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Road Safety Policy & Practice

What does it Take to Improve Road Safety in Asia?

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Key Findings

- Critically reviews road safety policy and practices in Asian countries;
- Despite government efforts, road fatalities are increasing in Asia;
- Accurate fatality data, VRUs, long-haul trucks, leadership and stakeholder coordination are major issues;
- Suggest taking comprehensive and holistic low-cost approach appropriate for LMICs along with best practice successful demonstration LMIC road safety projects to improve safety.

Abstract

Despite global, regional, and national efforts in reducing the number of road crashes, the number of fatalities from these crashes is increasing globally as well as in Asia. The Asia-Pacific region currently accounts for 60% of global road fatalities. There are wide variations in the number of road fatalities among the regions, subregions, and countries. Within Asia, the South and South-West Asia subregion has the highest fatality rate of 20.3 fatalities per 100,000 population followed by South-East Asia with a fatality rate of 17.8 per 100,000 population. This paper reviews and analyses the road safety situation and implementation of road safety policies and practices in Asian countries. Identified are distinct risk factors that demand priority consideration. Some of the actions suggested for improving road safety in Asia are: Ensuring the availability of accurate road safety data, addressing the challenges of Vulnerable Road Users and powered two-wheelers, changing behaviors of road users and long haul drivers, ensuring safety features in trunk routes, improving infrastructure and facilities for non-motorised and public transport in cities, prioritising safety in rural and remote areas, empowering road safety institutions with accountability, focusing on low-cost solutions, and advocacy and education.

Keywords

Road safety, fatalities, Asia, policies, vulnerable road users, data, governance

Introduction

Road safety has attracted considerable global, regional and national attention after the adoption of the period 2011-2020 as the Decade of Action for Road Safety (WHO, 2011), the inclusion of road safety in two targets of the Sustainable Development Goals (SDG) (UN, 2015) and the adoption of several resolutions on road safety by the United Nations. Asian countries are implementing various road safety policies, action plans and projects. Despite these efforts, the number of road crashes and fatalities is increasing in Asia (WHO, 2018), with the fatality rate being especially high in many Asian countries. Progress in improving road safety varies between countries (Wegman, 2017).

The first Decade of Action (2011-2020) has ended with many Asian countries missing the SDG target 3.6 to halve the number of global deaths and injuries from road traffic crashes by 2020. Given that road crashes still represent a leading cause of mortality, the United Nations again proclaimed the period 2021-2030 as the Second Decade of Action for Road Safety with the objective of reducing fatalities and injuries by 50% by 2030 and encouraging efforts to improve road safety in developing countries (UN, 2020). Development of a new global plan of action for the second decade is progressing and provides the opportunity for countries to refine their national road safety policies and practices to reduce traffic crashes, injuries, and fatalities. The World Health Organisation (WHO) has

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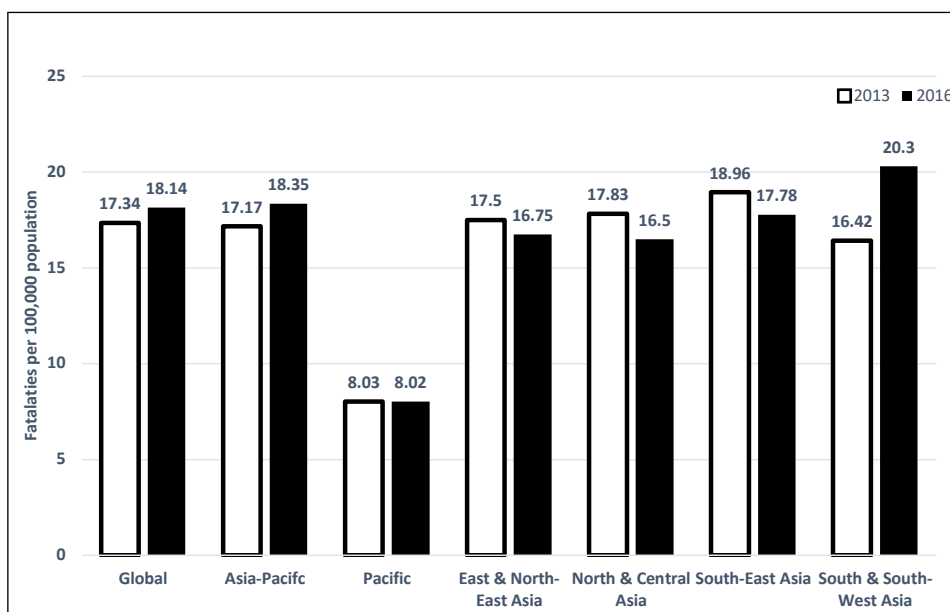


Figure 1: Fatalities per 100,000 population (Source: WHO, 2015 and 2018)

also recently published “Towards the 12 voluntary global targets for road safety”, a guidance note on 12 road safety risk factors which were identified by several members of the United Nations Road Safety Collaboration (Van den Berghe, et al., 2020).

