

Attenuation of Geopathic Stress by Using NAAVRAJ Attenuation Technique

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Abstract: Geopathic Stress is the energy emitted from earth crust in Nadir direction which affects the normal functioning of human body. The relation between Geopathic Stress and occurrence of accidents has already been proved. Geopathic Stress has an adverse impact on built environment. It is very important to attenuate the Geopathic stress zones to decrease the harmful effects of it. Rate of accidents on Highways and Expressways is more as traffic volume is more. From the study, it is concluded that majority of accidents occur on Geopathic Stress zone only. The work is carried out to attenuate Geopathic Stress zones to reduce the rate of accidents on Expressway as Geopathic Stress is closely associated with change in reaction time of driver which ultimately results in accident. Attenuation of Geopathic Stress zone has been done by using well established NAAVRAJ attenuation technique.

Keywords: Geopathic Stress, accidents, attenuation

INTRODUCTION The world health organization (WHO), in its Global status report on Road safety 2013, observes that road traffic injuries are “the major leading causes of death for young people aged 15-29” Worldwide, while many countries have taken steps to reduce fatalities from road traffic accidents, the total “remains unacceptably high at 1.24 million per year”. More than 80000 people are killed on Indian roads every year and almost million are injured. India is having road fatality ratio 14 per 10000 vehicles which is almost highest in the world. National highways and Expressways are considered as main veins for development of country. An unfortunate incidence happen unexpectedly and unintentionally, typically resulting in damage or injury termed as accidents. It has been observed that 13 people die in road accident per hour all over the world. The Mumbai-Pune Expressway (officially known as Yeshwantrao Chavan Expressway) is India’s first six lane concrete, high speed access controlled tolled Expressway which has been designed and constructed as per international standards. It is one of the busiest roads of the country. The Expressway handles about 43,000 PCU’s daily and it is designed to handle up to 1, 00,000 PCU’s. It spans a distance of 93 km from Mumbai the administrative capital of Maharashtra and financial capital of India with Pune, an industrial and educational hub. While designing and planning of Mumbai-Pune Expressway the vision was to construct accident free Expressway, normal causes of accidents were properly taken into consideration. Still, it was made fully operational from April 2002 observed that large no. of accidents are occurring which exhibits serious fatal accidents. Recently according to MSRDC statistics from 15th April 2005

to 30th November 2010, total 8225 accidents had occurred on Mumbai-Pune Expressway. It was nominated as ‘Death Trap’ by leading Newspaper in India. Geo means ‘earth’ and pathos means ‘suffering from’, thus Geopathic Stress means, ‘suffering from disease of earth’. Though the awareness towards Geopathic Stress has long history (more than 4000 years) as Chinese termed the areas affected by earth radiation as ‘Dragon lines’, it is deprived of the scientific and technical analysis till the end of third decade of 20th century. Bird (1994) has tried to hint that earth radiations could be associated with road accidents and further Meliknow (1997) observed that large number of accidents occurred at the intersection of ground water zone where other technical cause of accident does not exist.

2. LITERATURE REVIEW

Kharat (2000), through his empirical investigations at some spots on National highway, observed that reaction time of driver changes on Geopathic Stress zones leading to road accident. Pimplikar (2010) has conducted empirical investigation and analysis on human body system in motion while travelling with high speed. He has developed simple models that expected to identify relationship of subterrain features and human body system in motion on highways and expressways. Presence of ground water is closely associated with occurrence of Geopathic Stress. Bradna (2002), based on number of studies examining the cause of traffic accidents in

