

# International Journal of Technology, Management & Humanities (IJTMH)



[www.ijtmh.com](http://www.ijtmh.com)

ISSN (e) : 2454—566X

Volume - 2, Issue - 2

September - 2016

*International Journal of Technology, Management and Humanities (IJTMH)* refereed e-journal form in English.

*International Journal of Technology, Management and Humanity* is published on Quarterly basis with the aim to provide an appropriate platform presenting well considered, meaningful, constructively thought provoking and non-controversial but critically analyzing and synthesizing present and future aspects of Technical & scientific Education System with particular reference to the world.

The following types of article will be considered types of article will be considered

1. Research Articles: Original research in different fields of Science, Engineering and Management, Humanities will be evaluated as research articles.
2. Research Notes: These include articles such as manuscripts.
3. Reviews: Reviews of recent improvements, discoveries, developments, and thoughts in various fields of Science, management, and Engineering will be considered.
4. Frequency: FOUR issues in a year.

## Indexing



International  
Society of Universal  
Research in Sciences

INDEX



COPERNICUS

INTERNATIONAL

DOAJ

DIRECTORY OF  
OPEN ACCESS  
JOURNALS



## IJTMH

Contact Us

E-mail

[submission@ijtmh.co](mailto:submission@ijtmh.co)

[submissionijtmh@gmail.com](mailto:submissionijtmh@gmail.com)

[editor@ijtmh.com](mailto:editor@ijtmh.com)

[editorijtmh@gmail.com](mailto:editorijtmh@gmail.com)

## **International Journal of Technology, Management & Humanities (IJTMH)**

**e-ISSN : 2454-566X**

**Volume 2, Issue – 1**

**June 2016**

### **Editor in Chief**

**Dr. Jitendra Narayan**

**Ph.D, M.Tech , Biotech Brunel University, London**

**Dr. Akthar Hussain**

**King Saud University, Riyadh**

**Dr. Umar Rana**

**Jazan University, Saudi Arabia**

**Dr. Leri Gvasalia**

**Georgian Technical University, Georgia**

### **Editors**

Dr. Anurag Tripathi (Scientist) Indian Institute of Toxicology Research	Dr. A. N. Tripathi Annamalai University, Tamil Nadu
Dr. Ching Ta Kingch National Tsing Hua University, Taiwan	Dr. Ashutosh Bajpai (Ph.D, MBA) Sherwood Business School Barabanki, India
Shubendu S. Shukla SR Group Of Institution, Lucknow, India	Dr. Casinao Rodriguezleon Universidad De La Laguna, Spain
Dr. Alen Willson Brunel University	Dr. Aleem Khan Abilene Christian University
Dr. Madhulika Singh Maharishi University of Information Technology, India	Dr. R. P. Bajpai MGCGV Chitrakoot, Satna, India
Prof. Dr. Amer A. Taqa Department of Dental Basic Science College of Dentistry/ Mosul University/ Iraq Education	Dr. B. Nagaraju University of Mysore, Manasagangotri, Mysore, India
Dr. S. Sasikumar Imayam College of Engineering, Thuraiyur, Trichy	Dr. Santosh Kumar Behera Sidho-Kanho-Birsha University, India
Dr. Sita Ram Pal Dr. Shakuntala Misra National Rehabilitation University, Lucknow, India	Busari Lasisi Department of French, Ibrahim Badamasi Babangida University, Lapai, Niger State
Dr. Mehraj Ahmad Bhat Department of Education, University of Kashmir, J&K India	ESEW, Michael Kashim Ibrahim Library, A.B.U, Zaria
Dr. J. Samuel Caesar Pickens Department of Commerce with Computer Application Dr. S.N.S Rajalakshmi College of Arts and Science, Coimbatore	Dr. Vikas M. Raval Department of Science and Humanities, Gujarat Power Engineering and Research Institute, Kadi Sarva Vishwavidyalaya
KR. Senthil Kumar SVS College of Engineering Coimbatore	Asheesh Kamal School of Planning and Architecture, Vijayawada, Andhra Pradesh
Dr. SAMBHAJI GULABRAO PATIL Librarian (Central Library) MET's Institute of Engineering, Bhujbal Knowledge City, Adgaon, Nashik	Dr. Mohammad Rehan Indira Gandhi Rashtriya Manav Sangrahalaya, (National Museum of Mankind), Bhopal (M.P.)
Dr. Hasan Yaser Malik, TI (M) Fellow Research Member National Foundation for Environment Education & Research	Angan Roy Manbhumi Institute of Education & Social Science, Purulia

