

# Effects of Sahaja Yoga Meditation on Frequency and Intensity of Earthquake in Palghar District

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**Abstract:** Sahaja Yoga (SY) is a unique method of experiential meditation based on Self Realisation (Kundalini Awakening) which can occur in any human being. Through Sahaja Yoga Meditation, an inner transformation takes place by which one becomes balanced, united and integrated. Sahaja Yoga has an impact on a person and society. The meditation is based on “Energy centres” i.e., Chakras and Channels i.e., Nadis. The human body is made up of the five elements (Pancha Maha Bhootas) i.e., earth (Prithvi), water (Jala), fire (Tejas), wind (Vayu) and space (Akasha). Our body works in synchronisation with these 5 elements. Sahaja Yoga Meditation (SYM) is found to bring about the balance in these elements. Similarly, SYM is found to have effects on nature which is also made up of these five elements. The statistical analysis of earthquake data for the Palghar district suggests that the mean and variation (standard deviation) of earthquake magnitude is lowered during the period of SY Realization programs. I-MR Control Charts indicate that earthquakes become more stable after SY Realization programs. Pareto Charts indicate that the magnitude of earthquakes and their frequencies decline during and after SY Realization programs.

**Keywords:** Earthquake, Meditation, Sahaja Yoga (SY), Sahaja Yoga Meditation (SYM), Self realisation.

## 1. Introduction

Palghar is the 36<sup>th</sup> and the newest district of the state of Maharashtra, India. It is spread across 8 talukas namely Jawahar, Mokhada, Talasari, Vasai, Vikram gad, Palghar, Dahanu and Wada. It is located North of Mumbai, East of Thane and Nashik. Its habitation predominantly consists of a tribal population. Palghar is the newest district which is spread across 8 Talukas, 477 Village Panchayat, 3 Municipalities and a Municipal Corporation. As per the demographics population of Palghar is around 29,90,116, and the district is more rural dominated. The urban population is 13,52,283 and the rural population is 16,43,145. Most of its population has tribes. Even though the towns of the Palghar district have been undergoing development but the interiors face a major hit of socio-economic problems like unemployment, lack of education, lack of awareness, health issues, etc. and environmental problems like droughts and earthquakes. Recently from November 2018 onwards Palghar is facing earthquakes of intensity measuring 1

to 4.1 on the Richter Scale and falls under Zone 3 type of earthquake zone which causes damage to life and property. Palghar has faced 3637 earthquakes having on an average 17 earthquakes per day. Seismologists say they are tectonic in nature and occur due to the breaking of the rocks in the crust of the earth. The epicentre of Earthquakes in Palghar is found to be Dhundalwadi. As per Delhi based National Centre of Seismology, Dhundalwadi lies in the seismological active west coast fault. The fault line measures 11km long and 2km wide. A large number of earthquakes originated from a depth of more than 5kms in this region. The sequence of earthquakes was estimated at depth of 10km. This is one reason for scientists to attribute it to tectonic activity and not monsoon (Fernandes, 2019).

Sahaja Yoga is a unique method of experiential meditation based on Self Realisation (Kundalini Awakening) which can occur in any human being. Through Sahaja Yoga Meditation (SYM) inner transformation takes place by which one becomes balanced, united and integrated. It was established in the year 1970 by Her Holiness Shree Mataji Nirmala Devi. It is practised in 90 countries worldwide by all people of various faith, religion, gender, races, caste sects. Shri Mataji describes SYM as pure Universal Religion integrating all religions.

SYM has been seen to have impact on an individual and society. In an individual it is seen to have mental and emotional harmony, addictions become less and easy solution to health problems. There is seen increased balance and integration thus reducing tension and dissatisfaction that drives people to crime, violence and drugs. In short, SYM addresses many root causes of the world's social problems. The entire universe is made up of 5 elements namely earth (Prithvi), water (Jala), fire (Tejas), wind (Vayu) and space (Akasha). Our body works in synchronisation with these 5 elements. SYM brings balance in these elements. Similarly, in nature Sahaja Yoga Meditation also connects us to nature and thus its effect is seen in the action of Pancha Maha Bhootas i.e., five elements of nature.