relation with ground water zones carried out in western Europe and Czech Republic has summarized up his work; "The effect of hydro pathogens on drivers". The inference of the study was frequency of sensitive drivers reacting strongly to the influence of ground water, geological faults and mineral ore veins from 15% to 20%. Hence there is relationship between presence of Geopathic Stress and ground water and many of the accidents occurred on such a ground water veins. Ramaswamy (2003) in the compendium on road accidents said that about 30% of the accidents occur and cause of accident is unknown. Reaction time of drivers is very important aspect in transportation engineering while designing any highway or expressway. Kikuchi et.al (2003) suggested that perception reaction time of the driver is very important aspect in traffic engineering. It has been observed that reaction time of driver increases in Geopathic Stress zone as compared to normal zone which in turn responsible for occurrence of accident. According to PIEV (perception, intellectual, emotional, volition time) theory as per Matson (1995) PIEV time is 0.5 sec for normal problem whereas for complex problem it increases upto 3 sec to 4 sec. As far as Mumbai-Pune Expressway is concerned if the vehicle is travelling with 80 kmph which is designed speed of Expressway, the vehicle is travelling 22.22 meter in 1sec and if such reaction time changes in Geopathic stress zone considered as complex problem the vehicle will travel around 60m to 80m without any reaction. This is true for 80kmph speed practically on Mumbai-Pune expressway, none of the vehicle is below 80kmph. So if any vehicle is travelling without any reaction from driver for 100m, there will be chances occurrence of accident. It has been reported by the drivers, "we became completely blank at particular situation and accident had occurred". The statistics are saying that human error is involved in 57% of all accidents and in contrast only 2.4 % accidents are due to mechanical fault, whereas 4.7% of accidents are caused due to environmental factors. As per the data provided by MSRDC (Maharashtra State Road Development Corporation) on Mumbai-Pune expressway 83.67% of accidents occur due to human error. But in human error only car travelling with high speed is not only the criteria. Geopathic Stress is one of the major parameter which will be responsible for the accidents. Because of Geopathic Stress there is change in reaction time and due to that accident occurs. Such more than 50 spots are present on Mumbai-Pune expressway of its 95km stretch. Evans (1996) through his experiments on 1326 oncoming drivers has determined the average reaction time of drivers while actually driving, for an unpredicted response as 2.5 seconds with most responses are between 1.5 seconds to 4 seconds. Kharat (2000) through his investigation on mysterious spots on Pune-Nagar, Pune-Mumbai and Pune-Banglore National highway has confirmed existence of underground water zones at few accidental spots where fatal road accidents frequently occurred. He demonstrated through his instrument and method, there is significant change in the (PIEV) time.

1. NAAVRAJ Attenuation Technique

Because of the friction between flowing water and earth crust, the amount of energy liberated affects the objects on the earth in less or more proportion. Pavement distress, reaction time of driver, geotechnical properties of soil are the major parameters to be considered in the case of Expressway. An accident is the major problem on Mumbai-Pune Expressway. Already it is concluded that change in reaction time of driver takes place in Geopathic Stress zone which ultimately affects the rate of

accidents. To reduce these accidents it is very important to attenuate Geopathic Stress. So NAAVRAJ attenuation technique is used to reduce the rate of accidents. NAAVRAJ attenuation technique is invented by Sorate in 2013 (Patent Application No. 1321/MUM/2014 A). The components used in NAAVRAJ technique are AVRAN, RAAV connector and RAAV absorber. AVRAN is a group of metal rods which are specified at designed interval. RAAV connector is connected to AVRAN through which Geopathic Stress is transferred. RAAV absorber is connected to RAAV connector which absorbs all Geopathic Stress transferred from AVRAN and transfers it to ground again.

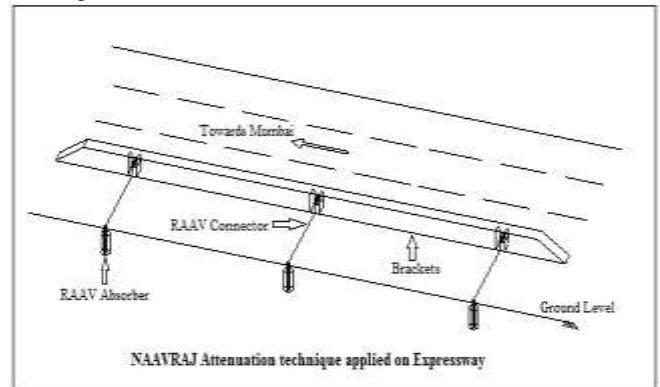


Fig 1 NAAVRAJ Attenuation Technique Applied On Expressway

There are different types of RAAV absorber as RAAV 100, RAAV 200, RAAV 300, RAAV 400 etc. These absorbers are used according to intensity of Geopathic Stress. AVRAN comprises of metal rod or metal mesh covered by a protective layer of material which is electrically nonconductive.

