CHAPTER-1
INTRODUCTION

1.1 INTRODUCTION:

Human Civilizations have been thriving on their natural ability to stay secure and protected from nature’s fury or ill-conceived, ill-intended or ill-directed human actions. As Paula Gray says, “We the human beings are social animals and thus our lives depend on other humans”. When unforeseen calamities take place with us, we are expected to protect ourselves and also help others. It doesn’t end there; the right social behavior is that where our actions do not create calamitous circumstances for others and at the same time create a healthy co-habitation. Natural and Human induced disasters have been affecting the mankind for centuries. All these disasters are seems to be a threat to Human Security, shake the very foundation of balanced social, economic and cultural life and challenge existence of the communities. With automation, the collateral threats of human induced disasters and road accidents have risen considerably, taking toll of human lives, causing serious injuries, creating economic and social criticality and offsetting the balance of individual lives, families, communities and even Nations. It is important to understand the need to prevent the wasteful acts, mitigate processes and swiftly respond to emergency events to minimize the damage, destruction, losses and resultant traumas and create a regime of well planned, coordinated, directed and effectively executed actions to ensure that the balance in human lives remains on an even keel. One such type of calamitous event is the “Road Accident”, which is increasingly affecting human beings. Individually, this menace appears small; however, a series of it, added over a time, poses extremely serious challenges to human security. It is an avoidable event which needs that due attention to be paid.

The term ‘Security’ encompasses the security of a Nation’s land, infrastructural assets, National interest, economy, technology and the security of its people from external and internal threats. Security of the people is often disregarded in the developing and underdeveloped countries. A country like India, where 54% of the population is still below 25 years of age, the security of this human resource and its logical qualitative development is an important aspect of National Security. Protection of this human asset can be done through various proactive measures in a manner that a regime of prevention of the threats is instituted and in case of occurrence of it, adequately responded. In a Developing country like India, threats to the human security originate from inability to withstand natural and man-made disasters like road accidents. If the preventive, mitigation and response mechanisms are instituted to mitigate the disasters and to reduce accidental death toll, protection of the human resource can be ensured and that would be lead to greater National Security.
Notwithstanding the increase in dimensions of disasters, developing countries are still far away from ensuring safe and secure environment for their citizens. Government stakeholders and the human population continue to pay marginal attention towards life safety and security of these human assets. The result of this lackadasical attitude is seen in terms of number of deaths and the amount of destruction that the developing countries experience year on year. It would be better to make efforts towards prevention of losses and damages instead of recovery process, relief and repair of damages. It is an important to take a review of the past and present status of disaster-preparedness which focused on road safety at all levels and identifies mitigation and response measures that need to be instituted in the country to improve human security and quality of life.

In a developing country like India, the government machinery and even the private sector is forced to spend a huge amount of money in giving compensations, rehabilitation and reconstruction of the society every year in various part of the country. If the road accidents could be prevented and mitigated appropriately, the burden of compensation, rehabilitation and reconstruction could be obviated. This will allow the government to fruitfully divert the current wasteful expenses towards other areas of development in the country.

Since 2000 A.D. road accidents have increased in frequency, intensity and variety all over the world. India’s share in road accidents and the resultant loss is significant and is constantly aggravating in creating socio-economic problems which consequently has implications on India’s economy and overall development of the country. Economic growth and general prosperity have led to an unprecedented automobile boom in the recent years. India has one of the highest accident rates in the world. As per Dharmesh Shah and his colleagues; In India, each year, more than 4,00,000 accidents are reported with fatalities more than 1,20,000 in numbers and costing approximately 65,000 to 80,000 corers of rupees. In the developed countries, the social awareness and stringent control measures have brought down the episodes of accidents. However, India continues to face loss of the youth which is a National asset and this is causing adverse demographic and economic impact in the country. [1] One aspect that needs to be taken seriously is the fact that the road accidents are mostly seen as isolated incidents and hence the society tends not to consider them as disasters. When yearly figures of fatalities and injuries are compiled the total number of casualties accumulates to a huge number, surpassing the figures of casualties caused by any measure disaster. No disaster in the past has shown such losses in lives. It is indicative of the fact that the road accidents have to be considered as ‘disasters’.