## 2. Research Methodology

**Aim:** The study aims to observe the effects of Sahaja Yoga Meditation on the frequency and intensity of earthquakes in the

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district of Palghar.

**Objectives:**

1. To conduct SYM programs in schools, ashram schools, public places, etc.
2. To collect data about earthquake intensity in the district of Palghar.
3. To study and analyse the effects of SYM on earthquakes in Palghar.

The Fig. 1 illustrates the flow of the entire research process.

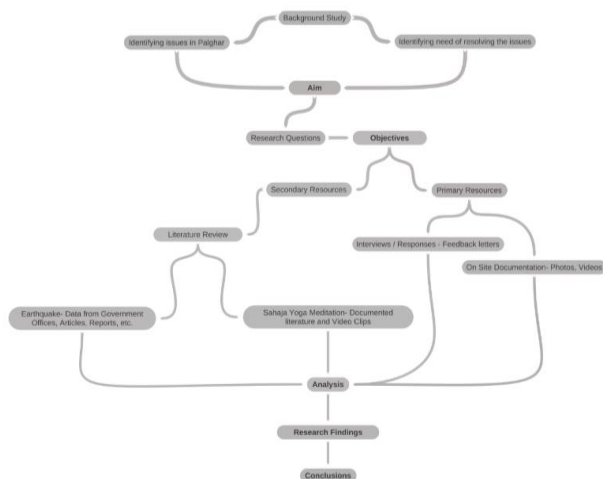


Fig. 1. Flowchart of the research process

**3. Literature Referred**

As a part of the secondary resources literature review of earthquake data, data from the government offices articles, reports were taken into consideration. For data related to SYM- documented literature and video clipping of the founder HH Mataji Nirmala Devi are used. Table 1 shows the details of literature referred.

The paper by *Pavankumar G. et al. (2020)* shows a study carried out by the authors in Palghar for the earthquakes which started from November’18 onwards. The study was carried along a 35km stretch to understand the seismic activity in the region. The study suggests that the seismic activity could be because of both the internal as well as external processes leading to the activation of the faults. The study infers that both localization of tectonic stresses and fluids play an important role in the cause of earthquakes in Palghar. Until August 2019,

in Palghar 4854 earthquakes are recorded. The magnitude varies from 0.1 to 4.1 on the Richter scale.

The earthquake’s epicentre is at Dhundalwadi that lies is on the seismologically active west coast fault as per the mapping of the Delhi-based National Centre of Seismology. The fault line is found to be 11km long, 2km wide and the district falls under the moderate seismic zone 3. A large number of earthquakes originated from a depth of more than 5kms in this region. The sequence of earthquakes was estimated at depth of 10km. This is one reason for scientists to attribute it to tectonic activity and not monsoon (*Fernandes, 2019*).

More than 1,000 earthquakes of mild-to-medium magnitude on the Richter scale have been experienced by the people of Dahanu and Talasari since November 3 last year, data as per the National Centre for Seismology (NCS) under the Ministry of Earth Sciences. The biggest tremor was recorded on February 1, at 3.6. Dr Vineet Kumar Gahalaut, NCS director, said, “On the same day, more than 600 tremors were recorded in 24 hours, at least four of which were above three on the Richter scale” (*Fernandes, 2019*)

Sahaja yoga is effective in controlling epilepsy says Defence scientist *Dr. Abdul Kalam*. While speaking at the Annual conference of the Indian Epilepsy Association and Indian Epilepsy Society, Dr Kalam said the Defence institute of physiology and allied sciences (DIPAS) has successfully demonstrated that the application of Sahaja Yoga along with conventional anti-epileptic drugs could control epilepsy. According to Dr Kalam, Sahaja Yoga practice led to the tranquillity of the brain as integrated indicated by the Alpha activity of EEG, reduced sympathetic activity and stress response. Blood lactic acid level was also reduced due to better aerobic capacity.

*Dr. Kuruppaiah (2021)* had conducted the experiments to see the effect of vibration on germination rate and growth in crops like onion and garlic. Vibrated and non-vibrated seeds were sown on 3 November 2015 and a germination test was conducted on 9th November 2015. The result was that there was 4% higher germination in vibrated seeds, 35.5% higher growth height in vibrated plants 8.9% more leaves were seen the root length was 29.3% higher than non-vibrated.