2. Experimental Details

• Selection of Expressway:

Mumbai-Pune Expressway is one of major Expressway in India. Geopathic Stress zones for this particular expressway were already identified by Pimplikar. The confirmation of these Geopathic Stress zone is done by using L-rod dowsing and NAAV meter. The stretch of 76 km to 83 km has been selected as the rate of accident was more due to Geopathic Stress zones and this particular stretch was feasible. After confirmation of Geopathic Stress by using NAAV meter, seven major spots affected by Geopathic Stress are identified and those should be treated.

• Treatment of Geopathic Stress zones by using NAAVRAJ Attenuation Technique:

- NAAVRAJ Attenuation Technique - Type 1:

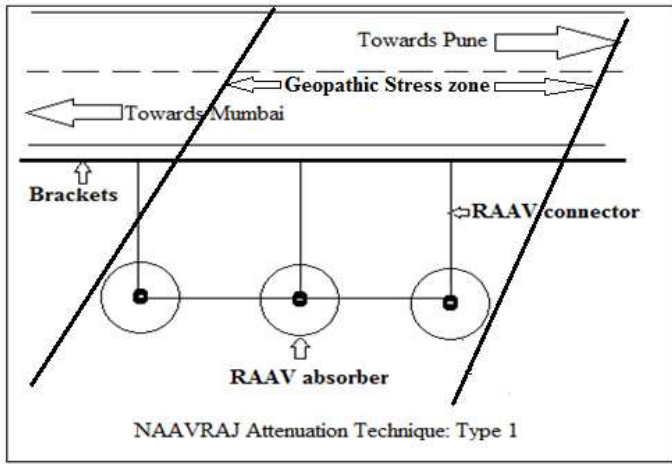


Fig.2: NAAVRAJ Attenuation Technique: Type 1

If gyropes are not provided on Expressway and brackets are available near to Geopathic stress zone then NAAVRAJ attenuation technique: type 1 is used as shown in Fig.2. Brackets in this system acts as AVRAN which transfer the upcoming stress from ground to RAAV Absorber through RAAV connector which ultimately attenuate the Geopathic Stress zone.

- NAAVRAJ Attenuation Technique: Type 2

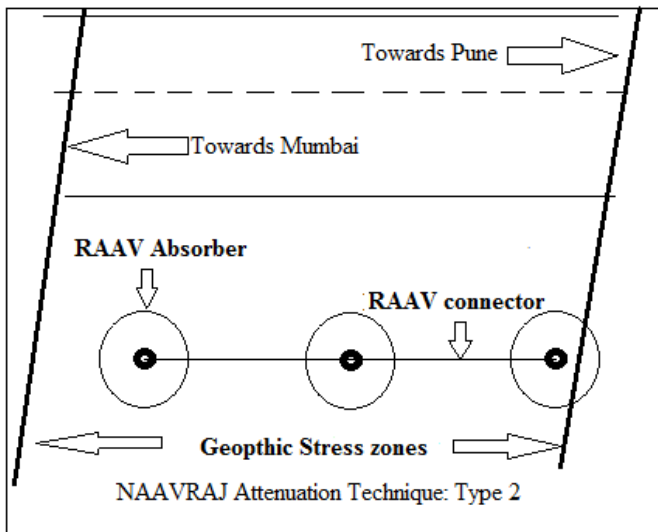


Fig.3: NAAVRAJ Attenuation Technique: Type 2

If gyropes and brackets are not available on Expressway then NAAVRAJ attenuation technique: type 2 is used as shown in Fig.3. In this system pinning technique is used. RAAV Absorber are pinned to ground and all pinned RAAV Absorbers are connected to each other by RAAV connector as shown in Fig.3. Hence Geopathic Stress zones get attenuated.