According to PWD of Maharashtra Govt.; Maharashtra has a certain contribution for the development of a country and undoubtedly plays a vital role in the Economic and Socio-cultural dimensions of the country’s Security. It also has a large number of episodes of Road Accidents.
Maharashtra's track record regarding road accidents is horrifying and hard to digest. In Maharashtra approximately 40-50 persons die in accidents every day. [2]

So on the basis of the above given information, to find out the material facts the case of Maharashtra has been selected for the purpose of this research. There is a need to study the status of the human resources – including the Government stakeholders to enhance the preventive, mitigational measures and response mechanism towards the Road Accidents. It is only through such a study that possible preventive actions and government intervention could emerge and procedures and processes could get identified. Thus, there is a need to do cause and effect analysis of the road accidents and analyse the present preparedness status at all levels also identify the future interventions of all stakeholders. This study will be helpful to enhance the better human security through reduction of risks of road accidents by active and dynamic preventive, mitigation and response measures.

1.2 RATIONALE AND SIGNIFICANCE OF THE STUDY:

Resources of the country are most important part of the Nation in every respect. Human Resources i.e. “Manpower” is very crucial which plays a vital role during war and peace too. Though Science and Technology has occupied significant place but for invention and its application of the Human Resources is highly required. Therefore it is highly essential to safeguard and secure these Human Resources against the threats of road accidents. Presently, the picture of Human Security in relation to road accidents, in India, is dismal and needs to reforms immediately. This study attempts to bring out the present anomalies and suggest practical, rational and effective means to reduce the threats of insecurity attributable to the hazard of road accidents. This study is likely to bring the following benefits to the society-

(a) The study would objectively identify causes, social inclinations and processes that either contribute towards road accidents or act as obstructions to road safety.

(b) The study would identify practically implementable measures, which, if adopted, would certainly improve internal safety and security of the country. By strengthening of the Loss and Damage Reduction mechanisms, it will bring down liabilities of the Nation and promote better National development. It would particularly help to protect India’s Human Resources along with their endowed abilities.

(c) This study would identify prevention and mitigation measures of Road Accidents in Maharashtra. This model could then be replicated all over the country to avail the benefits from it and to improve Human capacity towards road safety.

(d) The study would connect the aspects of Disaster Management regimes with the dimensions of human Security and specifically to Road safety. It will help highlight the
fact that road accidents as major disasters that are distributed over a time period; however, their cumulative effect is highly damaging and detrimental to the Nation’s human security.

In view of the above possible benefits, the study is directed towards review of the Human Security aspect with special focus on Road Accidents and carries out in depth. Analysis of Hazards, Vulnerability, Risk and Capacity building aspects are also addresses in the study. This research is covers all possible causes and effects matrix and working out the possible Preventive and Mitigation mechanism by stakeholders like the Policy-makers, law-makers, implementers and users. It also highlights the issues Traffic Management System and mainly Education of the Community and Improving the Civic Sense. It also brings out the present preparedness towards quick response in case an episode of road accident occurs and suggests better methods to ensure Human security.

1.3 AIMS AND OBJECTIVES OF THE STUDY:

The aim of this research is to analyse the effects of disasters on the Human Security and to study the various aspects of Road Safety in depth. The study aims to analyse the cause, effect, remedy regimes related to Road Safety to highlight the Prevention, Mitigation, Preparedness and Response continuum. The research dwells in depth about the Indian scenario in general and Maharashtra scenario specifically. In view of the above aim this research has been directed towards the following specific objectives-

(a) To identify the linkages between National Interests and Human Security related to Disasters and Road Safety and establish a relationship between human losses with economic and administrative liabilities.

(b) To analyse impact of road accidents on the Nation’s development through empirical and statistical analysis and focus that how its ‘loss’ for a country.