A revisit of national policies and action plans, tackling of key risk factors and a thorough analysis of local environment and practices is necessary to determine why global and national responses to road safety did not bring anticipated results.

In this context, the paper reviews the current situation of road safety in Asia and analyses the challenges and causes for limited progress. It will focus on identifying key risk

factors and potential low-cost priority areas to improve road safety.

Method

The paper includes both quantitative and qualitative analyses of road safety data, policies, and practices. It reviews the road safety situation and implementation of road safety policies, action plans and practices in Asian countries. It also reviews relevant materials and literature on road safety and compiles some good practices in the Asian context. It utilises information from WHO and country reports, and data and feedback received from road safety stakeholders at three meetings held in Kathmandu¹,

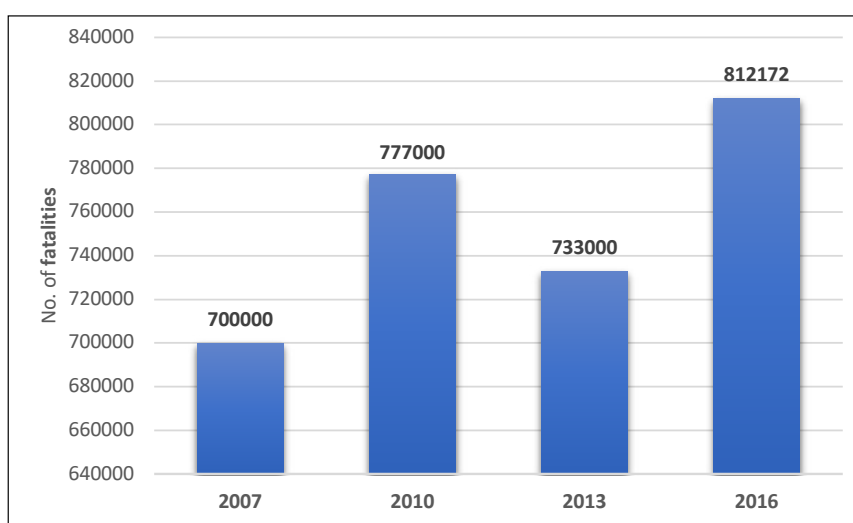


Figure 2: Fatalities from road crashes (Sources: WHO reports 2009, 2013, 2015 and 2018)

¹ National Capacity Building Workshop on Road Safety, 19-22 March 2019, Kathmandu

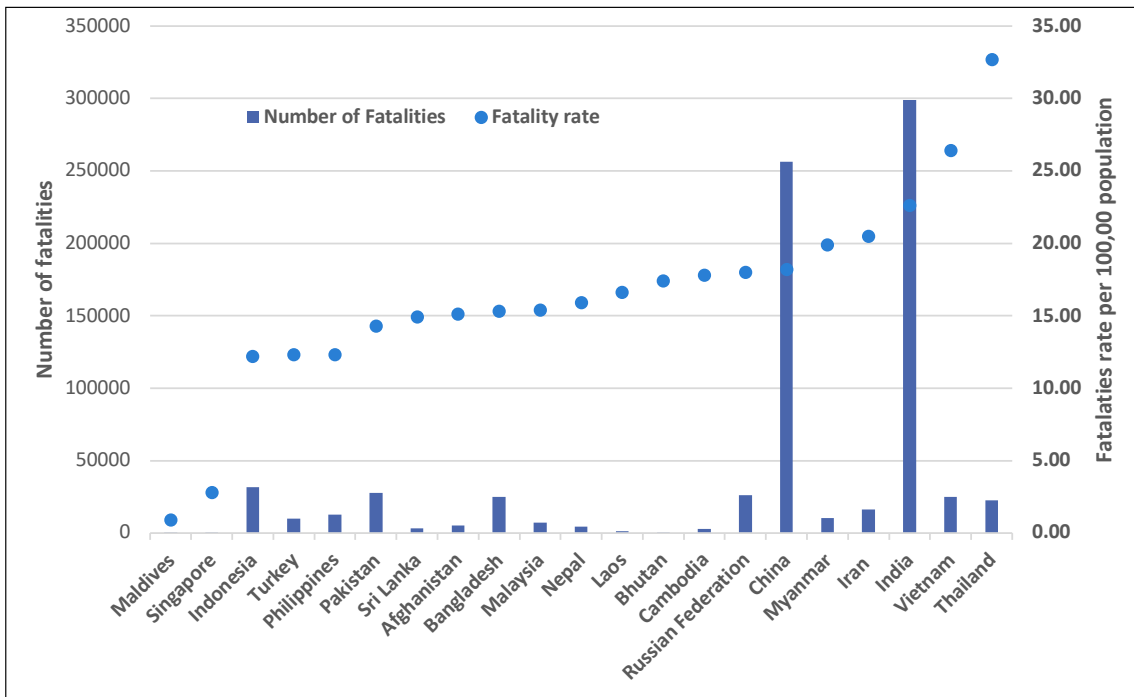


Figure 3: Estimated road fatalities in Asian countries (Source: WHO, 2018)

