

Road crashes and long term disabilities: Implications for policy and its implementation in Cambodia

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Abstract

The number of road crashes leading to disabilities is increasing alarmingly and constitutes a significant public health problem in many countries. So far, very few studies have been conducted to explore the impacts on persons with disabilities due to road crashes, and their families. This gap in the literature is especially large for low income countries such as Cambodia. This review explored relevant publications to provide background on persons in Cambodia with disabilities due to road crashes and their families. The review adds to the limited knowledge base in this area and has the potential to provide information on contextual issues relevant to the experience of disability in other developing countries, such as poverty, stigma and lack of resources. The findings of this review form the first part of a PhD study that will contribute to the development of informed policy change leading towards a safer system for all road users, including persons with disabilities.

Introduction

Road crashes and injuries have become a growing issue worldwide, as evidenced by the publication of WHO reports in 2004, 2009 and 2013, and the launch of the UN Decade of Action for Road Safety in 2011 (Guillen, Ishida, & Okamoto, 2012; WHO, 2004, 2009, 2013). Similarly, there has been growing concern about disability in terms of its scale and impact on individuals, families and society, as evidenced by United Nations (2006), WHO and WorldBank (2011), and Biyanwila (2011). Less attention has been focused on the intersection of these areas of concern, i.e. disability as the result of a road traffic crash. Although treatment is mentioned under the fifth pillar (post-crash response) in the Decade of Action for Road Safety framework, it only addresses post-crash care, not the long term effects of disabilities (WHO, 2011). Both road safety and disability are important public health issues for developing countries such as Cambodia, and both policy and action would benefit from a clearer picture of the impacts of disability as a result of road traffic crashes and the gaps in current approaches across the spectrum.

The purpose of this review is to use existing sources of statistics and research to build up a picture of the scale and nature of disability due to road traffic crashes in Cambodia. As will be noted below, one challenge is the general lack of research in this area in general, and for developing countries in particular. As a consequence we have drawn on a range of sources from outside Cambodia, while remaining aware of the constraints on generalisation from one context to another, since disability varies according to complex mix of factors, such as culture and environmental risks (WHO & WorldBank, 2011). The information collected is intended to inform further PhD study, aimed at developing an in-depth understanding of the disability issue due to road crashes in Cambodia.

Results

Definitions and terminology

In both road safety and disability, definitions and terminology can vary. In this paper the following terms will be used:

- “Impairments” refer to injuries or other conditions that cause or are likely to cause a loss or difference of physiological or psychological function of an individual (Oliver, 2009).

- “Disability” results from the interaction between persons with impairments and attitudinal and environmental barriers that hinder their full and effective participation in society on an equal basis with others (United Nations, 2006). According to WHO and WorldBank (2011), disabilities can include:
 - *activity limitations*: difficulties in executing activities of daily living – for example, walking or eating;
 - *participation restrictions*: problems with involvement in any area of life – for example, facing discrimination in employment or transportation.
- “Road crash” refers to a collision involving at least one vehicle in motion on a public or private road that may or may not lead to injury (WHO, 2004).

The focus of this paper is disability as a result of road crashes, however there are some implications of the above definitions that need to be elaborated. While they establish impairment as an inherent characteristic of an individual, which is readily captured in medical diagnoses and terminology, disability is essentially a response of society to that characteristic (Mertens, Sullivan, & Stace, 2011). Disabilities are articulated in the widely used Social Model (often placed in opposition to the “medical model”) as an exclusion of impaired people from political, economic, social, cultural organisations and communities (Mertens et al., 2011). Mertens et al. (2011) considered disability as a social problem, which requires an adjustment from both abled and disabled persons. The World Report on Disability (WHO & WorldBank, 2011) promotes both the medical and social perspectives on disability, however in the past decade the Rights Based Model has gained more international prominence, i.e. the establishment of an agreed set of rights for persons with disabilities, enshrined in international instruments as a basis for advocacy, legislation and action. A framework is provided by the United Nations Convention on Rights of Persons with Disabilities (UNCRPD), which asserts the rights of persons with disabilities to access services and systems in the same way as people without disabilities, as part of an inclusive society (United Nations, 2006). This is directly relevant to developing countries, as Biyanwila (2011) highlights the concept of disability as a potential focus for development aid, to mainstream and empower disabled people to allow their full participation in policy development and practices towards real inclusion.

