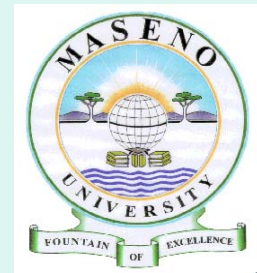


# **Motorcycle Injuries in East Africa: Magnitude, Risk Factors and Prevention**

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# Outline

- Introduction
- Magnitude of motorcycle injuries in Eastern Africa
- Contributing factors
- Prevention Efforts and Challenges
- Conclusions

# Introduction

- Of the 1.2 million road deaths occurring each year worldwide, nearly half (46%) are vulnerable road users – comprising pedestrians, pedal cyclists and motorcycle riders
- Motorcycle and bicycle taxis are emerging as important means of public transportation in many African cities - but their operation is characterized by:
  - non-helmet use
  - passenger overload
  - poor regulation
- Little is being done to make their use safer

# Global motorcycle injuries and deaths

- How big is the motorcycle injury problem?
  - Mortality figures show huge differences between countries, highest in South East Asia (WHO report)
    - Thailand (70%), Cambodia (63%), Indonesia (61%), Malaysia (58%), France (25%), USA (11%), México (6%), Kenya (1%)
  - Surveillance data: mortality, morbidity, disability, helmet use, trends in motorcycle ownership and legislation by country/region

# Motorcycle use in East Africa

- Originated in 1960s – as bicycle taxis for transportation of people and smuggled goods across Kenya-Uganda border (border –to-border), hence named ‘boda boda’
- From 1990s – light engine motorcycles (50-80cc) gradually replaced bicycles as taxis
- Advantages of MCs: inexpensive, quick and evades traffic jams, can use narrow paths in peri-urban areas, available day & night, can also be fun to ride (young people, tourists)
- Source of income - over 100,000 youths in Uganda are involved in the business
- Waiver of importation tax on motorcycles by Kenya Govt to encourage use as taxis

A bicycle taxi in 2006



## Motorcycle taxis now



# Motorcycle deaths (2007 data)

- MC responsible for 50% of road traffic crashes in Kampala
- 5 deaths per month at Mulago Hosp attributed to MC injuries
- In Kenya 5-fold increase in MC deaths reported by police - from 33 in 2004 to 152 in 2008

	Total road deaths	Proportion due to MC
Rwanda	308	16%
Uganda	2,838	7%
Tanzania	2,595	7%
Kenya	2,893	1%



# Kenya (2007 police data)

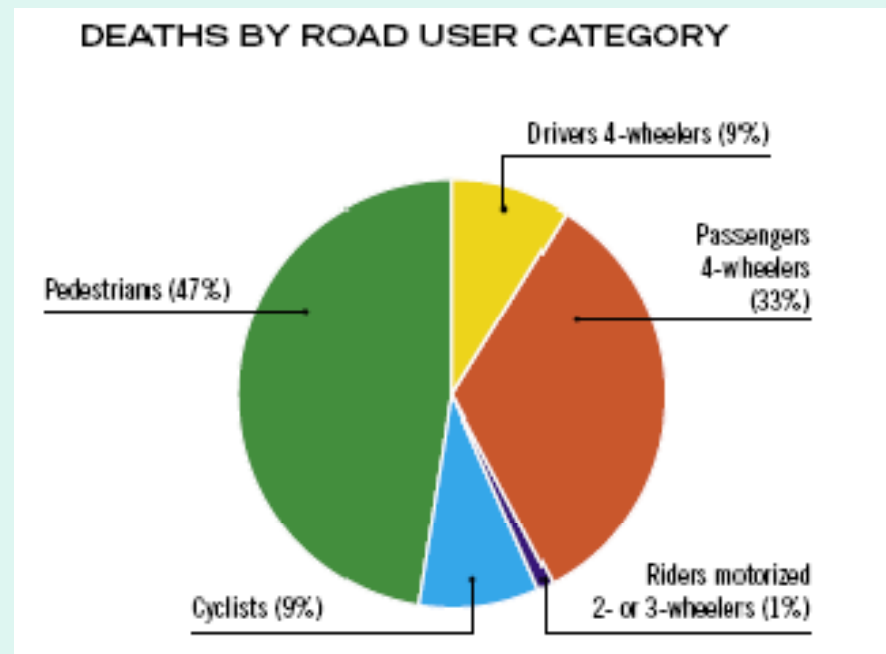
Annual road deaths 2,893  
(72% male)

