REPORTABLE

IN THE SUPREME COURT OF INDIA

CIVIL APPELLATE JURISDICTION

CIVIL APPEAL NO. 4676 2018
(arising out of S.L.P. (C) No.15459 of 2017)

SARIKA ...**APPELLANT(S)**

VERSUS

ADMINISTRATOR,
SHRI MAHAKALESHWAR MANDIR
COMMITTEE, UJJAIN (M.P.) & ORS. ...**RESPONDENT(S)**

J U D G M E N T

ARUN MISHRA, J.

1. Leave granted.

2. The petition pertains to famous Mahakaleshwar temple, Ujjain. The appellant has impugned the judgment and order passed in Writ Appeal No.37/2014 by the Division Bench of the High Court of Madhya Pradesh at Indore thereby setting aside the order passed by the Single Bench on 4.12.2013 in W.P. No.10712 of 2013.

3. Mahakaleshwar is an ancient temple of Lord Shiva. In order to understand the importance of the Lingam it is necessary to consider it, in brief, the history of Mahakal – Shiva, worshipping of statues and Lingam, origin of Mahakal, same as defined in scriptures etc. as pointed

out in the reply of Mahant Prakash Giri of Shri Panchayati Akhara Mahanirvani is as under:

"*BRIEF HISTORY OF MAHAKAL SHIVA*

Since ancient times in Hindu culture definitions are found in name of Shiva, Pasupati, Rudra, Ishaan, etc. Undoubtedly, the Vedas are the only authentic and well-being book of Hindu religion, when and where it was created it is matter of search. But it can be said that at least 5000 years ago, it was in complete existence.

Shiva is the instrument of discussion in Veda Mantras, but that discussion is on shapeless god. Somewhere nature's body is also addressed by various names of Shiva, part of Vedic treatises of the Swaithashwar influx, it has been discussed by the 'Sweth' sage on the basis of the Vedic Mantras in the spiritual form of Shiva.

As briefly stated, [Abstract from Swaithashwar influx] : The creator treats himself and all the controlling Divine powers differently, therefore, it remains entangled in the creation of universe [In the enjoyment of nature] And when that incomparable divine power is experienced, then attain liberation, that is salvation.

Indestructible or destructible, visible and not visible it nourishes the divine (the supreme power) of this whole world, the creature attracted to the qualities of nature, treating himself as his boss, stays in the same nature, and when that creature is experiencing that divine, attracted by the qualities of nature, creatures [Jeev] keep himself tied by the attribute of the same nature, and when that creature experiences that divine, then he is exempted from all bondage.

The destructive staple and indestructible life-force is formulated by a god called 'Har', with the thought of its contemplation, and by the feeling of its element, the person achieves the retirement of the cycle (nature) of the reincarnation after liberation.

Braham in the soul should forever be known, there is no more known qualified entity than this, the creator (creature),

the usable material (nature), and the inspiration (God), this is the only way Brahma said in three ways.

While commenting on this stanza, 'Shankaracharya' has written with the reference of Shiva, that performers [Yogi] see Shiva's not in idols but in soul, a person who relinquish Shiv from his inner soul to worship outer Shiv, he feels as if he has dropped his hands morsel (Food yoga substance) and licks his empty palm, as the blind person can't see the rising sun, in the same way, the uneducated person can't view the calm form of Shiva. The person who view the omniscient (everywhere present) calm form of Shiva, Shiva resides in his heart, but those who can't see Shiva located in their souls, those people use to search him at pilgrimage place. In the interpretation of this stanza, it is written with reference to Vishnu Purana that's the goal that is proven by the mind's axiomatic (complete) Inconsistent (Due to meditation and distinction between patience) the form is assumed, it is called a Samadhi.

The power called a Rudra is governed by the entire Universe, it is situated within all the organisms and creates the entire universe (many planets located in space and space), protects them and destroys (destruction of the universe) means it merges in itself. Rudra Dev originates all the creation and creatures.

Nature is to be known as illusion and Maheshwar as Elusive this entire world (universe) is the Action Format of both of them.

At the beginning of creation by becoming one [supreme power] and being special by its power without any purpose many types of characters [Special form] holds and in the end the world dissolves in it and same supreme power provide pure intelligence.

Supreme power is the fire, the same sun, the same air, the same moon, the same Venus, the same Brahma, the same water, and the same is Prajapati. Dev (supreme power) exists in fire, which is in water, and is occupied (everywhere) in the entire universe and which is present in the Medicine and the vegetation also that god (God). This soul is neither a woman, nor a man, nor an important, the one who holds the body remains the same.

The supreme power, (the power that exists everywhere), that power is the form of knowledge, which is the power time (time). Who is the virtuous and Omniscient [all knowing] Inspired by that the earth, water, fire, air, and sky, established In their own deed, keeps interaction, think of that supreme power. Head-Neck-and chest keeping the body together, by controlling all the indices by concentrating peace of mind, strengthen the meditation while uttering the sound 'Om'.

To control the mind, do pranayama. These actions are to be held at quiet, secluded, and in a clean place.

In this way, where ever Yogi does Yoga, the Yogi experience the Brahma Tattva (God) with the illuminating self, similar to the lamp, That yogi is free from all unborn, steady, and all elements, he releases himself from all bounding by knowing that God.

Thus, from this brief description of Shvetashwar Upanishad, it can be understood that the Shiva as described in Veda, he is the only creator of the Universe, is rearing the universe, is also the destroyer, spreads everywhere known as power form of formless God.

It is submitted that Vedas are the foundation of Hindu religion, all types of basic knowledge and science are available. This is the first knowledge book of the universe, on basis of this Vedas, all Purans and Hindu texts are written or spoken, now it can be seen brief form of Shiv from Hindu texts written after Vedas. The 'Shev sect' is known for worshiping different forms of Shiva by believing it as God, this sect. has its own elaborate literature how much is truth, it is the matter of research but in Bharat it has been recognized at least 2500 years ago it is known from the available evidence, how old is this from it is a matter of research. The main forms of Shiva People whom people in Bharat or abroad worship him as God in the form of idol or phallus. The visual part of Shiv is as follows:

1. Panchamukhi Shiva
2. Asht Vidh Shiva
3. Ekadash Rudra

4. Various Incarnations of Shiva
5. Bhairav
6. Shiva's Yogavatar

The Origin of Lingas: *The origin of the Linga's in the Puranas in such a way that when this creation was taking place, there was a fierce battle between Brahma and Vishnu, and in that war a huge Jyotipunj appeared between them, As a result of this sudden incident, both of them stopped fighting together and went to know the secrets of this light; they went up and down in the form of swan and wind, but there was no end to it then both of them came back and gathered and explored Lingas at that time they heard a sound 'Om' coming out of that Jyotirmay Lingas, and universe was created, first of all it came in form of Golden egg and it remain in same format for thousand years after that egg got divided which created Sky and Earth Brahma and Vishnu performed the prayer of Jyotirlinga with Om Mantras then from that Jyotirlingas in form of words [a,aa,e,ee,u,oo,r,tr,others) Shiv along with Uma manifested when he lift his head again and looked upwards then from sound of Omkar he visualize 38 words Ishan Mantras, 24 words Tatpurush Mantra, 33 words Aghor Mantras, 35 words Sadhojat Mantras and 66 words Vamdev Mantras knowing these five mantras Vishnu started Chanting these mantras and prayed Shiva by these in Mantra form from here onwards the origin of worship Jyotipunj Lingas started, the main meaning of the word lingas is symbol, i.e. here, we understand from Shivling that in entire universe Shivaling is considered to be the symbol of the ultimate power which prevails inside and outside of it, word Shiva it the only power who runs, creates, .and destroy this universe. This universe is its direct symbol, hence Shivling is considered as symbol of God.*

Different types of lingas: *There are two main types of lingas the first type of lingas is called as swambhu, meaning of swamboo is who is self-generated, second type of Lingas are produced, Lingas are produced from Mercury, Gold, Silver, Diamond, Sfetik, Precious Stones, stones and Mud, it can be made from other materials also, Shiv Lingas made of mud are dissolved in water after worshipping daily balance type of Lingas are permanent. According to tradition every piece of stone found in Narmada river is treated as Lingas. Apart from this trees and plants are also symbol of Shiv Lingas.*

Legislation of worshiping Statues and Lingas: *Shiva statue created along Human shape is called Pratima, Customs of worshiping the Idols and Lingas are almost same.*

Worshiping of Shiva's Formless Lingas: *In addition to external worship, internal worship is also mentioned in the Puranas, for spiritual contemplation and meditation two types of Lingas have been defined Lingas created by physical materials available outside and interior Lingas, for the sake of emotional fulfillment of common mass concept of Solid outside form of Lingas, has been perceived, the epicenter lingus which means the spiritual astral body, which does not have direct experience the same ignorant persons perform prayer etc everything outside by imagining it externally, by meditating Jnan meditation yoga, in meditation, that subtle Lingas symbol of Shiva sees himself sitting in his own right. Once this knowledge is attained, there is liberation this is worshiping the formless Lingas. Knowledgeable people perform meditation yoga by the equator were he visualize subtle shape Shiva sitting within itself when his knowledge is attained he gets Liberation, this is the way to worship the formless Lingus.*

Pasupat ki Utpatti: *According to Ling Purana, Pasupat vrat Yoga scriptures and Kapil Samkhya are composed by Shiva and Pasupat was created earlier and it's the best. Shiva had very first preached to Vishnu etc deities of Pasupat second time he preached at time when he inhale poison occur from sea churn, third time he preached to Prajapati Daksh on the occasion when Daksh oblation [Yag] was vandalize. Shiva 28 yoga avatars were also holders of pasupat vrat they spread the Pasupat through their disciples. Pasupat vrat which was originated by Lord Shiva, after him the Yoga incarnation held at different times by different people took forward but all of them are not available in Holy book [Grant] but they are discussed in the context here and there. Out of these the last Yoga avatar his name was 'Lakuleesh' and he was born presently known as Gujarat in Vadaodra district, according to time he reached Ujjain their he delivered his first preach to Kushik and other disciples on manner in which Shiv performed and practiced the Pasupat vrat, and Mahadev south facing statute i.e sacraments or pledge the bhasma purified by Sadhojatadi 5 Shiva Mantra's to Mahakal this*

prime action has been interpreted in Pasupat Sutra by authentic interpreter 'kodilya' in his first Sutra. Mahadev authentic south-direction Linga formation is the only one at 'Mahakaleshwar Jyotirling' besides this the accreditation is that it doesn't exist at any other place. Persons who adopt Pasupat yog should take bath thrice with Bhasam, should sleep on bed of Bhasma, even after taking food etc he should put Bhasam on his body, should possess Shiva Nirmaalya, such as House holders and people living in the other hermitage have their own special symbols likewise Bathing with Bhasam [Bhasam ashnan], Sleeping on Bhasam, Anuashnan Shiva Nirmaalya are symbol of person of Pasupatl's, Pasupati should chant five Braharn mantra purified by 'Sadvoiata'all these should be performed in congruence of south facing staue of Lord Mahadev.ln brief it has been narrated about Pasupat,

Pasupat tradition originated from Lord Shiva has always been followed regularly in Bharat today they are known as 'Naga Sadhu', There is evident proof of Pasupat and Naga Sadhu's are time to time mentioned in ancient books [Grants], and are been quoted in scripts of others religion [Jainism and others].

***Origin of Mahakal**: According to Shiva Mahapurana Kotirudra sanhita Update 16, a Brahmin lived with his four sons in Ujjain [Ujjani] city, that Brahman daily used to perform Agni horn & terrestrial Shiva Linga, at the same time an evil demon called Dushan lived on the mountain called Ratanmal. On day when Brahman was delighted in meditation of Lord Shiva then only Dushan monster arrived along with his army and tried to kill Brahman then only Lord Shiva manifest from the terrestrial Linga worshiped by the Brahman, said that I am Mahakal who destroys evil demon like you, move away from this Brahman, and by a single word 'Hunkar' reduced that evil demon along with his army into ashes, after the killing of Dushan these Brahmins prayed to Lord Shiva to stay their and Lord Shiv accepted it stable himself in form of Lingas and known as Mahakal. In the 17th chapter of this mythology, King Chandra Sen of Ujjain and one Gope child also worship the Mahakaleshwar Lingas.*

***Pasupat and Mahakal**: In the Puranas and many other literature, the material related to Mahakal is obtained,*

according to available evidence, current Mahakal temple is the only authentic South facing Shiva Linga, ,in the past there was crematorium at this place, this is the only Shiv Lingas in the universe on which from unknown time ashes of funeral pyre brought from crematorium by pronouncing Sadyojata Five mantras is plated by Naga [Pasupatis] Sadhu. This tradition is not experimented anywhere else except Mahakal no other sect in the universe except Pasupat loves Bhasam and crematorium, he is worshiper of south facing Shiva and uses bhasam purified by Pach Braham[Sadyojata] mantras. Current format of Pasupat which was preached by Lukulish in Ujjain these probes that Pasupat and Mahakal are mutually related and according to the said behavior in Mahakal before and during today's time, Mahant of Nag a Sadhu's at Mahakal is following the tradition of Pasupat. Swet Saga the first Pasupat acharya in Swetashwer upnished have mentioned at different places about Divine power of Shiva especially in chapter (4-20) He has praise a special appearance of Rudra's southern face, In mahabharat chapter Anushasan parv Shiva told Uma that I have delivered the preaching on Pasupat from my Southern face, in Shiv Mahapuran, Ling Mahapuran, Panchbrahmhopnishad volumes south facing Shiva has been called Aghor, It is famous the crematorium is very dear to Shiva and Shaiv Aghories, in Ling Mahapuran worshiping South facing Shiva by Bhasam has been mentioned specifically, proof in these texts certify & it is evident that the present Jyotilinga of Mahakal south facing aghor shiva statue, that's why Naga Sadhu's (Followers of Pasupat branch) are offering Bhasam ashnan daily to him, since ancient times (according to the evidence of Kondilya it is 1500 years back) is being performed even today. The ritual of performing Bhasma ashnan to Mahakal can be carried out only and only by Naga sadhu's nobody else can do nor should it can be attempted. If attempted it will destroy the tradition and will hurt the sentiments of Hindu religion. Today even the Hindu devotees visit Mahakal to visualize the Bhasma Ashnan of Maharaja Mahakal.

Antiquity of Mahakal and Pasupat: *By 1735 when Ujjain has come under domination of Marathas at that time Ranoji Schinde who was appointed by Peshwas, and has given charge of Ujjain to Diwan Ramchandra this Diwan Ramchandra had rebuilt the present Mahakal Temple, approx 1235 Shamsuddin Alatmas had robbed and destroyed the*

Mahakal Mandir. Restoration of Mahakal Temple was executed by Raja Bhoj approx during 1010, state poet Ban Bhat of Harshvardan who ruled the state during 590-647 has also described about Mahakal &. Pasupat in his poem Harshcharit &. Kadambari. During the time of Vikramaditya great Poet Kalidas has specifically mentioned Mahakal Temple in his Poetry Raghuvansh and Meghdoot it is difficult to specify the time of Kalidas, but at least 1650 years is prevalent in the past not less than that. Apart these description of Mahakal are found in Puranas and Tantra shastra also, but time can be mentioned by Historians, we can't. In book Heart of Jannisium written by Stevenson has also mentioned that Founder of Jain religion Mahaveer also visited Ujjain and has performed austerity, famous Mahakal Temple was established in Ujjaini. What is the truth we can't say but from the available scripts it can be mentioned that approx 2000 years past existence of Mahakal Temple is evident because Historian has predicted the time of composition and preaching of Pasupat 150 B.C to 1st A.D and there is indirect form of discussion of Mahakal in Pasupat Sutra. Now briefly we should view the ancientity of Pasupat. From 1295 to 1385 a person named Acharya Madhav has mentioned briefly about Nakulish Pasupat Sight to Shavya Sect in his book called Sarvya Darshan. In eight century Shankracharya has specifically discussed about Pashupat Sect in his Vedant Sutra chapter 2, fart 2, formula 37 which is an authentic book. This Formula of Vedant has clearly mentioned of Pasupat Sect by mentioning word Pati so the Pasupat is ancient the Braham Sutra and the time of composition of Vedant sutra is between 4000 B.C to 450 B.C as described by historian in their own way, so it is difficult to predict the exact time, approx 2000 years back Pasupat Sect was fully established or it was' in the beginning shape this can be said."

Preservation of Mahakaleshwar Linga:

4. This Court has primarily entertained the petition vide order dated 5.5.2017 as it transpired that the idol of Lord Shiva in the form of

Lingam is in danger due to various causes and it has deteriorated as such notice was issued to ensure its preservation.

5. The appellant has filed an additional affidavit in the matter of erosion of Lingam. It has been pointed out that due to the erosion of Omkareshwar Jyotirlingam, offerings have been banned. Omkareshwsar Jyotirlingam is situated nearby Ujjain. In this regard, newspaper report dated 15.11.2006 as to Mahakaleshwar Jyotirlingam has also been filed.

6. Following is the report dated 15.11.2006 published in the newspaper UNI :

> ***"Mahakal Jyotirlinga eroding:***
>
> *Published: Wednesday, November 15, 2006, 11:40 [IST]*
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> *Indore, Nov 15 (UNI) 'Jyotirlingam' of Lord Mahakal at temple town Ujjain is gradually getting eroded. More than 30 square cm scalp of the holy 'lingam' has come out with nearly 7-8 mm thickness from the eastern side along with 3-4 similar circular patches, having 2-2.5 cm diameter and 6.5 mm depth, just above the bigger patch. The entire holy 'lingam' is having geological scaling on the western side. Two vertical carving has raised concern that the 'lingam' will have enough chances of splitting into three pieces in future.*
>
> *Dr. Ram S Shrivastava, a known scientist closely observing the holy lingam since 1953, is convinced that if due care was not taken then "we will have to cut a sorry figure in future." He said the Mahakal was the oldest 'Jyotirlingams' out of 12 'Jyotirlingams' in the country and the only one facing south. The Mahakal temple was destroyed by Sultan Shamsuddin Iltutmish of Delhi in*

1235 and it was later restored by the Scindias in the 19th century.

There is a 5,000-year-old record available for worships. It is believed that the 'Jyotirlingam' was found inside the Koti Teerth Kunda in the Mahakal campus and the temple was first constructed by King Vikramaditya. Dr. Shrivastava said one of the reasons for erosion could be pouring of chlorinated water -nearly 25,000 litres a day -besides about 80 'pundits' from 16 Brahmin families massaging the lingam on rotation basis using Bhat Shringar, Bhang Shirngar etc. Milk' and other offerings could be accounted in tonnes. Almost every visitor touched the holy shrine and often rubbed and pressed it during prayers."

7. Yet another report dated 7.7.2014 about banning of offerings of sugar, ghee, milk, curd etc. in the temple at Ujjain has been placed on record. That management wanted experts to check erosion of Jyotirlinga of Mahakaleshwar Temple at Ujjain. Following is the report dated 7.7.2014 :

"***Mahakal management wants experts to check erosion of jyotirlinga***
TNN | Jul 7, 2014 11.42 AM IST

UJJAlN: Mahakaleshwar temple administration has written a letter to the commissioner of state archaeology department to send a team of experts to examine reported erosion in treasured stone jyotirlinga at the temple.

District collector and temple committee head BM Sharma told newspersons on Saturday that steps needed to prevent the erosion would follow the report and suggestions of experts expected to visit the temple shortly.