*Dr. Hamid M. (2021)* studied the effect of vibrations on animal (pigs) weight increase. Newborn one-week pigs were selected for trials in the farm in Austria. 3 groups were made

Table 1  
Literature referred

S.No.	Literature Referred	Purpose	Source
1	Magnetotelluric study of an intraplate seismic zone in the Palghar region of the Deccan Volcanic Province, India	To understand the situation of Earthquakes in Palghar district	Report
2	3637 Earthquakes in Palghar	To understand the scenario of earthquakes in Palghar	Newspaper Article
3	Sahaja Yoga effective in controlling epilepsy, says Abdul Kalam	To understand effect of SYM on human body	Newspaper Article
4	Effect of vibration on the germination rate and growth in the crops Onion and, Garlic.	To understand effect of SYM on water (nature)	Research Article
5	Scientific studies on Sahaja Agriculture -Trials on Animals	To understand effect of SYM techniques on animals	Research Paper
6	Effect of vibrations on water	To understand effect of SYM on water (nature)	Research Article
7	Documented Literature on Earthquake by Shri Mataji	To understand spiritual, connect with earthquakes	Website

and all were given the same fodder like 25% soya 31% barley 30% corn 14% vitamins and minerals, after they reached 20kg fodder was changed till they reached 30kg. Then 2 groups were given normal water and one group was given vibrated water. The result was that the group of pigs supplied with vibrated water showed about 15% weight gain as compared to other control groups. Thus, vibrated water has a positive influence on the weight gain of animals.

*Tkachenko, L. (1995)* studied the effect of vibrations on water. The research had three parts- In the first part, Norma tap water was taken and placed in front of Shri Mataji's photograph the result was that the purification eels were from 10% to 70%. For estimating the quality of the water, we used standard, worldwide accepted, sanitary chemical characteristics, which indirectly characterize the degree of water contamination. In the second part, the experiment in the extremely polluted River Barbera in town of Cabella in Italy. Barbera river was extremely polluted and local people could not use it. The analysis was performed from the water A) Barbera River water B) 5 ml of vibrated water was added into half litre Barbera River water. The analysis clearly showed that the quality of water in the river was much better than in many sources of purified drinking water. Shri Mataji's vibration improved all the characteristics like hardness, ammonia content, nitrides content, permanganate oxidability, iron content, etc.

Documented Literature on the spiritual connection of Earthquakes by *Shri Mataji (1983)* and *Cabella Ligure (1999)*, mentioned that "Another thing about Shri Ganesh is that He is created out of the Mother Earth. He is absolutely created out of the Mother Earth. So, if He doesn't like people of some country, who are doing black magic, or who are doing fundamentalism and where people are also having very bad morals, He creates problems for them. What happens [is] that He tells the Mother Earth to create the earthquakes. Earthquake takes place in places where there is no respect of chastity, also where there are fundamentalists and also where there are people who are worshipping the black magic. This kind of people are attacked by him through his mother. So, the Mother Earth also understands."

While, it is seen that SYM has positive impacts on water, the human body, plants and animals which form part of the five elements of nature namely earth (Prithvi), water (Jala), fire (Tejas), wind (Vayu) and space (Akasha). Thus, SYM is also likely to have an effect on the earth element of nature and thus reduce the frequency and intensity of earthquakes in the district of Palghar.

Also, Shree Ganesha resides in the Mooladhar Chakra in the human body and its element is the earth element, when something is done against the purity of Ganesha it reacts in different manners like earthquakes and drought and thus it is important in this study to please Shree Ganesha during the process of meditation.

#### 4. Working of SYM Programme

SYM programmes were conducted in person for the people of Palghar at various locations. SYM Techniques were used in the programmes.

The purpose of the study is to give self-realization (a method to awaken kundalini energy which resides in the sacrum bone). This awakening is felt through cool vibrations on the hands, in body and on the head) to students, staff, teachers of ashram shala and the locals of Palghar.