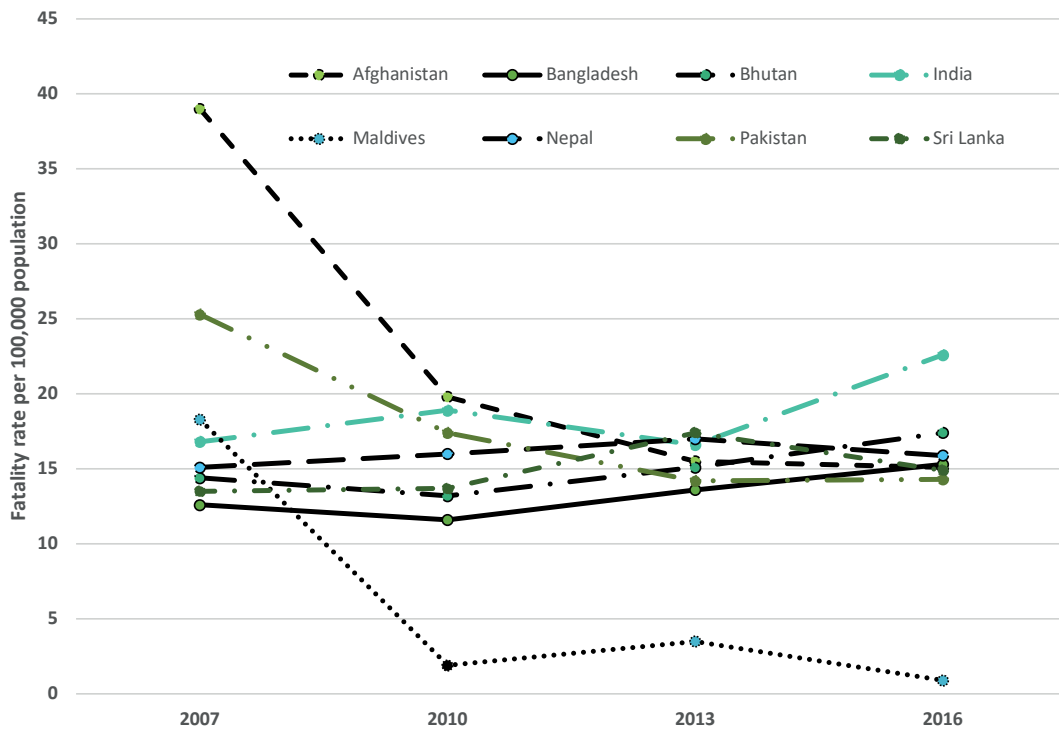


Figure 4: Road fatality trend in South Asia (Sources: WHO reports, 2009, 2013, 2015 & 2018)

New Delhi², and Bangkok³. Based on the analysis, policy suggestions are made to improve road safety.

Road Safety Situation in Asia

The Asia-Pacific region accounts for more than 60% of 1.35 million estimated global fatalities from road crashes (WHO, 2018). The fatalities per 100,000 inhabitants for the region is 18.35, which is slightly higher than the global average (18.14). Road safety presents a large challenge to Asian countries which are paying a high price for it (Wismans et al., 2016). In the majority of road crashes, fatalities and serious injuries are preventable by reducing the risk factors.

Figure 1 shows estimated fatality rates for 2013 and 2016. It shows some reduction of these rates in East and North-East Asia, North and Central Asia and South-East Asia. But the fatality rate has increased globally, in the Asia-Pacific region, as well as in South and South-West Asia. South and South-West Asia and South-East Asia subregions had high fatality rates of 20.3 and 17.8 respectively for 2016.

Figure 2 shows the fatalities from road crashes from 2007 to 2016 in the Asia-Pacific region. The trend is uneven. While there was some progress in the reduction of road fatalities between 2010 and 2013, fatalities increased by 10.8% from 2013 to 2016.

Figure 3 shows the estimated fatalities and fatality rate per 100,000 population for selected Asian countries in 2016. The fatality rate is very high for Thailand (32.7), Vietnam (26.6), India (22.6), Myanmar (19.9) and China (18.2). Pakistan's fatality rate is moderate, but it faces additional safety and security challenges due to the ongoing effects of the war on terror (Nazir et al, 2016). In terms of aggregate numbers, the number of fatalities is very high in India (299,091) and China (256,180).

Figure 4 shows the trends of fatality rates from road crashes in South Asian countries. There are some recent downward trends in Afghanistan, Maldives, Nepal, and Sri Lanka. For other countries, the fatality rate has an upward trend.

This high number of fatalities in Asian countries calls for a lot more focused and targeted polices and actions at the national level to improve road safety.