Motorcycle-related  
represent 1%

No helmet law

No BAC limit law

Poor regulation of mc use



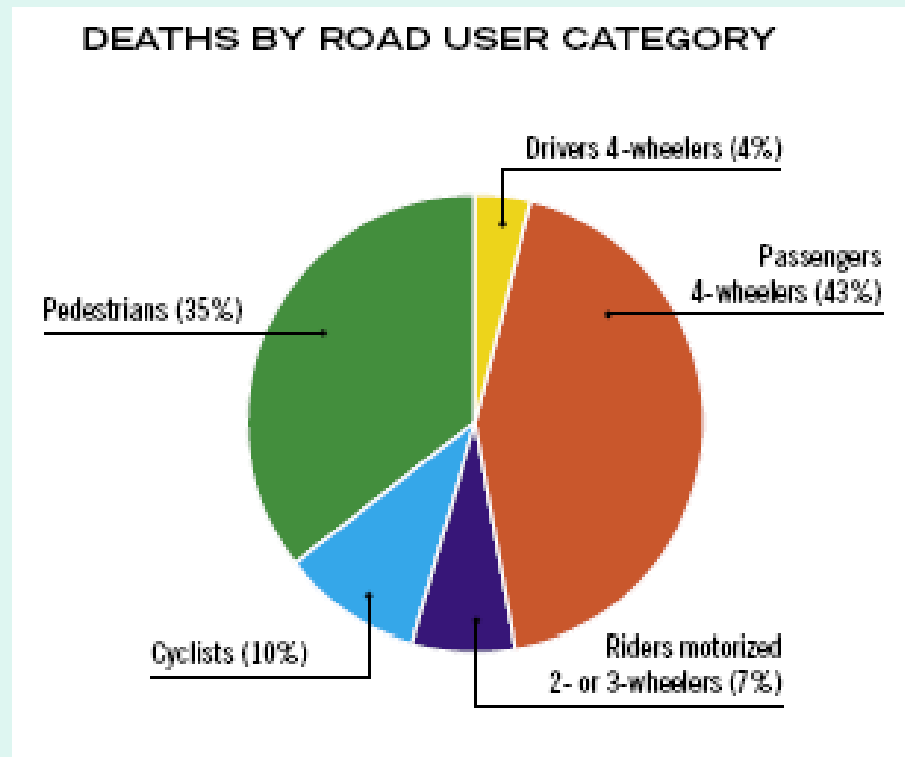
# Uganda (2007 police data)

Annual road traffic deaths 2,838 (78% male)