Techniques used in this study are developed by H. H. SHREE Mataji Nirmala Devi, the founder of Sahaja Yoga meditation. Thus, from the above guidance from the documented literature, the people were asked to recite Ganesh Atharvashirsh, Perform Balancing (a technique to balance the 3 channels and 7 chakras in body) and pray for the reduction in earthquakes in the region followed by silent meditation for 5 minutes. It takes total 20 minutes for the meditation and prayer.

165 SY volunteers were divided into 6 teams to cover different regions of Palghar like-Wada, Manor, Palghar, Talasari, Boisar, Dahanu regions of Palghar. Every Sunday turn wise the teams used to conduct different programs in the above talukas in ashram schools, market places, temples, padas, wadis, police stations, etc. This work was carried from December 2019 to March 2020 and resumed post lockdown in December 2021 to April 2022. In the above-mentioned span, 98 sessions and about 13,432 people including school students, teachers, staff, policemen and civilians have been a part of the meditation program and experiencing the benefits. The table attached below shows the feedback received from various sources for whom the meditation was conducted.

*Refer to Annexure-I for more details.*

#### 5. Data Collection, Data Analysis and Inferences

Earthquake data is collected from District Disaster Management Office (DDMO), Collector office, Palghar, Maharashtra state.

Statistical techniques and software were used to carry out data analysis. The abbreviations used are as follows

Mb: Mean before SY realization program

Md: Mean during SY Realization program and

Ma: Mean after SY Realization program

##### A. Test for Mean of Magnitude

*Two-Sample T-Test and CI:* Mean before Realization program (Mb), Mean during Realization program (Md).

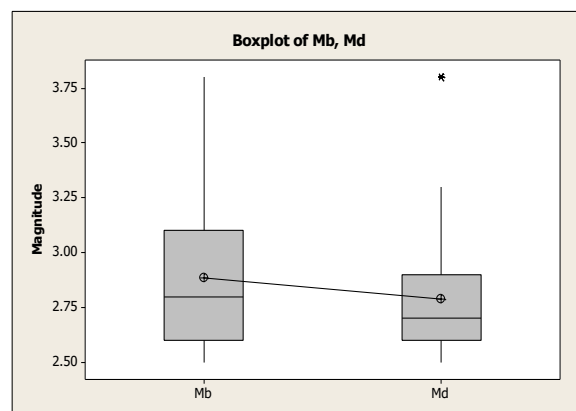


Fig. 1(a). Test for mean of magnitude before and during realization program

*Two-sample T for Mb vs. Md*

N	Mean	StDev	SE Mean
Mb	121	2.886	0.372
Md	75	2.788	0.272

Difference =  $\mu(Mb) - \mu(Md)$   
 Estimate for difference: 0.097950  
 95% lower bound for difference: 0.021734  
 T-Test of difference = 0 (vs >):  
 T-Value = 2.12  
 P-Value = 0.017  
 DF = 188

*Inference:* Since P-Value = 0.017 is Less than 0.05 (at 95% Confidence), we accept alternate hypothesis i.e., mean magnitude before Realization program is greater than Mean magnitude during Realization program.

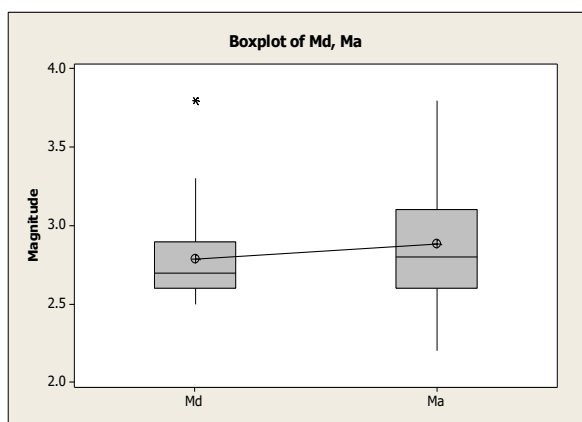


Fig. 1(b). Test for mean of magnitude during and after realization program

*Two-Sample T-Test and CI: Md, Ma*

Two-sample T for Md vs Ma

N	Mean	StDev	SE Mean
Md	75	2.788	0.272
Ma	43	2.884	0.394

Difference =  $\mu(Md) - \mu(Ma)$   
 Estimate for difference: -0.095721  
 95% upper bound for difference: 0.017366  
 T-Test of difference = 0 (vs <):  
 T-Value = -1.41  
 P-Value = 0.081 DF = 65

*Inference:*

Since P-Value = 0.081 is greater than 0.05 (at 95% Confidence), we accept null hypothesis i.e. there is no change in Mean magnitude before Realization program and Mean magnitude after Realization program.