Results

Ideally no one should be killed in a road crash. Some developed countries are pursuing ambitious safety plan and policies of vision zero (Kristianssen et. al, 2018). The assessment of road safety in Asia revealed that instead of decreasing, road fatalities are increasing in many

Table 1: Comparison of number of fatalities in selected countries

Countries	Number of Fatalities in 2010	Number of Fatalities in 2016	Difference
Afghanistan	6,209	5,230	-16%
Bangladesh	17,289	24,954	44%
Bhutan	96	139	45%
India	231,027	299,091	29%
Maldives	6	4	-33%
Nepal	4,787	4,622	-3%
Pakistan	30,131	27,582	-8%
Sri Lanka	2,854	3,096	8%
Sub-total South-Asia	292,399	364,718	25%
Cambodia	2,431	2,803	15%
Indonesia	42,434	31,726	-25%
Laos	1,266	1,120	-12%
Malaysia	7,085	7,374	4%
Myanmar	7,177	10,540	47%
Philippines	8,499	12,690	49%
Singapore	259	155	-40%
Thailand	26,316	22,491	-15%
Vietnam	21,651	24,970	15%
Sub-total South-East Asia	117,118	113,869	-3%
Total	409,517	478,587	17%

(Source: WHO, 2013 and 2018)

countries. The following sections present a broad analysis with respect to progress, road safety policies and practices, vulnerable road users, road safety in urban areas, data, and investment and governance.

Assessment of Progress

Table 1 shows the comparison of fatalities for Asian countries for the year 2010 and 2016. Only Maldives, Indonesia and Singapore showed meaningful reductions. However, the overall fatalities increased by 25% in South-Asia with only a reduction of 3% in South-East Asia. The number of fatalities increased significantly in the Philippines, Myanmar, Bhutan, and Bangladesh. Brunei

² Conference on Safe Mobility and Regional Connectivity, 20 22 January 2020, New Delhi

³ ATRANS Conference, 4 December 2020, Bangkok

also made substantial progress in reducing fatalities, from 47 to 13 from 2011 to 2019, a reduction of 72% (The Star, 2020). Despite the high number of fatalities in India, road safety has not received priority attention, and thus requires more political attention and commitment (Singh, 2017).

Road Safety Policies and Practices

Asian countries have been implementing subregional frameworks (e.g. ASEAN Secretariat, 2016) and national road safety policies and action plans (e.g. MORTH, 2010, MOPTM, 2013). Most of these national policies, and action plans are aligned with the five safety pillars of the global plan for the Decade: (i) road safety management; (ii) safer vehicles; (iii) safer users; (iv) safer roads; and (v) post-crash care (WHO, 2011). However, while it is good to have national strategies and policies, their implementation, monitoring and follow-up has been lacking in many cases.

It is evident⁴ that many Asian countries have been implementing similar activities and projects to improve road safety. Most national level activities focused on developing policies and strategies, improving black spots, capacity building, road safety campaigns and awareness raising, adding safety features to infrastructure, and developing regulations and guidelines. It is promising to see the comprehensive list of national road safety activities implemented, but these efforts have not led to a substantial reduction in the number of crashes and fatalities. But it can be argued that these road safety activities have helped to slow down the rate of crashes and fatalities in some countries. Consequently, in absence of these road safety policies and activities, the number of crashes and resulting fatalities could have been much higher.

Drink driving and speeding are two major causes for crashes in many countries, limiting speed, placing speed breakers in dangerous areas, strict enforcement of drink driving, and social engagement appear to be effective. For example, Kathmandu implemented a successful “Anti Drink Driving Campaign”, whereby traffic police were provided incentives to enforce the law and received 25% of the penalty charged to the offenders. The programme was very effective in reducing crashes, serious injuries and fatalities and received positive feedback resulting in its continuance (Chand, 2015). To support this initiative some restaurants in Kathmandu have now started arranging drivers for their drinking patrons. Common now is that one person in the group of friends would volunteer not to drink, i.e. designated driver. Drink driving offenders also need to attend a road safety course at the traffic office.

Brunei adopted a comprehensive safe system approach and has managed to tackle road safety challenges (Haque and Haque, 2018). Its fatality rate indicates that it now the leader in South-East Asia and is now rapidly approaching Australia’s rate. Furthermore, there is a proposal to use a

road safety development index (Chen et al., 2017) to track progress towards road safety goals in South-East Asia. Singapore is also taking a safe system approach.

Thailand has made some progress in reducing the number of fatalities, but the fatality rate of 32.7 per 100,000 population is the highest in Asia. Most of the fatalities relate to two major cultural events in Thailand – the Thai New Year (April) and the Gregorian calendar New Year (January). Data indicates that speed, drink, and careless driving were the main causes of road crashes during these festive periods. There was an increase of 9% in fatalities during the New Year holiday period in 2021 compared to 2020 (Bangkok Post, 2020). A recent review of 12 of the WHO voluntary road safety targets in Thailand recommended the creation of strong leadership and high-level support for road safety improvements, formation of a more effective lead agency for road safety, a much stronger focus on implementation, development of intermediate indicators to help achieve targets and the establishment of an effective capacity-building framework (WHO, 2020).