(c) In view of the road safety and security to study the gap in between policy and execution and people’s KAB (Knowledge, Attitude and Behaviour).

(d) To identify interventions of the government agencies and other stake holders for Prevention, Mitigation and Response to ensure better risk reduction and enhancement of Human Security through ensuring better Road Safety.

1.4 HYPOTHESIS:

The entire gamut of disasters including road accidents; prevention, mitigation and response strategy is based on the following hypothesis, which has adopted in this research:-

(a) The loss of Human Resource due to Road accidents adversely affects Human Security as well as National Security and National Interests.
Ensuring Human Security with Road Safety requires strategic, operational and tactical interventions by the respective Government and other stake-holders.

For greater Road safety and risk reduction, capacity building to ensure better prevention, higher degree of mitigation, better preparedness and speedier response are important. Apart from these, strategic interventions like intrinsic planning and development of infrastructure, putting in place the right SOPs, greater degree of synergy of all stakeholders (Government and others) and enhancing responsiveness of the community are essential factors.

People’s Knowledge, Behavior and Attitude directly affect Road Safety.

1.5 CONCEPTUAL FRAMEWORK OF THE TOPIC:

1.5.1 National Security:

National Security is a concept that was largely developed after the World War II. It entails survival of the State through the use of economic power, diplomacy, global power projection and effective use of domestic and international political power. Initially, the focus was biased towards the use of military might and security of States from external threats. End of the Cold war ushered a new concept of National Security, wherein, the non-military aspects like Internal Security, Human Security were introduced and related to National Interests and National Security. Today, National Security is considered to encompass external and internal security issues and the Human Security has emerged as an important facet of National Security. Upheavals that many States faced because of non-ensuring of the security of their population, particularly during the past three decades has led to additional and more severe impetus to ensuring growth and security of the citizenry. The latest conceptual thought about Human Security now entails economic, socio-cultural and physical security and includes the aspects of freedom from fear. It also entails the Human Rights issues and the United Nations and the world bodies have been debating at length on various nuances of Human Security as one of the pre-requisites to National Security. National Security is thus connected at two diametric ends viz the External Security and Internal Security that includes Human Security.

Human Security has an important component of Physical Security amongst the other issues included in a broad spectrum. Physical Security emanates from freedom from disease, freedom from economic threats of sustenance and physical survival and also protection from calamities, natural or human induced that include disasters, environmental degrades, violence, terrorism unleashed by non-State actors, political oppressions et al. Road accidents form an important aspect of spectrum of threats to Human Security and have a collateral effect on a State’s economy and social fibre. Presently, the aspects of Road Safety threaten the entire world and the problems are more conspicuous in the developing countries like India. The threats of Road
Accidents are a threat to Human Security and demand concerted efforts towards mitigating this menace. This forms the basic concept behind the purpose of this research and warrants detailed analytical deliberations to arrive at possible solutions to the problems in Indian context.

i) **Definition of National Security:** Many intellectuals have attempted defining National Security. The definitions evolved gradually and Human Security aspects got included in the decade of 1990’s. The initial definitions focused on Military aspects of Physical Security and slowly graduated to inclusion of non-military aspects related to internal and external aspects. *Macmillan Dictionary* defines the term “National Security” as "the protection or the safety of a country’s secrets and its citizens" emphasising the overall security of a Nation and a Nation State.\(^3\) Even Romm Joseph defines it from the perspective of external factors (coercion).