- NAAVRAJ Attenuation Technique: Type 3

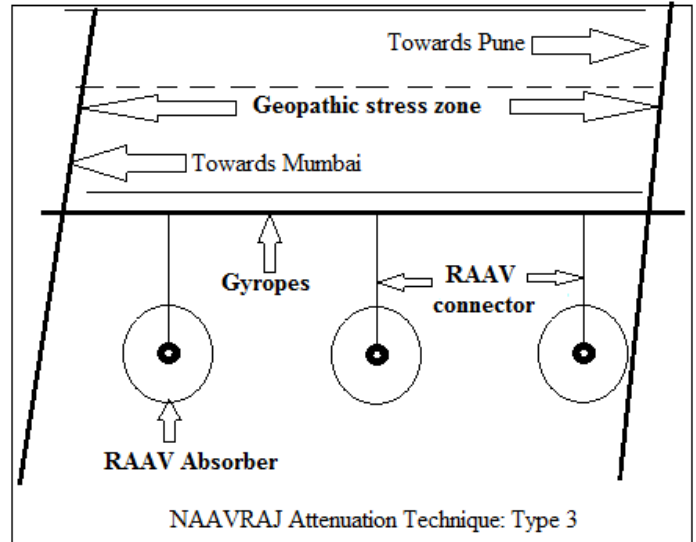
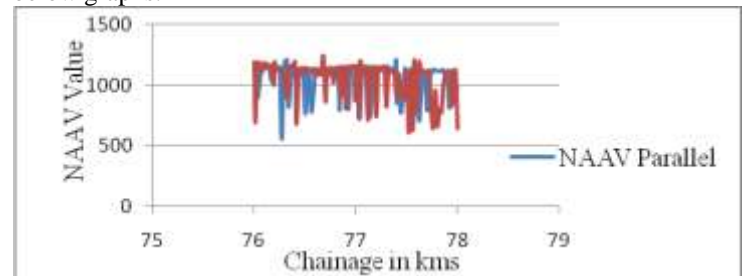


Fig.4. NAAVRAJ Attenuation Technique: Type 3

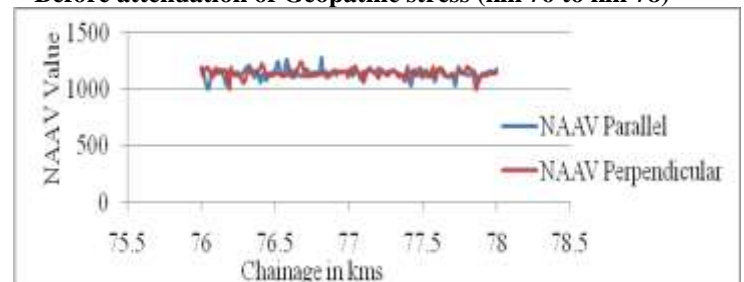
Attenuation of Geopathic Stress at the place where Gyropes are provided is done by using NAAVRAJ attenuation technique: Type 3 as shown in Fig.4. Gyropes can be used as AVRAN of NAAVRAJ technique. One end of RAAV connector is connected to the RAAV absorber and other end is connected to AVRAN (gyrope). RAAV absorber is installed 2 to 3 feet below the earth's surface and it is connected to the AVRAN through the RAAV absorber.

3. RESULT

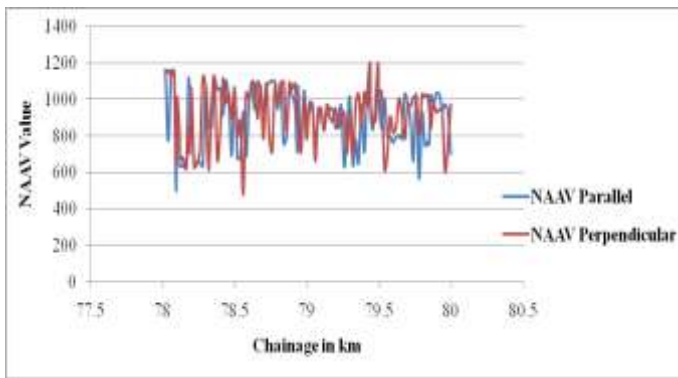
After the attenuation of Geopathic Stress zones of chainage 76 km to 83 km of Mumbai-Pune Expressway, NAAV meter readings are taken on those spots. Comparison between NAAV Value before attenuation and after attenuation is shown in below graphs.