# **Traffic Accidents Due To The Lack Of Driving Awareness in The Role of A Motorcyclist / Two Wheeler Drivers**

**Author**

**Dr. C. J. KADAM**

*(Head/ Department of Physics/Maharashtra Mahavidhyalaya, NILANGA. Latur,(MS) India)*

---

## **Abstract**

*Two wheeler drivers and four wheeler drivers are often labeled as vulnerable road users. As transport is growing globally, car / four wheeler drivers and motorcycle / two wheeler drivers are becoming victims in road accidents especially in the newly grown cities where legal traffic measures are not respected. Many countries, however, develop and invest in innovative strategies in order to enable safe movements in the newly grown cities for all road users.*

*The topic of this research is the Municipal Corporation of Latur and Motorcycle / two wheeler drivers crashes occurred in the period of year June, 2012 – to – May, 2016. The number of accidents and the critical months of the year are also analyzed, weather and visibility conditions, the accidents spatial, daily and hour distribution. Adequate comments and countermeasures to improve the current situations are given at the end.*

**Key Words :** *Motorcyclist safety, vulnerable road users, risk, safety countermeasures.*

---

## **1. Introduction**

Motorcycle / two wheeler drivers are often labeled as vulnerable road users. This is because once they are involved in a collision with motorbike to motorbike and motorbike to car/ four wheeler they have two distinct disadvantages:

1. They are totally exposed having no shield at all to protect them in case of a collision (except for the helmet that is worn by some motorcyclists).
2. The difference in mass between motorcycle/ two wheeler drivers and car / four wheeler motors is very large.

These two factors make their likelihood of being seriously injured or killed in collisions much higher than that of four wheeler occupants.

## **2. Scope of the Problem**

As a category of road users motorcyclists / two wheeler drivers are poorly discussed and analyzed in terms of their behavior, safety and treatment. Over 6000 motorcyclists/ two wheeler drivers worldwide are victims of road traffic accidents. In Latur, Maharashtra state, 27 motorcyclists lost their lives in 2014. Most of them are people below 40 years. These negative statistics define the problem that lacks good practices and sharing of experiences that would be applicable in Latur in terms of motorcyclist safety treatment.

According to international research nearly 6000 motorcyclist weekly are victims of road accidents worldwide. In Latur in the year 2014, 27 motorcyclists/ two wheeler drivers lost their lives in traffic accidents. The majority of them were individuals below the age of 40.

Crossing the four way lane [Chowk] involves a complex set of behavior that begin with the decision to cross the four way lane [chowk]. But despite the standard recommendations to “**STOP - LOOK - AND GO**” youths and teenagers [without driving license] often plan their “crossing strategy” the movement they cross the four way lane [chowk]. They choose the turning location and speed on their own, so that they do not have to break and slowdown for a convenient time to cross the four way lane [chowk]. However, teenagers are faced with major differences and contradictions between what they perceive and what they are taught of.

### **3. Driver – Driver Communication :**

To avoid a collision two wheeler drivers and four wheeler drivers have to be aware of each other i.e. that both are road users. Therefore they have to interact at least partially. This interaction requires at least six consecutive precautions.