The definition propagated by the *National Defence College* of India considers National Security as one of the tenets of National Power. It states, "National security is an appropriate and aggressive blend of political resilience and maturity, human resources, economic structure and capacity, technological ability, industrial base and availability of natural resources."\(^4\)

The definition could be enlarged, as propounded by the *UN* and quoted by Ullaman R.H. to include the elements of economic, human and environmental security. National security can be considered as the ability of a State to preserve its physical integrity and territory; to maintain its economic relations with the rest of the world on reasonable terms; to preserve its nature, institution, human resources and governance from disruption from outside or inside; and to control its borders too. This amply elaborates the internal and external connectivity of National Security with Humans as one of the integral parts of it.\(^5\)

ii) **Elements of National Security:** Though military aspect of National Security is important but it is not the sole component of it. According to Romm Joseph; to be truly secure, a Nation needs other forms of security like economic security, environmental security, energy security and human security. It also needs food security and security of its socio-cultural base and also that of all the processes, apart from political security.\(^6\)

iii) **The Importance of Human Asset In National Security:** For any country to prosper, apart from its excellent external security environment, vibrant economy and political stability, strengthening of its human resource and growth in terms of the capabilities of its human capital is extremely important. Developing a healthy generation with freedom from fear, having multifaceted growth opportunities with contemporary standards of knowledge and academic education, the socio-cultural value systems and a sense of belonging to the Nation are essential ingredients for vibrant future of a State. After all, it is the humans who can use the existing potential of a country
and improve upon it. Machines, Technology and Geographical advantages are the force multipliers that support and boost the human capacities. To nurture all these, there is a dire need to protect the human resource from any threats, be it physical, economic, administrative, political – internal and external – and offer an environment of growth. It is the human capital that always was and will remain the greatest asset of any Nation. This is the multi-dimensional essence of protection of Human Assets that has become all pervasive. This is the reason why, in the context of increasing ruptures in the State machinery leading to State failures or even oppressive regimes, Human Rights and Human Security have emerged as important considerations globally.

1.5.2 Human Security:

"Human Security is the degree of protection against danger, damage or loss from any natural or human induced cause." “Security” as a form of protection essentially has structures and processes that offer safe conditions of day-to-day living. Human security is oriented towards the safety and security of the common masses and focusing on the individuals and groups. The important dimensions entail upholding of well-being of individuals and responding to the people's needs in obviating the sources of threats. Another aspect of Human security is that it does not only protect, but also empowers the people and societies as a means of security; says Jeong Ho-Won in his research Paper. [7]

As quoted by Sabina in her working paper, “Human security is a important element of the worldwide political and development program. Two issues lie at its heart; firstly, the safety of individuals is a tactical concern for National as well as international community, and secondly, safety conditions for people’s development go beyond the traditional matters of National Defence, law and order and include all political, economic and social issues enabling a life free from risk and fear”. [8]

i) Definition of Human security: As per UN Commission in their Human Development Report on Human security; it is an emerging paradigm that reorients National Security and National Interests. Human Security argues that the subject of benefits of the security should be of the subjects rather than the State. Human security holds that insecure citizen create an unstable State and hence the concept takes a people-centric view of security aiming at National, regional and global stability. The simplest definition of security is “absence of insecurity and threats”. To be secure is to be free from both fear (of physical and psychological abuse, violence, persecution, or death) and risks. Human security therefore deals with the capacity to identify the threats, to avoid them whenever possible, and to mitigate their effects when it occurs. It means helping victims to cope up with the consequences of the widespread insecurity and to bring down ill-effects thereof. [9]

ii) Meaning of Human Security: Although the definition of human security has many variants, there is consensus among its advocates that there should be a shift of attention from a State
centered to a people-centered approach to security. These advocates do not necessarily dilute the
importance of the security of the States' borders but at the same time do give adequate (rather
equal) weightage to the security of the people from internal threats too. Later meaning by James
Paul, These internal threats go beyond the concept of physical security and also encompass the idea
of guaranteeing people’s livelihood through social security and guarding it against sudden and
unforeseen disruptions. [10]

iii) Components of Human security: The list of component of human security is long, but
most important ones out of that list and critical to normalcy in living conditions are – Economic
security, Food security, Health security, Environmental security, Political security, Community and
individual security. Above Elements of human security are interdependent as per Human

iv) Certain Nuances of Human Security: The concept of human security stresses that
people should have the capacity to be able to take care of their own selves; all people should have
the opportunity to meet their most essential needs and to earn their own living. This will set them
free and empower them to make a full contribution to their own development and that of their
communities, their countries and the world. Human security is a critical ingredient of participatory
development and creation of such environment and its monitoring is the States’ responsibility.