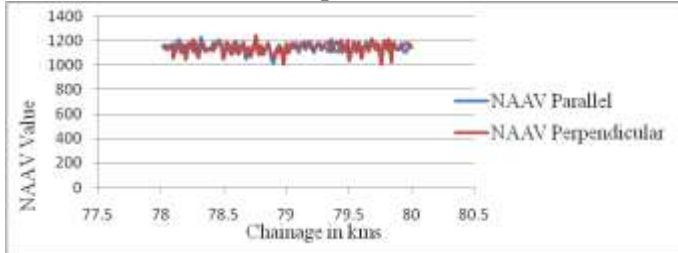
Before attenuation of Geopathic stress (km 76 to km 78)



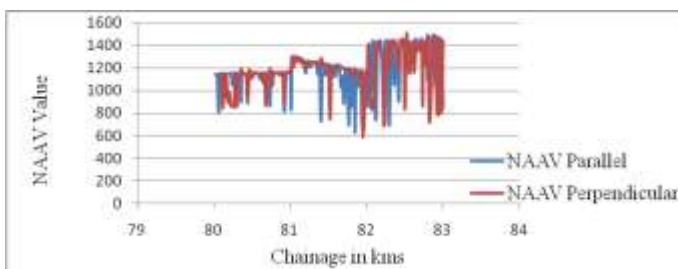
After attenuation of Geopathic stress (km 76 to km 78)



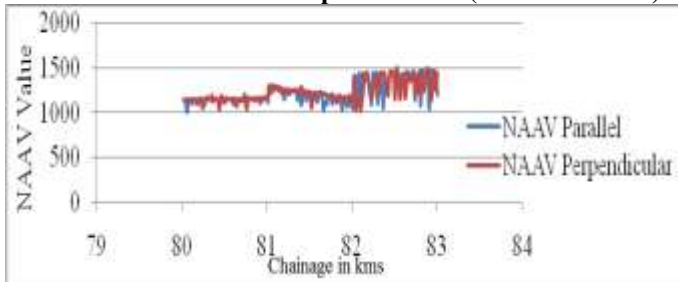
Before attenuation of Geopathic stress (km 78 to km 80)



After attenuation of Geopathic stress (km 78 to km 80)



Before attenuation of Geopathic stress (km 80 to km 83)



After attenuation of Geopathic stress (km 80 to km 83)

From the above graphs it is observed that before the attenuation of Geopathic Stress, the NAAV value decreases with respect to the intensity of Geopathic Stress. If NAAV value reduces upto 1000 NAAV then the Geopathic Stress is of light intensity. If NAAV Value lay in the range 1000 NAAV to 800 NAAV, Geopathic Stress is of moderate intensity. If NAAV Value decreases below 800 NAAV, Geopathic Stress is of high intensity. After the attenuation of Geopathic Stress by using 'NAAVRAJ attenuation technique' the NAAV Value increases above 1000 NAAV, which shows the attenuation of Geopathic Stress.

Accidental data is collected from MSRDC (Maharashtra state road Development Corporation) before and after attenuation of Geopathic Stress.

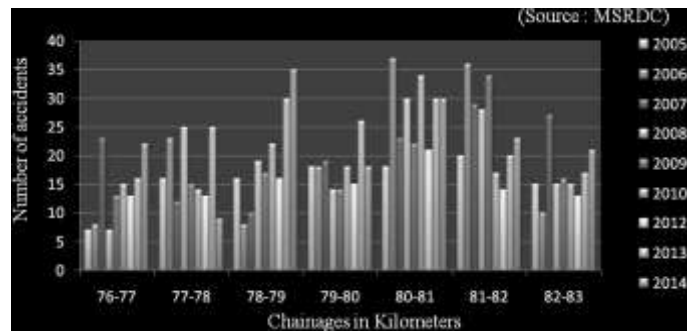


Fig.5 Accidental data of Mumbai-Pune Expressway before attenuation of Geopathic Stress

From the above data it is observed that rate of accidents is more in the stretch 79 km to 81 km before the attenuation of Geopathic Stress.

