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# Impact of road crashes on the poor

## Research Note

Poor people in low income countries are believed to be particularly at risk from road crashes. This is because:

- In high income countries, the poor have been found to be more at risk than the wealthy.
- Low and middle income countries suffer disproportionately with 85% of the world's road deaths but only 40% of its motor vehicles.
- Pedestrians often account for the largest number of road deaths and it is assumed they are disproportionately drawn from the poor.
- By definition, the poor will have fewer resources on which to rely in times of emergency.

Sustainable livelihoods are those that are able to cope and recover from stresses and shocks. Road crashes are a classic and common type of shock as they occur suddenly and without warning. Additional and unexpected medical and funeral costs and the loss of a victim's or carer's income cause financial stress while emotional trauma is caused by the premature death, injury, and suffering of victims.

Unlike high income countries, where road deaths are predicted to decrease, by 2020 annual road deaths are expected to rise by 80% in low and middle income countries (WHO, 2004). Despite being a concern for several years, information on the poor and their vulnerability to road crashes is limited.

This note summarises the findings of research conducted in Bangladesh and Bangalore (India) (Aeron-Thomas et al, 2004). The focus of the research is the involvement and impact of road crashes on the poor, in comparison to the non-poor, in both urban and rural areas.

Defining poverty is not straightforward. Both case studies relied on official definitions and the poor were defined on the basis of post crash income, due to the difficulty in identifying household income up to five years earlier. However, pre and post crash victims' incomes were collected and compared to determine the number of poor households before and after a road death or serious injury.

### Summary of results

In comparing different areas, the poor were not found to be consistently at greater risk to road death and serious injury: only in Bangalore rural areas did the poor have a significantly higher death rate. However, many of the poor households identified were not poor before the death or serious injury. The poor victims contributed the most to their household's earnings, and the loss of income tipped many households into poverty.

In Bangladesh the poor households paid a significantly greater proportion of their household income than the non-poor on funerals (almost 3 months income in urban areas) and medical cost (4 months income in rural areas).

In Bangalore the majority of poor households reported at least one person having to give up working/studying to care for the injured. The poor injured also had less job security and fewer were able to return to their previous job. The rural poor in Bangladesh took longer to find a new job. The consequence of a fatal crash or serious injury for more than seven out of ten poor families in Bangladesh was that food consumption decreased as a result of the lower household income.

The surveys also found that many more people, both poor and non-poor, are being killed and seriously injured in road crashes than police data indicate.



### Comparison with police statistics

The household surveys confirmed earlier studies that many more people, both poor and non-poor, are being killed and seriously injured in road crashes than police statistics indicate. In Bangladesh, the actual number of road deaths is estimated to be four times more, and serious injuries almost 75 times more, than shown in police statistics.

Under-reporting is not so severe in Bangalore, but it is still a problem. While the Bangalore Police report 10 injuries (both serious and slight) for every road death, the urban survey found substantially more - particular amongst the non-poor. The Government of India's Planning Commission has estimated there to be 15 hospitalised injuries and 70 minor injuries for every road death.

### Breadwinners most at risk

Among the Bangladesh poor, few of the victims were the head of the household, rather they were adult children who were the main income providers. Thus they were also more likely to have both elderly and young family dependants. The income from the urban poor who were killed amounted to, on average, 62% of their total household income. The rural poor contributed 42%; significantly more than their rural non-poor counterparts (24%).

Poor households also suffered disproportionately in Bangalore with those killed contributing the majority of the household income (59% in urban areas and 75% in rural areas). In both cases, this was significantly more than the contribution of the non-poor victims.

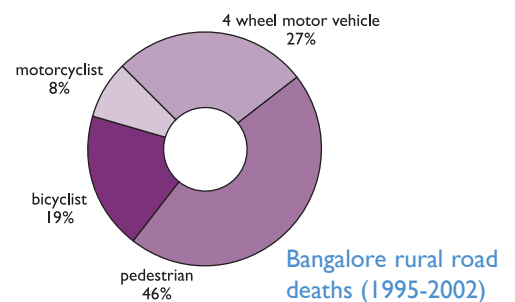
Among both poor and non-poor households, the most common road death was a male in the prime of life (16-45 years). In Bangladesh, females accounted for less than two in every

10 road deaths or serious injuries to the poor. One in every four deaths and one in six serious injuries to the poor involved a child (under 16 years).