The issue of erosion of Shivling has been in news for

over a decade, prompting the issuance of guidelines. But norms were not implemented. .It has been reported several times that use of impure puja materials like sugar, ghee, milk, curd, and others is causing erosion in two-and-half-feet high shivling. The administration even restricted the use of these materials to 1.25 liter per devotee a few years ago, but it was not controlled and monitored. Similarly, a suggestion to establish kiosk of Sanchi milk in temple corridor to ensure pure milk, ghee to pilgrims, is gathering dust. The shops outside the temple are selling sub-standard puja materials and devotees have no option but to buy them.

The shivling at Mahakal is much in height compared to jyotirlinga at Onkareshwar temple in Khandwa district and the administration there a few months ago the restricted use of panchamruit material to avoid the erosion. Use of sugar granules is already banned in other Mangalnath temple in Uijain and devotees have been asked to use powdered sugar."

Reasons for decay and conservation of heritage monument have also been placed on record.

8. Later on, an application under Article 142 of the Constitution of India has also been filed by the appellants for the issuance of appropriate directions for the preservation of Lingam and prayer has also been made for the appointment of Expert Committee.

9. Mahakaleshwar Jyotirlingam has so much importance for spiritual and other gains, there is a constitutional duty to protect it as envisaged in Article 25, Art. 26 read with Article 49, at the same time there is a fundamental duty under Article 51A of the Constitution to

promote harmony and the spirit of common brotherhood as provided in Article 51A and to value and preserve the rich heritage of our composite culture. It is also the duty to strive towards excellence in all spheres of individual and collective activity as provided in Article 51A (a)-(j). Articles 51A (a), (e), (f) and (j) are extracted hereunder:

> "***[51A. Fundamental Duties.-***
> *It shall be the duty of every citizen of India-*
> *(a) to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;*
> *(e) to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;*
> *(f) to value and preserve the rich heritage of our composite culture;*
> *(j) to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.*"

10. In *Ms. Aruna Roy & Ors. v. Union of India & Ors*. (2002) 7 SCC 368, this Court has considered the importance of moral values in religions and it was observed that the religion is the foundation for the value-based survival of human beings in a civilized society. The force and sanction behind civilized society depend on moral values. Religion should not be misunderstood. The secular democracy requires where even a very weak man hopes to prevail over a very strong man on the strength of rule of law by proper understanding of duties towards the society. In *Aruna Roy* (supra) this Court has observed thus:

"30. Undisputedly, the aforesaid S.B. Chavan Committee's report was placed before Parliament for discussion. None can also dispute that the past five decades have witnessed a constant erosion of the essential social, moral and spiritual values and increase in cynicism at all levels. We are heading for a materialistic society disregarding the entire value based social system. None can also dispute that in a secular society, moral values are of utmost importance. A society where there are no moral values, there would neither be social order nor secularism. Bereft of moral values secular society or democracy may not survive. As observed by the Committee, values are virtues in an individual and if these values deteriorate, it will hasten or accelerate the breakdown of the family, society, and the nation as a whole. In a society where there is constant evaporation of social and moral values for getting property, power or post, -- is it not advisable to have a solid social foundation from the base level so that a grown-up person would fight against all kinds of fanaticism, ill-will, violence, dishonesty, corruption, and exploitation? The answer would obviously be -- 'yes.'

31. Further, for controlling wild animal instinct in human beings and for having a civilized cultured society, it appears that religions have come into existence. Religion is the foundation for value based survival of human beings in a civilized society. The force and sanction behind civilized society depend upon moral values. The philosophy of coexistence and how to coexist is thought over by the saints all over the world which is revealed by various philosophers. How to coexist, not only with human beings but all living beings on the earth, maybe animals, vegetation and the environment including air and water, is thought over and discussed by saints and leaders all over the world which is reflected in religions. If that is taught, it cannot be objected as it is neither violative of constitutional or legal rights nor it offends moral values. This has been dealt with elaborately by the S.B. Chavan Committee. The Committee as stated above had invited suggestions from noted educationists on various aspects of value-based education. As stated by the Committee it had benefited by the views of eminent experts/NGOs doing pioneering work in this area. Further, no one can dispute that truth (satya), righteous conduct (dharma), peace (shanti), love (prem) and non-violence (ahimsa) are the core universal values accepted by all religions. The Committee has also pointed out that religion is the most

misused and misunderstood concept. However, the process of making the students acquainted with the basics of all religions, the values inherited therein and also a comparative study of the philosophy of all religions should begin; students have to be made aware that the basic concept behind every religion is common, only the practices differ. If these recommendations made by the Parliamentary Committee are accepted by NCERT and are sought to be implemented, it cannot be stated that its action is arbitrary or unjustified.

32. Further, it appears to be a totally wrong presumption and contention that knowledge of different religions would bring disharmony in the society. On the contrary, knowledge of various religious philosophies is material for bringing communal harmony as ignorance breeds hatred because of wrong notions, assumptions, preaching and propaganda by misguided interested persons."

11. There is a pious purpose of all the religious activities, no religion breeds hatred. It is in order to bring harmony and to understand basic human values and for self-realization and to visualize the concept of equality pilgrimages by the various sections of people of various religions. Secularism is the basic structure of the Constitution that has to be given the meaning that is developing understanding and respect towards different religions. The essence of secularism is non-discrimination of people by the State on the basis of religious differences. In *the Commissioner, Hindu Religious Endowments, Madras vs. Sri Lakshmindra Thirtha Swamiar of Sri Shirur Mutt* [AIR 1954 SC 282], this Court has considered the concept of religion under Article 25. It has been observed that it secures to every person, subject to public order, health and morality, a freedom not only to entertain such

religious belief, as may be approved of by his judgment and conscience but also to exhibit his belief in such outward acts as he thinks proper and to propagate or disseminate his ideas for the edification of others. This Court has observed that the question relating to the administration of properties belonging to a religious group or institution are not matters of religion. Religion is a matter of faith with individuals or communities. It is not necessarily theistic. In the said case it was observed that "there are well-known religions in India like Buddhism and Jainism which do not believe in God or in any Intelligent First Cause. A religion undoubtedly has its basis in a system of beliefs or doctrines which are regarded by those who profess that religion as conducive to their spiritual well-being, but it would not be correct to say that religion is nothing else but a doctrine or belief. A religion may not only lay down a code of ethical rules for its followers to accept, it might prescribe rituals and observances, ceremonies and modes of worship which are regarded as integral parts of religion. The guarantee under our Constitution not only protects the freedom of religious opinion but it protects also acts done in pursuance of a religion and this is made clear by the use of the expression practice of religion."

12. In *Prafull Goradia v. Union of India* [2011 2 SCC 568] this Court has observed that if Government is making small expenditures separately for separate religions, therefore granting support to Haj

pilgrims was not violative of Article 14 or 15. This Court has observed thus:

> "*8. In our opinion Article 27 would be violated if a substantial part of the entire income tax collected in India, or a substantial part of the entire central excise or the customs duties or sales tax, or a substantial part of any other tax collected in India, were to be utilized for promotion or maintenance of any particular religion or religious denomination. In other words, suppose 25 % of the entire income tax collected in India was utilized for promoting or maintaining any particular religion or religious denomination, that, in our opinion, would be violative of Article 27 of the Constitution.*
>
> *10. In our opinion, if only a relatively small part of any tax collected is utilized for providing some conveniences or facilities or concessions to any religious denomination, that would not be violative of Article 27 of the Constitution. It is only when a substantial part of the tax is utilized for any particular religion that Article 27 would be violated.*
>
> *14. Hence, in our opinion, there is no violation of Article 27 of the Constitution. There is also no violation of Articles 14 and 15 because facilities are also given, and expenditures incurred, by the Central and State Governments in India for other religions. Thus there is no discrimination.*"

13. This Court in *Transport & Dock Workers Union v. Mumbai Port Trust* (2011) 2 SCC 575 has considered the essential spending of the government money on religions when it can be violative of Article 27 and has laid down thus:

> "*10. Insofar as the provision of Section 9A of the Industrial Disputes Act is concerned, it was submitted that since by the policy decision no change in relation to the personnel who were working was intended to be brought about, there was no question of giving any notice of change.*

11. The learned Counsel appearing for the appellants relied on the judgment of the Supreme Court in People's Union for Democratic Rights v. Union of India AIR 1982 SC 1473 to contend that a writ petition by workers, when they claim any violation of fundamental right, is maintainable. The learned counsel also relied on the judgment of the Supreme Court in Moti Ram v. North East Frontier Railway AIR 1964 SC 600 to claim that the respondent-Port could not have framed a policy which violates the guarantee of Article 14 of the Constitution.

12. The learned counsel appearing for the appellants further relied on the judgment of the Supreme Court the Olga Tellis v. Bombay Municipal Corporation AIR 1986 SC 180 to contend that even if an undertaking is given, that undertaking does not stop the person who has given the undertaking from asserting his fundamental right.

13. The learned counsel for the respondents on the other hand relied on the judgments of the Supreme Court, in Ravi Paul v. Union of India 1995 (3) SCC 300, and M.P. State Textile Corporation Ltd. v. Mahendra 2005 (10) SCC 675, and submitted that in one establishment there can be employees having separate duty hours.

14. In our opinion, the writ petition filed by the appellants should have been dismissed by the High Court on the ground of existence of an alternative remedy under the Industrial Disputes Act. It is well settled that writ jurisdiction is discretionary jurisdiction, and the discretion should not ordinarily be exercised if there is an alternative remedy available to the appellant. In this case there was a clear alternative remedy available to the appellants by raising an industrial dispute and hence we fail to understand why the High Court entertained the writ petition. It seems to us that some High Courts by adopting an over liberal approach are unnecessarily adding to their load of arrears instead of observing judicial discipline in following settled legal principles. However, we may also consider the case on merits."

14. The Government spends a huge amount on Kumbh/Simhasth Melas being organized at such places. Even otherwise, when there is a large number of a gathering of persons every day and in particular during melas and other festival times, State has obligation to provide the basic amenities to the pilgrims. It is the bounden duty of the Government to make proper arrangement to provide shelter places, for maintenance of law and order and to sanction the amount without fear of violation of the concept of secularism. Right to life includes mental and intellectual growth which is laid down in *Shantistar Builders v. Narayan Khimalal Totame* (1990) 1 SCC 520. In *P.G. Gupta v. State of Gujarat & Ors.* (1995) Supp 2 SCC 182, considering the International covenant on economic, social and cultural rights, food, clothing, and shelter have been held as part of Article 21.

15. There is a constitutional obligation to preserve the religious practices of all religions, culture and there is also a corresponding duty to act in that direction. Similarly, such acts which are necessary for the preservation of such historical monuments/deities. State is duty bound to spend the amount so that not only the archaeological, historical and ancient monuments are preserved but sanctum sanctorum, as well as the deity otherwise no useful purpose would be served by spending so much amount on Simhastha/ Kumbh Melas in case deity, is itself permitted to be deteriorated as it has happened at other places

particularly nearby Omkareshwar Jyotirlingam by offerings and rubbing it etc. has deteriorated and now barricades have been erected around the lingam and nobody is permitted to touch it. Same is true with respect to other important temples of which reports have been filed. It is apparent from the reports published about Omkareshwar that the administration had banned offering of milk, ghee, water, curd and other traditional materials to save the Jyotirlingam from further erosion. It is regrettable that we have not been able to preserve and protect our Jyotirlingas of immense importance and there was a proposal to install new Lingam at Omkareshwar in place of original. In 2006, also there was a report of erosion of Mahakaleshwar Jyotirlingam at Ujjain and it was feared that Jyotirlingam owing to the two vertical carvings had enough chances of splitting into three pieces in future. On the strength of a report of known scientist referred to therein, who had observed Jyotirlinga since 1953, in his opinion, if due care was not taken we will have to cut a sorry figure in future. Mahakaleshwar is the oldest Jyotirlingam out of dwadash (twelve) Jyotirlingams in the country. The main cause of constant erosion of Lingam was water and other impure material.

16. News Report dated 7.7.2014 also reflects that Mahakaleshwar temple management wanted experts to check the erosion that was caused by impure puja materials like sugar, ghee, milk, and curd etc. It was regretted that suggestion to establish kiosk of Sanchi milk in

temple corridor to ensure pure milk, ghee etc. to pilgrims was gathering dust. Devotees have no option but to purchase sub-standard and adulterated materials.

17. As per the report on famous 'Mangalnath temple' situated at Ujjain itself, there special Puja and Abhishekam is performed for 'Mangal Grih Shanti'. The report indicates that District Administration has banned offering of sugar, vermilion as rubbing thereof was causing damage to the Shivling. Use of sugar had been banned with immediate effect as it was causing highest damage and use of other materials had also to be limited. Use of sub-standard and chemical contained vermilion and turmeric powder was also proposed to be checked and it was decided that herbal articles would be made available for pooja. It is regrettable that in temple of such immense importance the deities are being destroyed due to aforesaid impure materials of Puja which are being offered. A report dated 12.5.2014 had been placed on record indicating a ban on touching idol of Muktinath Lingam inside Muktinath Temple in Mustang district of Nepal. It was also mentioned that the Government team was working on a master plan for the development of Muktinath temple. Said temple is a holy place for Buddhists and Hindus.

18. There are other reports placed on record with respect to the damage being caused to other important deities in the temple like

Mahalaxmi Temple at Kolhapur and Bhoramdev Shivling at Kavardha in State of Chhattisgarh. Report of erosion of Shivling at Trimbakeshwar temple in Nasik, Maharashtra. The report indicates that erosion is due to use of excessive use of water etc. We had initially called the suggestions from Temple Committee itself for preservation of Linga.

INITIAL SUGGESTIONS OF TEMPLE COMMITTEE

19. In compliance of the order dated 5.5.2017 passed by this Court the Temple Committee has filed following suggestions:

> "2. *That in compliance of the same the committee sought a report from the Department of Geology, Vikram University, Ujjain, Prof. P.K. Verma, Professor of Applied Geology submitted the report. Hereto annexed and marked as* ***ANNEXURE R-1/3*** *is the true and correct copy of the report dated 11.06.2017.*
>
> *3. It is submitted that as per the report of Professor Verma dated 11.06.2017, the corrosion of Shivlinga is mainly due to touching of Shivlinga with a variety of impure puja material including adulterated milk, curd, sugar, sugarcane juice, flowers etc during Abhishek or other special pooja which are performed regularly, since time immemorial.*
>
> *4. Though, as per the observation of Professor Verma, the process of chemical reaction is supposed to be of very low intensity, practically negligible. The other constituents (other than silica) of the rock, however, are vulnerable to such impure/adulterated pooja materials. He had suggested that these chemical reaction & corrosion can be reduced by avoiding usage of the impure or chemically adulterated pooja materials over Shivlinga.*

5. That keeping in view the suggestion made by Professor Verma and also with earnest desire of the temple committee to protect any corrosion of Shivlinga, a special sub-committee was constituted by the Collector, who also is the President of the committee to discuss issue of corrosion as well as to explore the proposal and remedial measures for avoiding any further corrosion of Shivlinga. The sub-committee consisted of the following 7 members.

1.	*Pt. Shri Anand Vyas, Archeologist*
2.	*Pt. Ghanshyam Sharma / Representative, Shri M.T.S., Ujjain*
3.	*Pt. Pradeep Sharma, Ex-Samiti member of Shri M.T.S., Ujjain*
4.	*Pt. Ashok Sharma – Purohit*
5.	*Shri Prakashendra Mathur, Archeologist*
6.	*Representative of Pollution Control Board*
7.	*Administrator, Shri Mahakaleshwar Mandir Samiti, Ujjain*

6. *The first meeting of the sub-committee took place on 13.06.2017 where the Food Controller of the State Government also participated in the said meeting. After a detailed discussion on the remedial measures to protect the corrosion of Shivlinga the following remedial measures were proposed by the committee :*

S.No.	***Subject***	***Suggestion***
1.	*Consideration/discussion on the milk to be offered to the God (Bhagwan)*	*There is a tradition of Dugdhbhishek of Bhagwan Mahakaleshwar. In this regard, it was suggested that*

		high-quality milk may be used. There must not be any adulteration in the milk. Stringent rules may be made in this regard. For this purpose, the Temple Committee (Mandir Samiti) may make arrangement for milk at its own level. For this purpose, 'Sanchi' can be used and in future, by upgrading Temple Gaushala more, the milk may be brought directly from the Gaushala to the temple and the milk imported from outside sources may be strictly prohibited.
2.	*Consideration/discussion on the issue of Panchamrut Poojan (offering)*	*The Panchamrut ablution is done every day to God Shiva. In this regard, it was suggested that Panchamrut may be prepared by the Temple Committee/Samiti itself. For this purpose, it may provide high-quality milk and curd at its own level and may not directly mix sugar in the Panchamrut. For*

		this purpose, sugar dust may be used. The quantity of Panchamrut, as already prescribed for 1 ¼ liter, may be complied with. Honey (Shahad) etc may be made available from the Gramodyog etc.
3.	*Consideration / discussion on worship / offering materials*	*On the shops situated outside the temple, the offering/worship articles are sold, viz. Abeer, Gulal, Kumkum (Saffron) etc. In this regard, it was suggested that the Mandir Samiti (Temple Committee) may fix a shop or the Samiti may itself run a shop where pure worship materials may be available. The worship materials being sold presently in the outside area of the Temple may be prohibited/restricted immediately.*
4.	*Discussion on 'Jalpaatra'*	*For Jalabhishek (water ablution) of Bhagwan Mahakaleshwar, the Jalpatra has been installed at the Jaldwar (Watergate). The*

		said Jalpatra may be cleaned every day with hot water so that the acid being gathered in the pipe etc may not be gathered/accrued.
5.	*Consideration of the issue of constantly being big garland etc. on the 'Jyotirling of Bhagwan (the God)'.*	*Constant Jalabhishek (water ablution) is done to the Bhagwan Mahakaleshwar from 06 O'clock morning till 4.30 PM in the evening. For this purpose, a big garland etc may remain constantly on the 'Jyotirling of Bhagwan' so that water, milk etc. may not fall directly on the Jyotirling.*
6	*Consideration of the issue of a test of water, milk, and articles etc.*	*This suggestion was received in the meeting that the articles and materials from which the worship etc. of Bhagwan Mahakaleshwar is done every day, all these may be tested once, from which this fact may be clear that which material is positive/suitable for the Jyotirling and which materially affects the Jyotirling*

		negatively.

Hereto annexed and marked as ANNEXURE R-1/4 is the true and correct copy of the minutes of the meeting dated 13.06.2017.

That the said proposal has been accepted by the committee for implementation and the temple committee is accordingly taking steps to protect the Shivlinga. The above proposal is according submitted before the Hon'ble Court."

REPORT BY PROF. PRAMOD K. VERMA DATED 11.06.2017

20. A Report by Prof. Pramod K. Verma dated 11.6.2017 has also been filed by the Committee in the form of Annexure R-1/3, which is as under:

*"**JAI SHRI MAHAKAL***

11th June 2017

This brief description comprises visual observation of Lord Mahakaleshwara Shiv Linga for its potential erosion due to pooja offerings by devotees.

By an invitation from Mahakaleshwara Mandir Samiti, I along with Dr.Awadesh Bhatt visited the Lord Mahakaleshwar Temple on 08th June 2017 at 2:00 pm for performing the above task. For obvious reasons, it was possible to have an only limited observation and thus, only torch and hand lens was used.

