Chapter 29
An Effective Methodology for Road Accident Data Collection in Developing Countries

Muhammad Adnan
NED University of Engineering and Technology, Pakistan

Mir Shabbar Ali
NED University of Engineering and Technology, Pakistan

ABSTRACT

Underreporting of road accidents has been widely accepted as a common phenomenon. In many developing countries this remains a critical problem as inappropriate information regarding road accidents does not provide a base to analyse its root causes. Therefore, effectiveness of implemented interventions are always questionable. In Pakistan, responsibility of collecting initial information regarding road accidents lies with the Police Department; however, reported figures are reflecting underestimation of the situation. This chapter reports the effectiveness of prevailing approaches for recording accident information in developing countries like Pakistan, India and Bangladesh, etc. Furthermore, it presents a unique methodology that has been adopted in Karachi for recording road accident information through an institute established on the notions of public-private partnership. Various features of that unique data collection mechanism are presented along with the discussion of some success stories, where the collected data has contributed significantly in improving road safety conditions.

INTRODUCTION

World Health Organization (WHO) in its statistical report mentioned that 1.3 million people annually die all over the world in road crashes (Peden et al, 2004). It has been reported in the literature that in developing countries fatalities due to road crashes are three to four times more than in the developed world (Bener et al 2003; Mohan and Tiwari 2005). In many developing countries road safety has not given prime importance due to lack of political will. However, development of infrastructure and policies that suits motorized traffic has been given significant consideration in almost all developing countries and due to this rapid increase in vehicle ownership has been observed.

One such study reported that annual increase in vehicle ownership in developing nations of Asia is 12-18% which resulted in a dramatic increase in the number and rate of accidents. The situation in developing country like Pakistan is even worse as it has been reported that overall increase in motorization is about 410% between the years 2001 to 2005. This is because of the motorization friendly policies of the Pakistan Government that has allowed commercial banks to introduce car financing in almost all major urban areas at affordable terms to even those individuals whose income level lies in an average category (Aizaz 2007). This heavy motorization resulted in serious deterioration of road safety conditions which is evident from various informal surveys.

The deteriorating condition in road safety aspects demands serious endeavours for its improvement. Proper analysis of root causes of road accident is dependent on rich information of the data set. In developed part of the world, accident information has been gathered on scientific notions, where various institutes co-operate with each other for development of the refined database. For example, in UK, Department for Transport publishes national level reports and statistics on country-wide road accidents. On similar notions, US census bureau collectively publish various documents on safety aspects of US roads. Cuerden et al (2008) conducted a study for Department for Transport, UK, on site information gathering system for road accident to improve the quality of the data set for better analysis of accident causes. These kind of collective information gathering units along with the involvement of academics for proper guidance of essential aspects of accident information are scarce in developing nations. One such example has been mentioned for Abu Dhabi region by Khan et al (2004) regarding the accident record mechanism, in which police personnel are involved in primary data collection on prescribed questionnaire. Khan et al (2004) further reviewed the accident data collection mechanism in some advanced countries, and indicated that in major-

ity of the countries police is collecting primary information regarding accident data, however, in advanced countries due to the proper vehicle registration and driver information databases, the accident record is then linked with these databases, so the highway departments then have all the essential information required to carry out accident analysis. In developing nations, lack in proper co-ordination among various agencies is the major cause of in-sufficient information related to road accidents, on top of it due to the complexity involved in procedural requirements, less severe accidents are not reported at all (Kumar et al 2010). This situation largely contributes in high percentage of underreporting of road accidents.

Over the years it has been seen that in developed part of the world, Non Governmental Organizations (NGOs) can initiate road safety activities which the public authorities have problem to address due to variety of reasons. For example, access to private funding or co-operation of communities and individuals etc. In developed world NGOs role can be defined as a supplement and extension of the government efforts. However, in developing countries their role is much critical, sometimes they are providing such essential services that in developed countries governmental agencies and institution would provide. Under these circumstances, NGOs in the developing world are acting as a main contributor to economic development, essential services, employment and the budget. Because of the non serious attitude at the part of government institutions, in many countries NGOs are came up with the plan to supplement activities related to road accident data collection and its analysis.

On the above lines, this chapter discusses state-owned accident data collection mechanism prevailing in developing countries such as India, Bangladesh and Pakistan along with the discussion of roles NGOs are playing in road safety improvement in these countries. The chapter then reports a unique methodology of accident data collection system that was introduced in 2007 in

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