*B. Test for Equal Variances (standard deviation) of Magnitude*

N	Lower	Std.Dev	Upper
Mb	121	0.324646	0.434175
Md	75	0.229218	0.332268

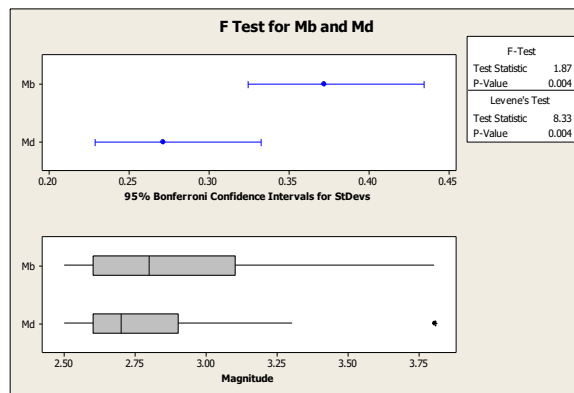


Fig. 2(a). Test for equal variances (standard deviation) of magnitude before and during realization program

*F Test for Equal Variances: Mb, Md*

95% Bonferroni confidence intervals for standard deviations.  
 F-Test (normal distribution):  
 Test statistic = 1.87, p-value = 0.004  
 Levene's Test (any continuous distribution):  
 Test statistic = 8.33  
 p-value = 0.004

*Inference:* Since p-value = 0.004 is less than 0.05 (at 95% Confidence), we accept alternate hypothesis i.e., standard deviation of magnitude before Realization program is greater than standard deviation of magnitude during Realization program.

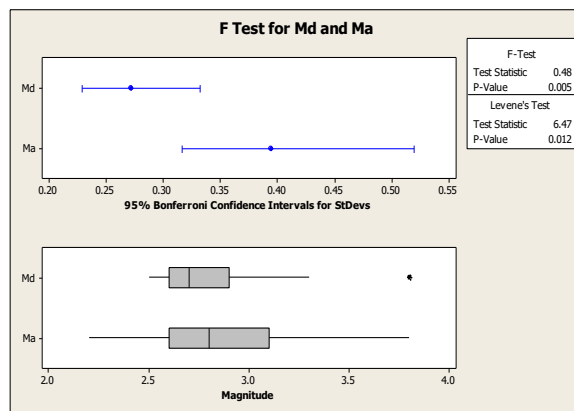


Fig. 2(b). Test for equal variances (standard deviation) of magnitude during and after the realization program

N	Lower	StDev	Upper
Md	75	0.229218	0.332268
Ma	43	0.316287	0.519208

*Test for Equal Variances: Md, Ma*

95% Bonferroni confidence intervals for standard deviations  
 F-Test (normal distribution):  
 Test statistic = 0.48, p-value = 0.005  
 Levene's Test (any continuous distribution):  
 Test statistic = 6.47,  
 p-value = 0.012

*Inference:* Since p-value = 0.005 is less than 0.05 (at 95% Confidence), we accept alternate hypothesis i.e., standard

deviation of magnitude after Realization program is greater than standard deviation of magnitude during Realization program.

*The normal distribution curve and boxplot:*

The normal distribution curve and boxplot clearly indicates that there is decrease in variations in the magnitude and frequency of earthquakes during SYM. The variations in the magnitude increase however the better part is that after SYM, the frequency of magnitude decreases.