The following observations were made: -

1. The Sacred Shiva Linga is approximately 2 feet in diameter and 2 feet in height.

2. The Shiva Linga is made up of Sandstone (looks very similar to Vindhya Sandstone which occurs in the nearby areas).

3. The sandstone is of arenaceous in nature with the major percentage of quartz clasts of the size generally less than 2 mm. The clasts are clearly visible through a hand lens.

4. The other clast material appears to be feldspar (orthoclase) giving the rock a typical pinkish colour.

5. The matrix is also of an almost similar composition.

6. The cementing material is mostly siliceous. However, a small amount of calcareous/feldspathic (not distinguished by lens observation) cementing materials is also present.

7. The cementing material other than siliceous matter is likely to undergo dissolution when exposed to the acidic environment. As a result, there may develop tiny depressions (or pits) over the Shiva Linga.

8. The depressions or pits may occur when adulterated/impure pooja materials are offered over Shiva Linga during Abhisheks. The corrosion, in the long run, may occur due to touching of Shiva Linga with a variety of impure pooja materials including adulterated milk, curd, sugar, sugarcane juice, flowers etc during Abhishek or other special pooja which are performed regularly.

10. Once even a small pit is formed, these materials may get into the rock and, may try to loosen the bonding by various chemical processes.

11. As the rock is largely composed of a siliceous material, the process of chemical reaction is supposed to be of very low intensity, practically negligible. The other constituents (other than silica) of the rock, however, are vulnerable to such impure/adulterated pooja materials.

12. A more systematic and scientific investigation may be needed to come to a firm conclusion.

13. Nonetheless, at this stage, it is suggested that impure or chemically adulterat4ed pooja materials must be avoided by offering over Shiva Linga."

21. The Minutes of the Meeting dated 13.6.2017 of the Temple Committee have also been placed on record vide R-1/4. The relevant portion is extracted hereunder:

"SHRI MAHAKALESHWAR MANDIR SAMITI, UJJAIN
MINUTES OF MEETING DATED 13.06.2017

Today a meeting was held in the Administrative office of Mahakaleshwar Temple under the Chairmanship of Shri S.S. Rawat, Administrator, and Joint Collector, with regard to as to how Lord Mahakaleshwar Jyotirlinga can be best protected. The following members were present:-

1. Dr. Prakashendra Mathur	*Archeologist*
2. Pt. Pradeep Sharma	*Ex-Samiti Member*
3. Pt. Ashish Sharma	*Representative of Pujari*
4. Pt. Ashok Sharma	*Purohit*
5. Shri D.V.S. Rawat	*Pollution Department*
6. Shri Shailesh Kumar Gupta	*Food Controller*

A discussion was held by the members present at the meeting in respect of erosion in the Jyotirling and following suggestions were proposed by the Committee:-

S.N.	***Subject***	***Suggestion***
1.	*Consideration/discussion on the milk to be offered to the God (Bhagwan)*	*There is a tradition of Dugdhbhishek of Bhagwan Mahakaleshwar. In*

		this regard, it was suggested that high-quality milk may be used. There must not be any adulteration in the milk. Stringent rules may be made in this regard. For this purpose, the Temple Committee (Mandir Samiti) may make arrangement for milk at its own level. For this purpose, 'Sanchi' can be used and in future, by upgrading Temple Gaushala more, the milk may be brought directly from the Gaushala to the temple and the milk imported from outside sources may be strictly prohibited.
2.	*Consideration/discussion on the issue of Panchamrut Poojan (offering)*	*The Panchamrut ablution is done every day to God Shiva. In this regard, it was suggested that Panchamrut may be prepared by the Temple Committee / Samit itself. For this purpose, it may provide high-quality milk and curd at its own level and may not directly mix sugar in the*

		Panchamrut. For this purpose, sugar dust may be used. The quantity of Panchamrut, as already prescribed for 1 ¼ liter, may be complied with. Honey (Shahad) etc may be made available from the Gramodyog etc.
3.	*Consideration/discussion on worship/offering materials*	*On the shops situated outside the temple, the offering/worship articles suggestion in, viz. Abeer, Gulal, Kumkum (Saffron) etc. In this regard, it was suggested that the Mandir Samiti (Temple Committee) may fix a shop or the Samiti may itself run a shop where pure worship materials may be available. The worship materials being sold presently in the outside area of the Temple may be prohibited/ restricted immediately.*
4.	*Discussion on 'Jalpaatra'*	*For Jalabhishek (water ablution) of Bhagwan Mahakaleshwar, the Jalpaatra has been installed at the Jaldwar*

		(Watergate). The said Jalpatra may be cleaned every day with hot water so that the acid being gathered in the pipe etc. may not be gathered/ accrued.
5.	*Consideration of the issue of constantly being Sandstone garland etc on the 'Jyotirling of Bhagwan (the God).*	*Constant Jalabhishek (water ablution) is done to the Bhagwan Mahakaleshwar from 06 O'clock morning till 4.30 PM in the evening. For this purpose, a big garland etc may remain constantly on the 'Jyotirling of Bhagwan' so that water, milk etc may not fall directly on the Jyotirling.*
6.	*Consideration of the issue of a test of water, milk, and articles etc.*	*This suggestion in the meeting that the articles and materials from which the worship etc of Bhagwan Mahakaleshwar crowd every day, all these may be tested once, from which this fact may be clear that which material is positive/suitable for the Jyotirling and which materially affects the Jyotirling*

		negatively.

Sd/-
Administrator & Joint Collector
Shri Mahakaleshwar Mandir Samiti
Ujjain"

CONSTITUTION OF COMMITTEE OF ASI/ GSI BY THIS COURT

22. This Court vide order dated 25.8.2017 had constituted a Committee of two officers of the Archaeological Survey of India and two officers of the Geological Survey of India to submit the report. Following is the relevant extract of the order:

> *"A proposal has been submitted by Mr. Tushar Mehta, learned ASG for a constitution of an Expert Committee and to nominate the names of two officers of Archaeological Survey of India and two officers of Geological Survey of India. It is submitted by Mr. Mehta that the officers are experts in the field.*
>
> *The Central Government suggests the following team :*

1.	*For Archaeological Survey of India*	*1. Shri Madan Singh Chauhan, Regional Director, (Archaeologist), ASI, Central Region, Bhopal* *2. Dr. V.K.Saxena, Director (Science), (Archaeological Chemist), ASI, Science Branch, Dehradun*
2.	*For Geological Survey of India*	*1. Shri Hemraj Suryavanshi, Dy. Director, General, State Unit, Madhya Pradesh, GSI,*

		Bhopal. *2. Shri L.L. Vishwakarma, Director, GSI, Bhopal*

The Union of India shall bear the expenses of the Committee so formed. The Committee to study/survey/ analyze/examine Mahakaleshwar Jyotirlingam of Ujjain (MP) and to prepare a report containing the rate at which the deterioration in the size of Lingam is taking place, if any, and the measures/ steps/ precautions to be taken to ensure that this deterioration/shrinkage of the Lingam stops. Let the Committee also study the other structures and also the temple and submit what steps are required to be taken to overall improve the entire premises and for its preservation.

Let the Committee make a study and report seeing as how much deterioration of Lingam has taken place during the last three-four decades and what remedial steps have to be another part.

Let the Committee submit a report be within a period of four weeks from today. A copy of the report as and when submitted be furnished to the learned counsel for the parties. We request the Administrator to extend fullest co-operation.

List the matter on Tuesday i.e. 03.10.2017."

REPORT BY EXPERT COMMITTEE OF ASI/ GSI

23. Following is the report (excluding photographs) submitted by the aforesaid Experts of ASI and GSI:

"REPORT
ON THE STUDY / SURVEY / ANALYSIS / EXAMINATION OF MAHAKALESHWAR JYOTIRLINGAM OF UJJAIN (MP)

BY :

1: Madan Singh Chauhan, Regional Director, A.S.I., Central Region,

Bhopal
2: Dr. V.K. Saxena. Director (Science), A.S.I., Science, Branch Dehradun
3: Hemraj Suryavanshi, Dy. Director General, GSI, Bhopal
4: L.L. Vishwakarma, Director (G.S.I.), Bhopal

ABOUT THE REPORT

This report is being submitted to the Additional Solicitor General of India by the Committee Members of Archaeological Survey of India (ASI) and Geological Survey of India. Conservation status and the causes of decay/deterioration of the Jyotirlinga in general on the basis of his knowledge of the subject and experience in the field.

The report is divided into 4 (Four) Chapters.

1st Chapter of the report deals with the archaeological and religious significance of the Mahakal temple and need for its proper maintenance and restoration made by Madan Singh Chauhan, Regional Director, ASI, Central Region, Bhopal.

2nd Chapter of the report deals with the general observations made by Dr. V. K. Saxena, Director (Science), ASI with respect to the overall decay/deterioration of the Jyotirlinga on the basis of his knowledge of the subject and experience in the field.

3rd Chapter deals with the Geo-scientific study of the Shivalinga made by Hemraj Suryavanshi Dy. Director General and L.L. Vishvakarma, Director, Geological Survey of India, Bhopal.

4th Chapter deals with the suggestions and recommendations and remedial measures.

CONTENTS

CHAPTER· I

1: -RELIGIOUS AND ARCHAEOLOGICAL SIGNIFICANCE OF UJJAIN AND MAHAKAL TEMPLE

1.1: Introduction
1.2: Religious and historical significance
1.3: Prevalence of tangible and intangible heritage in Ujjain
1.4: Archaeological evidence

1.1 INTRODUCTION: On the direction of the Additional Solicitor General of India, the Director General, Archaeological Survey of India, in his office letter no. 33/BO/2017-M dated 24.8.2017 recommended names of undersigned for the Committee to assess the deterioration of Shivalinga of Mahakal Temple at Ujjain and to prepare a report containing the rate at which the deterioration in the size of Lingam is taking place during lost three-four decades, if any, and the measures/steps/precautions to be taken to ensure this deterioration/ shrinkage of the Lingam stops. Beside that to study the other structures and also the temple and submit what steps are required to be taken to the overall improvement of the entire premise and for its preservation. In pursuance of the direction, the temple known as Mahakal or Mahakaleshwar at

Ujjain was inspected by the Committee Members jointly on 7.9.2017.

Before putting the observation on the assessment of the Shivalinga and temple of Mahakal and other subsidiary shrines inside the premise it was felt inevitable by the committee to highlight its Archaeological, Historical and religious significance so that, on that perspective, an assessment could be made.

In Ujjain, Mahakal temple is located in the west of the city on the bank of River Kshipra in ancient time that area was known as Mahakala Vana (Mahakal forest). It is 192 km west of capital city Bhopal and takes around three hours by road journey from Bhopal to reach here.

Mahakal temple is one of the most venerated temples known by this name and one of the twelve famous Jyotirlingas shrines of the country.

1.2 RELIGIOUS AND HISTORICAL SIGNIFICANCE

The grandiose of Mahakal and Ujjain / Avanti occurs equally in the ancient texts of Brahmanical, Buddhist and Jaina sects. Avanti has been referred as country and Ujjain as its capital in the ancient texts. The first name of "Avanti "is liter in the Yajurveda for the meaning of protection. It is said that Ujjain was also named as Avanti and this name is nomenclatured after the name of Avanti: a son of Kartaviryaarjuna of Mahishamati kingdom. In Meghadut of Kalidasa, Abhidhanchintamani and in Naradapurana it was termed as Avantika, Avantikapuri, Avantinagari or Avantikapur, Vishala, Pushkarandini, Nandini, Amravati, Kanakashringa, Kushasthali, Padmavati, Kumudvati, and Pratikalpa. It is believed, existed in six kalpas and in each Kalpa it was called as Swarnashringa, Kushasthali, Avantika, Amravati, Chudamoni, and Padmawati. In kathasaritsagara, it is mentioned that Ujjain was called in four names in four yugas like Padmavati Bhogawati, Hiranyawati, and Ujaini. In Kuvalayamala its name is referred as Kushal Nagari.

It is said that during the churning of the sea by the gods and demons then begun the wild scramble for immortality with the demons chasing the gods across the skies and in the process, a few drops of nectar were split and fell at Hardwar, Prayag, Nasik, and Ujjain.

There are different meanings of "Ujjain' and 'Ujhain". It means protection, a tradition wherein people worshipped Indra for rain, in Gujarati and Prakrit it means a picnic, in Sanskrit, it is called as udyan or garden. In the north Himalayan region, it means attempt for any special task while in the Malwa tradition this word is called when people worship Lord Indra by keeping fast for rain.

ln Pali language it is called Ujani, in Prakrit Ujaiyani, Ptolemy referred it as Ozen, Huen-Tsang calls it Ujayana, Arab geographer referred it as Ujjhen and in the coins, name occurred as Ujani. In the Mrichchakatika play of Sudraka of 5th century AD, Ujjain was inhabited by various communities *viz.* Shakas, Tushars, Greeks, Persians, Magadha, Kirata, Kalinga, Bongo, Mahishak, Chole, Pandya, trader of Kerala and several prostitutes.

In the Skandapurana there are references to seven seas or Saptasagaras mentioned as Pushkar Sagara, Kshira Sagara, Goverdhan Sagara. Rantnakar Sagara, Vishnu Sagara, Purishottama Sagara and Rudra Sagara. The Rudra Sagara is mentioned in the Mahakal Vana (nearby the Mahakal temple). As a religious city, Ujjain occupied the same place as of the Benaras, Goya, Mayapuri, and Kanchipuram. By the 6th century BC, Avanti with its capital at Ujjain is mentioned in Buddhist literature as one of the four great powers along with Vatsa, Kosala, and Magadha. Ujjain locates on the ancient trade route which connected north India to the south via Mathura- Ujjain- Mahishmati- Paithan and then to western Asia. Periplus gave the accounts of Ujjain referred by him as Ozene is to the east of Barygaza (Broach) which fed all commodities of the trade like onyx, porcelain, fine muslins. mellow coloured muslins and cotton, spikenard and costusbodellium. In the Udaipur, prashasti mentions Vakati I of Paramara dynasty as the king of Avanti and they are said to form their capital at Mahakala vana at present Ujjain. The Mahipal and his kalachuri confederate Bhamana deva are said to have conquered the territory up to banks of Narmada including Ujjain and Dhar. The downfall of this wealthy city begun in 1234 with the invasion of IItutamish of Slave dynasty of Delhi who along with the, also dismantled Mahakafa temple and in search of treasure he dismantled Shivalinga from the jaladhari or pithika and thrown into kotitirtha and picked up golden idols including idol of Vikramaditya and brought to Delhi.

During the time of Mughal king Akbar, a city wall was constructed around the city for the defense of Ujjainisand Nandi

Darwaja, Kaliadeh Darwaja, Sati Darwaja, Dewas darwaja and Indore darwaja were the various entrances to the city.

In 1658 a battle took place near Ujjain in which Aurangzeb and Murad defeated Maharaja Jaswant Singh of Jodhpur who was fighting on behalf of Prince Dara.

Thereafter Sawai Jai Singh was made governor of Malva by Muhammad Shah who built an observatory and several other temples over there. In the 17th century, this region of Malwa came under the sway of Maratha who constructed numbers of temples in Ujjain and modern Ujjain came into existence. During this period the artists especially painters of Poona and Kangra styles flourished their art in the structures of Ujjain and distinctive wooden carving on the balconies and galleries were decorated in Ujjain. Thereafter this legendary city of Ujjain came under the control of Scindias from 1750- 1810. Ramoji Scindia was powerful Sardar of Maratha who made Ujjain the capital of Malwa. He remained always busy in the wars hence his diwan Ramachandra baba look after the affairs of Ramoji Scindia. On the information supplied by the local brahmins regarding dumping of Shivalinga into the kotitirtha by Iltutamisha, Ramachandra baba exposed that Shivalinga and installed inside the main place and constructed temple over the original place. Thus present temple is of Maratha period. In 1810 Doulat Rao Scindia shifted his capital at Gwalior and subsequently, Ujjain lost its commercial importance.

1.3 PREVALENCE OF TANGIBLE AND INTANGIBLE HERITAGE IN UJJAIN

As stated above that Ujjain is a very ancient city of great religious and heritage significance even today there are numbers of temples with living tradition existing over here preserving both tangible and intangible heritage of the country. Apart from the Mahakal temple, other known temples in Ujjain are 84 temples dedicated to Lord Shiva in different names as below;

1: Augusteshwara Mahadev,
2: Gurihshwar Mahadev,
3: Dudeshwar Mahadev,
4: Damrukeshwar Mahadev,
5: Anadikalpeshwor Mahodev,
6: Swaranjaleshwar Mahadev,
7: Tivisthpeshwar Mahadev,

8: Kapaleshwar Mahdev,
9: Swargdwareshwar Mahadev,
10: Karkotakeshwar Mahadev,
11: Siddheshwar Mahadev,
12: Lokapaleshwar Mahadev,
13: Kameshwar Mahadev,
14: Kutumbeshwar Mahadev,
15: Indradumneshwar Mahadev,
16: Ishaneshwar Mahadev,
17: Apsareshwar Mahadev,
18: Kolkleshwor Mahadev,
19: Nagchandreshwar Mahadev,
20: Pratihareshwar Mahadev,
21: Kukuteshwar Mahadev,
22: Karkateshwar Mahadev,
23: Meghnadeshwar Mahadev,
24: Mahalayeshwar Mahadev,
25: Mukteshwar Mahadev,
26: Someshwar Mahadev,
27:Anarkeshwar Mahadev,
28: Jateshwar Mahadev,
29: Rameshwar Mahadev,
30: Chavaneshwar Mahadev,
31: Khandeshwar Mahadev,
32: Pattaneshwar Mahadev,
33: Anandeshwar Mahadev,
34: Kanthadeshwar Mahadev,
35: Indraeshwar Mahadev,
36: Markandeshwara Mahadev,
37: Shiveshwara Mahadev,
38: Kusumeshwara Mahadev,
39: Akrureshwara Mahadev,
40: Kundeshwara Mahadev,
41: Lumpeshwara Mahadev,
42: Gangaeshwara Mahadev,
43: Angarkeshwar Mahadev.
44: Utaareshwar Mahadev,
45: Trilochaneshwara Mahadev,
46: Veereshwara Mahadev,
47: Nripeshwara Mahadev,
48: Abhayeshwara Mahadev,
49: Prithukeshwara Mahadev,
50: Sthavareshwara Mahadev,
51: Shooleshwara Mahadev,
52: Onkareshwara Mahadev,
53: Shree Vishveshwara Mahadev,

54: Kanheshwara Mahadev,
55: Singheshwara Mahadev,
56: Revanteshwora Mahadev,
57: Ghanteshwara Mahadev,
58: Prayageshwara Mahadev,
59: Siddheshwara Mahadev,
60: Matangeshwara Mahadev,
61: Soubhageshwara Mahadev,
62: Rupeshara Mahadev,
63: Sahastradhanukeshwara Mahadev,
64: Pashupateshwara Mahadev,
65: Brahameshwara Mahadev,
66: Jalpeshwara Mahadev,
67: Kedareshwara Mahadev,
68: Pishachamukteshwara Mahadev,
69: Sangameswar Mohadev,
70: Dudhareshwar Mahadev,
71: Yogeshwar Mahadev.
72: Chandradityayeshwara Mahadev,
73: Karbheshwar Mahadev,
74: Rajsthaleshwar Mahadev,
75: Badleshwar Mahadev,
76: Aruneshwar Mahadev,
77: Pushpadanteshwara Mahadev,
78: Abhimukteshwara Mahadev,
79: Hanumanteshwara Mahadev,
80: Swapneshwara Mahadev,
81: Pingleshwara Mahadev,
82: Kayavarohaneshwar Mahadev,
83: Bitkeshwar Mahadev, Durdureshwar Mahadev.