An important implication for road safety (discussed further below) is that the characteristics of the road system are relevant to disability in two ways: through causation of disability, and as potential barriers to inclusion.

Overview of road crashes and disabilities worldwide

Every year, around the world, 1.24 million people die due to road traffic injuries in addition to 20-50 million non-fatal injuries occurring (WHO, 2013). Road traffic injury is also recognized as a major contributor to disability (WHO & WorldBank, 2011), ranging from brief short-term impairments to serious lifelong conditions. In 2010, road traffic injuries ranked as the 10th highest cause of the loss of Disability Adjusted Life Years (DALYs) worldwide (Murray et al., 2012). Importantly, it was the 5th ranked cause in Southeast Asia (Murray et al., 2012). This constitutes a marked increase in rank from 12th in 1990, and a 34% increase in numerical value (Murray et al., 2012). The figures alerted decision-makers at national and global levels to emphasize the need for more research in this area to inform policies and action (WHO & WorldBank, 2011).

Official statistics on disability due to road crashes suffer from the same problem as statistics on disability in general, i.e. a wide variation from country to country. For example, the World Report on Disability (WHO & WorldBank, 2011) cites a range of surveys which suggest that low income countries have very low levels of disability, and high income countries the highest, whereas the World Health Survey puts high income country rates as lowest and middle income country rates as highest, while the Global Burden of Disease estimates are roughly equivalent across high, middle and low income countries. It is therefore not surprising that, due to the limitations and difficulties in

measuring non-fatal outcomes of injuries, the prevalence estimates of post-crash disability vary dramatically - from 2% to 87% (WHO & WorldBank, 2011). More detailed and focused studies in Thailand, the Netherlands and South Africa showed that long-term disabilities due to road crashes accounted for 68-76% of all years lived with a disability, even though only 1-2% of injuries result in lifelong impairment (Haagsma et al., 2012). People who become disabled through road crashes may experience inequality in accessing health care, education, job opportunities and disability assistance (WHO & WorldBank, 2011). For example, the employment rate among persons of working age with disabilities (44%) is much less than for people without disabilities (75%) across 27 developed countries in the list of the Organisation for Economic Co-operation and Development (OECD) member countries (WHO & WorldBank, 2011).

While quantitative information on disability due to road crashes is patchy, qualitative information is even more difficult to find. Unfortunately most of the research, case studies and examples of interventions in the World Report on Disability, which is the most comprehensive source available, relate primarily to developed countries. WHO and WorldBank (2011) have highlighted the need for more qualitative research, which can inform larger quantitative research programs. Given the tendency to conduct more research in developed than in developing countries, there is a need for more research to be conducted in low income countries, such as Cambodia.

Overview of the institutional structures in Cambodia

Road safety and disability in a particular country are best understood in their context, including the institutions which both constrain and facilitate policy, legislation, advocacy and action. This section gives a brief overview of the Cambodian context.

Cambodia is located in the southwest of the Indochinese peninsula, bordered by Vietnam to the east, Lao PDR to the north, and Thailand to the west. It is one of the poorest countries in the world, being ranked 136th out of 179 countries in the UN's Human Development Index; 35% of the population live below the national poverty line, with a higher rate among the rural population (Handicap International France, 2009). The total population is 14.3 million, and estimates by several institutions of the prevalence rate for disabilities give figures ranging from 1.4% to 15% of the population (Secretariat of Disability Action Council, 2012; Thomas, 2005).