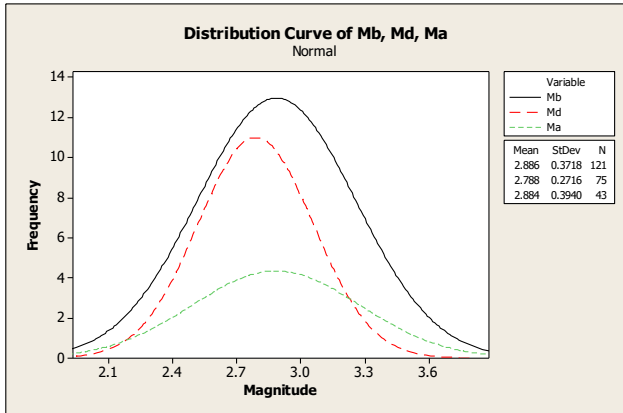


Fig. 2(c). Distribution curve of Mb, Md and Ma

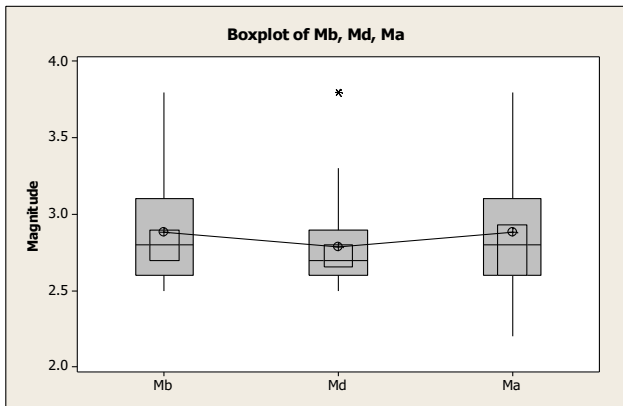


Fig. 2(d). Distribution curve of Mb, Md

**C. Control Charts for earthquake data**

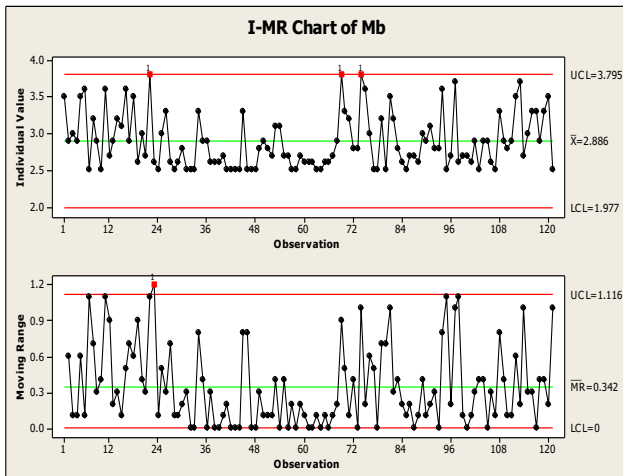


Fig. 3(a). Control charts before realization program (Mb)

*Test Results for I Chart*

TEST 1. One point more than 3.00 standard deviations from center line. Test Failed at points: 22, 69, 74

*Test Results for MR Chart of Mb*

TEST 1. One point more than 3.00 standard deviations from center line. Test Failed at points: 23

*Inference:* The Individual and Moving Range (IMR) control chart clearly shows that the earthquakes process is not in control. There is lot of variation in magnitude of the earthquakes.

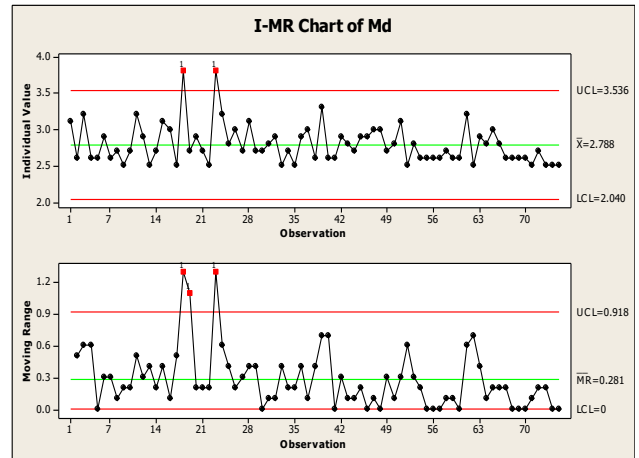


Fig. 3(b). Control charts during realization program (Md)

*Test Results for I Chart of Md*

TEST 1. One point more than 3.00 standard deviations from centreline. Test Failed at points: 18, 23

*Test Results for MR Chart of Md*

TEST 1. One point more than 3.00 standard deviations from centreline. Test Failed at points: 18, 19, 23

*Inference:* The Individual and Moving Range (IMR) control chart clearly shows that the earthquakes process is not in control. However, the variation in magnitude of the earthquakes is reduced.