These Mahadeva's temples are in the Ujjain city itself while out of eighty-four the temples of four are within the same premise of the Mahakaleshwara temple. These are Anadikalpeshwara Mahadev, Thrivisthapreshwara Mahadev, Chandradityeshwara Mahadev, and Swapneshwara Mahadev.

Besides Shiva temples in the city, there are nine temples dedicated to lord Vishnu known by "Nau Narayana" (nine Narayana) are; 1: Ananta Narayana, 2: Satya Narayana, 3: Purushottama Narayana, 4: Adi Narayana 5: Shesha Narayana, 6: Padma Narayana, 7: Laxmi Narayana, 8: Badri Narayana, 9: Chaturbhuja Narayana.

Other religious and heritage places are Avanti devi temple, Bade Ganesh temple, Harsiddhi Shakti Peeth, Ramghat, Datta

Akhada, Chaubis Khamba, Gopal Temple, Yogeshwar tekri (Tope), Nagar kot Maharani temple, Chaunsath Yogini, Sandipani Ashram, Mangalnath, Angareshwor, Ramajanardan temple, Chitragupta temple, Gada Kalika temple, Vindhyavasini temple, Tomb of Matsyanath, Bhrutahari cave, Kalbhairava temple, Siddhvatta, Kaliadehmahal, Ashtachiranjivi, Rinmukteshwar, Aagyabetal, Veer Durgadas ki chhatri, Vedshala, Chintamani Ganesha, Novagriha temple, Iskon temple, Ramanujakot, and Archaeological Museum.

1.4 ARCHAEOLOGICAL EVIDENCE:

The site of ancient Ujjain is not however identical with the modern city of Ujjain. As the time passed, the so-called Mahakal vana converted into a populous city while the ancient city is now a desolate waste and known as Garh which is situated at the north of the modern city of Ujjain and converted into a tabled land of about 9 - 15 m above the adjoining plain.

The excavation carried out in the pre-independent era and after was done in a different location nearby the city. In the first excavation of the site in Ujjain in 1938-39 Garde, its archaeological potentiality was proved by the findings of a large miscellany of coins, terracotta, beads, and pottery etc. after that further excavation was carried out in vaishya tekri, kumhar tekri and pallevali or kankar tekri where excavation yielded brick stupas. In the Kumahar tekri, other antiquities were also recovered dated of 1st century BC. Thereafter further excavation was carried out in 1955-58 and 1964-65.

In 1955 - 58, Site of excavation was chosen at Garh Kalika mound where significant result was found in; period I; 750 to 500 BC; black and red ware, bright- redware, double slipware and few sherds of PGW and remains of rampart and remains of mud brick fortification of about 74.67 to 197 m wide enclosed by moat, evidence of road of 7.32 m wide, other objects of iron which may go back about 1000 BC. In period 11, NBPW with the association of thick grey ware and unslipped redware remains of structure made of mud, mud brick and stone rubble, ring wells, punch mark coins and ivory seal bearing inscription dated 2nd century BC was obtained. In period III, evidence included antiquities and remains dated in three phases i.e. from Sunga, Satvahana, Kushana, and Gupta period (200 BC-SOO AD). From late Gupta to early Parmara period (500AD- 900 AD) and from Parmara to Muslim (900 - 1300 AD). In the period IV, apart from other antiquities coins of

Aurangazeb, Shah Alam, Daulat Rao Scindia and Jankoji Rao Scindia were recovered.

In 1964- 65 excavations a small structure of limestone basin was found associated with NBP.

1.5 MAHAKAL TEMPLE AND PREMISE: There are total 142 small and large temples including Mahakal temple inside the temple premise, of them, some are raised independently on the floor of the premise and some attached in the niches and cells of the main and other temples but all are counted and venerated separately. At the south-west of the Mahakal temple has Anadikalpeshwar Mahadev temple on a slightly raised platform now converted into a new construction in red stone flooring all around the temple and steps at the north side for reaching to the temple. This temple also faces east and consists of a *Nandi* mandapa, *saonotnorciooa, mandapa,* and *garbhagriha. Garbhgriha* enshrines a *Shivalinga* within *jaladhari.* The *garbhagriha*, *mandapa,* and pillars of *sabhamandapa and Nandi mandal* appear old while the roof of the latter two are new constructions and painted in pink colour.

On the right of the Anadikalpeshwar temple has Briddhakaleshwar temple on the same level of floor as the former laid in red stone flooring like Anadikalpeshwar, this temple is also repaired with unmatched paintings on the roof of main *shikhara* and *mandapa,* while on the walls of mandapa, new stones are added in between the pillars to cover the *mandapa.*

Just backside of the Briddhakaleshwar temple is a small shrine constructed only to enshrine an old sculpture of Lord Vishnu which is now in a poor state of preservation as a thick patina of oil and other offering material has been developed over this image.

On the east side of the Anadikalpeshwar and Briddhakaleshwar temples are other shrines of various dimensions dedicated to different deities. All these are painted in pink and red colors. They all are raised on the different level of the floor covered in red stone flooring. All the shrines are more or less modified with marble, red stone, and modern tile flooring and paintings of many different colors especially at the inner sides of the shrines. In some of the temples like Balavijaya Maruti temple whole interior and exterior has been changed with

modern tiles used on the floor and walls.

On the west side of the Mahakal temple is kotitirtha (ancient pond) surrounded by the modern structures and dharamshalas at north, west and south sides. In between the kotitirtha and structures, there is a sufficient space developed with stone steps all around for leading to the kotitirtha. Besides that, numbers of miniature shrines raised in four pillars and topped by round dome like shikhara enshrining each with Shivalinga, are built around the pond indicating of kotitirtha (innumerable pilgrimage).

Beside that numbers of small shrines are raised at the front side (east-north) of the main temple in varying sizes and dimensions.

The *garbhagriha* (sanctum) of Mahakal appears basically a cave enshrined with Shivalinga. It is quite deep below the ground level. There is no physical evidence available there about the construction of original temple, but as of now, the temple existing over the main sanctum is of very late period probably of Maratha period (18th century AD) wherein some of the traits of *bhumija* style of *Parmara* period appears adopted in the walls and *shikhara* of the shrine. Therefore, it can be inferenced that prior to this temple of Maratha period, here was the temple in *the Bhumija* style of which traits were adopted in the present temple.

Over the sanctum, Mahakal temple faces east, supported by total 48 pillars arranged in 7 rows but when sanctum, where the main Jyotirlingam enshrines, is entered, it can be reached from two the narrow passages from east and west sides through two doorframes on the south and the north sides. The general public is allowed to enter through north side doorframe while south doorframe has been used by the staff and VIPs for entering into the *garbhagriha* (sanctum). The south side doorframe is composed of three *shakhas* and is approached by a flight of steps down to the ground floor whence another doorframe of plain design opens at south into the garbh*griha*.

On the north side, doorframe, plain in design, has cladded in silver metal and ornamented in religious figurines, symbols and canopied by snake at the fintel.

In the premise, Mahakal temple occupies a central place. Besides that, there are about 142 other temples in small and

large size constructed within the premise. Of them Briddhakaleshwar and Anadikalpeshwar temples are considerably larger and almost corresponding in core style and both locates at south of the Mahakal temple, other dedicated to Sakhshigopal, Veerbhadra Mahadev, Ichcha Ganesh, Mangalnath Avantikadevi, Koteshwar Mahadev, Rakeshwar Mahadev, Suryamukhi Hanuman, Balahanuman, Bhadrakali, Siddha tantra, Ram mandi, Narsimha, Nilakantheshwar, Kashivishvanath, Annapurna Devi, Gayatridevi, vitthalnath ere are small. Mahakal temple is constructed in three floors above the ground floor. Each floor at the front is provided by a portico supported with pillars.

The underground floor is dedicated to the Mahakal wherein *garbhagriha* enshrines a shivalinga, ground floor to Omkareshwar wherein another small shivaling enshrines, the first floor has a cell, and second consists of a sanctum with Shivallinga, also a sculpture of Nagchandreshwar is placed inside a niche on the north wall of the 2nd floor and covered by a glass window.

On the south side at the ground floor, a doorframe opens into narrow steps leading to the 1st and 2nd floors which appear not for general public but only for pujaris for worshipping Nagchandreshwar. It appears that prior to Maratha period whole temple might have constructed in parmara style and when fallen it was probably attempted to restore in the same style but could not be adopted in ditto, therefore, a new Pushpa had evolved with a blend of Parmara - Maratha style. Architecturally, the temple can be classified into three broad part from below to top consisting of vedibandha, jangha, *and shikhara.* From the ground, each projection raises equally up to the *jangha* and then to the top where it terminates into a large finial. On the ground floor, there is each portico provided on the north, west and south sides to enter the sanctum of this floor by doorframe of plain design. There is no extraordinary decoration on the outer walls except moldings at lower walls and miniature shrines at the *shikhara.* At the ground level whole temple has been supported with 48 pillars on front side and pilasters on the corners of the walls.

1.6: - CONDITION OF GARBHAGRIHA AND JYOTIRLINGA/ SHIVLINGA/ LINGAM

In the ground floor, the *garbhogriho* of Mahakal is almost a square cell measuring 4.16 x 4.16 m enshrining with a Shivalinga within jaladhari with silver encasing measuring a length of 2.08 m

and dia in 1.27 m. Generally, the mouth of jaladhari opens into the north side but here it opens at the east direction.

The inner walls and ceiling of the sanctum are cladded with the silver sheets and decorated with different religious symbols and images and niches on the east, west and north walls are provided and enshrined with a metal sculpture of *Kartikeya, Ganesha, and Goddess Parvati* respectively and they are in folkish style. In 1996 these sculptures made of silver were placed inside the niches which earlier were in marble stones.

A silver sheet embossed with tracery has been provided on walls of the garbhgriha in 2016. The walls are tracered in two parts; the lower half with the motifs of (+) design while upper with the motifs of *Pushpa, Kalasha, trishula, swasthik, ardhachandra, shankha, dhanusha-Bana,* gada, *kamandal, Nandi, chimta, swastika* dwaja, *Simha* and such many other religious symbols.

The ceiling has been interestingly incised with Rudrayantra of 271 distichs. We were informed by the local Pujaris that this silver ceiling has been provided in 1996 when earlier ceiling which was of silver plaque inlayed with stones, were fallen. The yantra was recreated in the same style as it was in original and installed in the silver sheet and fixed slightly upward than the earlier one.

There are two silver lamp-stands (deepdaan) inside the *garbhagriha* on either side of the Shivalinga which originally are of stone but encased in brass. In 1994 brass encasing of both were replaced with silver cladding.

1.7 A: -SHIVALINGA, MODIFICATION, AND EFFECT

Shivalinga/ Jyotirlinga of Mahakal is considered as *sthavara* or *Achala* and *Swayambhulinga* or *Uttamottamalinga* (most superior linga). In the kamikagama, *Swayambhulinga* is described as one which rose up and came into existence by itself and had existed from time immemorial. *As* such even if such type of linga is slightly damaged they need no *jirnodhwaro* (resetting up).

In the *garbhagriha* sandstone shivaling is directly rose at the center and within the *jaladhari (Saluka*) facing east. It is 67.5 cms in height and 42.97 cms India within the jaladhari of 127 cms India and 208 cms in length. In 28.12.1924 portion of *Jalandhari* of silver which cost 12 and was stolen from the main temple, another *jaladhari* of silver were installed in 20.9.1925 along with a

brass parapet *(Katra)* around the shivalinga. In 1994 again brass parapet donated by the devotee was replaced with silver. There is no *brahamasutra* line found on the east surface of the shivalinga rather in place of it, two semi-round lines at the bottom are, in such a way that one line comes within the other. This sort of line appears natural not by the man-made. On the same side, the depressions have occurred on the bottom and lower side. On the west surface of shivalinga, depressions are noticed at the bottom and lower side while on the upper side they are least. On the north side, there is no depression noticed. On the south side. whence devotees can have a view the Shivalinga from the hall, there is no such depression noticed except a round delve on the bottom occurred due to chipped off.

There is a tradition of six-time worships performed in a day inside the *garbhogriha* and it is called as Bhasma Arti, Datyodak, Bhoga Arti, sandhya pooja, sandhya arti and shayana arti. These worships the starting from early morning to night between 4-6 am, 7 - 7:45 am, 10 - 10:45 am, 5 - 5:45 pm, 7 - 7:45 pm and 10- 10:45 pm respectively. The main ingredients offered in the pooja are water, milk, curd, honey, ghee and sugar, liquid perfume, a pest of sandalwood, pest of cannabis and flowers. In the first morning pooja apart from these, the ash of dry cow-dung has sprinkled over the shivalinga at the last.

There are 37 families of Brahmins of Ujjain who are responsible for conducting pooja in the temple in a traditionally scheduled time and for each pooja, at least 3 to 5 Poojaris are deployed at a time and in special occasion more are deployed.

B: - MORNING WORSHIP AND MATERIAL USED IN THE WORSHIP

A group of Brahmins attends the Mahakal pooja at morning hour wherein at least five Brahmins take part. Morning worship of Lord Mahakal is very interesting. It starts at around 4 am daily and for that devotees remains in the queue since early midnight so that they could have a view of the god and pour a lota of water over the Shivalinga.

At the beginning every devotee pours water over Shivalinga one by one and then worship starts with chanting of mantras and offering of *doodh (milk), shakkor* (sugar), *dahi* (curd), shahad (honey), *panchamrita* (mixture of five], *gangajal* and at last *itra* (liquid perfume) over the linga (liquid perfume) over the linga.

After offering of all these stuff, shivalinga is cleaned by the water then process of decoration begins followed by putting handful pile of cooked rice on the top of the shivalinga then three garlands one by one around the pile, preparing of forehead by using pest of sandalwood, then pundarika, eyes, nose, lips etc. The eyes are decorated by putting silver pieces and lips by Vermilion, thus a face of Shiva is prepared towards the south side of linga whence it can be viewed by devotees seating at the south side hall. At least five Brahmins attend the pooja of them one does this ornamentation, other perform other activities like giving articles (samagri) to him, cleaning and bringing other parts of the sanctum and providing other articles of worship (pooja samagris) into the garbhagriha. After completing decoration, a garment is worn over the Shivalinga in such a way that top and sides the while face remains open. Then kundala, kapalamala made of silver are worn followed by a chhatra, over the Shivalinga, made of same metal. After that worship begins by offering dhoop with a dhoopadan made of silver. After that Shivalinga is covered by a garment and one of the Pujari made an announcement that lady devotee may avoid to see *the* Shivalinga now, because they were going to pour dry ash of cow dung (bhasma) over the Shivalinga. , is a kind of indication of digamber (nude) form of Shiva that's why lady devotees are called to veil. By doing so poojari takes a bale of ash in his right hand and sprinkles over the Shivalinga till it is finished and for that, it takes around five to seven minutes while the whole process of pooja takes more than one and half hour to finish.

At last, Shivalinga is cleared from the articles offered over the linga and ornamentation and one by one Arti added earlier for decoration is removed and it is cleaned again by the plain water. Thereafter group of ladies of the city enter the garbhagriha to offer milk over the lingo followed by other devotes, thus the order of coming devotees and pouring milk over the redware begins whole day except the pooja hours as referred above. In the pooja of 5 pm, the decoration of the lingo is again done almost in the same pattern as stated above while in the rest four pooja at 7 am, 10 am, 7 pm and 10 pm decoration is not done.

As per the information provided by the temple poojari the offering material used in the morning pooja includes; milk (5 litre) curd (1 kg), ghee (1 kg), honey (1 kg), sugar (250 grams), sandalwood paste (100 grams), cannabis (100 grams), liquid perfume, abeer (100 gram), gulaal (100 grams), kanku (100 grams), rice (250 grams), garland (5 nos), flowers (1 kg), vilvapatra (1008 nos), gangajal, gulabjal, juice of fruits (5 kg), coconut water

(1 litre) and juice of sugarcane (litre). For the decoration of lingo cannabis (1 kg), cashew nut (250 gram), almond (250 grams), pistachios (250 grams) and chooroli (250 grams).

1.8 MAINTENANCE AND RESTORATION OF TEMPLE PREMISE AND ACTIVITIES

As stated above, in the temple premise has numbers of small and large temples corresponding to more or less in architecture to each other. But except main temple and walls of Briddhakaleshwar and Anadikalpeshwar temples, rest of the shrines are reflected as modern temples due to modification, crappy restoration and paintings are done in white, cream and red colours.

At the interior of the main temple, silver cladding in the *garbhagriha,* tiles in the walls of the passage leading to *garbhagriha,* tiles in the walls of cells and niches, tiles on the first and second floors have been provided. In the Anadikalpeshwar temple, the roof of the *sabhamandapa* and mandapa are altered. In the Anadikalpeshwar temple, the roof and walls of the mandapa have been replaced with new one. In the Balavijay Hanuman temple whole the interior and exterior walls and roof of the temple has been replaced with modern vitrified tiles and painting and pillars, arches of outer courtyard and ceilings with oil paintings. The floor of the premise is constructed in red flog stones and level of the floor of each temple arranged with steps. Besides that, some new constructions have been also constructed between the old temples and some are still going on in the premise.

Apart from the daily worship in the temple, there are other activities being carried out and looked after by the Mahakaleshwar Temple Management Committee. These activities are:
A: Daily cleaning of the temple premise, *gaushala, Vedic samsthan, Vikram Kirti Mandir, rasoi* of the temple and surrounding area of the temple premise. Cleaning is done by outsourcing.

B: *Rasoi* is maintained by the committee wherein about 55-60 staff is engaged in cooking and serving *bhog* to the visitors free of cost. The *Bhog* is available from morning 11:00 am to night 11: 00 pm.

C: An another *Laddu Prasad* unit is also being run by the committee, which cooked laddu as a prasad and sale to the devotees every day,

D: Temple committee runs two ambulances for giving medical assistance to the peoples of nearby villages. One doctor and one nurse have been also engaged to render free medical checkup and medicines to the public.

E: One *Shavavahan* is kept for free carrying of dead bodies to deliver at the cremation place for the funeral. It is a free service.

F: One bus is also run by the committee for carrying visitors to show important religious places of Ujjain.

G: In the pravachan hall several programmes are organized in the month of the *Sravan* month (Monday), *Uma sanjhimahotsava* in *Ashvin* month which includes preaching by renowned *kathakar, shastriyo sangeet,* and other cultural programmes like *bharatnatyamma* etc. programme.

H: Temple Vedic Sansthan is established to educate students of class VI to XlI on Vedic literature and Sanskrit. Presently about 6 teachers are educating 70 students in the Sansthan.

I: Temple committee is maintaining *gaushala* at Chintamani area wherein about 100 cows are reared. The milk of the cow has been used in the worship and other ceremonies of the temple.

CHAPTER -11
NATURAL (PHYSICO~CHEMICAL) WEATHERING OF STONE WITH REFERENCE TO MAHAKAL JYOTIRLINGA

In this chapter, natural causes (Physico-Chemical) of weathering of stone in the context of Jyotirlinga have been discussed in general keeping in view the offerings (ingredients) used during the prayers/rituals of the lingam.