The Ministry of Social Affairs, Veterans and Youth Rehabilitation (MoSVY) has been tasked by the Royal Government of Cambodia to oversee the disability sector in the country, through its coordinating body, the Disability Action Council (DAC) (Royal Government of Cambodia, 2009). The responsibilities of the DAC are mainly to provide technical advice, assist relevant stakeholders to develop and implement policies and strategies, and monitor implementation (Royal Government of Cambodia, 2009). There is another semi-governmental organization, the National Centre of Disabled Persons (NCDP), supported by the MoSVY, which aims to provide services and opportunities to persons with disabilities to enable them to fully participate and develop their capacity in social, economic and political activities (National Centre of Disabled Persons, 2012). Although the responsibility for ensuring wellbeing and welfare of persons with disabilities lies with the MoSVY, it has been recognized that disability is a cross-cutting issue and requires the cooperation of other government ministries, especially Ministry of Health, Ministry of Education, Youth and Sports, Ministry of Women's Affairs, Ministry of Labour and Vocational Training and Ministry of Planning (Secretariat of Disability Action Council, 2012). Additionally, around 50 non-governmental organizations are currently working in the disability sector (Secretariat of Disability Action Council, 2012). This diversity of actors suggests the need for a strong coordinating role and cooperation among related stakeholders in providing support to the persons with disabilities.

In 2005, the government developed a National Road Safety Action Plan, which aimed to prevent road crashes and promote safer behaviours among road users. Two years later, the National Road

Safety Committee was established with the specific task of coordinating and implementing the national plan. One of the important milestones was the approval of a traffic law in 2009, for the first time allowing persons with disabilities to drive vehicles in the road system with special driving licences (General Secretariate of the National Road Safety Committee, 2013).

Road Traffic Injuries in Cambodia

The Cambodian Road Crash and Victim Information System (RCVIS) was established in 2004 and is managed by the National Road Safety Committee. It is considered to be the only system in Cambodia that provides good information on road crashes and casualties, reported by traffic police and health facilities. In 2011, RCVIS recorded 1,905 fatalities and at least 14,749 injuries due to road crashes (National Road Safety Committee, 2012). The overall cost of these road crashes in Cambodia was estimated at around US\$310 million, 2.4% of the gross domestic product (Sann, Ear, Morrison, & Jong, 2012). The crashes affected mostly young road users and especially students, workers and farmers, who play important roles in the country's economic development (National Road Safety Committee, 2012). According to this report, at least 1% of patients discharged from hospital and health centres after a road crash have life-long impairments, which can lead to social discrimination, exclusion and disability (National Road Safety Committee, 2012). This percentage is similar to the findings in Thailand, the Netherlands and South Africa (Haagsma et al., 2012), although there are some doubts about whether the real figure is higher, as there are limitations on the capacity of hospital staff in assessing the severity of injuries and following up the patients beyond emergency treatment. Almost 40% of those with long term impairment were 20-24 years old, who would either have been, or would have been expected to become, breadwinners in their families (National Road Safety Committee, 2012). Their disability may therefore have a huge negative impact on their family in terms of both loss of income and requirement for additional expenditure on ongoing treatment and costs of access.

Moving from the level of the individual and their family, there is evidence to support the view that road traffic injuries will have a significant impact on progress towards the majority of the Millennium Development Goals: poverty, primary education, gender, income gap, child health and mortality (Ericson & Kim, 2011). Ericson and Kim (2011) identified a sample of households in Cambodia where a member had been injured in a road crash, and measured the impact of the crash on individual and household characteristics directly related to the achievement of the Millennium Development Goals. As an example, they found that 21% of the households lost income and that the school dropout rate was 8 times higher than the average after a family member was injured a road crash (Ericson & Kim, 2011).

Although the RCVIS reports provide some details on the context of road crashes via brief descriptions of some casualties with lifelong impairment, detailed characteristics of crashes among those with long term injuries have never been further explored. The system does not provide follow up information on those discharged from hospitals, as the data collection forms are completed in the emergency rooms only. This gap in information has led to limited understanding of the contexts of the long-term impairment related crashes in Cambodia.