- 3.1. Determine the route.
- 3.2. Visual environment estimation in terms of the presence of the other.
- 3.3. Detect and evaluate its location.
- 3.4. To predict the intention of the other.
- 3.5. On time and appropriate decision.
- 3.6. Appropriate response in order to avoid collision.

### **4. Causes For Motorcyclist / Two Wheeler Driver Crashes**

Main causes for motorcyclists / two wheeler drivers crashes are :

- 4.1. Wrong decisions.
- 4.2. Inappropriate motorcyclist/ two wheeler drivers behavior.
- 4.3. Improper intersection crossing.
- 4.4. Teenagers drives two wheelers without license.
- 4.5. U-turning / darting out etc.

The recklessness among drivers refers to the distraction during the process of managing the vehicle, using a cell phone and various communication devices. Other reasons that could lead to accident are :

1. Driving under the influence of drugs.
2. Increased speed near intersections, school zones and public places.
3. Illegal left- right turns.
4. Failure to obey stop signs.

The analysis showed that in 55 percent of the accidents it was the motorcyclist's/ two wheeler drivers action that was primarily responsible for the accident. The most common cause – characterizing 34 percent of all crashes was the motorcyclist's / two wheeler drivers daring out from a midblock / side location into the street, too late for the car/ four wheeler to stop. The other main crash causes were intersection dashes (9%) that were the same as dart outs, except that they occurred at intersections; vehicle turn / merge with attention conflict (7%) which was characterized by a collision in which the driver was making a turn and attending to traffic in one direction, while the other motorcyclist / two wheeler driver was in an unattended location; and multiple threats ( 3% ) which were situations in which the motorcyclist / two wheeler driver was

struck by a car after another car stopped to allow him to cross and in the process created a view obstruction for the car that eventually hit the motorcyclist / two wheeler driver.

The failure of precautions are shown in Table-1.

**Table-1**

<b>Factors Group</b>	<b>No. of times selected</b>	<b>Percent of factors selected</b>	<b>Percent of crashes selected</b>
Motorcyclist/Two wheeler <b>driver-1</b> course	1408	38.4	55.9
Motorcyclist/Two wheeler <b>driver-1</b> Search	1368	22.6	54.1
Motorcyclist/Two wheeler <b>driver-1</b> detection	440	5	11.0
Motorcyclist/Two wheeler <b>driver-1</b> evaluation	360	4	7.3
Motorcyclist/Two wheeler <b>driver-1</b> decision	21	0.6	0.8
Motorcyclist/Two wheeler <b>driver-1</b> action	23	0.7	0.9
Motorcyclist/Two wheeler <b>driver-2</b> course	281	4.6	8.4
Motorcyclist/Two wheeler <b>driver-2</b> Search	610	12.9	23.6
Motorcyclist/Two wheeler <b>driver-2</b> detection	392	7.4	13.5
Motorcyclist/Two wheeler <b>driver-2</b> evaluation	92	2.1	3.8
Motorcyclist/Two wheeler <b>driver-2</b> decision	85	1.9	3.5
Motorcyclist/Two wheeler <b>driver-2</b> action	9	0.2	0.4
<b>Total</b>	<b>5089</b>	<b>100.00</b>	<b>..</b>

### Drivers Age

Drivers age is also considered one of the reasons for accident occurrence. New researches show that motorcyclist's / two wheeler drivers below the age of 40 are facing with bigger accident risk unlike other motorcyclist's / two wheeler drivers. This is due to the wrong decisions and driving with increased speed . Age groups who are facing with the highest risk are drivers below the age of 40 and drivers over the age of 65.

Table – 2 : The primary motorcyclist's / two wheeler drivers crash causes for motorcyclist / two wheeler driver at different ages.