v) Relating Human Security to Disasters and Road accidents: Human Security is closely
linked up with the National Security. Loss of human assets is closely linked to Human Security as
such loss impacts a Nation’s potential and creates burdens on the National progress. Thus, any
catastrophe that causes loss of human capital – be it the calamities like the floods, cyclones,
earthquakes or any accidents. Road Accidents are typical in their characteristics that, unlike the
earlier mentioned calamities, they are small in number of fatalities in a single episode and yet add
up to a huge number within a period of each year because of their sheer numbers and frequencies.
The total loss that accrues in India far surpasses that caused by single intense natural calamities of
other kinds. Maharashtra also shows catastrophic trends of fatalities in road accidents. This makes
the need for proactive regimes of risk reduction a priority and the entire gamut starting from policy
formulations to road designs and construction, warning systems, control mechanisms, change in
behavior patterns for effective prevention, appropriate response mechanism and medico-legal
interventions, a critical nuance of Human Security.

1.5.3 Disasters:

Disaster Management; the term’ disaster’ denotes any event, whether natural or man-made, which
can bring about sudden (some are slow in effect) and great miseries to humanity in terms of human
and material losses and also create imbalance in human life. It also signifies misfortune at larger
scale or a calamity of considerable amount for a section of humanity. Such calamitous event may have sudden destructive impact or may create distress over an extended period. \cite{12}

In this world, disasters have been occurring since time immemorial and will continue to occur. Though human is desperately trying to grapple with the disasters, he has not been able to make any significant progress in this field as yet. In fact, the stage has become more complex due to uncontrolled development everywhere. Humans are the main culprits for upsetting the ecological and environmental systems in this world. Obviously, the imbalances caused result in crossing thresholds of normalcy and end up into disasters.

\begin{itemize}
  \item[\textbf{ii)}] \textbf{Definition of Disaster:} The \textit{WHO} defines disaster as 'A severe disruption, ecologic and psychosocial, which greatly exceeds the coping capacity of the affected community; causing great damage, destruction and human suffering.' \cite{13} \textit{Oxford English dictionary} states that the word disaster derives from the 16\textsuperscript{th} century French word ‘disaster’. ‘Desastre’ is combination of two terms. ‘Des’ and ‘Astre’ mean bad or well evil and ‘Astre’, means star, thus 'Desastre' signifying a 'Bad Star' or 'Evil Star.' Disaster, therefore, was implying loss or damage occurring due to some unfavorable star. \cite{14}

  \item[\textbf{iii)}] \textbf{Categorization of Disasters:} For better understanding of disasters and for evolving better management practices, it is necessary to categories various kinds of disasters. Homogeneity with respect to elements and causing particular disaster is the major basis for such classification and categorization. Such classifications go with a long way in evolving models of disaster management applicable to every category of disasters whether natural or man-made. \textit{The high-powered committee (HPC), Government of India} has identified thirty-one types of Disasters in the country. These Disasters have been categorized into five sub-groups depending upon generic considerations and various departments and ministries dealing with various aspects. \cite{15}
\end{itemize}

\textbf{1.5.4 Disaster Management:}

\begin{itemize}
  \item[\textbf{i)}] \textbf{Definition:} As per \textit{Govt. Of India Report NDMA} is defined Disaster management as, an applied science, which seeks, by the systematic observation and analysis of disasters, to improve measures relating to prevention, mitigation, preparedness, emergency response and recovery. \cite{16}