Disabilities due to Road Traffic Injuries

Several studies in low and middle income countries have shown significant impacts of road crashes in leading to disabilities. This in turn can reduce quality of life with limited access to support services and often leads to a lack of inclusion within society generally. A study conducted in Nigeria illustrated the consequences of traffic injuries including long-term impairments which have led to difficulties in daily activity performance, cost of treatment, loss of jobs and reduction of earnings (Juillard, Labinjo, Kobusingye, & Hyder, 2010). For example, 67% of the interviewees who suffered long-term impairments due to a crash, had difficulties in performing daily activities

and almost 90% reported job loss and income reduction in their families (Juillard et al., 2010). The study also highlighted similar findings in Ghana (Juillard et al., 2010). Since these two countries are also in the “developing country” stage, similar to Cambodia, similar significant impacts of road crashes and disabilities are more than likely to be found in Cambodia.

A study in Thailand demonstrated the burden of traffic crash-related spinal cord injuries on individuals and their families (King & King, 2011). The study illustrated the social and cultural value of the Buddhist concept of Karma as a contributing factor in the stigmatisation of the persons with disabilities and as a barrier to the effectiveness of road crash prevention messages. This is one of few studies that considers and highlights societal barriers for road crash victims with a disability, such as access to public transport, job opportunities, and isolation from the communities in Thai rural areas (King & King, 2011). The findings of the study might have some relevance to cultural and social values in Cambodia and their impacts on persons with disabilities, as the two countries have similar culture, beliefs and traditions related to the Buddhist religion.

Disability Prevalence in Cambodia

In Cambodia, definitions and classifications of disabilities vary with the different organizations that have worked in the disability sector and conducted disability related studies. This has led to different figures on the prevalence of disability in Cambodia. For example, the Cambodia Socio-Economic Surveys estimated the prevalence rate at 4% in 2004 and 8.1% in 2009, while the most recent national census showed 1.4%, which is very low compared with other countries (Secretariat of Disability Action Council, 2012). The actual rate probably lies between 10% and 15%, as estimated by the Asian Development Bank (Thomas, 2005).

Based on the 2004 Cambodia Socio-Economic Survey, higher prevalence rates were observed among the rural population (5%), compared with the capital city and urban areas (3.3% and 4.1% respectively) (Handicap International France, 2009). However, Thomas (2005) provided a differing view on disability rates among rural and urban areas. He demonstrated that higher rates of disability were found in wealthier households because of their ability to look after their elderly parents with age related disabilities. Additionally, wealthier people were more aware of minor impairments, and their disabled children had higher survival rates due to their ability to pay more for better health care (Thomas, 2005). Another potential factor is that wealthier people in urban areas can afford more vehicles, in particular motorbikes. This in turn leads to more exposure to the risk of road crashes leading to disability (Thomas, 2005). This factor aligns with the finding that motorbike riders are at very high risk of road crashes. Motorbikes comprise 84% of the vehicle fleet in Cambodia and the majority of road crash fatalities are motorbike riders (67%) (National Road Safety Committee, 2012). Additionally, 90% of persons with long-term injuries due to road crashes are motorbike riders (National Road Safety Committee, 2012).

In the age group most likely to be supporting a family (25-54 years old), young men were more likely to have long-term impairment, compared to women (Handicap International France, 2009). National Road Safety Committee (2012) also showed that men accounted for 80% of overall road traffic fatalities. The majority of the long-term impairments involved physical difficulties (moving, hearing and seeing), accounting for 74% of all impairments (National Institute of Statistics, 2009). This information is limited, and raises questions about the severities of the impairments and the level of participation of the persons with those long term impairments in their societies.

DAC has recognized road traffic injuries as one of the main causes of disabilities in Cambodia, along with landmines, work accidents, diseases, poverty and malnutrition (Secretariat of Disability Action Council, 2012). Road crashes caused 46% of all kinds of recorded injuries and led to almost 7% of physical impairment and disability in Cambodia in 2004 (National Institute of Statistics, 2006). This low percentage might be due to the fact that the study was conducted in 2004, when

motorisation was at a lower level. Road traffic injuries probably make a greater contribution now, as their numbers have been increasing significantly, compared to other factors such as landmines. Over the last 7 years (2005-2011), the number of fatalities due to road crashes has doubled, in part due to a population increase of 10% and a 231% increase in registered motorized vehicles (of which motorbikes made up 84%) (National Road Safety Committee, 2012).