Due to the lack of strict enforcement of traffic laws of unauthorised use of footpaths by motorcycles, vendors, street food stalls, such use is a common sight in many Asian cities such as Dhaka, Bangkok, Jakarta, and Kathmandu. These activities obstruct the use of footpaths by pedestrians and pose safety risks when pedestrians have to use the road with other motorised traffic. Advocacy and awareness campaigns targeting road users and drivers with smart policing and innovative enforcement of traffic rules related to the use of seat belts, child restraints and helmets, drug use, mobile phone use, speeding, and drink driving can enhance road safety (Kuo and Lord, 2019).

One of the common concerns in countries which have hilly and mountainous terrain like Nepal is the high number of casualties per crash. The authorities sometimes heed to the pressure of politicians and open new stretches of road still under construction, risking the lives of potential users. Proper safety audit of roads in remote hilly terrain, implementation of safety features such as road barriers, regular safety inspection of vehicles, enhanced driver training, advocacy and enforcement of traffic rules can help improve safety in these types of terrains.

Effective post-crash care can save lives. Tamil Nadu State, India focused on improving post-crash care and reducing response time when there is a crash injury. The response time for an ambulance to reach the crash site was reduced to 10 minutes. A network of trauma centres provide primary care to stabilise the victim and refer victims to nearby or other hospitals (Balasubramanian, 2020).

Influencing the behaviour of Vulnerable Road Users (VRUs) and young driver’s through education and awareness campaigns can help reduce crashes and

⁴ Presentations by national road safety experts at the New Delhi Conference.

fatalities. The “Our Road Our Lives” community engagement campaign in Madhya Pradesh, India targets VRUs and young drivers to encourage safe behaviour (Sanghi, 2020). The programme demonstrated that continuous community engagement, road safety awareness campaigns at schools and in communities can improve pedestrian behaviours, such as making them more aware and thus careful while crossing roads and using pedestrian foot paths. Another important risk factor is the fatigue of long-haul drivers on major trunk routes. One community in Madhya Pradesh, India invited heavy truck drivers to take a short break and offered them refreshment, which reduced fatigue and contributed to a substantial reduction of crashes involving trucks and thus fatalities along that stretch of the road that implemented the program.

Vulnerable Road Users

In recent years, road safety experts have highlighted the need to target safety measures which protect Vulnerable Road Users (VRUs). VRUs include pedestrians, cyclists and powered 2 and 3 wheelers. Powered-two-wheelers offer a low-cost mobility option for many citizens in South Asia and South-East Asia. Their popularity is partly due to economic prosperity, the lack of accessible public transport and their ability to slip through congested streets. Table 2 shows the total vehicle fleet and number of powered two and three wheelers. It shows that the share of powered two and three wheelers range from 54% to 93% in Asian countries. Its share is 93% in Vietnam, 84% in Myanmar, 83% in Indonesia, 80% in Maldives and 73% in India. The share of two wheelers is low in Afghanistan, Bhutan, and Singapore.

Table 3 shows the share of road traffic deaths by user types. VRUs account for 54.8% of fatalities in the Asia-Pacific region and 75.2% of fatalities in South-East Asia.

Given the high percentage of powered two- and three-wheelers in Asian countries and the high share of fatalities among VRUs, road safety in cities can be substantially improved by accommodating the infrastructure needs of VRUs and providing adequate space for non-motorised transport (NMT) modes (Mohan et al., 2020). While there has been greater focus on the enforcement of helmet use for riders and pillion riders, it is also important that the helmet meets a quality standard. But many Asian countries do not have specified helmet standards as well as a lack of regulation and enforcement of helmet use. It is equally important to address other risk factors related to infrastructure and their integration into policies. For example, some Asian cities have banned the use of motorcycles in cities (Yangon), and exclusive lanes for two-wheelers have been developed and planned in Malaysia. Vietnam provides a good example of the use of helmets where the compliance of helmet use soared to 92.5% after the introduction of a mandatory helmet law (Nguyen et al., 2013). However, there are questions about the standards and quality of helmets available in markets in Vietnam as

Table 2: Share of 2 and 3 wheelers in vehicle fleet, 2016

Countries	Total number of vehicle fleet	Powered 2- and 3-wheelers	
		Number	Share
Afghanistan	655,357	68,090	10.39%
Bangladesh	2,879,708	1,980,246	68.77%
Bhutan	86,981	9,786	11.25%
India	210,023,289	154,297,746	73.47%
Maldives	92,983	75,053	80.72%
Nepal	2,339,169	1,547,312	66.15%
Pakistan	18,352,500	13,538,200	73.77%
Sri Lanka	6,795,469	4,815,617	70.87%
Sub -total South Asia	241,225,456	176,332,050	73.10%
Cambodia	3,751,715	2,714,193	72.35%
Indonesia	128,398,594	106,570,833	83.00%
Laos	1,850,020	1,422,869	76.91%
Malaysia	27,613,120	12,677,041	45.91%
Myanmar	6,381,136	5,391,505	84.49%
Philippines	9,251,565	5,329,770	57.61%
Singapore	933,534	142,439	15.26%
Thailand	37,338,139	20,407,296	54.66%
Vietnam	50,666,855	47,131,928	93.02%
Sub-total South-East Asia	266,184,678	201,787,874	75.81%
Total	507,410,134	378,119,924	74.52%