<b>Age</b>	<b>Primary Motorcyclist's / Two Wheeler Drivers Contributing Factor</b>
15-30 Years	Failed to keep control on speed , driving in wrong directions , leaning / clinging to vehicle.
30-40 Years	Alcohol impaired , driving in wrong direction talking / listening on mobile phones while driving on the road.
40-60 Years	Alcohol impaired , U-turn , intersection driving , lack of conspicuity.
60 and Above Yrs	Decreased vitality and mobility , too late decisions on driving at intersections.

For the city of Latur , statistics show that over a period of almost four years (June , 2012 – to – May , 2016) occurred 1170 traffic accidents of which 140 or 12 % involved motorcyclist's / two wheeler drivers . Most of them occurred in April , June and Nov , the most abundant during the years analyzed (50%) , 3 % of the accidents were fatal after the motorcyclist's / two wheeler drivers life.



Diagram one shows the number of accidents of the motorcyclist's / two wheeler drivers occurred, observed annually.

**Annual Motorcyclist / Two Wheeler Driver Crashes Report**

(JUNE, 2012 – TO – MAY, 2016)

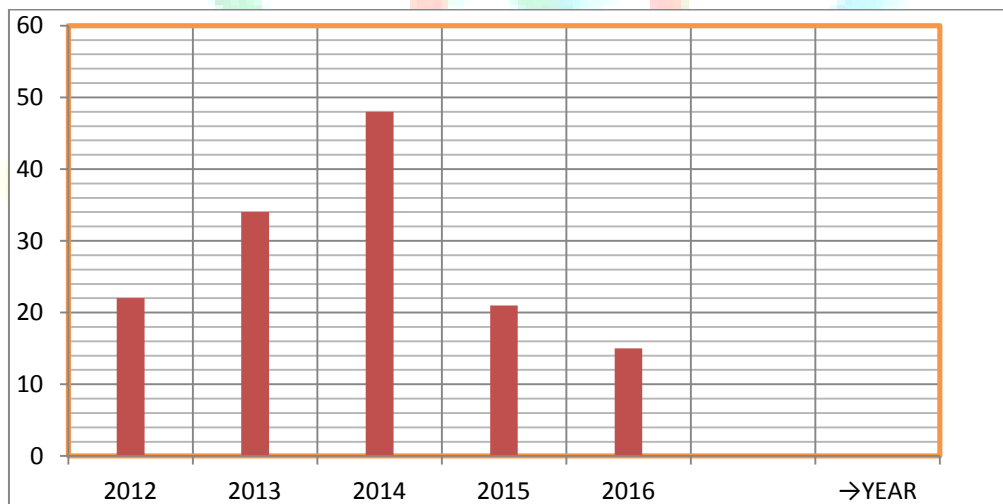
**Table -3**

<b>Year</b>	<b>No. of Accidents Occurred</b>
2012	22
2013	34
2014	48
2015	21
2016	15

**Diagram - 1**

**Annual Motorcyclists/Two Wheeler Drivers Crashes Report**

( June,2012-To-May,2016)



**5. Research Data Analysis**

Travelling at night withdraws higher accident risk, as a driver -1 and driver-2. However, practice shows that the majority accidents occur in daily conditions, good visibility and optimal road conditions, or in conditions where there is almost no risk at all.

**Table-4 : Weather And Visibility Conditions :**

<b>Weather Conditions</b>	<b>Percentage</b>
Clear	77.2 %
Cloudy	18.7 %
Rainy	13.6 %
Suny	1.3 %

Day		Night	
Visibility	Percentage	Visibility	Percentage
Good visibility	77.6 %	Good luminance	18.2 %
Poor visibility	2.7 %	Poor luminance	7.5 %
		No luminance	1.3 %

### **Spatial Accident Distribution With Motorcyclists / Two Wheeler Drivers In The City Of Latur**

In the city of Latur in the past 4 years, 140 accidents. In Table-5 it is separately shown the no. of accidents for each characteristic area of the city.