  \item[\textbf{ii)}] \textbf{Need of Disaster Management:} The establishment of a proper system of Disaster Management has become a prevalent issue with innumerable deaths and losses worldwide as a result of Disasters of different sorts. The importance of a minimum level of preparedness and planning is realized only after the Disaster strikes. A Nation and its community are caught unawares by different disasters only due to lack of an all encompassing system. The system has to include threat estimation (in terms of hazards and vulnerability), prevention, mitigation, preparedness, response and post incidence recovery. This requires exceptional handling, for which the authorities
and the public have to be prepared. The normal procedures are not sufficiently effective to handle grave situations as the preparedness levels are low. A well coordinated regime of preparedness, response and enhanced awareness at all levels – individual to groups and to the government machinery – are essential to reduce risks and overcome adversities.

iii) Disaster Management Cycle: A typical Disaster Management continuum comprises six elements; the pre-disaster phase includes prevention, mitigation and preparedness, while the post-disaster phase includes response, rehabilitation, reconstruction and recovery. A legal and institutional framework binds all these elements together. Prabhas C Sinnha, in his book Disaster Mitigation, Preparedness, Recovery and Response broadly described Disaster Management Phases.

1.5.5 Road Accidents and Road Safety:

Road Transport is the spine of modern society and recent economy. We all are reliant on road transport. It is hard to imagine a picture living without it. Tremendous growth of both road network & road traffic in India brought the problem of road accidents resulting into injuries and fatalities to road users. National Safety Council viewed in Injury Facts that the roads of India were on number 9 on the list of killers in the year 1990 in the globe and are anticipated to emerge as uppermost killers by the year 2015. Although road safety is a universal problem, but it is more rigorous in India. India needs to improve road safety measures to reduce road accidents.

Apart from the inevitable contribution of poor road conditions and environment related factors in accidents, human-related factors seem to contribute a greater percentage in terms of the overall causes of accidents. As per Yogesh Baugh a Regional Transport Officer of Maharashtra, Major factors affecting the Road Safety are given below. [18]

(a) Human Error and Behaviour - 73%
(b) Vehicle and equipment - 6%
(c) Environment and other - 16%
(d) Roads quality and design - 5%

Road safety has become a major concern for the regulatory authorities in India today. Indian road safety situation is ten times worse when compared to the developed countries of the world, which leaves much to be done in the field of Road Safety Management. Road safety status is the reflection of traffic culture and it is extremely poor in India. [19]

i) Indian Scenario of Road Accidents: The World Health Organization has recorded an average of nearly 12 Lac people dying each year in road accidents, the world over and out of this; India’s share is more than 1.3 Lac of deaths each year for the past five years. At the same time nearly 5 Lac people are injured in such accidents each year in India. In 2013, more than 1.37 Lac people died in India, meaning 380 deaths every day with 1 accident occurring every minute and one
person dies every four minutes. From this, almost 25-30% is pedestrians, 15-20% kids below 15 years of age. In India, the total cost of fatalities due to road accidents are approximately Rs.65,000 to 80,000 cores in a year. The loss to the Nation due to the ever-increasing accidents is untold, eating into the economics of the Nation. Every 10th person who dies in road accidents in this world is an Indian. Road fatalities in India have risen at the rate of 8 per cent a year and, ironically this has happened in spite of considerable amount of money having been spent on constructing wider and better quality of roads and upgrading the existing ones. In India, it's a tragic reality that with better quality of roads the vehicles move faster with insufficient enforcement and controls and safety is disregarded by the road users resulting in greater death toll. A leading cause of road deaths is drinking habits of the drivers. Other factors that lead to the high incidence of road accidents are poor traffic management, bad roads, total lack of observance of traffic rules, no legal deterrents, carelessly walking pedestrians and a deadly mix of slow and fast-moving traffic. A sizable number of fatalities due to road accidents are avoidable through regimes of road safety management and speedy medical response.

ii) Meaning of Road Safety: According to National Road Safety Council; Road Safety is a multi-sectoral and multidimensional issue. It incorporates the development and management of road infrastructure, provision of safer vehicles, legislation and law enforcement, mobility planning, provision of health services, child safety and urban land use planning etc. Road safety entails a broad responsibility of the government and a range of civil society stakeholders. The success of road safety depends upon adopting right strategies, their operationalisation and ground level tactical actions of all stakeholders.