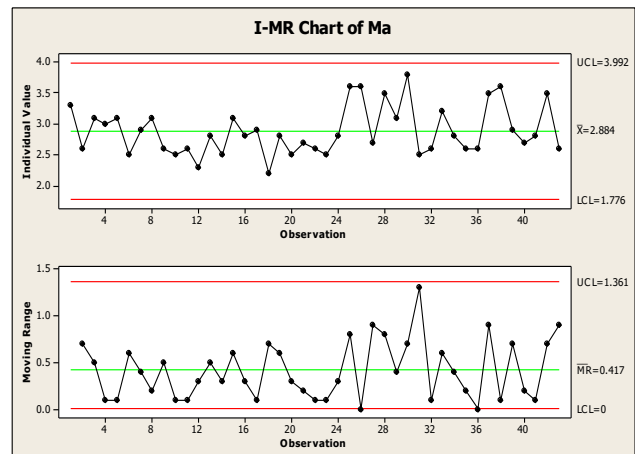


Fig. 3(c). Control charts after realization program (Ma)

*Inference:*

The Individual and Moving Range (IMR) control chart clearly shows that the earthquakes process is in control.

**D. Pareto Chart for Magnitude**

Table 2  
Earthquake data

Magnitude	Before	During	After
2.2	--	--	1
2.3	--	--	1
2.5	26	12	6
2.6	17	17	8
2.7	14	13	3
2.8	9	7	6
2.9	16	9	3
3.0	6	6	1
3.1	4	4	5
3.2	5	4	1
3.2	5	0	0
3.3	8	1	1
3.4	0	0	0
3.5	6	0	3
3.6	5	0	3
3.7	2	0	0
3.8	3	2	1
Total	126	75	43

It is observed from Pareto chart 4 (a), 4 (b) and 4 (c) that the magnitude of earthquakes and its frequencies declines during and after Sahaja Yoga Realization programs.