**Table-5** : Number of Accidents According to Zones

Sr. No.	Zone Name	No. Of Accidents
1	Golai Market 14 Lane Circle	43
2	Gulmarket Yeshwantrao Chowk	37
3	Ekmat Chowk , 5- No. Pati	23
4	Nandi Stop Intersection	12
5	Dayanand Intersection	08
6	Uddan Pool , Shivaji Chowk	10
7	Amba Hanuman T- Link	09
	<b>Total</b>	<b>140</b>

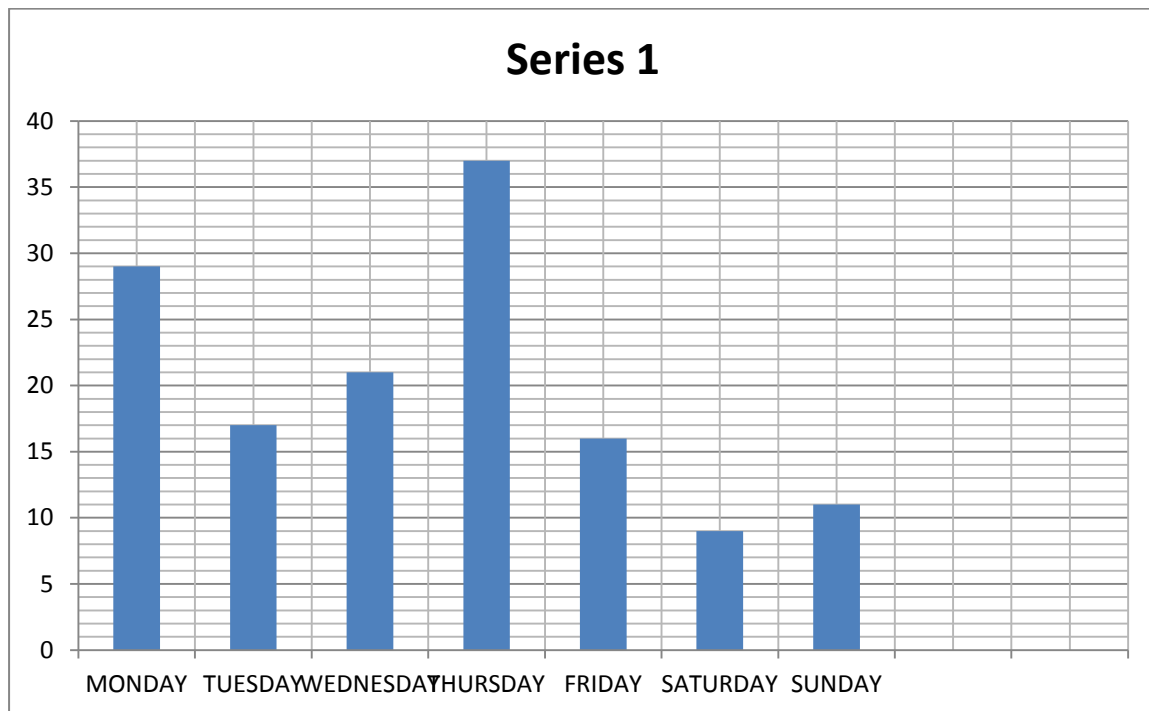
### **Motorcyclist Accidents Time Distribution**

Analysis shows that most of the Motorcyclists / Two wheeler Drivers Accidents occur on the days when there is increased mobility and transport of goods. Diagram -2 , Shows the accidents distributed in the days of the week.

**Table-6** :

Days of the Week	No. of Accidents
Monday	29
Tuesday	17
Wednesday	21
Thursday	37
Friday	16
Saturday	09
Sunday	11

**Diagram -2 : The Accidents Distributed In The Days Of The Week.**



Statistics show that there is an increasing number of accidents on Monday and Thursday. During this period are the market days and the migration of the vehicles is large.

Diagram-3 , shows hourly distribution of accidents for a day in the period June, 2012 – to May,2016.