Experiences of being disabled in Cambodia

In Cambodia the poverty and disability cycle is evident. Poverty increases the chance of disability and disability increases the chance of poverty, making the attainment of the Millennium Development Goals difficult. In a country such as Cambodia this can lead to greater risk of marginalisation, lack of resources and lack of access to services such as medical care and education which makes it difficult for families to escape poverty when a member of the family is disabled. This is supported by data from Handicap International France (2009) that found that the household wealth of persons with disabilities is half of the wealth of non-disabled people. Additionally, persons with disabilities generate 65% less average income than persons without disabilities (Handicap International France, 2009). Although the overall cost of disability related crashes comprised only 5.2% of the total road crash cost in 2011, individual cost related to disability (included loss of output and medical cost) was double the cost of a fatality and 10 times higher than a serious injury from which the person recovered (Sann et al., 2012).

As noted above, there is a paucity of qualitative studies that explore the long-term impact of disability in Cambodia. Only two such studies could be found and they addressed disability due to landmines and unexploded ordinance among poor communities. Taksdal (2011) demonstrated the challenges of being disabled, such as less access to healthcare, the negative impacts on the person's whole family and especially on the next generation. Children can be at risk of dropping out of school to work to help the family survive when the breadwinner becomes disabled (Taksdal, 2011). Additionally, Thapa (2011) presented similar findings, which included being socially isolated and losing their rights after being disabled. Both studies highlighted the need to improve assistance for persons with disabilities, especially for those in poorer communities. However, the studies tended to explore only the individual impairment and limitations, and did not clearly demonstrate the societal barriers in their communities.

Handicap International France (2009) highlighted the key issues raised by persons with disabilities and their representative organizations on the lack of access to employment, education and health care. A small study in Kandal province illustrated a higher rate of illiteracy among persons with disabilities (43%), compared to non-disabled people (9%) (Handicap International France, 2009). It illustrates the lack of education for persons with a disability with UNESCO (2012) stating that 80% of children in developing countries with disability do not go to school.

Road safety and disability related policies in Cambodia

The introduction of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) in 2006 has served as an important framework in the disability sector. The UNCRPD aims "to promote, protect and ensure the full and equal enjoyment of all human rights and fundamental freedoms by all persons with disabilities, and to promote respect for their inherent dignity" (United Nations, 2006, p. 4). In addition to the promotion of rights of persons with disabilities, the Convention also clearly highlights the need for interconnected networks and disability mainstreaming across different development sectors and has seen the rise of Disability Inclusive Development practice often using a Twin Track Approach which includes disability mainstreaming and disability specific approaches working side by side.

Although Cambodia is one of the 130 countries that have signed and ratified the Convention, cooperation and policy development and implementation across different sectors have not been adequate in addressing the rights of persons with disabilities within the UNCRPD framework. Following the signing of the Convention, the Cambodian government approved its first Law on the Protection and the Promotion of the Rights of Persons with Disability (Royal Government of Cambodia, 2009). The law defined the roles of relevant government sectors in supporting persons with disabilities and reducing environmental barriers (Royal Government of Cambodia, 2009). However, implementing mechanisms for the law are not yet in place. For example, one of the clear links between the Cambodia's Road Safety Action Plan and the disability law is the accessibility of driving licences for persons with disabilities. Although the law has been clear in stating the rights, the mechanisms and procedures needed to license persons with disabilities have not yet been set up.

In addition, in the law, persons with disabilities are defined as “any persons who lack, lose, or damage any physical or mental functions, which result in a disturbance to their daily life or activities, such as physical, visual, hearing, intellectual impairments, mental disorders and any other types of disabilities toward the insurmountable end of the scale” (Royal Government of Cambodia, 2009, p. 1). This definition tends to draw only on the medical model of disability, while the social model has been overlooked. This gap is further illustrated in the government official policy in classifying different types of impairment (Handicap International France, 2009):

1. Seeing difficulties or seeing impairment
2. Hearing difficulties or hearing impairment
3. Speaking difficulties or speaking impairment
4. Moving difficulties or moving impairment
5. Feeling difficulties or feeling difficulties
6. Psychological difficulties
7. Learning difficulties
8. People who have fits
9. Others

This definition and classification focuses more on an inherent characteristic of an individual or the impairment and not on the impact of that impairment which leads to disability, such as the response of society to that characteristic. They do not take into account the level of participation of persons with disabilities, i.e. how inclusive their society is.