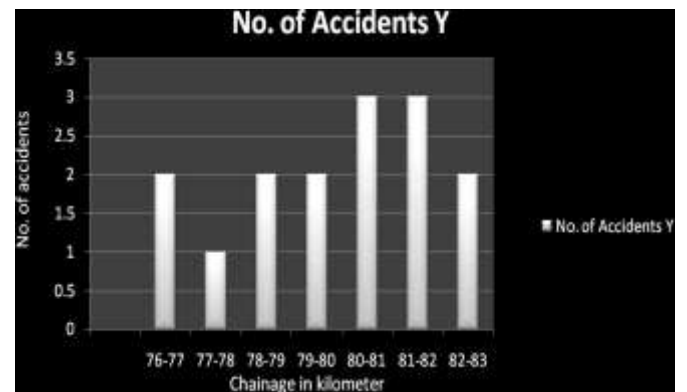


Fig.6 Accidental data of Mumbai-Pune Expressway after attenuation of Geopathic Stress

From the above graph it is observed that after the attenuation of Geopathic Stress the rate of accident get reduces but the total accidents are not get nullified as Geopathic Stress is not only the parameter for the occurrence of accidents.

4. CONCLUSION

From the above results it can be concluded that Geopathic Stress can be attenuated by using well established NAAVRAJ technique which ultimately reduces the rate of accidents. Geopathic Stress is one of the unseen parameter causing accidents on Expressways and National Highways. Still other Factors like lightning on Expressways and National Highways causing accidents are unknown. Hence for getting better results in reduction of accidents, all the parameters responsible for occurrence accidents need to be considered.

5. REFERENCES

1. Kharat, A.G. (2000), "Theoretical and Empirical Investigations on Built Environment", Ph.D thesis. Relator: Pune University, India.
2. Pimplikar S.S. (2011), "Empirical and Theoretical Investigations of accidents on expressways and national highways", Ph.D thesis. Relator: Pune University, India.
3. Dharmadhikari, N., Kharat, A.G. and Pimplikar, S. (2010), "A Study of Geopathic Stress using light interface techniques", Research Communications – Current Science, Vol. 98, No 5, PP 695-697.

4. Dharmadhikari, N., D.C.Meshram, S.D.Kulkarni, Kharat, A.G., Sorate, R.R. and Pimplikar, S.S., (2011), "Use of Dowsing and Geo-Resistivity meter For Detection of Geopathic Stress Zone", International Journal of Modern Engineering Research (IJMER), Vol.1, Issue.2, pp-609-614.

5. Hacker GW (2005) "Biomedical Evidence of Influence of Geopathic Zones on the Human Body": In: Scientifically Traceable Effects and Ways of Harmonization, Forsch Komplementärmed Klass Naturheilkd Karger. pp: 315-327.

6.Chafekar,B.H., Jarad, G.P., Pimplikar, S.S., Dharmadhikari, N.P., Kharat, A.G., Sorate, R.R., "Effect of Geopathic Stress on Pavement Distresses", IOSR Journal of Mechanical & Civil Engineering (IOSR-JMCE) PP: 01-08.

7.Poddar, A., Rana, S., 2014. Effect of Geopathic Stress and its correction on human body and machinery breakdown. Medicine and Medical Sciences (LRJMMS) Vol. 1 issue 3 pp. 041-045.

8.Sorate, R.R., Kharat, A. G., Dharmadhikari, N.P., Pimplikar, S.S., Narang, G., Deshmukh, D., Bhagwat, S., Sorat, S.,2012. "Geopathic Stress Aspect for Sustainable Development of Built Environment." International Journal of Scientific and Research Publications, Volume 2, Issue 12, December 2012 1 ISSN 2250-3153.

9.Soeder, D.J., Hacker, G.W., 1991. Scientific Evidence: Underground Water Creates Geopathic Stress & Weakens the Human Body's Immune Systems. Applied Fluorescence Technology, Vol III, Page 13.

10. Dharmadhikari, N., Meshram D., Kulkarni S., Kharat A., Pimplikar S., (2011), "Effect of Geopathic Stress Zone on human body voltage and skin resistance", Journal of Engineering and Technology Research Vol. 3(8), pp. 255-263, August 2011, ISSN 2006-9790.