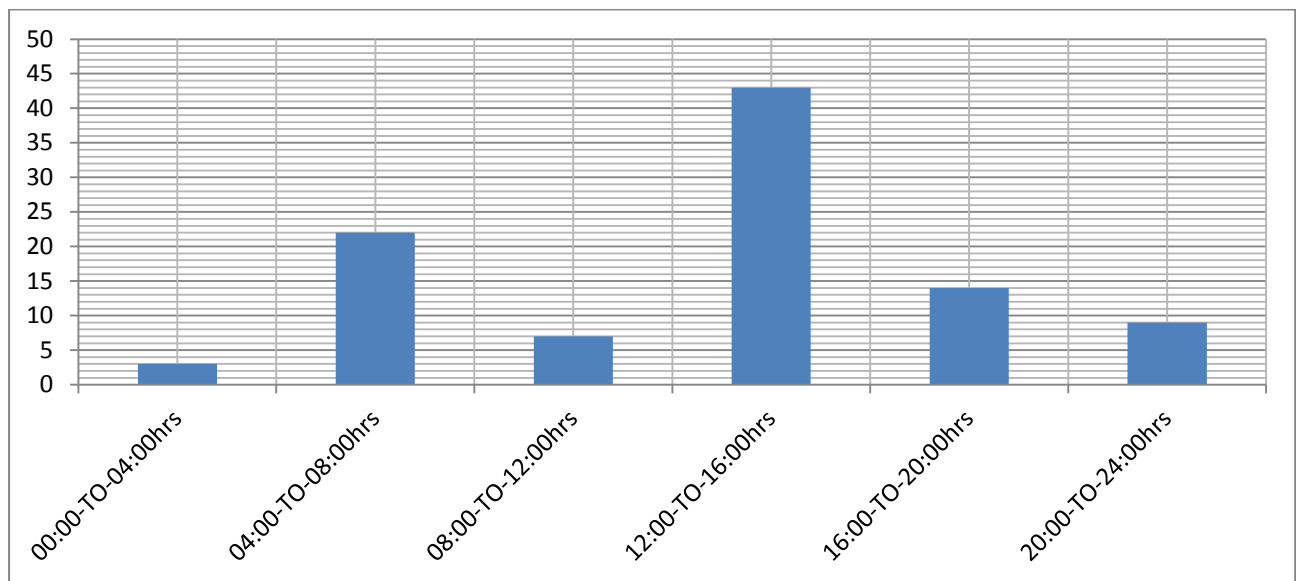
**Table-7 :**

<b>Nov-2014</b>	
<b>Hours</b>	<b>No. Of Accidents In Percentage</b>
00:00 hours –To- 04:00 hours	00
04:00 hours –To- 06:00 hours	3 %
06:00 hours –To- 10:00 hours	24 %
10:00 hours –To- 14:00 hours	7 %
14:00 hours –To- 18:00 hours	43 %
18:00 hours –To- 22:00 hours	14 %
22:00 hours –To- 24:00 hours	9 %



**Diagram - 3**

**Hourly Distribution of Accidents For A Day In The Period June, 2012 -To-May, 2016.**



**6. Measures For Improving The Motorcyclist / Two Wheeler Driver Safety**

Local Social Agencies and experts dealing with motorcyclist / two wheeler driver safety issues over the past few years , seem to favor the engineering measures. However , the improvement of the motorcyclist / two wheeler driver safety requires a balanced approach that includes both perspectives.

Many of the motorcyclist / two wheeler driver problems cannot be solved only referring to one of the three E- factors ( Education , Enforcement , Engineering ). Engineers , law enforcement , planners , educators and citizens need to identify implement effective measurements to improve the motorcyclist / two wheeler driver safety.