Source: WHO, 2018

Table 3: Share of fatalities by type of users, 2016

Type	Global	Asia-Pacific	South-East Asia
4-wheeled vehicles	25.3%	20.2%	7.1%
Others/unspecified	21.5%	24.9%	17.8%
Pedestrians	20.6%	13.5%	10.7%
Cyclists	2.7%	2.1%	2.8%
Powered 2 and 3 wheelers	29.3%	39.2%	61.7%
Total for VRUs	52.6%	54.8%	75.2%

Source: WHO, 2018

well as other Asian countries.

Additional efforts are required to reduce risk to VRUs as these modes constitute the highest share of urban travel and a high percentage of fatalities (Larson and Henning, 2013; Mohan, 2011; Houque et al., 2008; Gutierrez and Mohan, 2020). Yet specific issues related to VRUs are not part of the WHO's 12 voluntary road safety targets (Van den Berghe et al., 2020). Addressing the safety of VRUs presents an opportunity to substantially reduce fatalities and is also a relatively low-cost option.

Road Safety in Urban Areas

Safety is one of the indicators of the Sustainable Urban Transport Index (SUTI) (Gudmundsson and Regmi, 2017). The assessment of safety of urban mobility in selected cities (Regmi, 2020) and their comparison with their respective national road fatality rates is shown in Table 4. For most of the cities the fatality rates from road crashes are better than the national road fatality rate. This could be partly due to the concentration of population in cities⁵, slower vehicle speed resulting from traffic congestion, strict enforcement of traffic rules, and awareness of traffic rules among urban residents. However, the fatality rates in Dhaka, Greater Jakarta, and Khulna, are surprisingly low and suggest the possibility of under-reporting.

Transport policies need to embrace the tenets of safe and sustainable mobility by prioritising public transport and discouraging personal mobility (Stevenson and Bhalla, 2020). In many Indian cities fatalities are 30% higher than the national average (Mohan et al., 2020). One of the options for improving road safety in cities is to enhance accessibility of public transport systems and integrating with facilities for NMT (Duduta et al., 2014, Mohan et al., 2020). This is useful in the current context of COVID-19 to maintain physical distance as well as to reduce number of private vehicles in streets which can contribute to reducing the number road crashes. Informal (unregulated smaller vehicle) transport is prevalent in many Asian cities and complement public transport. However, quality of service and safety is also a major concern (Phun and Yai, 2016). For countries with lower fatality rates in cities, there may be a need to be prioritisation and implementation of safety measures for roads in remote areas and rural roads.

Road Safety Data

The availability of periodic and accurate road safety data greatly assists with implementing evidence based polices and monitoring progress. But there are often discrepancies among the road safety data and underreporting of crashes, injuries and fatalities is frequent. Country data is modelled in WHO reports which takes into consideration the possibility of underreporting. Table 5 shows reported

Table 4: Fatality rate per 100,000 population in cities and their respective country

City, Country	Fatality rate, city	National fatality rate
Tehran, Iran	7.4	20.5
Colombo, Sri Lanka	8.3	14.9
Kathmandu, Nepal	7	15.9
Surat, India	4.6	22.6
Bhopal, India	9	22.6
Thimphu, Bhutan	8	17.4
Dhaka, Bangladesh	1.6	15.3
Khulna, Bangladesh	1.9	15.3
Bangkok, Thailand	10.3	32.7
Greater Jakarta, Indonesia	1.9	12.2
Yangon, Myanmar	8.6	19.9
Hanoi, Vietnam	6	26.4
Ho Chi Minh, Vietnam	8	26.4
Bandung, Indonesia	4.3	12.2
Surabaya, Indonesia	6.4	12.2
Ulaanbaatar, Mongolia	9.7	16.9

(Source ESCAP city assessment reports and WHO, 2018)

and estimated fatality data for some Asian countries. The difference between reported and estimated data ranges from 1.5 to 10 times multiplier. For example, the estimated fatalities is almost double the reported number of fatalities in India and Myanmar, almost three times that officially reported in Vietnam, more than three times that officially reported in Afghanistan, more than six times that officially reported in Pakistan and more than 10 times that officially reported in Bangladesh (WHO, 2018). Police and hospitals are usually the primary sources of national road safety data.