Rituals including Bhasm (Ash) Aarti and Abhishekas on the lingam starts right from the dawn of the day and continue throughout with short intermittent breaks. A large number of devotees visit the temple daily and offer many ingredients and puja samagree as a part of the ritual with great religious belief and Astha. The number of devotees increases appreciably on any auspicious day or during festivals. These offerings due to their physical or chemical characteristics may interact differently with the minerals of natural stone (Ungam). This continuous interaction, in the long run, may be responsible for appreciable

damage to the substrate (Lingam).

2.1 General Chemical Characteristics of Some of the Ingredients:

It is important and imperative to consider the Normal Chemical Characteristics of the ingredients which are generally offered by the devotees in order to have a better understanding of the physicochemical or Geo-Chemical Interactions of these products with the stone of which this jyotirlinga is carved out. These are briefly discussed below:

Milk: The milk is a biological fluid having following gross composition:

Srl. No	Name of Cattle	Water	Fat	Protein	Lactose	Ash
1	Buffalo	84.20	6.6	3.9	5.0	0.7
2	Cow	86.30	4.9	3.4	4.0	0.7

Dahi (Curd):

Physico Chemical analysis of Dahi in percentage

fat	Protein	Ash	Total dissolve solid	Lactose	pH	Total plate count (cfu/ml) (10^7)	Total coli form count
3.60 ± 0.50	3.27 ± 0.43	0.68± 0.02	15.63 0.1	4.73±0.01	5.05 ± 0.21	7.68 ±0.01	2.32±0.11

Homemade Desi Ghee:

The chemical composition of Homemade Pure Ghee:

Colour	flavor	Texture	M.P.	Refractive Index	Moisture	% Acidity
White	Pleasant	Granular	29°C	1.4530	0.4	3.0

Small chain saturated fatty acid (SFA): 12.5% Mono-saturated fatty acid (MUFA): 19.91% Long Chain fatty acids (SFA): 73.77% Medium-chain

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Fatty acid (SFA): 20.17%

Honey:

Average Composition of floral and honeydew Honey is as below:

SN.	Characteristics or Constitution	Floral Honey (%)	Honey Dew Honey (%)
1	Granular Tendency	Few clumps of crystals 1/8 to ¼ each layer	Few clamps of crystals 1/16 to 1/8 inch layer
2	Colour	Dark half of White	Light of amber
3	Moisture	17.2	16.3
4	Laevulose	38.19	31.80
5	Dextrose	31.28	26.08
6	Sucrose	1.31	0.80
7	Maltose	7.31	8.80
8	High Sugar	1.50	4.70
9	pH	3.91	4.45
10	Free acidity	22.03	49.07
11	Lactones	7.11	5.08
12	Total acidity	29.12	54.88
13	Ash	0.16	0.73

SN	**Composition**	**Average in percentage**
1	Sucrose	8.1-8.7%
2	Reducing Sugar	3-6%
3	Oligosaccharides	0.06- 0.6%
4	Polysaccharides (including Gums and Dextrans)	0.2-0.8%

Sugar Products:

Average Chemical Composition of Sugar Products is:

Sandal (Chandan):
Major compositions of sandalwood powder or Oil are: Alpha Santatot - 41.0 - 55% and Beta Santalol- 41.0- 55 %.

Bhang (Cannabis):
The buds and leaves of Cannabis are ground into a paste to prepare Bhang. The Biodeterioration component is Cannabidiol and delta-9-tetrahydrocannabinol.

These compounds believed to have Antifungal, Antibacterial and Antibiotic property.

Abir or Abeer and Gulal:
If these products are not derived from natural flowers/herbs, may contain synthetic dyes which are manufactured through the chemical process most likely with non-standard parameters and hence the resulting colours may have toxic effects of abrasion on sensitive objects.

Kanku (Kumkum):
It is either made from turmeric or any other local material. The dried turmeric powder is mixed with slaked lime which turns the rich yellow colour of the turmeric into a red colour. Modern Kumkum (Sindoor) mainly uses Vermilion. Orange-red pigment vermilion is purified and powdered form of cinnabar or mercury sulfide.

Fruits Juices:
On many occasions, devotees offer fruit juices of a different variety. These fruit juices may have a different chemical composition and pH value depending upon the nature of the fruit.

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ution.

S No.	Seasonal Fruits (Juice)	pH
1	Cheekoo	5.36
2	Plums	3.60-4.30
3	Apple	3.30- 4.00
4	Mango	3.40-4.80
5	Watermelon	5.18-5.60
6	Pineapple	3.20-4.00
7	Pomegranate	2.93-3.20
8	Papaya	5.20-6.00
9	Guava	3.6-4.10
10	Orange	3.30-4.19
11	Grapes	3.00-3.75
12	Sugarcane	5.2-6.8 (Crude Juice *3A)*
13	Coconut water	1.5- 5.2

Bhasm / Ashes of

Cow Dung Cakes:

We have been informed that ashes of Cow Dung Cakes are being used during the Bhasm Aarti. Good quantity of ash is generally used every day through sprinkling using a muslin cloth. Sample has been collected and our preliminary analysis (XRF) *(courtesy: Wadio Institute of Himalaya Geology,* Dehradun) revealed that the ash collected is quite rich in Silica Content (around 63%), Oxide of Calcium (10.75%), oxide of Magnesium, Aluminium, Phosphorous, Potassium, Iron and traces of oxides of Titanium and Manganese. The solubility of the Bhasma in water is almost negligible, however, in acid, it is sparingly soluble.

Microscopic observation of the bhasmas carried out in the laboratories of the Director (Science) Dehradun revealed the amorphous-crystalline character of the Bhasm. This characteristic of the Bhasm expected to have abrasive action on the soft objects.

Burning of Oil Lamps, Dhoop or Essence Sticks:

Oil lamps, Dhoop or essence sticks use carbon/charcoal powder mixed with some oil and aromatic compounds. When allowed to burn, thick smoke or fumes are emitted into the air which generally creates the biofilm of black soot on the interior wall surface of the temple. This may be aesthetically unpleasing but more importantly, may induce a slow process of decay in the material on which it deposits.

Note: Above *analytical data represent the chemical composition and*

general characteristics of *the materials* as *per references available and does* not *speak* about *the actual materials except Bhasm being* used during *the rituals* or *about any sample* of *those materials.*

2.2. NATURAL WEATHERING OF THE SANDSTONE

Sandstones are Clastic Sedimentary Rock and are susceptible to decay if exposed to the natural environment or manmade adverse deteriorating conditions. ***(Details of the formation/genesis of such rocks and their geological/mineralogical properties are discussed in Part 3 of the report).***

While examining the Mahakal Jyotirlinga, its decay/ damage/deterioration due to the use of different ingredients used during the daily ritual, it is necessary to refer to the Natural weathering process of Sandstone of which this Jyotirlinga is carved out.

It is very important, but also very difficult to assess where the natural process of weathering of stone finishes and the damage induced in the stone due to human activity starts to exacerbate stone decay. To recognize the mechanisms of stone decay it is necessary to examine the natural processes of weathering.

A: Water - A Major Cause of Decay of Stone:

Stone decay depends on many factors. The wet climate is one of the slipware factors of decay and ingress of water or moisture in the core of the stone causes dissolution of active mineral cement (Fe and Mg Carbonates]. The decay of feldspars and the swelling of kaolinite further weaken the subsurface, the weak zone encouraging the detachment of the surface patina, and granular disintegration subsequently. As a result, the most common decay types encountered include granular disintegration, pitting, blistering, flaking, dissolution, the formation of fissures, and crust formation. The precise character and the effects of, depending on the mineralogy of the rock and durability of sandstone, therefore, depends on its framework mineral composition and secondary cement.

The environment of High humidity is equally injurious to stone as it keeps the stone wet for a long time and triggers the process of solubilization of minerals. Water may contain some soluble salts and ingress of water in the matrix of the stone may carry these salts within the stone. Wet and dry cycle thereafter cause

efflorescence of salt on the surface and may result in peeling off of the top layer of the stone.

B: Biological Decay or Bio-deterioration of sand Stone:

The qualitative and quantitative development of Biological Elements on stone and resulting process of Biological Decay is strictly linked to environmental conditions as a whole.

The biological decay of stone may be induced as a result of Bio-Geo-Chemical interactions of the microbiological metabolites secreted by different categories of macro and microbiological species with the stone matrix. These biological species may be Phototrophic or Non-phototrophic.

In the present context, non-phototrophic biological species have a significant role to play as far as the decay of the Jyotirlinga is concerned. The growth of the micro-organisms of this category and the action of their biological metabolites on the stone depends on the following factors:

- Light
- Nutritive Factors
- Environment to which Stone is exposed

However, macro and microbiological species may cause both mechanical and chemical damage to the substrate but in the present context, the chemically induced damage is important to be considered. Some of the metabolites may be chelating and some may have a different affinity of reaction to certain metals elements.

As during the rituals and Abhishekas milk/ curd/ or any other milk/ fruit product are used, the bacterial action is generally expected on the stone if the fermented products rich in certain species of bacteria are not washed away at regular interval of time.

Different species of Lactobacillus bacteria are generally present in milk products and under optimum conditions i.e. suitable temperature and humidity, they start to multiply with appreciable rate utilizing the lactose a good nutrient for bacteria present in the milk products. During the process of multiplication of the bacteria and consequent fermentation process, lactic acid is expected to be released in different quantity in the solution. If this fermented product is not discarded or utilized, it may result in the formation of a by-product of more acidic nature which may

be more injurious to the substrate. General Chemical reaction involved in the process is given below.

$C_{12}H_{22}O_{11} + H_20$ → $C_6H_{12}0_6 + C_6H_{12}0_6$

Lactose — Galactose Glucose

$C_6H_{12}0_6$ → OH COOH

Galactose — Lactic Acid

Other species of bacteria (Sulphur and Nitrogen) are also expected to grow in the stagnant medium rich in cellulosic material and carbohydrate.

The large amount of flowers, Bilva Patra and other materials offered by the devotees to the Jyotirlinga when not removed with a periodical interval, attract bacterial action on these materials. This bacterial action may also be injurious to the stone including sandstone because mild acid products released through the metabolic activities of micro-organisms may react with the metal ions of the sandstone very easily causing disintegration of the substrate through leaching of the cementing material.

2.3. EXAMINATION OF THE MAHAKAL JYOTIRLINGA AND GARBHGRIHA:

The Jyotirlinga was carefully examined by the team on 7th September 2017 after the Bhasm Aarti in order to make an assessment with regard to its decay due to the use of different materials during rituals. We have also been present during the early morning Bhasm Aarti to record the process of this great ritual and to have information about the ingredients generally used during the puja.

A: General Observations of the Jyotirlinga:

There is only one entrance door on the Southern side for the devotees to enter in the Garbhgriha and there is no room for Parikrama around the Jyotirlinga. All the devotees offer materials for rituals and do Abhishekas on the Jyotirlinga from the Western and Northern side of the Garbhgriha. Jyotirlinga is fixed on a circular pedestal of silver metal. It was not possible to visualize the bottom portion of the Lingam and its depth under the floor

surface. The dimension of the lingam above the pedestal has already been discussed earlier. As far as general conservation status of the Jyotirlinga is concerned, chipping of the polished layer may be seen mostly on the eastern and western side having caused depressions or pits. These characteristics may be seen elsewhere also on the lingam.

The top of the Jyotirlinga appears to have good polish but on the southern side the polish has been considerably damaged and fine minerals of sandstone are exposed. The polish on the top of the lingam is difficult to differentiate if it is the original polish or has been developed and is maintained due to the rubbing of the offering materials on the Lingam particularly on the top portion during the Bhasm Aarti. A half-spherical chipped off the mark on the stone is visible on the Southern side and two parallel spherical marks originated from top of the lingam moving downwards on the Eastern side.

The team has also witnessed that liters of water / Ganga jal are offered by the devotees daily. Good quantity of milk, curd, a small quantity of honey, ghee and other materials are also Katra during the Bhasm Aarti including a lot of flowers and belpatra. However, during the Abhishekas of Jyotirlinga, water/Ganga jal is supposed to wash away the milk products and carbohydrates but at many places especially on the bottom of the lingam, we have observed thick accumulation of sticky, slimy fermented by-products of milk including carbohydrates. This accumulation is expected to invite bacterial action if not, washed away regularly. The bacterial action on the stone is, however, a slow process but expected to cause damage to the substrate if not controlled in time. The bacterial action on the flowers and other offering materials may also invite fungal growth which in combination with the bacterial action may be more harmful to the substrate. Bhang is also offered to the Jyotirlinga during the Bhasm Aarti but the bhang paste generally contains alkaloids and phenolic compounds which are not expected to cause damage to the stone. The presence of alkaloids and phenolic compounds rather help to control biodegradation as these compounds also show antibacterial and antifungal properties. The offering of Bhasm and other powder offering materials are expected to have certain chemical compounds, the rubbing of which on the lingo may cause damage to the top layer of the stone. The offering of fruit juices is also expected to be injurious to the stone because of their low PH value and acidic characters.

The sealing of joints around the Jyotirlinga has been observed to

be severely damaged which may be a cause for infiltration of offerings including water which may also lead to bacterial action and moisture related damage to the stone.

The Marble flooring has also developed pits most likely a sign of deterioration as a result of cumulative actions of all deteriorating factors.

The walls of Garbhgriha are now covered with a silver metal sheet which has lost original polish. As far as general ambiance of Garbhagriha is concerned, the average temperature between 4 A.M to 6 A.M has been recorded as *23.5 ^{o}C* and humidity as 78%. The high percentage of the humidity is also important as retention of moisture within the Garbhagriha creates favorable conditions for biological activities. This also keeps the Jyotirlinga wet throughout the day which is a negative feature as far as the decay of the lingam is concerned.

B: Drainage Facility for the Disposal of the liquids and Solids:

The committee has observed that all the liquid and solid waste are generally collected through drainage in a small pit outside the Garbhagriha from where these are pumped out with the help of the electrical motor.

It would be appropriate if this disposal system is improved so that humidity level in the vicinity of the Garbhgriha is maintained suitably and cleanliness may be ensured in the surrounding area.

(C) Electrical fittings in the Garbhgriha also demand major renovation keeping in view the safety reasons and to make the environment of the Garbhgriha more healthy and pleasing.

2.4 OTHER OBSERVATIONS:

Besides the Jyotirlinga and Garbhgriha of the Mahakal Temple, following observations have also been made by the Committee and the Committee feels that action may be taken for better Conservation and Preservation of ancient structures and stone figures. Periodical Inspections, Preventive conservation, and Preservation may be ensured for such ancient stone figures of religious importance.

CHAPTER- III

GEO-SCIENTIFIC STUDY OF LINGAM MAHAKALESHWER UJJAIN, MP

3.1 Introduction:

In the proceeding of Court No 10 of Honorable Supreme court of India, SLP Civil No 15459 of 2017.Upon hearing the counsel and on the proposal submitted of Learned Additional Solicitor General Shri Tushar Mehta, the Court made the following committee from GSI and ASI comprise of Shri Hemraj Suryavanshi and Shri L.L. Vishwakarma from GSI and Shri Madan Mohan Chouhan and Dr. V.K. Saxena from ASI to study / survey/ analysis examine Mahakaleshwer Jyotilingam of Ujjain (MP) and to prepare a report containing the rate of which the deterioration in the size of Lingam is taking place, if any, and the measures/steps/precautions to be taken to ensure that this deterioration/shrinkage of Lingam stops. The Committee also study the other structures and the temple and submit what steps are required to be taken to overall improve the entire premises and for its preservation. The Committee makes a study and reports inter alia as how much deterioration of Lingam has taken place during the last three-four decades and what remedial steps have to Sardar.

The committee Members of ASI and GSI jointly visited Ujjain on 7.9.2017 to assess the deterioration of Jyotirlingam of Mahakaleshwer and to discuss the scope of the area of work for the GSI and ASI team.

The GSI will carry out identification of rock type and its composition of Jyotirlingam workout causes of deterioration in the size of Jyotirlingam if any and suggest remedial measure. ASI will study the archaeological and conservational aspect of the temple premises, apart from carrying out chemical studies of offering material to the Jyotirlingam

Geological Survey of India, Bhopal team has assessed the limitation and accordingly methodology and instrumentation has been selected for the detailed study of the lingam rock. Since rock sample cannot be taken out from the Jyotirlingam for detail studies, therefore, visual observation, as well as studies based on non-destructive methods like remote sensing technique with an instrument named Spectroradiometer, was adopted to identify the rock and ascertain its composition. The instrument as well as two

expert scientists from Nagpur office were called. The Nagpur team was reached Ujjain on 10/9/2017 and carried out his work on 11/9/2017. The team has collected spectral signature of lingam rock and matched with standard spectral signature available with spectral library of CHQ of GSI, Kolkata.

Another non-destructive method by portable XRF studies of lingam rock was felt necessary to cross checks the identification made by the remote sensing technique. Therefore, one portable XRF instrument along with one scientist was called from GSI, Jaipur. Portable XRF machine was used to collect information on 12/09/2017 at 19 points in Jyotirlingam rock to study the composition of Jyotirlingam rock in weathered part as well as on non-weathered part of Lingam. Based on these studies remedial measures ware worked out to reduce the extent of chemical weathering.

Apart from this water sample, ash samples, samples of offering items like bhang, cow dung were collected and analyzed to ascertain the real cause of chemical weathering and to suggest suitable remedial measure to improve the overall environment of the temple premises ware suggested.

3.2 Observation and studies of Jyotirlinga:

3.2.1 Visual observation: The Shiva Lingam measuring 67 cm in height and 47.97 cm in diameter situated over silver coated Jaladhari of 208x127x30 cm in size. The lingam rock is pinkish buff coloured orthoquartzite similar to quartzite of Vindhayans. It is massive, hard and compact fine to medium grained, well sorted arenaceous quartzite compose of quartz occasionally with minor feldspar with the siliceous matrix. Majority of the grains are quartz along with minor orthoclase giving light pinkish brown shade to the lingam rock. The cementing material is siliceous with minor ferruginous impurities.

There are traces of two bedding plane on the left side of the lingam rock with a minor change in grain size and composition along these plane. These bedding planes are visualized as an imprint in the forms of a slightly depressed linear groove-like structure due to differential weathering, but on the fresh surface exposed in pits developed in lower part of lingam in the eastern side, these imprint of bedding are not visible by naked eyes.

3.2.2 Studies based instrument:

(a) Spectral studies by Spectroradiometer:

On the basis of visual observation as well as studies based on remote sensing technique with the instrument named Spectroradiometer was adopted to identify the rock and ascertain its composition. Two experts Geologist one from GSI Nagpur & another from GSI Kolkata along with Spectroradiometer Instrument have carried out studies of the lingam. The team has collected spectral signature of lingam rock on 11/09/2017 and matched these signature with the standard spectral signature of rocks available in the library at GSI headquarter Kolkata. Total 10 no of spectral signature from a different part of the Shiva Lingam was collected. This study also confirms that the Lingam rock is quartzite, mainly composed of quartz, orthoclase and a minor amount of mica in the matrix.

(b) Portable XRF studies:

Portable XRF studies of lingam rock were felt necessary to cross-check the identification made by visual observation as well as with the remote sensing technique, therefore one Chemist from GSI Jaipur was called to carry out a study of Lingam with Portable XRF machine. Total 19 observation points were recorded by the instrument on 12/09/2017 on lingam. The objective of this study was to ascertain the approximate composition of lingam rock in weathered part as well as on non-weathered part for confirmation of its identification. Based on these studies remedial measures were worked out to reduce the extent of chemical weathering. The composition of Lingam rock worked by this instrument conform its sedimentary nature with the presence of minerals of zirconium and titanium in traces. Observation at 19 spots from the instruments over the lingam rock was taken and the silica percent ranges from 66 to 92.6% in 10 samples, out of which 7 spot samples have more than 75% silica. It conforms that the rock is orthoquartzite. Methodology and analytical result are enclosed as Annexure-III.