Gujraj G. suggested a broader definition of Road safety is as the absence of crashes, injuries and fatalities. The term "safety" implies that there are no occurrences of accidents. Although undesirable, crashes and fatalities are inevitable incidents of the transportation system.

iii) Need of Road Safety: The main concern regarding Road safety is in the area of injuries. In India, the road transport has emerged as the most unsafe mode of transportation. While media does report major and unusual road accidents, the seriousness of the total human losses throughout the year attributable to road accidents has not percolated in the minds of the community and the other stakeholders. Some reports predict that if the efforts are not made to reduce risk of road accidents, there could be a 65 per cent rise in human losses between 2000 and 2020 globally; whereas in weak and developing countries, deaths are anticipated to increase by as much as 80 per cent. This is highly unacceptable and detrimental to National Security and Interest.

Thus, there is a dire need to address this issue and take effective measures to reduce the risk of such losses of life, property, economy and administrative burdens.
With determination and feeling of urgency, it is possible to fight this menace of insecurity caused by road accidents. We need to build an aware, disciplined and responsible community, an effective public sector intervention and a greatly supportive private sector involvement. Health of the Nation is more important than the wealth of the Nation. Strict implementation of road safety measures would reduce road accidents, injuries and fatalities.

1.6 RESEARCH METHODOLOGY AND TECHNIQUES:

1.6.1 Methodology: This study is mainly based on primary and secondary sources. In order to examine the facts and figures of the literature and to reach up to the genesis of the problems and to study the every aspect of road safety and security; the descriptive and analytical method is adopted. A combination of ‘Diagnostic Study’, ‘Evaluation Study’, Survey and statistical analytical model method is also used in this study wherever it was required. To find out the material facts, observations have been carried out during field visits. This study, with all the combination of intent and methods, finally falls in the realm of Exploratory Research. Questionnaire based on KAB (Knowledge-Attitude-Behavior) model is also used especially for the study of road safety.

The methodology for this research entailed consulting, reviewing and qualitatively analysing data from a number of websites, journals, and annual reports. Specifically speaking, much of consulted data was derived from government library and websites of India’s Ministry of Transport and Highways, Planning Commission of India, National Highway Authority of India, Global Road Safety Partnership reports.

1.6.2 Tools Used In The Collection of The Data: The present study is based on primary and secondary data which includes-

(a) The required study material was obtained through the literature survey. The literature, which is intensively used, has been duly acknowledged in the bibliography and end notes. Library Consultation Programmes has conducted to acquired Primary and Secondary data i.e. variety of relevant literature.

(b) To collect the required primary data, the Personal interviews were conducted with the Representatives/Authorities of Government and Non Government Organisations. And as per requirement, questionnaires were prepared and filled it by the relevant persons.

(c) Primary Data is also collected from Government documents, Records, Policies and official reports including white papers. Websites are also referred to acquire secondary data.

(d) To acquire the first hand knowledge and to justify the study in appropriate manner; Fieldwork and observations were carried out.
1.6.3 Limitation of The Study: This study had been carried out with complete awareness of its certain limitations. Therefore this study is based only on documentary proof and site observations and not on the popular perception. The major limitations of this study is as follows-

(a) Since the scope of the subject area is very vast and abiding by the time constraints the research was limited to drawing conclusions of the study carried out in the State of Maharashtra alone and further restricting to the areas like the districts of Pune and Nashik.

(b) Disaster Management is a newly developed discipline, restricting the availability of experts and number of books on the subject. Paucity of institutions involved in research on the topic of Road Safety in Maharashtra was also a limiting factor. However, Researcher has conducted the interviews of some available experts and officials of the Government agencies. The limitation in this area stemmed from the fact that holistic and consolidated statistical and research data was not easily available at all times. This resulted in constructing many elements of data and facts. Absence of adequate number of NGOs and institutions working in the arena of prevention of accidents and road safety management as well as response and this escalated the degree of difficulty in researching the best practices within the State.