The most current fatality data available in 2021 is presently provided in the 2018 WHO report⁶ which in turn is based on the analysis of 2016 data. This is a data lag of 4 years. Furthermore, there is often a discrepancy between data sources reporting fatalities for the lower and middle income countries (LMICs). It is worth noting that fatality data presented by LMICs at recent road safety meetings are often different than that reported and estimated in the WHO reports. In the absence of accurate data, the planning and monitoring of progress becomes difficult. WHO reports are widely used and referred to by researchers, regional and international organisations.

⁵ Fatality figure divided by population in city gives a low fatality rate.

⁶ WHO issues global status report on road safety every two year.

Table 5: Difference between reported and modelled fatality data, 2016

Countries	Reported number of fatalities	Estimated number of fatalities	Ratio of estimated to reported fatalities
Afghanistan	1,565	5,230	3.34
Bangladesh	2,376	24,954	10.50
India	150,785	299,091	1.98
Nepal	2,006	4,622	2.30
Pakistan	4,448	27,582	6.20
Cambodia	1,852	2,803	1.51
Myanmar	4,887	10,540	2.16
Vietnam	8,417	24,970	2.97

Source: WHO, 2018

The importance of accurate crash and fatality data has been discussed on many occasions and at many fora, but it is still a persistent issue. Some researchers have questioned the quality of road safety data in Asia in WHO reports and stressed the need to harmonise road traffic fatality data (Phathai, 2019, Mohan, 2011). Additional efforts and resources are necessary to ensure availability of accurate and up-to-date road safety data. This can ensure development of evidence-based national road safety policies and plans based on accurate data.

Investment for Road Safety and Governance

Many researchers had called for increased institutional capacity and scaled up implementation and investment for improving road safety (Bliss and Breen, 2017). Recent reports on road safety set high investment needs for delivering road safety (World Bank, 2020a, 2020b, 2020c, 2020d and 2020e). To reducing the road crash fatalities by half by 2030 in Bangladesh, Bhutan, India, and Nepal the estimated investment needs are US\$118 billion. The majority of investment is targeted at facilitating transport along major highway corridors and for four-wheeled vehicles. It is worth noting that four-wheelers only account for 20% of fatalities in the Asia-Pacific region and just 7% in South-East Asia. On the other hand, the share of VRUs fatality is 55% in the Asia-Pacific region and 75% in South-Asia. Low-cost measures can be employed to address fatalities from road crashes involving VRUs in most Asian countries. In the current context of COVID-19, there have been calls to give more emphasis to active mobility in order to facilitate social distancing. Improving infrastructure and facilities for pedestrians, cyclists, and motorcyclists can provide low-cost mobility solutions in cities and reduce significant numbers of fatalities (Leather et al., 2011, Mohan, 2011).

Most of the support provided by development partners focus on soft issues such as the development of national policies, strategies and action plans to improve road safety in LMICs (Pedan and Puvanachandra, 2019). Most road safety projects are either a component of larger infrastructure projects or soft capacity building projects. Comprehensive result oriented standalone road safety projects can be more effective. The United Nations partnered with local stakeholders in Nepal and organised a national workshop to develop a new road safety action plan for 2021-2030 (MOPIT, 2020). Governments need to commit resources for the implementation of action plans. It is usually observed that some countries lack adequate implementation and absorptive capacity, as seen from ratio of actual expenditure against allocated budget. For example, a recent report from Nepal suggested that only 14% of development funds on road safety were expended during a period of six months (Ratopati, 2020). Therefore, in addition to the funding, strengthening implementation capacity of national road safety institutions would be necessary.

To translate high-level commitment to road safety into actions and monitor progress, Bangladesh, Myanmar, Nepal and Sri Lanka have established National Road Safety Councils (Ashrafuzzaman et al., 2020; Khin, 2020). But the results of councils' actions are yet to be seen. In many cases these high-level safety councils do not meet frequently, and it takes considerable time to translate the decisions into actions in the field. Therefore, these high-level institutions need to be supported by strengthened institutional arrangements to pursue national policies into actions in the field.

Road safety involves many national and local level government institutions such as transport, police, hospitals, and schools. Lack of a lead road safety agency at the national level in many countries adds to governance, coordination and accountability challenges for road safety planning and management (Eusofe and Evdorides, 2017). This calls for a strong national safety leadership and cross-sector collaboration. Further, networking and collaboration among countries and safety research institutes with shared projects funding can ensure implementation of the safe systems approach in Asia (Abdelhamid et. al., 2018, World Bank, 2019).

Key Findings

This paper identified the following major safety issues in Asian countries:

- The number of road crash fatalities is increasing in many Asian countries.
- A lack of periodic and accurate road safety data and data analysis for focused and targeted road safety planning.