Furthermore, the government has also been in the process of developing its National Road Safety Action Plan 2011-2020, in accordance with the Global Decade of Action Framework (National Road Safety Committee, 2013). The new plan consists of eight pillars, which are:

- Pillar 1: Road safety management
- Pillar 2: Infrastructure
- Pillar 3: Safe vehicles
- Pillar 4: Safe road user behaviour
- Pillar 5: Post-crash care
- Pillar 6: Traffic legislation and enforcement
- Pillar 7: Driver licensing
- Pillar 8 : Management and evaluation of passengers and goods transport services

This new Action Plan has not really integrated the concepts of disability prevention and victim assistance into this framework.

As noted earlier, a better qualitative understanding of the impact of disability resulting from road crashes is lacking in developing countries in general, and especially in Cambodia. The lived

experiences of persons with disabilities can provide rich contextual information to help identify the gaps in national policies, such as in prevention and transport system design and treatment as well as full inclusion and assistance (King & King, 2013). King and King (2013) provide some examples of how information on the lived experiences of persons with disabilities can contribute to the development of road safety management, infrastructure, transportation and advocacy that provide benefits for all road users as well as persons with disabilities.

Conclusion

Road traffic injuries have become an emerging issue in Cambodia and a burden to public health development. They also have a significant impact on progress towards the Millennium Development Goals and contribute to reduced quality of life of persons with disabilities with limited access to support services. It is also important to note the linkage between the disability and poverty in the Cambodia, where social networks and assistance exist to only a limited extent and exacerbate the disability-poverty loop. Better statistics have led to increased attention from the government on this emerging issue, but further information is needed to guide appropriate and effective interventions and to get a clear picture of the lives of persons with disabilities.

Although road traffic injury has been recognized as a contributor to disability, very few studies have been conducted to analyse the patterns of long-term injury crashes and their consequences on injured persons, who become disabled, and their families, especially in low income countries such as Cambodia. At the same time, although the institutional structures and policies are in place, they have not addressed the needs of persons with disabilities effectively, in addition to their limited implementation. As a consequence of signing and ratifying the United Nations Convention on the Rights of Persons with Disabilities, Cambodia has an obligation to update its national policies, legislation, and evaluate its current system and services to ensure it is abiding by the UNCRPD.

Therefore, it is crucial to have a more in-depth understanding of disability after a road crash and how it is experienced by the persons themselves and by their families. Currently there is a gap in knowledge of the long-term impact and this PhD study will contribute to filling this gap. It is essential that studies in low income countries such as Cambodia are undertaken to ensure that there is an understanding of the contextual factors that would impact on this issue in similar countries. While differences in context limit the generalisability of this study, some extrapolation of results will be possible on common contextual issues such as poverty, stigma and lack of resources. This will in turn inform better policy and contribute to sustainable and targeted implementation of services. The findings from this PhD study have the potential to contribute to all pillars in the current National Road Safety Action plan.

References

- Biyawila, J. (2011). Poverty and Disability in the Global South. *Third World Quarterly*, 32(8), 1537-1540.
- Ericson, M., & Kim, P. (2011). How Road Traffic Injuries Affect Household Welfare in Cambodia Using the Millennium Development Goals Benchmarks. *Asian Studies Review*, 35. doi: 10.1080/10357823.2011.575209
- General Secretariate of the National Road Safety Committee. (2013). Road Safety Cambodia. Retrieved 20 April, 2013, from <http://roadsafetycambodia.info/>
- Guillen, M. D., Ishida, H., & Okamoto, N. (2012). Is the Use of Informal Public Transport Modes in Developing Countries Habitual? An Empirical Study in Davao City, Philippines. *Transport Policy*, 26.