Helmet law – exists for motorcycle riders

No helmet standards

No enforcement of helmet use



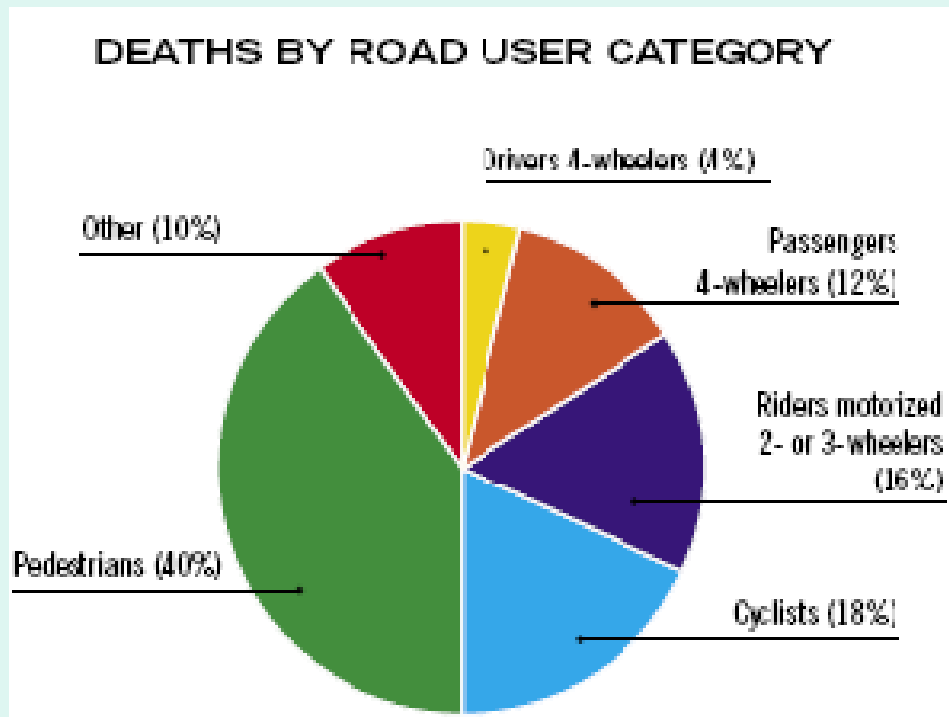
# Rwanda (2007 police data)

- Motorcycles account for 37% of registered vehicles

308 road deaths in 2007,

16% due to motorcycles

No helmet law



## Kenya – trends in MC deaths, 2005-2009

Year	Total road deaths	Motorcyclists (excl. passengers)
2005	2,531	44 (1.7%)
2006	2,714	34 (1.25%)
2007	2,893	35 (1.2%)
2008	3,633	152 (4.2%)
2009	2,669	164 (6.1%)

# What factors increase the risk of motorcycle crashes and injuries?

- Lack of certified driver training and valid licensing
- Speed and reckless driving – moving between lanes and vehicles
- Poor regulation and law enforcement
- Non helmet use by riders and their passengers
- Non use of conspicuity measures - wearing of reflectors, daytime headlights
- Overload – carrying 2 or more passengers
- Possible use of alcohol and drugs

# Motorcycles now the main culprits in road crashes in Kenya (Daily Nation, August 11, 2009)



# Profile of MC casualties and injuries

(Mulago Hosp, Kampala, Naddumba, 2009)

- Demographics
  - Male (80%)
  - Young: mean age 24 yrs (riders), 29 yrs (passengers)
  - unlicensed
- Type of collision
  - MC vs. motor vehicle
  - MC vs. pedestrian
- Nature of injury
  - Lower extremity fractures
  - Head injury
  - Soft tissue injuries
  - Multiple injuries (limbs, chest, head)

# Key Challenges

- Poor public transport systems – inadequate, unregulated and unsafe
- Under-developed road infrastructure
- Poverty and under-employment
- Weak and poor enforcement of laws governing use of motorcycles as taxis -for public transport
- Wide use of motorcycle taxis is a new phenomenon; requires innovative safety measures
- Inadequate data on the use and safety of motorcycle taxis in Africa



# Conclusions

Motorcycles are rapidly becoming a major means of transport and cause of road traffic injuries and deaths in Africa

- Limited research on motorcycle injuries – police dept. main source of injury data
- Current road safety strategies do not effectively address the growing use of motorcycles for public transport/taxis
- Need for partnerships between individuals and institutions to improve research on risk factors, prevention, regulation, and impact of motorcycle injuries in Africa
- More funding, commensurate with the size of the problem, is needed to improve motorcycle safety in Africa.

**THANKS**