- The share of fatalities among VRUs, NMT, and long-haul trucks along trunk routes is high and which includes a high share of powered 2 and 3 wheelers in vehicle fleets.
- A lack of effective implementation of policies and activities to improve road safety and thus there needs to be more focus on development of effective policies and planning to reduce road fatalities.
- A lack of systemic investment in low-cost solutions such as tackling the issues of VRUs and NMT as well as a lack of advocacy, awareness campaigns and enforcement of safety rules and regulations.
- A lack of national lead safety agencies with strong leadership, accountability and cross-sector collaboration.
- Availability of many best practice successful demonstration road safety projects within Asia thus providing opportunities for other Asian neighbouring countries to learn from the experiences of the country carrying out the project.

Discussion

The track record of road safety efforts in Asia is mixed, with some countries making a little progress against a background of increasing road fatalities. The core question is how can Asian countries improve road safety? Do the countries need to plan and implement road safety activities differently?

Most of the national road safety policies and action plans of Asian countries were aligned with the recommended five safety pillars. It was evident that countries were implementing road safety policies and activities, but without substantial reduction in the number of road crashes and fatalities. In some cases, the response seems to be reactive to one or two major crashes. It is now critical for countries to shift the focus on refining policies and plans with emphasis on achieving results. The availability of accurate road safety data and their analysis is essential for evidence-based planning. By focusing on critical risk areas and taking both holistic top-down and bottom-up approaches, Asian countries need to plan and implement activities differently to achieve results. Development of robust monitoring framework can help track results.

The onus on planning and implementing holistic and comprehensive road safety policies and strategies rests with national road safety authorities and institutions. From the results of the last Decade, it is clear that there is no room for complacency. The new plan of action being developed for the second Decade continue to focus on the safe system approach that needs high level political support and good governance. Countries and stakeholders can utilise available guidelines (ADB, 2012; Small and Runji, 2014; WHO-ROSEA, 2015; and Van den Berghe, 2020) and frameworks (ESCAP, 2019a and ESCAP, 2020)

to refine national policies and strategies for improving road safety. Some of the frameworks provide guidance on specific challenges such as institutional issues (Small and Runji, 2014), impaired driving (ESCAP, 2019b), managing speed (ESCAP, 2019c), safe road infrastructure (UNRSC, 2020) and targeting the five risk factors for improving road safety (Hyder et al., 2017, WHO-ROSEA, 2015, Pedan and Puvanachandra, 2019). Countries could also consider new approaches in enforcing seat belt use, speed management, and their relationship in tackling road safety (Mwebesa et al., 2018, Gupta et al., 2017) and exploring the interactions between road safety risk and influencing factors (Shah et al., 2018).

While it is difficult to prescribe a one-fit-all strategy, this review suggests that future national plans should include elements of data, address the issues of VRUs and urban safety, improve coordination, governance and accountability of road safety institutions, consider low-cost innovative solutions such as improved enforcement of traffic rules (related to use of seat belt, child restraint and helmets, drug use, mobile phone use, speeding, drink driving), advocacy, education and awareness training, changing road users behaviours, use of technology, and post-crash care.

Conclusions

A review of road safety in Asian countries was presented. Implementation of road safety policies and action plans in most countries have not led to an overall reduction in fatalities from road crashes. Many Asian countries like Thailand, Vietnam, India, Myanmar and China continue to have high fatality rates. Compared with 2010, the number of fatalities from road crashes increased by 25% in South Asia and only reduced 3% in South-East Asia. Countries such as Singapore, Maldives and Indonesia have managed to reduce fatalities, but fatalities increased in the Philippines, Myanmar, Bhutan, and Bangladesh.

Some of the distinct characteristics of the road safety problem in Asia are a high share of powered two- and three-wheeler vehicles in their vehicle fleets, more fatalities among VRUs, high number of fatalities per crashes in countries with mountainous terrain, high number of crashes involving truck drivers on major trunk routes, high speed and careless driving during festive seasons and lack of accurate and timely road safety data. In many cases, countries also lack a systematic and holistic approach to tackle these road safety issues.

The new Decade of Action for Road Safety (2021-2030), with the target to reduce fatalities and serious injury from road crashes by 50% by 2030, provides new opportunity for countries to translate their commitments to results. The target translates to a 7.5% annual reduction for the next 10 years. Only the effective implementation of comprehensive national road safety strategies taking a safe system approach, reducing risk factors, and addressing the distinct

characteristics identified in this paper can contribute to the reduction of serious injuries, and fatalities. Some good practices from Asia discussed in the paper are: success of a comprehensive safe system approach in Brunei, helmet use compliance in Vietnam; success of “Anti Drink and Drive Campaign” in Kathmandu, Nepal, reduction of response time of emergency care in Tamil Nadu, India and enforcing rest time for long route truck drivers in India. There are ample benefits of learning from these good practices and other successful demonstration projects in Asian countries. Replication of good practices can be one of the effective ways to address road safety challenges.

An empowered and accountable road safety lead agency at the national level supported by road safety stakeholders and with a focus on low-cost strategies such as advocacy and education of users and drivers, enforcement of traffic rules, focus on VRUs, prioritising safety in remote and rural areas, and the provision of safe infrastructure for NMT and public transport, can help make up for lost opportunities during the last decade.

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