justice approach underscores the need for population-based policies and interventions which promote equity, focus on the vulnerable populations that bear an unfair burden of injury, and require a broad collaboration with other sectors of society to address the social causes of RTID. The determinants of RTID truly call for this type of collaboration because, left alone, the transport sector will fail to address social inequities that sustain the socioeconomic gradient and increase the magnitude of injuries and deaths in disenfranchised population groups. A strong commitment to public safety as well as an active leadership from national government, civil society and local communities is important for sustaining safety policies and interventions that target individuals and population groups who are most at risk.

The National Road Safety Council of Kenya (NRSCK) was established in 1982 to develop policy and oversee road safety initiatives. However, the increase in RTID from 1982 to the present testifies to the worsening road safety situation and, furthermore, to the failure of the NRSCK to provide road safety leadership and to design

policies to prevent crashes (Odero *et al.*, 2003). The 1993 Traffic Act, 1998 Traffic Amendment Bill, and the 2004 Legal Notice No. 161 developed under the guidance of the NRSCK focused essentially on driver behavior. The legal notice is impressive in its failure to address the underlying socioeconomic inequities that give rise to these irresponsible behaviors (Nantulya and Muli-Musiime, 2001: 222). Despite being a government-run institution, the NRSCK also failed to renew governmental commitment to road safety, develop an inclusive approach to road safety policymaking, and stir up public commitment to road safety (Odero *et al.*, 2003). The individual-behavioral framework within which this institution has developed safety policies has failed to take into account the social dimensions of road injury. An ecosocial framework is, therefore, needed to ensure that policies are responsive to societal issues and individual responsibility as they relate to road safety (Nantulya and Muli-Musiime, 2001). Within this latter framework, individuals can be held accountable through the enforcement of road traffic regulations by public authorities, and society can be held responsible through democratic process which includes advocacy.

Individual Responsibility for Road Traffic Safety

Although the social justice approach to safety calls for government and public commitment to safety, it does not undermine the responsibility of each individual road user. Police reports have shown that 85% of injuries are due to individual behavior and error (Odero *et al.*, 2003: 57). The premise that individuals contribute significantly to their own injury or premature death appears unassailable in view of the mounting evidence which attribute various personal habits and lifestyle choices to major causes of morbidity and mortality. Behavior change is required to avoid harm to oneself and to others, and to reduce the economic burden of injury on families and society. Behavior change requires action and commitment on the part of individual road users since crashes always involve human error or action. In spite of the social disorder that increases risk for crash, factors that influence crash involvement (alcohol and drug consumption, driving speed and attitudes), and factors that influence crash severity (the lack of use of seatbelts, airbags, helmets or padded clothing for motorized and non-motorized cyclists) can be controlled, to some extent, by drivers and motorized/non-motorized cyclists. Enforcement of existing regulations and/or development of a new set of regulations can prevent or reduce the impact of human error on risk for injury. However, an approach that one-sidedly holds individuals responsible for their behavior and the outcomes of these behaviors simply ignores the influence of the socioeconomic and political environment on individual behavior and risk for injury. The social environment is not conducive to the implementation of safety regulations. Some of the behaviors that result in crashes can be obvious or subtle signs of civil disobedience. Following the many years of postcolonial dictatorship, people have progressively developed behaviors and attitudes that revolt against the established order (Monga, 1996). While individuals can often control their behavior, the general prevention of road crashes is beyond their reach. As a social problem that results both from individual behavior and structural inequalities, RTID cannot be solved by appealing solely to people's sense of responsibility. Even those who emphasize an individual responsibility approach to safety would admit that society should promote environmental and public safety. Similarly, those who believe in a minimal government would admit that public institutions are necessary to prevent people with unsafe behavior from harming others. Responsibility for road safety should be a collaborative effort among individuals, communities and society. While acknowledging the need for stressing individual responsibility for road safety and launching proximal interventions through public education and regulation enforcement, it is my argument that, in the context of corruption and scandalous inequalities, individual responsibility deserves a peripheral role in road safety policy while social responsibility should be given prominence.

Socio-Political Commitment to Safety and Road Safety Policies

A functioning and sustainable road safety system requires an effective political will on the part of leaders and a sustained partnership that brings all stakeholders together. Political commitment and financial resources are needed at all levels to effectively address these social, economic and developmental issues as they relate to RTID. A genuine and politically-motivated approach to road safety advocates for prevention as a shared responsibility because it incorporates prevention and safety into a broad range of activities. These activities include: economic development, access to education, management of road infrastructure, academic research, trauma care, law enforcement and corruption eradication, social mobility, distribution of roads as public goods and of road safety agents across all the provinces and neighborhoods of the country, provision of hospital services, and urban and environmental planning. The Kenyan government must play a leadership role in road safety to protect