3.3 Water analysis by portable water analysis kit and ICP-MS Instruments:

Water analysis of the temple premises was carried out at seven selected locations and it was found that the pH value of water being used in the offering is high ranging from 8.4 to 8.7

Water is a universal solvent and dynamic medium which necessitates its analysis. Ionic Product of pure water at 25°C is 1x $1O^{-14}$.Water is composed of H^+ ion and OH^- ion.

H2O ⟷ $H^+ + OH^-$ (Ionic product)

In pure water of the hydrogen ion (H^+) and hydroxyl ion (OH^-) is equal. Hydrogen ion (H^+) is responsible for acidity and hydroxyl ion (OH^-) is responsible for the alkalinity of medium i.e. if hydrogen ion (H^+) increases in the medium the acidity will increase and if hydroxyl ion (OH^-) concentration increases in the medium than alkalinity will increase. The H^+ and OH^- concentration is measured in terms of pH value which is the negative logarithm of H^+ concentration in water.

pH = - Log [H^+]

If any liquid is having pH less than 7 then it will be acidic, and if it is more than, it will be alkaline/ basic in nature. pH 7 is considered neutral.

Weathering of rock increases on exposure to acidic as well as, as well as two expert scientists from Nagpur office, medium as compared to neutral medium; due to increase in electrochemical reaction. On exposure of high silica material to acidic medium have no significant weathering effect but on exposure to basic/alkaline medium weathering increases by following reaction:

$$SiO_2 + 2KOH \rightarrow K_2SiO_3 + H_2O$$

On the bacterial decomposition of any organic matter, carbon dioxide gas ($C0_2$) releases with the rise of temperature and $C0_2$ react with water to produce carbonic acid (H_2CO_3)

$$CO_2 + H_2O \rightarrow H_2CO_3$$

Sansthan

Storage tank below lingam produced carbonic acid may react with alkaline water having high pH and up to some extent neutralization reaction may happen as: -

$$H_2C0_2+2KOH->K_2C0_2+H_20+Heat$$

The pH of the tank is less than the water of Kotiteerth pond, which is alkaline in nature and deleterious to the siliceous material.

3.3.1 Ash analysis:

Three ash samples (1), from Bhasmaaarti of Jyotirlingam, (2), *cow* dung used for making bhasma in mahakal temple and (3) from Bhopal were analyzed for comparative studies.
Bhasma is being used in the bhasmaaarti range in pH from 9.07 to 10.2 in an aqueous medium having 7 pH; on the other hand, the water of Kotiteerath pond is alkaline in nature. If alkaline water is mix with bhosmo. , the combination will further enhance pH of the medium and produce a more adverse effect on lingam and increase rote of chemical weathering (Annexure IV c).

Use of cow ghee, milk, curd, honey etc is a regular phenomenon. As a matter of fact pH of some of these articles might induce deterioration but in view of the religious sentiments, the age-old practices cannot be stopped, but the amount of the material may be restricted in order to reduce further deterioration. The only effect of these semisolids appears to be their pH value in general pH value of cow milk ranges between 6.6 to 6.8, pH of curd 4.5 to 6.0, pH of coconut water (matured) will be 5.2 and honey may range from 3.9 to 6.0 in pHs

3.4 Discussion and interpretation : -

Since centuries the temple is a center of attraction to the Hindu society. It was situated on the bank of kshipra River. The great kshipra had changed its course in past it was flowing close to the Mahakal temple and gradually shifted its course to the present channel, now local people talk about guptkshipra which flows below the kotiteerath pond and supplying water to the temple premises since years.

3.4.1 Extent of weathering:

The lingam rock is hard and compact medium to fine-grained well-sorted orthoquartzite as seen in above photos from a different direction. Majority of the grains are quartz along with minor orthoclase giving light pinkish brown colour to the Jyotirlingam rock. The cementing material is siliceous with minor ferruginous impurities. It is hard and compact and sustainable in the ideal natural environment. Close observation of lingam reveals that there is the signature of chemical weathering on the eastern and western side of the lingam. Observation of day to puja pattern and offering of milk curd, honey bhang etc. as well as the traditional ritual it is seen that

the effect of chemical weathering is more pronounced in the eastern and western side of the lingam. The northern side (Front, facing devotees) is devoid of any weathering pits. Similarly, the back side is also least affected by the process of chemical weathering. The causative factors for the localised development of pits are the topic of research for our team. We have gone through the ill side effect of offering material and the area affected by the offering.

3.4.2: Causative factor:

(1) The ambiance and climatic parameter of Jyotirlinga room are somewhat similar to a subtropical climatic condition where alternate wet and dry spell is in practice. The offering supply's bacteria through curd organic compound and lodging of these compounds in pits enhance the process of attacking and dissolving cryptocrystalline siliceous cement in the rock resulting in loosing and removal of grains in this way the chemical weathering is progressing.

(2) Silico is stable and inert in most of the form but the cryptocrystalline form of silica is prone to attack by the alkaline substance (like potassium hydroxide KOH) and will dissolve at room temperature in alkaline solution as express in this reaction. (reference from Google).

$$SiO_2+2KOH=K_2Si0_3+H_20$$

The formation of potassium meta-silicate is the cause of chemical weathering which is soluble in water the rate of reaction is very slow but continuous with the passage of time.

Water quality of the Kotiteerath pond has pH value 8.4 which is alkaline in nature, this water being offered continuously to Lingam rock during Jalabhishek. Ash offered in the bhasmaarti also contains alkaline compound and the pH value of ash in aqueous media using pure water is 9.1 which is highly deleterious to siliceous rock. During Bhashmaarti ash are poured over the lingam and then after water of Kotiteerath are used in jalabhishek which is reacting and producing causative factor to enhance the chemical reaction stated above resulting in the form of chemical weathering and removal of silica grains and development of pits in lingam rock.

3.4.3: Weathering through ages:

Though the rate of weathering is very slow and cannot be perceived by single observation as these pits have been spotted 60 years ago when Hon'ble first President of India. Shri Rajendra Prasad and Hon'ble first Vice President and second President of India, Shri Sarvepalli Radhakrishnan were spotted worshipping of Jyotirlingam in Mahakal temple at Ujjain and the patch of Pits in the eastern side of the Lingam has also been spotted during that time. In a span of 60 years, these pits have increased at a slow rate in number and size. (Photo no.5-8) Projecting the rate of erosion there is no alarming situation at present but some precautions are necessary as a remedial measure to protect the lingam for posterity and manage the deterioration.

CHAPTER· IV
A: SUGGESTIONS AND RECOMMENDATIONS:

1. The Jyotirlingam rock has been identified as orthoquartzite which is hard and compact and highly siliceous in nature in which the silica content varies from 75-92% analyzed by portable XRF studies. Apart from visual observation spectral signature by spectroradiometer were collected, matched with the standard signature of orthoquortzite available in GSI, spectral lab.

2. The deterioration of lingam has Sandstones and increased in last 40-50 years as depicted in photos no 1-4 and 5-8; the deterioration is continuous Sandstone can be managed with remedial measures.

3. The water of temple premises used in Jalabhishek is highly alkaline in nature the pH value ranges from 8.4 to 8.7 which is reactive with the cryptocrystalline siliceous cementing material of orthoquartzite at room temperature and causing deterioration in Jyotirlingam.

4. The tradition of Bhasmaarti using ash of Cow dung (as per temple pujaris) has pH value ranges from 9.07 to 10.20 in an aqueous medium.

5. The age-old practices cannot be stopped but the amount of material can be restricted/ minimized in order to reduce deterioration. The quantity of offering as listed in Annexure I contain milk, curd. into, honey, sugar, leaves, petals, and flowers, accumulate in pits promote the growth of bacteria at room temperature resulting in pH variation is also a cause of

deterioration.

6. Presence of major and minor oxide and trace elements of rock enhance the electrical conductivity of the water to a high level which can cause deposition of salt in pores/ pits and chipping of material by chemical weathering.

7. Poor drainage sanitation and water spillage were also spotted in the temple premises.

8. The Use of water (jal /Ganga Jal) throughout the day for Abhishekas of the Jyotirlinga by the devotees should be restricted to a minimum.

9. Use of milk and other milk products including ghee and honey should be minimized to a small quantity and made symbolic in nature to satisfy the religious requirement.

10. Rubbing of Jaggary / Sugar powder and other powdery material on the Jyotirlinga may be restricted/ minimized.

11. Use of a lot of flowers / Bel Patra etc. may also be made symbolic as the use of such huge materials keep the Jyotirlinga wet all the time and hinders natural breathing of the stone which is essential for the good state of the Jyotirlinga.

12. Use of metal buckets, offerings pots, and other utensils should be replaced with wooden / Good Plastic materials in order to avoid mechanical abrasions.

13. lf possible, entry of devotees in the Garbhgriha may be limited by making a management plan. Devotees may be permitted for short duration at a time to avoid the crowd in grabhgraha. This is important as there is only single entry door which is also used as an exit door.

14. Every effort should be made to keep the Garbhgriha dry and clean including the passage and surroundings.

15. All the damaged area of marble floorings and sealing of joints etc. should be repaired to avoid water percolation through the damaged area.

16. 1f possible provision may be made for air circulation in the Garbhagriha.

17. Arrangements for disposal of waste may be improved and should be made more effective.

18. Scientific / Chemical treatment of any stone object with periodical inspection and preventive conservation may, however, help to preserve the object for quite long time but in case of Jyotirlinga it may not be appropriate to consider such treatment as the treatment of the Jyotirlinga may not be acceptable to the common people because of their great faith and religious beliefs. Only preventive conservation methods may be helpful to keep the Jyotirlinga in the best of its conservation state.

19. Sincere efforts should be made to preserve the originality of the main temple and other structures of historical importance in the premises. Modern materials should be avoided for general maintenance.

20. The antiquarian remains of the premise including the main temple of Mahakal can be classified mainly into four groups; a: Some stone sculptures in loose and fixed nature assigned to 7th - 8th century AD, **b:** Some sculptures of 11th -12th century AD, **c:** Main temple and other subsidiary shrines of 18th century and **d:** Other remains viz wooden box, copper drum, seating benches and some metal work etc of 19th -20th century. Numbers of stone sculptures placed in the temple premise at different places like embed in the walls, on the floors, and in the abandoned rooms needs to be properly maintained, documented, identified and displayed in a proper place so that they could be preserved for future generation and could be in use of researchers and students of art and architecture.

21. Some unwanted restoration works have been done on the 1st and 2nd floors of the Mahakal temple by laying of modern tiles on the floor. This sort of flooring does not match in any way with the ambiance and old architecture of the temple. On the north and south sides of the temple, iron scaffoldings are placed attached to the main temple. We were told that the scaffoldings are provided for installing iron stairs for climbing of the visitors to the temple on the top floor to worship Chandranageshwar. On this floor, a sculpture of Chandranageshwar with his consort is placed inside a niche covered with a glass window and devotees or visitors

would be allowed to reach there. During our visit, we were informed that earlier temporary arrangement was made there by way of installation of iron stairs in the occasion of *Nagapanchami* when lacs of visitors used to visit here. Providing of this sort of installation is not only the eyesore in the ancient temple premise but it would lead a new tradition in future and put an adverse effect on the old temples when such a huge crowd of devotees will reach the top floor. Therefore, it should be avoided for the safety of the public and to maintain the ambiance of the temples.

22. While the campus consisting of old temples have been reflecting with white, cream and red colours as outer walls and *shikhara* of almost all the temples are painted with these colours and flooring with tiles and red stones. Beside that some new constructions have Abhishek the carried out. This sort of constructions and development in an ancient heritage place should be avoided and proper conservation should be carried out with the help of conservators and expert of ancient architecture.

23. The significance of Mahakal temple and Ujjain is not only for the people of Ujjain and Madhya Pradesh, rather for the people of the whole country too, therefore keeping this thing in mind, it is inevitably required to develop this most religious and heritage sire with proper care and maintenance so that its cultural and tangible fabric could not be disturbed. Presently there are numbers of the temples inside the temple premise probably of the same period as the Mahakal temple but these temples are conserved in crappy manner by adding eyesore paintings on the walls and some weird addition to the old structures. Some new constructions are done and some other constructions are presently going on there. Therefore, it is suggested that no new construction may be allowed within the temple premise and restoration and development of the old temples and structures of the premise may be rectified and restored with the assistance of Archaeological Conservators. Apart from the various activities as referred above, Temple committee can create a heritage cell for maintenance and restoration of the old temples and structures inside the premise.

24. It is stated earlier that Ujjain is a very ancient city and there are numbers of old structures, temples, ponds, houses, platforms near-infrared etc around the temple premise still in extent, these old structures ore the valuable heritage and integral part of temple premise, needs to be identified and restored

accordingly. If it is possible for the state government, 500 m all around the temple premise can be preserved with old structures and removed from the modern constructions. Wherever open space is found, that can be landscaped and developed so that its religious ambiance could be maintained and preserved.

B: REMEDIAL MEASURES:

1. Water quality of the temple premises may be improved; special care should be taken to water used in Jalabhishek ritual, potable water range in pH from 6.8 to 7.2 are ideal for jalabhishek and cleaning of the Jyotirlingam.

2. Ash used in bhasmaarti ranges in pH from 9.07 to 10.2 in aqueous media is one of the causes of deterioration in lingam, the ritual can be minimized to symbolic in nature so that the deterioration can be minimized. The lingam should be thoroughly cleaned after bhasmaarti and ensured that no trace of ash remains over it, then only Jalabhishek may be allowed.

3. The ambient temperature of the lingam room (Grabhgrah may be 17-20 degree Celsius and efforts may be made to keep dryness in most of the time of the lingam to minimize the rate of chemical reaction, bacterial and fungal growth.

4. Use of ghee, milk, curd, honey, etc. is a regular item of offering since ages, therefore, cannot be stopped, but the quantity and quality of material may be minimized in order to minimize the deterioration.

5. Proper disposal of temple garbage may be arranged and insured that it should not contaminate the kotiteerath pond. Improvement in sewer line and sanitation may also be managed to keep the premises neat and clean. An arrangement may be made to stop draining off rain and used water into kotiteerath pond.

6. Periodical monitoring of all these remedial measures is also essential to check further deterioration and to maintain garbhagriha and Jyotirlingam and to maintain its natural ambiance.

ANNEXURE -I

WORSHIP SCHEDULE AND OFFERING MATERIAL OF JYOTIRLINGAM, MAHAKALESHWER TEMPLE, UJJAIN

TIME	EVENT
04:00 AM	Opening of Temple door
04:00 to 04: 15 AM	Temple cleaning followed by an offer of Panchamrit (Milk, Curd, Ghee, Honey and Sugar)
04: 15 to 04:40AM	Jalabhishek by Pilgrims (Katitirathpond water), 15 to 20 minutes.
04:40 to 05:00 AM	Abhishek by Priest (Material list attached).
05:00 to 05:15 AM	Cleaning and Drying by dry cloths
05:15 to 05:30 AM	Decoration.
05:30 to 05:35 AM	Bhasamaarti (Ash worship) by ash and bearing ornaments.
06:00 to 6:45 AM	Again Jalabhishek by pilgrims, water offered.
06:45 to 07:00AM	Entry closed and cleaning of the temple.
07:00 to 07:15 AM	Worship of other deities
07: 15 to 07:30 AM	Chandan-Abhishek-after cleaning.
07:30 to 07:45 AM	Aarti
07:45 to 09:45 AM	Again Jalabhishek by pilgrims (using Ujjain Municipal Supply water)
09:45 to 10:00 AM	Cleaning.
10: 00 to 10:45 AM	Chandan-abhishek and Bhogaarti.
10: 45 AM to 04:45 PM	Milk-Water Abhishek by Pilgrims and worship
05:00 to 05:20 PM	near-infrared started by panchamrit Abhishek.
05:20 to 05:45 PM	Decoration by Bhang and Chandan.
05:45 to 07:00 PM	Dry worship.
07:00 to 07:45 PM	Evening Milk Bhog.
07:45 to 10:30 PM	Open to Public for Worship with flowers and belpatra
10:30 to 11: 00 PM	Sayan Aarti (Sleeping worship).

ANNEXURE II

SPECTROSCOPY STUDY OF JYOTIRLINGAM OF MAHAKALESHWER TEMPLE, UJJAIN, MADHYA PRADESH

By: Prem Babu, Director and Uday Kumar Ghosh, Sr. Geologist

Spectroscopy is the study of light as a function of wavelength that has been emitted, reflected or scattered from solid, liquid or gas (Clark, 1999). Reflectance and emittance spectroscopy of natural surfaces are sensitive to specific chemical bonds in materials, whether solid, liquid or gas. Moreover, spectroscopy has the advantage of being sensitive to both crystalline and amorphous materials, unlike some diagnostic methods, like X-ray diffraction (Clark,1999). Spectroscopy's other main advantage is that it can be used for near (e.g. in the laboratory) to far away (e.g. to look down on the Earth, or up at other planets) objects. Laboratory and field spectroscopic studies of rocks/minerals/other materials help in understanding the entire realm of variability in spectral signature of particular rocks/minerals/other materials. Reflectance spectra have been used for many years to obtain compositional information of the Earth surface. Therefore, spectroscopy is being used increasingly in geoscientific studies to detect the mineralogical composition of rocks/minerals of earth surfaces and other planets of the universe.

Different types of minerals absorb and scatter incident energy in the different wavelength region. When we examine the maxima and minima of spectral reflectance curve, minima are caused by molecular absorption and we call these as absorption features or absorption bands. Absorption of a particular mineral rock depends upon its atomic structure and chemical composition. Absorption of a particular object depends upon the electronic and vibrational process. The electronic processes are very sensitive invisible to near infrared (VNIR) region whereas vibrational processes are sensitive in shortwave infrared (SWIR) region. The VNIR region is very important to detect ferric & ferrous iron, manganese, copper, cobalt, chromium, nickel etc., whereas SWIR region is useful in detection of hydroxyl bearing minerals, carbonate, phosphate, borates, arsenates, vanadates, silicates etc, The hydroxyl (OH-) is generally bound to Mg, Feor AI. The water molecule (H20) gives rise to overtones as seen in the reflectance spectra of H20 bearing minerals. The first stretches of OH- occur at 1.4 um:

and the combination of H-O-H bond with the OH- stretches are found near 1.9 um. The OH- group commonly occurs in multiple crystallographic sites of a specific mineral and is attached to metalions. Thus, a combination of metal OH plus OH stretch occurs at 2.2-2.3 um and is the diagnostic of mineralogy. Spectroscopic study of Mahakaleshwer Lingam was carried out using high-end portable field spectroradiometer to know the compositional information of the surface of Lingam at Ujjain. Madhya Pradesh. Spectroradiometer used in the present study has a very good signal to noise ratio (SNR), with finer spectral resolution and spectral interval suitable for detecting the subtle absorption features characteristic of the constituent minerals of the rock exposed on the surface under examination. It detects the energy reflected by the surface material. Spectra Vista Corporation (SVC HR 1024i) spectroradiometer used in the present study has two types of detectors one 512 element Si photodiode detector operative in 350-1000 nm and two separate, In Go As photodiodes operative in 1000-2500 nm.