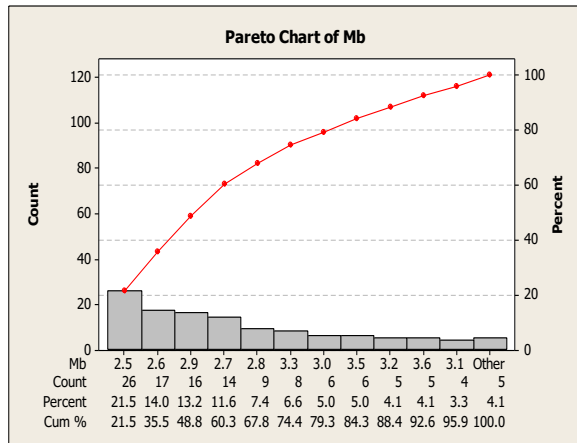


Fig. 4 (a). Pareto chart for magnitude before realization programs

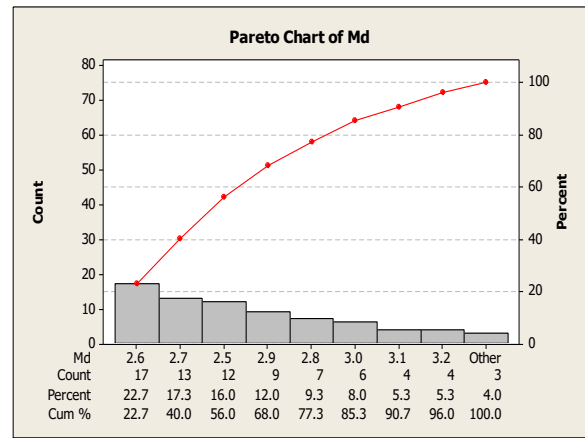


Fig. 4 (b). Pareto chart for magnitude during realization programs

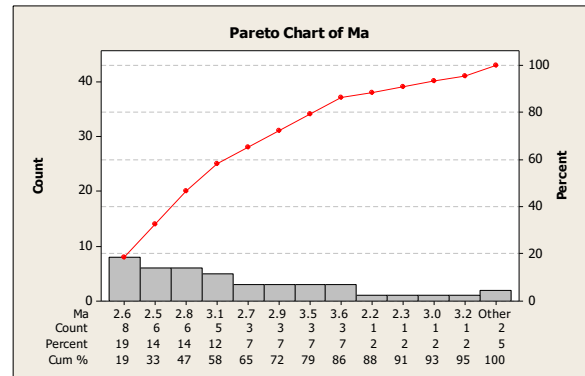


Fig. 4(c). Pareto chart for magnitude after realization programs

**E. Descriptive Statistics: Mb, Md, Ma**

Notations used:

- Magnitude Before Realization Programs (Mb)
- Magnitude During Realization Programs (Md)
- Magnitude After Realization Programs (Ma)

Table 3: Descriptive Statistics for Mb, Md, Ma

Variable	Total Count	N*	Mean	Sdt.Dev	Minimum	Q1	Median	Q3	Maximum
Mb	121	0	2.8860	0.3718	2.5000	2.6000	2.8000	3.1000	3.8000
Md	75	0	2.7880	0.2716	2.5000	2.6000	2.7000	2.9000	3.8000
Ma	43	0	2.8837	0.3940	2.2000	2.6000	2.8000	3.1000	3.8000

Variable	Range	IQR
Mb	1.3000	0.5000
Md	1.3000	0.3000
Ma	1.6000	0.5000

*Inference:*

1. Lower mean magnitude during the Realization program is observed as compared to the mean magnitude before Realization program. However, there is no change in Mean magnitude during Realization program and Mean magnitude after Realization program

Table 4

Parameter	Before	During	After	Validation Tools	Remarks
Mean of Magnitude (Mb & Md)	2.886	2.788		Hypothesis Testing - T Test	p value < 0.05. Hence mean magnitude before Realization program is greater than Mean magnitude during Realization program
Mean of Magnitude (Md & Ma)		2.788			p value > 0.05. Hence there is no change in Mean magnitude during Realization program and Mean magnitude after Realization program
Standard Deviation of Magnitude (Mb & Md)	0.372	0.272		Hypothesis Testing - F Test	p value < 0.05. Hence standard deviation of magnitude before Realization program is greater than standard deviation of magnitude during Realization program
Standard Deviation of Magnitude (Md & Ma)		0.272	0.394		p value < 0.05. Hence standard deviation of magnitude after Realization program is greater than standard deviation of magnitude during Realization program

Realization program.

2. Lower standard variation (variation) is observed in the magnitude during Realization program as compared to before and after Realization program
3. I-MR Control charts indicate that the earthquake occurrences became more stable during and after Sahaja Yoga Realization programs.
4. It is observed from Pareto chart 4 (a), 4(b) and 4 (c) that the magnitude of earthquakes and its frequencies declines during and after Sahaja Yoga Realization programs.

## 6. Conclusion

### 1) Probability Distribution Curve, T Tests & F Tests

The mean and variation (standard deviation) of earthquake magnitude lowers during the period of Sahaja Yoga Realization programs.

### 2) I-MR Control Charts

Earthquakes become more stable after Sahaja Yoga Realization programs.

### 3) Pareto Charts

Magnitude of earthquakes and its frequencies declines during and after Sahaja Yoga Realization programs.

- This research also focused on mental wellbeing of the people for whom the meditation is conducted since earthquakes have a disturbing effect on the residents. It is seen that through SY meditation there is increase in focus amongst the students, mental relief amongst the commoners.
- Seeing the issues in Palghar of earthquakes which occur inside the earth and the earth representing the Prithvi (Earth) element of the Panch Maha Bhootas the five natural elements. Sahaja Yoga Meditation which has effect on these 5 elements of nature can be assumed to be effective on reducing the earthquake frequency and intensity in the district of Palghar. Thus, the said study can be conducted on this topic.

## 7. Limitation of the Research

Currently the research will be limited to observe the effect of SYM on earthquake magnitude and frequency in the district of Palghar.

## Acknowledgement

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