A worrying pattern was seen with girls. Although male casualties greatly outnumber females at any age, Bangladesh girls accounted for a larger share of total female deaths and serious injuries (32%) than did boys for total male deaths and serious injuries (12%). This pattern was also seen in Bangalore and may be explained by females travelling less as they get older.

### Road user mode

The poor are killed and seriously injured mainly as vulnerable road users (VRUs), i.e. while walking or using 2 or 3 wheeled transport (motorised and non-motorised). In general, seven in every ten road deaths and serious injuries to the poor involved VRUs (98% among Bangalore urban poor). VRUs accounted for the majority of the non-poor as well. Less than one-third of deaths and one quarter of serious injuries to the Bangladesh poor occurred as 4-wheel motor vehicle occupants.



Pedestrians suffered the most road deaths and serious injuries to the poor in both locations, except among the rural poor in Bangalore where more were seriously injured on motorcycles (33%) and bicycles (17%). Half of Bangalore rural road deaths involved a lorry (truck) in the collision.

# CRASHES ON THE POOR

Impact of road crashes on the poor

## Impacts on households

While only one household member may be involved in a crash, the impacts will be felt by the whole household, which includes, on average, another four people.

## Direct and indirect costs

Road crashes impose a double financial burden on poor households. At the same time that they face unexpected medical, if not funeral, costs, they also lose the income of the victim and/or carer. Urban poor Bangladesh households paid the equivalent of almost three months household income on funerals, a significantly greater proportion of household income than the non-poor. Bangladesh rural poor households with a serious injury paid the equivalent of more than four months household income on medical costs, also a significantly greater proportion than non-poor households.

The poor have less job security and fewer of them were able to return to their previous job (about 55% of rural Bangladesh and Bangalore poor seriously injured). Thus, in addition to the time spent recovering (medical recovery averaged over two months) and any carer's time, poor households also lost income while the victim sought new work. Bangladesh rural poor seriously injured took significantly longer than the non-poor to find new work (average of 57 days compared to 27 days).

## Coping strategy

Poor households went (further) into debt as borrowing money was the most common response to the costs incurred with a road death or serious injury. Two-thirds of Bangladesh poor households, both bereaved and with serious injury, borrowed money. This was significantly more than the non-poor. A similar proportion was found

in Bangalore where two thirds of seriously injured (both urban and rural) and urban bereaved poor households arranged a loan.

One third of bereaved and seriously injured poor Bangladesh households sold an asset to raise funds, compared to about one in five Bangalore households. Among urban poor bereaved households, taking on extra work was adopted by 33% of Bangladesh and 25% of Bangalore households, significantly more than the non-poor (less than 10%).

Among poor households in Bangalore, the majority (89% urban and 71% rural) reported at least one person having to give up work or study to care for the seriously injured.

Virtually no households received compensation from insurance (less than 1%) while 13% of urban poor and 27% of rural poor Bangladesh households received a private settlement.

## Consequences

Over seven out of ten poor families suffered a decrease in total household income after a member was killed or seriously injured in a road crash. Less income means less food to eat. Seven out of ten Bangladesh poor bereaved households reported food consumption decreased after a road death. While the impact was slightly less on the seriously injured households, the poor were significantly worse affected than the non-poor (59% of urban poor vs 25% non-poor).

The burden from road crashes appears particularly high, tipping many households into poverty. In Bangalore 71% (urban) and 53% (rural) of poor households were not poor before the fatal crash. In Bangladesh the figures were 33% (urban) and 49% (rural) for bereaved households.

**The burden from road crashes tips many households into poverty. Below are figures for poor households that were not poor before the crash (fatal/seriously injured).**

<b>Fatal</b>	Urban	Rural	<b>Serious Inj.</b>	Urban	Rural
Bangalore	71%	53%	Bangalore	17%	25%
Bangladesh	33%	49%	Bangladesh	21%	37%

**Sample sizes:**

Bangladesh: Stratified cluster sampling leading to survey of 83,199 households (59,008 rural; 24,191 urban).

Bangalore: 19,797 households in pre-selected rural, urban and slum areas, supplemented by 156 bereaved households (from police records) and 367 seriously-injured victim households from hospital records. Thus, the Bangalore households were not randomly selected (see full report for details).

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**The full research report can be downloaded from the GRSP website**

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