Collection of Spectral Signature using 'SVC 1024i' Spectroradiometer. Before taking the spectral measurement of Mahakaleshwer Lingam the entire area was properly cleaned and dried (using drier) to obtain maximum reflectance from the field of view. The rest of the area was covered with dark cloth to avoid unwanted reflectance from the surroundings.

Measurement Procedure:

The SYC HR 1024i spectroradiometer has spectral range of 350-2500 nanometer (nm), with finer spectral resolution of 3.5nm @ 350-1000,9.5 nm @1000- 1850nm and 6.5nm @ 1850- 2500. The instrument was optimized properly before taking a spectral measurement. Measurement of the radiance of a white reflector (reference panel) is also essential before initiating the measurement, as it helps in recording the irradiance of the illuminator for a reflectance measurement. The light source for illuminating (using a tungsten halogen source lamp) the sample was kept at approximately 45° angle and measurement was token by pointing sensor (fore optics as well as fibre optics) vertically over the sample to make the phase angle of 45° (phase angle corresponds to the angle between the illumination source and measurement point) so that the measurements which speak about the volume of reflected energy emanated from the rock (characteristic of the

internal chemistry) are collected and it would reduce the specular reflection from the object which is dominantly the result of surface smoothness. The 40 optical lens was used while taking the spectral signature of the Lingam.

The following necessary steps were taken into consideration while making the measurements.

1. Source of the illumination is well calibrated so that there should be minimal fluctuation in irradiance in successive measurement.

2. Precautions were taken so that there is no physical blockade of light and shadow of the person who is taking measurements does not fall over the sample.

3. The sample should be larger in dimensions than the ground sample diameter (GSD) of fore-optics.

4. Data was saved in personal digital assistance (PDA) and downloaded into the computer for further analysis.

Processing of Spectral Curve:

Spectral signatures thus collected is processed using *SVC* HR 1024i software to remove the overlap at the junction of visible (VIS) & near infrared (NIR) and NIR & SWIR region and remove higher order kinks to derive the curve with characteristic "spectral features". The spectral file format generated in the SVC 1024i spectroradiometer instrument is saved as sig file format which stores wavelength and full width at half maximum (FWHM) values (spectral resolution) and other necessary information. After pre-processing the signature is exported to ENVI software for generation of spectral library. The ENVI software retrieves the wavelength data and FWHM value from the spectral reflectance files and appends it to the header file created for each spectral signature. ENVI has a spectral library builder tool to generate new spectral library builder tool to generate a new spectral library from a variety of spectra sources, including ASCll files, other spectral libraries, ROI means, spectral profiles and plots. The collected spectra are automatically resampled to an input wavelength space using FWHM information. After feeding all the necessary information finally, the rock library is generated by using lab spectra.

The spectral signature of Mahakaleshwer lingam, Ujjain, MP:

The spectral signature was collected at different faces of **Mahakaleshwer Lingam** like near top, back, left, right, primary bedding plane, pitted surface etc. For each location number of measurements using fore-optics as well as fiber optics were taken and were later averaged to get the final spectra.

Interpretation

The spectral signature of left and right side shows absorption at 2.19 μm indicating presence of **phyllosilicate minerals** (AI-OH bearing minerals) and absorption in VNIR (O.568 µm) region is due to iron oxide stains. But the fore optic spectra show high reflectance in NIR as compared to fiber optic spectra that is possibly due to the presence of some organic material on the surface and also due to the differential field of view of spectral measurement. The combination of H-O-H bend & OH- stretches is found at 1.93 μm that indicate the presence of water molecule in the sample. The additional overtone feature of OH- stretches has been noticed at 1.4 µm.

The spectra of near top & back side show absorption at 2.19 µm that indicate the presence of phyllosilicate minerals (AI-OH **bearing minerals**) and absorption in VNIR (O.543 µm) region is due to iron oxide stains. But the fore optic spectra show high reflectance in NIR as compared to fiber optic spectra that are again due to the presence of some organic material in the surface and also due to the differential field of view of spectral measurement. The combination of H-O-H bend & OH- stretches is found at 1.93 µm that indicate the presence of water molecule in the sample. The additional overtone feature of OH- stretches has been noticed at 1.4 µm. The fiber optic spectra of all pitted surface show absorption at 2.19 µm indicate the presence of phyllosilicate minerals (AI-OH bearing minerals, and absorption in VNIR region is due to iron oxide stains. The variation of absorption depth at VNIR has been noticed which varies from 0.565 to 0.731 µm and this is due to the presence of differential iron oxide stains at the different pitted surface. The combination of H-O-H bend & OH^- stretches is found at 1.93 μm that indicate the presence of water molecule in the sample. The additional overtone feature of OH^- stretches has been noticed at 1.4 μm.

From overall observation, it is found that most of the diagnostic absorption occurs at 2.19 µm and absorption in VNIR region is

possibly due to differential iron oxide staining at different surfaces. No other diagnostic absorption due to other alteration mineral was noticed.

All the spectral signatures were analysed with existing rock library of GSI as well as USGS mineral spectra and it the that the spectral signatures fit well with quartzite based on its absorption features in SWIR region.

Continuum removed (continuum or background is the overall albedo of the reflectance curve) spectra of Lingam & USGS phyllosilicate mineral shows diagnostic spectral absorption at 2.19 µm which confirms the presence of phyllosilicate mineral.

Summary: Based on the spectroscopic study of the lingam of Mahakaleshwer temple Ujjain, MP, it can be summarised that the spectral signatures of the surface of lingam show presence of quartz with a minor amount of phyllosilicates. Beside presence of some organic matter at a few locations could also be noticed.

References: Clark, R.N. 1999; Spectroscopy of Rocks and Minerals, and Principles of spectroscopy(pp3), http://speclab.cr.usgs.gov.

XRF STUDY OF JYOTIRLlNGAM OF MAHAKALESHWER TEMPLE, UJJAIN

The XRF study of the Jyotirlingam of Mahakaleshwar temple, Ujjain was carried out using portable Skyray-Explorer 5000 ED-XRF instrument.

ED (Energy Dispersive) X-ray spectrometer is based on the principle of X-ray fluorescence (XRF) which is a non-destructive technique. The atoms, illuminated by high-energy X-ray, emit X--ray spectra with certain characteristics, the wavelength of which is related to the atomic number of an element. Therefore, by determining the wavelength, we find the composition of the sample and start the qualitative analysis; by measuring the line intensity and comparing with a known standard, we get to know about the content of the element and start the quantitative analysis. The Explorer-5OOO instrument consists of mainly three systems: excitation, optics and detector system. The excitation system, including a miniature X-ray source, filter, and collimator,

is used to generate X-rays. X-rays irradiating to the sample produce X-ray fluorescence with sample characteristics, transforming into voltage signals through the detector, the signal, after being amplified and data acquisition, is sent for computer processing to get the required test data. The detection system mainly includes i) AMP and digital multi-channel data acquisition system, ii) Embedded PDA - Equipped with dedicated X-ray fluorescence analytical software. The detection limit is down to ppm level.

The XRF study of the lingam was carried out by directly placing the nosepiece carefully on the Lingam surface by holding the instrument in hand. The surface of the lingam was more or less rough at all points scanned using the is. On each side of the lingam, we started to analyze from the bottom position to the top position. The total scanning time for each point was 60 seconds. For qualitative analysis of the elements in the sample, whether it is a natural one or in a strange shape, this instrument can be directly used for a test. But for accurate quantitative analysis, we need to do some sample processing. There is some inherent limitation which may lead to measurement error; rough surface, inhomogeneity in composition etc.

APPROXIMATE CHEMICAL ANALYSIS OF LINGAM ROCK BY PORTABLE XRF INSTRUMENT

	FRONT FACING NORTH				BACK FACING NORTH					
SPEC NAME	LINGAM-4	LINGAM – 3	LINGAM – 2	LINGAM – 1 BOTTOM	LINGAM – 6 (CEMENTING PORTION OF THE BASE)	LINGAM – BACK5	LINGAM – BACK4 (TOP MOST)	LINGAM – BACK3	LINGAM BACK 2	LINGAM BACK1 (BOTTOM MOST)
Mg O (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.2208	0.0000	0.0000
	5.8768	6.1319	0.0000	0.7162	5.3121	8.0831	6.3068	5.7163	11.7319	3.4060
SiO 2 (%)	92.6279	89.4543	37.1480	13.3846	16.7793	88.7300	74.7741	74.6217	81.1862	16.0813
P (%)	0.5668	0.7992	0.5796	0.4026	0.8395	0.3358	0.4442	0.3337	0.3435	0.2922
As (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Se (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Rb (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sr (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Y (%)	0.0020	0.0025	0.0014	0.0014	0.0000	0.0017	0.0010	0.0008	0.0010	0.0000
Zr (%)	0.0109	0.0328	0.0000	0.0000	0.0000	0.0095	0.0252	0.0142	0.0000	0.0000
Nb (%)	0.0191	0.0195	0.0080	0.0100	0.0104	0.0186	0.0119	0.0144	0.0138	0.0096
Mo (%)	0.0889	0.0903	0.0427	0.0481	0.0202	0.0856	0.0669	0.0599	0.0814	0.0281
Pd (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ad (%)	0.0173	0.0178	0.0164	0.0165	0.0101	0.0174	0.0170	0.0175	0.0174	0.0155
Cd (%)	0.0234	0.0513	0.0427	0.0485	0.0000	0.0613	0.0305	0.0337	0.0568	0.0120
Sn (%)	0.1047	0.1021	0.1033	0.1033	0.1021	0.1028	0.1029	0.1031	0.1027	0.1036
Sb (%)	0.0000	0.0080	0.0016	0.0000	0.0072	0.0111	0.0000	0.0046	0.0042	0.0000
Ba (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hf (%)	0.0002	0.0001	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0003
Ta (%)	0.0000	0.0000	0.0016	0.0018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
W (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Au (PPm)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
P2O3 (%)	1.2982	1.8303	1.3275	0.9220	1.9228	0.7690	1.0173	0.7643	0.7868	0.6691
S (%)	0.0000	0.0211	0.0000	0.0000	0.0000	0.0000	0.2173	0.0905	0.0521	0.0000
SO4 (%)	0.0000	0.0634	0.0000	0.0000	0.0000	0.0000	0.6519	0.2714	0.1563	0.0000
K (%)	0.1104	0.5955	0.3539	0.4735	0.4665	0.8395	0.6304	0.3445	0.2275	0.3164
K2O (%)	0.1333	0.7190	0.4273	0.5717	0.5632	1.0136	0.7611	0.4160	0.2747	0.3821
Ca (%)	0.4731	2.5745	1.5076	1.1806	6.1020	1.5516	1.7748	1.5767	1.5107	0.1713
CaO (%)	0.5441	2.9606	1.7337	1.3577	7.0172	1.7843	2.0410	1.8132		0.1970
Ti (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
TiO (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
V (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cr (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mn (%)	0.0000	0.0000	0.0000	0.0000	0.0009	0.0000	0.0000	0.0000	0.0000	0.0000
Fe (%)	0.0754	0.0991	0.0421	0.0274	0.0496	0.1522	0.1598	0.1452	0.1313	0.0277
Fe2 O3	0.107	0.1415	0.0602	0.0392	0.0709	0.217	0.2283	0.2074	0.1875	0.0396

(%)	7					4				
Co (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ni (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cu (%)	0.0031	0.0000	0.0017	0.0000	0.0000	0.0000	0.0070	0.0159	0.0101	0.0000
Zn (%)	0.0000	0.0000	0.0229	0.0638	0.0000	0.0000	0.0000	0.0071	0.0973	0.0000
Hg (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pb (%)	0.0000	0.0000	0.0000	0.0000	0.0711	0.0000	0.0000	0.0011	0.0041	0.0000
Bi (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Peak	1653.0000	1653.0000	1647.0000	1649.0000	1655.0000	1655.0000	1652.0000	1651.0000	1649.0000	1645.0000
Cps	17391.0000	18507.0000	15614.0000	15688.0000	12188.0000	17754.0000	16378.0000	15787.0000	16737.0000	13791.0000
Count	522496.0000	555942.0000	468960.0000	471219.0000	366273.0000	533249.0000	491980.0000	474277.0000	502614.0000	414329.0000

APPROXIMATE CHEMICAL ANALYSIS OF LINGAM ROCK BY PORTABLE XRF INSTRUMENT

	LEFT FACING WEST				RIGHT FACING EAST				
SPECNAME	LINGAM - LEFT 5 (TOP MOST)	LINGAM – 4	LINGAM – 2	LINGAM – 1 BOTTOM	LINGAM – RIGHT5 (TOP MOST)	LINGAM – RIGHT6	LINGAM – RIGHT4	LINGAM – RIGHT2	LINGAM -RIGHT1 (BOTTOM MOST)
Mg O (%)	0.0000	0.0000	0.0000	0.0000	3.7727	0.0000	0.0000	0.0000	0.0000
	0.0000	3.4612	7.5109	1.9663	3.3407	1.9081	1.4415	7.2004	2.7364
SiO 2 (%)	43.5607	68.9923	77.2504	45.9106	68.1343	43.9697	44.8462	66.2406	16.6197
P (%)	0.3531	0.8193	0.7440	0.7290	0.2099	0.6819	0.3962	0.6041	0.5817
P2O 3%	0.8087	1.8766	1.7039	1.6697	0.4808	1.5617	0.9074	1.3836	1.3322
S (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SO4 (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
K (%)	0.2790	0.9832	0.6434	0.8525	0.4524	1.2142	0.0589	0.9266	0.2368
K2O (%)	0.3368	1.1872	0.7769	1.0294	0.5462	1.4660	0.0711	1.1188	0.2860
Ca (%)	0.7907	1.1399	0.1493	0.0000	0.2115	0.4031	0.5622	0.2549	0.1753
CaO (%)	0.9093	0.1608	0.1717	0.0000	0.2115	0.4031	0.5622	0.2549	0.1753
Ti (%)	0.0000	0.0000	0.0000	0.0083	0.0000	0.0000	0.0000	0.0000	0.0000
TiO2 (%)	0.0000	0.0000	0.0000	0.0139	0.0000	0.0000	0.0000	0.0000	0.0000

V (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cr (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mn (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Fe (%)	0.0396	0.0597	0.0244	0.0740	0.0622	0.0822	0.0267	0.0583	0.0299
Fe2 O3(%)	0.0566	0.0852	0.0349	0.1057	0.0888	0.1175	0.0381	0.0833	0.0427
Co(%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ni (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Cu (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Zn (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
As (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Se (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Rb (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Sr (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Y (%)	0.0000	0.0020	0.0000	0.0023	0.0009	0.0027	0.0000	0.0013	0.0000
Zr (%)	0.0000	0.0231	0.0002	0.0317	0.0000	0.0124	0.0000	0.0040	0.0001
Nb (%)	0.0136	0.0145	0.0121	0.0150	0.0113	0.0144	0.0125	0.0139	0.0073
Mo (%)	0.0468	0.0733	0.0382	0.0820	0.0390	0.0651	0.0390	0.0818	0.0361
Pd (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Ag (%)	0.0155	0.0169	0.0147	0.0171	0.0162	0.0173	0.0155	0.0168	0.0144
Cd (%)	0.0160	0.0415	0.0204	0.0134	0.0474	0.0471	0.0125	0.0000	0.0091
Sn (%)	0.1033	0.1010	0.1024	0.1021	0.1027	0.1041	0.1032	0.1036	0.1024
Sb (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0243	0.0136	0.0076	0.0000
Ba (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hf (%)	0.0000	0.0007	0.0000	0.0003	0.0000	0.0004	0.0001	0.0003	0.0003
Ta (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
W (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Au (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hg (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pb (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Bi (%)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Peak	1657. 0000	1650. 0000	1651. 0000	1644. 0000	1653. 0000	1655. 0000	1652. 0000	1650. 0000	1650. 0000

Cps	14256.0000	16559.0000	13441.0000	17087.0000	15057.0000	17596.0000	13714.0000	16334.0000	13452.0000
Count	428321.0000	497363.0000	403741.0000	513179.0000	452296.0000	528369.0000	411934.0000	490609.0000	404073.0000

CHEMICAL ANALYSIS OF WATER SAMPLES FROM MAHAKALESHWAR TEMPLE PREMISES, UJJAIN

S. No.	Ref. No	Sample location/ time	pH	Temp	Cond. at 25*C µs/cm	TDS	SALINITY	CO3	HCO3	Total hardness	Ca	Mg	Cl	Na	K	No3	PO4	SO4
	Unit			(*C)		ppm	SPU	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
1	UJT/01/w/2017	Pot above lingam @ 5.15 PM	7.78	28.52	870	522	0.46	NIL	274.5	320	76	15.6	170	67	11	6	02	54
2	UJT/02/w/2017	Pot below lingam @ 5.15 PM	8.20	27.48	864	518	046	Nil	317	330	76	14.4	125	70	11	12	03	50
3	UJT/03/w/2017	Kotiterth@ 1.45 PM	8.41	29.88	1736	1041	0.95	66	353.8	500	68	39.6	205	120	128	140	0.7	73
4	UJT/04/w/2017	Rudrasagar @ 5.00 PM	8.70	29.28	849	509	0.45	18	244	270	40	20.4	150	103	19	05	4	24
5	UJT/05/w/2017	Shipra River @ 8.45 PM	8.32	29.05	920	533	0.49	6	292.8	340	84	15.6	135	73	11	19	4	48
6	UJT/1A/MW/17	Laladhariwater@ 3.45 PM	7.6	28.06	1739	1043	0.96	NIL	NIL	920	360	2.4	285	140	219	180	16	194
7	UJT/2A/MW/17	Nirmalya @ 3.45 PM	6.2	28.71	1349	809	0.73	NIL	NIL	660	200	19.2	200	92	74	75	14	101
	ISO 10500		6.5-8.5			500		200		300	75	30	250	200		50		200

	standard value													(WHO)				

TRACE ELEMENT ANALYSIS IN WATER SAMPLES FROM MAHAKALESHWER TEMPLE, PREMISE

All value in ppb

Sample Name	19997-I	19997-2	19997-3	19997-4	19997-5	19997-6	19997-7
Ref No	UJT/03/W/2017	UJT/1A/WM/2017	UJT/1B/WM/2017	UJT/4/W/2017	UJT/01/W/2017	UJT/2/W/2017	UJT/05/W/2017
Location	KotiTirath Pond	MahakalJaladhari base	Tank-2,Offered Water	RudraSagar Lake	Municipal Water before offering	Jaladhari water after jalavishek	Shipra River, Ramghat
Be	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Sc	2.34	1.19	1.17	<0.7	<0.71	0.70	0.7
V	90.29	13.07	<5	10.17	11.53	11.18	11.26
Cr	<4	23.43	26.31	<4	<4	<4	<4
Mn	<0.5	90.75	237.16	2.26	268.51	269.42	37.07
Fe	519.39	1991.71	1448.52	164.02	299.64	265.58	259..34
Co	0.12	0.74	0.72	0.34	0.64	0.63	0.06
Ni	<0.5	5.75	2.90	<0.5	<.0.5	<.0.5	0.0<
Cu	1.23	13.91	<0.5	<0.5	17.56	10.55	<0.5
Zn	<0.2	812.03	219.97	0.2	16.40	0.69	<0.2
Ga	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
As	12.98	5.96	2.93	4.78	2.69	2.66	2.64
Se	<100	<100	<100	<100	<100	<100	<100
Rb	13.47	202.15	65.19	3.48	6.43	6.47	6.21
Sr	968.51	574.94	432.10	253.36	369.56	376.06	405.15
Y	<0.1	0.11	0.04	<0.01	<0.01	<0.01	<0.01
Cd	<0.01	0.10	0.06	<0.01	<0.01	<0.01	<0.01
Cs	0.08	0.59	0.19	<0.2	<0.2	0.02	0.02
Ba	36.11	73.69	83.91	25.74	51.77	51.51	55.32
La	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Ce	<0.04	0.40	0.13	<0.04	<0.04	<0.04	<0.04
Pr	<0.005	0.05	0.03	<0.005	<0.005	<0.005	<0.005
Nd	<0.03	0.22	0.11	0.01	<0.03	<0.03	<0.03
Sm	<0.03	0.05	0.04	<0.03	<0.03	<0.03	<0.03
Eu	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Gd	<0.02	0.05	0.03	<0.02	<0.02	<0.02	<0.02
Tb	<0.002	0.01	<0.002	<0.002	<0.002	<0.002	<0.002
Dy	0.008	0.05	0.03	<0.008	<0.008	<0.008	<0.008
Ho	0.003	0.01	0.01	<0.003	<0.003	<0.003	<0.003
Er	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Tm	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Yb	<0.006	0.02	0.01	<0.006	<0.006	<0.006	<0.006
Lu	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003

Pb	<0.05	6..03	2.61	<0.5	<0.5	<0.5	<0.5
Bi	0.18	0.07	<0.03	<0.03	<0.03	<0.03	0.31
Th	<01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
U	1.27	<0.02	<0.2	<0.2	0.62	0.64	0.76
Ti	6.97	28.15	14.12	7.61	5.77	5.73	5.12
Ge	<1	<1	<1	<1	<1	<1	<1
Zr	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Nb	<0.1	<0.1	<0.1	<0.1	<0.1	<0.01	<0.1
Mo	10.36	5.23	1.38	1.37	1.54	2,21	2.06
W	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
Re	0.01	0.01	0.01	<0.002	<0.002	0.01	0.01
Hg	<1	<1	<1	<1	<1	<1	<1

Hg sample analysed by P.R. Nimje Chemist Chemical Division Central Region Geological Survey of India Nagpur Lab on 15.9.2017 and other samples are analysed by M.S. Dahat, Sr. Chemist, P. Vamshi Krishna, Asst. Chemist under the supervision of Smt. Shobha Rani Suptd Chemist on 19.9.2017 at Chemical Division Southern Region, GSI Hyderabad Lab.