Below are listed the proposed measures :

- Illegal parks are banned.
- Arranging green areas and trees that are beside the road.
- Regular horizontal and vertical signaling restoration , using higher quality materials with greater duration and reflectiveness.
- Proper placement of billboards and signboards.
- Proper placement of equipment ( vertical signaling and electric lighting poles )on the road and around the street .
- Introducing speed brakers at crowdy and curved places to keep control on the speed of the vehicle.
- Running a campaign that would affect citizens awareness regarding the motorcyclist / two wheeler driver safety in traffic.
- Spacial regime movement for heavy vehicles in certain days and periods of the day.
- Two wheeler and four wheeler paths are separately marked according to the rules of urban planning .
- Street lighting recovery and maintenance using an alternative source of energy.

## 7. Conclusion

According to the analyzed data from the past four years , the no. of traffic accidents where motorcyclists / two wheeler drivers have been killed or injured is increasing. This is due to may factors including the increased speed of the vehicles, disregard of traffic regulations, improper signaling , lack of education and campaigns that would affect the drivers awareness.

It is a time to see the things from another perspective , with commitment , intervention and investment , this security measures will effect on the drivers safety and will be a positive example for the other cities in the state of Maharashtra , India.

## References

- [1].Agarwal , Anil, and Sunita Narain (Eds.),1997 , Dying Wisdom; Rise , Fall and Potential of India's traditional water harvesting systems. State of India's Environment , A Citizen's Report 4 , New Delhi, India; Centre for Science and Environment.
- [2].Effects of Changing Climate on Weather and Human Activities; Kelvin E.Trenberth, Kathleen Miller, Linda Mearns and Steven Rhodes , National Centre for Atmospheric Research Boulder, Colorado.
- [3].Adams, R.M., R.A.Fleming, and C. Rosenzweig, 1995; Reassessment of the economic effects of global climatic change on U.S. agriculture. *Climatic Change* 30, 147-168.
- [4].Andrew , W.A., 1995; Understanding Global Warming. D.C.Health Canada Ltd., Toronto, Canada.
- [5].Dotto, L., 1999; Storm Warning ; Gambling with the Climate of our Planet. Doubleday, Toronto, Canada.
- [6].Gleick, Peter (editor), 1993, Water in crisis, A guide to the worlds fresh water resources. Oxford , England; Oxford University Press.
- [7].Keller,Jack; Andrew Keller ; and Grant Davids. 1998. River Basin development phases and implications of closure. *Journal of Applied Irrigation Science* , Volume 33, No.2, October 1998, Frankfurt , Germany.
- [8].Perry,Chris. 1998. The IWMI water resources paradigm-definitions and implications. Colombo, Sri Lanka: International Water Management Institute.
- [9].Water Scarcity and the Role of Storage in Development. Andrew Keller, R. Sakthivadivel, and David Seckler,2000.
- [10].Latur Profile , by Directorate, Census Operations, 2011, Maharashtra State and UNICEF , field office , Maharashtra State, India.
- [11].thewire.in; by the wire staff , 20<sup>th</sup> April2016.
- [12].Water Storage Levels and Stock Today in Large , Medium Water Storage Projects , by The Administrator and Superintendent Engineer , Irrigation Department , No. 1, Latur, 27<sup>th</sup> Oct-2015.
- [13].Reports on Average Rainfall in Latur region, 2014,2015, Distrcet Collector , Collector Office, Latur.
- [14].Effect of climate change on seasonal mansoon in Asia and its impact on the variability of mansoon rainfall in southeast Asia, by Yen Yi Loo, Lawal Billa , Ajit singh; *Geoscience Frontiers* , Vol.6, Nov.2015, 817-823.
- [15].Climate Change , Disasters and security.....Issues, Concerns and Implications for India by Sunil Chauhan.
- [16].Understanding Water Risks Drives Global Investors, May 25, 2016 , in Water and Climate , Water Risk , by Keith Schneider.
- [17]. Draught has devastated the once-prosperous Latur. The Latur Water Crisis , Maharashtra , India, by Sharad Vyas and Vivek Bendre , The Hindu, 18<sup>th</sup> April-2016.