(c) The major limitation faced by the researcher was the lack of comprehensive documentation, i.e. in the area of Secondary data in Government Offices about community participation and awareness.

(d) The facts and figures mentioned in this research is entirely based on the data collected till the year 2013 as the updated data was not available despite of the best efforts put in by the researcher.

1.7 SCHEME OF CHAPTERISATION:

Present study comprises seven chapters, which includes Introduction and Conclusion. Chapter 2, 3 and 4 mostly covers literature review at conceptual level, Chapter 5 relates to the Case Study of Road Safety ‘issues related to the State of Maharashtra. Chapter 6 is based on the primary data which was collected, synthesized and analysed by the researcher. The detail scheme of chapters is as under:-

i) The first chapter being ‘Introduction’ discusses about the entire work, which gives the basic idea about National security, Human Security, Disaster, Disaster Management and Road safety scenario and the research methodology in brief. It also specifies the significance and utility of the research. It gives details of research design and scheme of chapterisation of the study along with aims & objectives.

ii) The Second chapter entitled ‘Conceptual Framework of National Security and Human Security’ highlights the meaning and concept of Human Security. It has drawn the relationship
between the National Security and the Development and it’s relevance to the Human Security from the perspective of the Disasters and specifically, the road accidents and Road Safety.

iii) The Third Chapter i.e. ‘An understanding of Disasters and its Implications’ gives details of fundamentals of issues relating to disasters and focuses on Maharashtra’s Hazard, Risk and Vulnerability. This chapter also deals with the statistical data of effects of various disasters. In this chapter an attempt has been made to highlights on the impact of disasters, especially the road accidents, on the Indian economy, development and socio-cultural issues.

iv) The fourth chapter ‘Disaster Management: Present Status of Maharashtra’ deals with Disaster Management at various levels. A detail study focuses with entire disaster management process. This chapter also attempts to articulate the disaster management organization from State level to village level. The study also comprises the existing reforms in disaster management of India and especially of Maharashtra.

v) The fifth chapter is entitled as ‘A case study of Road Accidents and Road safety in Maharashtra’. This chapter gives brief review of the approaches towards the Road Safety and security. It focuses on the attitude of Individuals in relation to the Road Safety. An attempt is made to conduct pragmatic study based on survey of the visited areas. The aspects of the previous chapters are studied in a wider context in respect of Road Accidents and Road safety. The accident related issues in urban, rural and National and State highways have been dealt with. It gives entire information about Road length, Vehicular Population, Accident Statistics as well as other contributory factors concerning Road Safety, covering the injuries and fatalities by spatial segments and conditions and segments of the community and vehicle types.

vi) The sixth chapter being ‘Data analysis And Interpretation’, examines with systematically Methods of data collection, Sources of data collection, elaborates on Sampling Plan and size, Tools used for data collection, method of processing data, reasons for using specific methods etc, Finally it discusses various formulae and procedures for the benefit of all readers. It presents the data objectively in terms of Tables, Charts, and Diagrams. Each finding has site relevant table, Charts and Diagrams. The whole gamut of results is prepared in a logical sequence followed by the actual discussions.

vii) Finally, ‘Conclusions and Recommendations’ presents findings that have emerged during the research. It discusses the problem and focuses on prospects of the Disaster Management and Road Safety. This chapter indicates the importance and impact of the same in the entire research study and also enumerates problems with possible solutions, through recommendations towards minimizing of risks and the ill-effects of road accidents and thus vindicating the aspects contributory to Human Security.
FOOTNOTES:


4 National Defence College, Definition from Proceedings of Seminar on “A Maritime Strategy for India”, Tees January Marg, New Delhi, India, 1996, p.4


22 Gururaj G, “Road traffic injury prevention in India”, National Institute of Mental Health and Neuro Sciences, Bangalore, Publication No 56; 2006. p.3