- Haagsma, J. A., Polinder, S., Lyons, R. A., Lund, J., Ditsuwan, V., Prinsloo, M., . . . van Beeck, E. F. (2012). Improved and standardized method for assessing years lived with disability after injury. *World Health Organization. Bulletin of the World Health Organization*, 90(7), 513-521.
- Handicap International France. (2009). Disability facts in Cambodia. Cambodia: Handicap International France.
- Juillard, C., Labinjo, M., Kobusingye, O., & Hyder, A. A. (2010). Socioeconomic impact of road traffic injuries in West Africa: exploratory data from Nigeria. *Injury Prevention*. doi: 10.1136
- King, J., & King, M. (2011). The Lived Experience of Families Living with Spinal Cord Disability in Northeast Thailand. *Third World Quarterly*.
- King, J., & King, M. (2013). *Linking the fifth pillar to the first in the UN Decade of Action*. Paper presented at the Road Safety on Four Continents 16th International Conference, Beijing, China. <http://eprints.qut.edu.au/58801/>
- Mertens, D. M., Sullivan, M., & Stace, H. (2011). Disability Communities, Transformative Research for Social Justice. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE Handbook of Qualitative Research* (4 ed.). USA: SAGE Publications, Inc.
- Murray, C. J. L., Vos, T., Lozano, R., Naghavi, M., Flaxman, A. D., Michaud, C., . . . al., e. (2012). Disability Adjusted Life Years (DALYs) for 291 Diseases and Injuries in 21 Regions, 1990-2010: a Systematic Analysis for the Global Burden of Disease Study 2010. *The Lancet*, 380.
- National Centre of Disabled Persons. (2012). About National Centre of Disabled Persons (NCDP). Retrieved 22 April 2013, from http://ncdpcam.org/index.php?option=com_content&view=article&id=2&Itemid=2
- National Institute of Statistics. (2006). Cambodia Socio-Economic Survey - 2004. Cambodian: National Institute of Statistics, Ministry of Planning.
- National Institute of Statistics. (2009). Cambodia Socio-Economic Survey - Health 2007. Cambodia: National Institute of Statistics, Ministry of Planning.
- National Road Safety Committee. (2012). *2011 Annual Report, Road Crashes and Casualties in Cambodia*. Cambodia.
- National Road Safety Committee. (2013). *National Road Safety Policy 2011-2020 (Draft)*.
- Oliver, M. (2009). *Understanding Disability - From Theory to Practice*. China: Palgrave Macmillan.
- Cambodian Law on the Protection and the Promotion of the Rights of Persons with Disability (2009).
- Sann, S., Ear, C., Morrison, M., & Jong, M. D. (2012). *Analysis of 2011 Road Crash Cost in Cambodia*. Cambodia: Handicap International Belgium.
- Secretariat of Disability Action Council. (2012). Annual Report 2011. Cambodia: Disability Action Council.
- Taksdal, M. (2011). My story started from food shortage and hunger: living with landmines in Cambodia. In A. H. Eide & B. Ingstad (Eds.), *Disability and Poverty, A Global Challenge*. Great Britain: The policy press.
- Thapa, R. (2011). Victim Assistance in Cambodia, The Human Face of Survivors and their Needs for Assistance. Belgium: Handicap International.

Thomas, P. (2005). *Disability, Poverty and the Millennium Development Goals: Relevance, Challenges and Opportunities for DFID*.

Convention on the Rights of Persons with Disabilities and Optional Protocol (2006).

WHO. (2004). *World Report on Traffic Injury Prevention* M. Peden, R. Scurfield, D. Sleet, Dinesh Mohan, A. A. Hyder, E. Jarawan & C. Mathers (Eds.), Retrieved from <http://whqlibdoc.who.int/publications/2004/9241562609.pdf>

WHO. (2009). *Global Status Report on Road Safety*. Geneva.

WHO. (2011). *Global Plan for the Decade of Action for Road Safety 2011-2020*: WHO.

WHO. (2013). *Global Status Report on Road Safety 2013, Supporting a Decade of Action*. Luxembourg: WHO.

WHO, & WorldBank. (2011). *World Report on Disability* WHO (Ed.)