public health, promote economic development, and reduce social inequities. It is, then, important, first, to reduce exposure to risk factors by encouraging safer modes of transport such as by increasing the number of buses; making transport means more affordable and better able to connect to densely populated neighborhoods; regulating and restricting the activities of matatus and other alternative means of transport; addressing issues of social inequities, public mistrust, and police corruption; constructing safer roads that can accommodate the mix of motorized and non-motorized traffic to reduce exposure and vulnerability; and decentralizing public services to reduce movement for employment and risk for crash (Peden *et al.*, 2004). Second, it is equally important to reduce factors influencing crashes by limiting driving speeds, setting limits on permissible blood levels of alcohol in drivers, and facilitating the detection and enforcement of driving regulations (Peden *et al.*, 2004). Third, enforcing regulation to reduce factors associated with crash severity by promoting personal safety devices (seatbelts, airbags, helmets, padded clothing for motorized and non-motorized cyclists) and developing safety standards that would be required for all vehicles. Fourth, by acting on factors that determine injury outcome might reduce injuries and deaths caused by crashes.

The implementation of safety measures and programs can constrain human freedom and interfere with individual autonomy. In his essay *On Liberty*, Stuart Mill provides a strong argument in defense of individual freedom against government intervention (Mill, 1958). The justification for limiting individual liberty known as the 'harm principle' or the 'Millian paradigm' states that the only purpose for which power can be rightfully exercised over any member of a civilized community, against his will, is to prevent harm to others. Although the Millian principle can justify government intervention, this principle cannot serve as the only basis for risk or harm reduction policy in the Kenyan context. By focusing essentially on individual liberty, the Millian approach would not consider the socioeconomic gradient to be morally relevant. Meanwhile, a social justice perspective gives an extra reason to prioritize the preventive measures and structural interventions. Thus, not causing harm to others is not enough, both citizen and policymakers have to work hard to promote social equity and create conditions for safety. Governmental intervention can be justified on the basis of its potential to protect children, those with cognitive limitations, and other vulnerable groups from injury. Beyond the Millian argument, it can be said that government can also intervene to promote public safety, protect the common good and foster economic development because RTID is simply too costly. However, these interventions can reversely constrain personal autonomy, cause harm, and shape people's worldviews. Preventive programs dealing with behavioral factors, for example, can one-sidedly emphasize individual choices and behavior as the most important factors for crash involvement or severity, and obscure the distal causal factors (Verweij, 2000: 47). A careful ethical discernment should precede implementation of prevention programs to avoid unnecessary harm to both individuals for the benefit of public safety and to vulnerable populations based on the respect due to every individual. Preventive interventions and harm reduction initiatives can be successfully implemented when carried out in partnership with other social constituents.

A sustained partnership guarantees the participation of non-governmental institutions and groups in safety initiatives. As with other constituencies, the healthcare sector can play an important role by strengthening the evidence base, providing appropriate pre-hospital and hospital care and rehabilitation, conducting advocacy, and contributing to the implementation and evaluation of interventions. Academic institutions can provide the data and intellectual tools necessary to develop evidence-based policies and support intervention.

The healthcare sector and other constituencies involved should take into account distal and proximal factors and interventions because, very often, the first approach to a public health problem reflects longstanding tendencies in public health policy focused on altering individual behaviors by addressing proximal causes (Farmer, 2003). This approach to policy has demonstrated limited success. Distal and proximal interventions are complementary, not competing. Proximal interventions such as enforcement of seatbelt and helmet use, speed limit, loading and car condition measures or regulations governing driving under the influence of alcohol can successfully reduce risk for injury. However, these regulations may fail to address the socioeconomic gradient if they are not enforced concomitantly with distal interventions.

Emphasis on distal interventions may give the impression that Kenya has to be fully democratic to enforce road safety regulations. Yet, without acceptable structural changes, even the best implementation of proximal interventions will not bear fruit as has already been shown in the past. Similarly, governmental commitment to safety alone cannot promote safety and address the socioeconomic gradient; the contribution of local communities, civil society, and international organizations is crucial to the development of distal interventions. The participation of these non-governmental constituencies requires some sharing in political power. The government must

avoid monopoly so that other social constituencies can participate in shaping road safety.

Conclusion

A social justice approach to injuries and deaths resulting from road traffic crashes in Kenya reveals that the social forces that deprive the poor from having access to important dimensions of well-being are the same that shape the risk for injury. The socioeconomic gradient amounts to the violation of the rights to safety, participation, education and health. It points to the graded relationship that exists among Kenyans, the unfair distribution of social goods that increases vulnerability to road crash and the uneven distribution of injuries. Even some behaviors and environmental conditions that create the possibility for road crash can be understood within the socioeconomic context of Kenya. Thus, the burden of RTID cannot be dealt with simply as an issue of personal morality leading to an ideology of victim blaming, for what is, at least in part, an issue of public morality.

To reduce people's vulnerability to road traffic crashes, communities, civil society, business owners, academic and healthcare institutions, and the government must work together to reduce unjust social disparities by changing the power structures that sustain social inequity and inaction, by developing sustainable road safety measures and programs, and by providing countries with the public health leadership needed to eradicate the growing phenomenon of RTID.

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