CHEMICAL ANALYSIS OF BHASMA OF LINGAM AND ASH SAMPLES FROM MAHAKALESHWER TEMPLE

S.NO	Ref. No.	pH	$SiO_{2\%}$	Cao%	P%	P_2O_5%
1	Ash (Bhasham) from the Lingam mix in standard water media (7 pH)	9.07	42.05	11.20	10.08	23.0
2	Ash from cow dung mix in standard water media (7pH) Ujjain Market	9.66	51.75	12.32	4.22	9.67
3	Ash from cow dung mix in standard water media (7 pH) Bhopal Market	10.2	46.31	7.20	3.22	7.37

As aforesaid report was furnished on 13.10.2017, thereafter suggestions and objections were invited.

RESPONSE OF THE TEMPLE COMMITTEE TO REPORT OF EXPERT FROM ASI/ GSI :

24. Response to the report has been filed by the Temple Committee on 13.10.2017. The same is extracted hereunder:

"RESPONSE OF THE RESPONDENT NO.1/ MANDIR SAMITI TO THE REPORT ON THE STUDY/ SURVEY/ANALYSIS/ EXAMINATION OF MAHAKALESHWAR JYOTIRLINGAM OF UJJAIN (M.P.0 DATED 02.10.2017 CONDUCTED BY THE COMMITTEE CONSTITUTED BY THIS HON'BLE COURT.

It is submitted that this Hon'ble Court vide order dated 25.08.2017 constituted an Expert Committee consisting of two officers of Archaeological Survey of India and two officers of Geological Survey of India. This Hon'ble Court directed the Committee so constituted to study/survey/analyse/examine Mahakaleshwar Jyotirlingam of Ujjain (M.P.) and prepare a report containing the rate at which the deterioration in the size of Lingam is taking place, if any, and measures/ steps/ precautions to be taken to ensure that this deterioration/ shrinkage of the Lingam stops. Let the Committee also study the other structures and also the temple and submit wheat steps are required to be taken to overall improve the entire premises and for its preservation.

Further, the Committee was also directed to make a study and report inter alia as how much deterioration of Lingam has taken place during the last three-four decades and what remedial steps have to be taken.

In compliance with the same, the Committee constituted by this Hon'ble Court has submitted a report dated 02.10.2017 on 03.10.2017.

This Hon'ble Court vide order dated 03.10.2017 allowed the Answering Respondent to file their suggestions/objections with respect to the Report.

The Answering Respondent is submitting its point-wise response to the suggestions, recommendations and remedial measures made by the Committee constituted by this Hon'ble Court vide Annexure R-1.

In view of the foregoing is the most respectfully prayed that this Hon'ble Court may be pleased to pass appropriate order as deem fit and proper and

thus render Justice. The Answering Respondent undertakes to comply with all the directions, this Hon'ble Court may render in the interest of protection of the Idol.

S. No.	***SUGGESTIONS, RECOMMENDATIONS AND REMEDIAL MEASURES MADE BY THE EXPERT COMMITTEE CONSTITUTED BY THIS HON'BLE COURT***	***RESPONSE OF THE MANDIR SAMITI TO THE SUGGESTIONS, RECOMMENDATIONS AND REMEDIAL MEASURES MADE BY THE COMMITTEE CONSTITUTED BY THIS HON'BLE COURT***
1.	*The Jyotirlingam rock has been identified as orthoquartzite which is hard and compact and highly siliceous in nature in which the silica content caries from 75-92% analyzed by portable XRF studies. Apart from visual observation spectral signature by spectroradiometer were collected, matched with the standard signature of orthoquartzite available in GSI, spectral lab.*	*Agree with the observation.*
2.	*The deterioration of lingam has been noticed and increased in last 40-50 years as depicted in photos no 1-4 and 5-8; the deterioration is*	*That the report is based on photographs taken in the year viz: photo No.1 to 8. The Mandir Samiti is ready and willing to take all necessary*

	continuous in nature can be managed with remedial measures.	*remedial measures as recommended by the expert committee constituted by this Hon'ble Court to conserve the lingam namely; minimizing and regulating the water, flowers, and offerings immediately.*
3.	*The water of temple premises used in Jalabhishek is highly alkaline in nature the pH value ranges from 8.4 to 8.7 which is reactive with the cryptocrystalline siliceous cementing material of orthoquartzite at room temperature and causing deterioration in Jyotirlingam.*	*The Mandir Samiti shall install an R.O. plant to maintain the pH value of the water at around 7. The devotees shall be allowed to use on 500 ml of water in a copper vessel only.*
4.	*The tradition of Bhasmaarti using ash of cow dung (as per temple pujaris) has pH value ranges from 9.07 to 10.20 in aqueous medium.*	*The Mandir Samiti submits that before pouring of ash over the Lingam the Committee is ready to cover the Lingam with a cotton cloth and after pouring of ash idol would be completely cleaned by superfine cotton cloth.*
5.	*The age-old practices cannot be stopped but the amount of material can be restricted/ minimized in order to reduce deterioration. The quantity of offering as*	*Use of ghee, milk, curd, honey etc. shall be restricted to not more than 1.25 litres per devotee. Further, this material shall be of ISI standard and a random check of these*

	listed in Annexure I contain milk, curd, ghee, honey, sugar, leaves, petals, and flowers, accumulate in pits promote the growth of bacteria at room temperature in pH variation is also a cause of deterioration.	*puja materials shall be insured by the Committee.*
6.	*Presence of major and minor oxide and trace elements of rock enhance the electrical conductivity of the water to a high level which can cause deposition of salt in pores/ pits and chipping of material by chemical weathering.*	*After Jalabhishek by the Lingam which concluded by 5 p.m. every day. The Lingam shall be properly cleaned and dried to minimize the water content and thereafter only dry pooja shall be permitted every day.*
7	*Poor drainage sanitation and water spillage were also spotted in the temple premises.*	*The Mandir Samiti submits that the process of expansion of drainage system is under the process and shall be completed at the earliest.*
8	*The use of water (jal/Gangajal) throughout the day for Abhishekas of the Jyotirlinga by the devotees should be restricted to a minimum.*	*The Mandir Samiti shall install an R.O. Plant to maintain the pH value of the water at around 7. The devotees shall be allowed to use only 500 ml of water in a copper vessel only.*
9	*Use of milk and other milk products ghee and honey should be minimized to a small*	*Use of ghee, milk, curd, honey etc. shall be restricted to not more than 1.25 litres*

	quantity and made symbolic in nature to satisfy the religious requirement.	*per devotee. Further, these materials shall be of ISI standard and a random check of these pooja materials shall be insured and used.*
10	*Rubbing of Jaggary/Sugar powder and other powdery on the Jyotirlinga may be restricted/minimized.*	*Rubbing of Sugar powder shall be banned.*
11	*Use of lost of flowers/Bel Patra etc. may also be made symbolic as the use of such huge materials keep the Jyotirlinga wet all the time and hinders natural breathing of the stone which is essential for the good state of the Jyotirlinga.*	*Dryers and fans will be used to avoid moisture. Belpatra and flowers are used on the upper part of shivling and do not at all hinder natural breathing of the stone.*
12	*Use of metal buckets, offerings posts, and other utensils should be replaced with wooden/Good Plastic materials in order to avoid mechanical abrasions.*	*There are no mechanical abrasions since metallic utensils used for jalabhishek do not touch or abrase the jyotirlinga.*
13	*If possible, entry of devotees in the Grabhgriha may be limited by making a management plan. Devotees may be permitted for short duration at a time to*	*Offering by devotees cannot be avoided as it relates to the religious faith of the devotees. However, a management plan is already made and implemented wherein*

	avoid the crowd in grabhgraha. This is important as there is long single entry door which is also used as an exit door.	*only limited devotees are permitted at a time.*
14.	*Every effort should be made to keep the Garbhgriha dry and clean including the passage and surroundings*	*To maintain the ambient temperature of the lingam room (Grabhgarh) at 17-20 degree Celsius, more air conditioners shall be installed. Further, all efforts shall be made to keep the Grabhagarh and its surroundings dry and clean.*
15.	*All the damaged area of marble floorings and sealing of joints etc. should be repaired to avoid water percolation through the damaged area.*	*Accepted*
16.	*If possible provision may be made for air circulation in the Garbhyagriha*	*Accepted*
17.	*Arrangements for disposal of waste may be improved and should be made more effective.*	*Accepted. It is submitted that Shri Mahakaleshwar temple is ranked in top 10 most clean Iconic places by Government of India in Swwach Bharat Abhiyan.*
18.	*Scientific/Chemical treatment of any*	*Accepted*

	stone object with periodical inspection and preventive conservation may, however, help to preserve the object for quite long time but in case of Jyotirlinga it may not be appropriate to consider such treatment as the treatment of the Jyotirlinga may be acceptable to the common people because of their the faith and religious beliefs. Only preventive conservation methods may be helpful to keep the Jyotirlinga in the best of its conservation state.	
19.	*Sincere efforts should be made to preserve the originality of the main temple and other structures of historical importance in the premises. Modern materials should be avoided for general maintenance.*	*Offering by devotees cannot be avoided as it relates to the religious faith of the devotees. However, a management plan is already made wherein only limited devotees are permitted at a time. Crowd management and lives of devotees will be of utmost priority forth temple committee.*
20.	*The antiquarian remains of the*	*Accepted.*

	premise including main temple of Mahakal can be classified mainly into four groups; a: some stone sculptures in loose and fixed nature assigned to 7th -8th century AD, b: some sculptures of 11th 12th century AD, c: Main temple and other subsidiary shrines of 18th century and d: Other remains viz. wooden box, copper drum, seating benches and some metal work etc of 19th - 20th century. Numbers of stone sculptures placed in the temple premises at different placed like embed in the walls, on the floors, and in the abandoned rooms needs to the properly maintained, documented, identified and displayed in a proper place so that they could be preserved for future generation and could be in use of researchers and students of art and architecture.	
21.	*Some unwanted restoration works have been done on the 1st and 2nd floors*	*The Mandir Samiti submits that the constructions work being carried out for*

	of the Mahakal temple by laying of modern tiles on the floor. This sort of flooring does not match in any way with the ambience and old architecture of the temple. On the north and south sides of the temple, iron scaffoldings are placed attached to the main temple. We were told that the scaffoldings are provided for installing iron stairs for climbing of the visitors to the temple on the top floor to worship Chandranageshwar. *On this floor, a sculpture of Chandranageshwar with his consort is placed inside a niche covered with a glass window and devotees or visitors would be allowed to reach there. During our visit, we were informed that earlier temporary arrangement was made there by way of installation of iron stairs in the occasion of nagapanchami when lacs of visitors used to visit here. Providing of this sort of installation is not only the eyesore in the ancient temple*	*best and convenient passage for devotees. Necessary and precautionary works will be done as lakhs of devotees throng the temple during Nagpanchmi.*

	premise but it would lead a new tradition in future and put an adverse effect on the old temples when such a huge crowd of devotees will reach Abhishek the top floor. Therefore, it should be avoided for the safety of the public and to maintain the ambiance of the temples.	
22.	*While the campus consisting of old temples have been reflecting with white, cream and red colors as outer walls and shikhara of almost all the temples are painted with these colors and flooring with tiles and red stones. Besides that, some new constructions have the carried out. This sort of constructions and development in an ancient heritage place should be avoided and proper conservation should be carried out with the help of conservators and expert of ancient architecture.*	*Accepted Mandir Samiti is carrying out works to restore the heritage look of the temple.*
23.	*The significance of Mahakal temple and*	*Accepted Shree*

	Ujjain is not only for the people of Ujjain and Madhya Pradesh, rather for the people of the whole country too, therefore keeping this thing in mind, it is inevitably required to develop this most religious and heritage site with proper care and maintenance so that its cultural and tangible fabric could not be disturbed. Presently there are numbers of the temples inside the temple premise probably of the same period as the Mahakal temple but these temples are conserved in crappy manner by adding eyesore paintings on the walls and some weird addition to the old structures. Some new constructions are done and some other constructions are presently going on there. Therefore, it is suggested that no new construction may be allowed within the temple premise and restoration and development of the old temples and structures of the premise may be rectified and restored	*Mahakaleshwar temple management committee has plans to create a heritage cell for maintenance and restoration of the old temple and structures inside the premise.*

	with the assistance of Archaeological Conservators. Apart from the various activities as referred above, Temple committee can create a heritage cell for maintenance and restoration of the old temples and structures inside the premise.	
24.	*It is stated earlier that Ujjain is a very ancient city and there are numbers of old structures, temples, ponds, houses, platforms etc around the temple premise still in extant, these old structures are the valuable heritage and integral part of temple premise needs to be identified and restored accordingly. If it is possible for the state government, 500 m all around the temple premise can be preserved with old structures and removed from the modern construction. Wherever open space is found, that can be landscaped and developed so that its religious ambiance could be maintained and preserved.*	*Accepted* *Subject to necessary repairs and maintenances for the preservation of the heritage building to be carried out from time to time by temple committee.*

25. On 13.10.2017, following order was passed by this Court:

> *"Heard learned counsel for the parties.*
>
> *This Court had constituted a Committee on 25.08.2017 consisting of Shri Madan Singh Chauhan, Regional Director (Archaeologist), ASI, Central Region, Bhopal; (ii) Dr. V. K. Saxena, Director (Science), (Archaeological Chemist), ASI, Science Branch, Dehradun; (iii) Shri Hemraj Suryavanshi, Dy. Director, General, State Unit, Madhya Pradesh, GSI, Bopal; and (iv) Shri L.L. Vishwakarma, Director, Su: MP, GSI, Bhopal. They have submitted their reports which are exhaustive. Respondent No.1 Temple Committee has filed its response to various proposals made by the Expert Committee. They have filed point-wise response contained in Annexure R1. The Temple Committee has suggested certain remedial measures. In the circumstances, it is appropriate to request the Temple Committee to consider the various recommendations. It was also stated that let the Committee take a decision for implementation of the recommendations which are to be accepted as it is a primary responsibility for the Committee to manage the affairs. Let a considered firm decision The opening regarding implementation.*
>
> *We appreciate the gesture of the counsel for the parties as it is not adversarial litigation but in order to improve the overall situation and to protect and preserve the Lingam of Mahakaleshwar. It was also stated that the Committee has decided to regulate the timings etc. and various suggestions were made during the course of hearing. Let Committee take a decision considering the overall interest and rise to the occasion by doing the needful. Let the Committee consider the report of the experts and its stand taken in the annexure R/1 filed by them and pass appropriate resolutions as prayed by counsel for respondent No.1.*
>
> *Be listed on 27.10.2017."*

RESOLUTION DATED 26.10.2017 PASSED BY TEMPLE COMMITTEE:

26. Pursuant to the order dated 13.10.2017, resolution has been passed by the Committee on 26.10.2017 filed as Annexure R-1 and the same is extracted hereunder :

> *"Keeping in consideration the suggestions/objections and recommendations of the Expert Committee constituted by the Hon'ble Supreme Court and also in compliance of the order dated 13.10.2017 passed by the Hon'ble Supreme Court, the Temple Management Committee hereby passes the following Resolution covering point 1 to 24 of the suggestions/objections and recommendations of the Expert Committee constituted by the Hon'ble Supreme Court to protect and preserve the Mahakal Shivlinga :-*
>
> *1. That the devotees shall be permitted a fixed amount of water measuring 500 ml in an appropriate small pot per devotee for Jalabhishek.*
>
> *2. That the water for Jalabhishek shall be taken from the R.O. machine installed during Simhastha, 2016, for which a connection shall be provided near the Garbh Grih to maintain the pH value at '7'.*
>
> *3. That at present during Bhashma Aarti, half of the lingam is being covered with cloth but as per the directions, in fifteen days, the whole of the Shivalingam shall be fully covered with a dry cotton cloth during Bhasma Aarti.*
>
> *4. That for Abhishek only up to maximum 1.25-liter mil/panchamruit per devotee shall be permitted.*
>
> *5. That after Jalabhishek by the lingam which is concluded by 5 P.M. every day. The Lingam shall be properly cleaned and dried to minimize the water content and thereafter only dry pooja shall be permitted every day.*
>
> *6. At present captive sewerage, treatment technique is being used for treatment and the same shall be continued till the sewerage treatment plant is installed*

for which steps are being taken which will require minimum one year time.

7. That rubbing of sugar powder on Shivlinga has been fully banned and instead the use of Khandsari is being promoted.

8. That dryers and fans will be used to avoid moisture. Bel Patra and flowers shall be used on the upper part of shivling to avoid any obstruction in natural breathing of stone.

9. That the crowd management shall be strictly followed as done on big festivals namely Simhashtha, 2016, Mahashivratri, Nagpanchmi and month of Shravan where maximum crowd appears on those holidays and weekends. During such time the committee is using barricades for dong Darshna from outside the main Garbhgrih and limited devotee are also permitted in the garbhgrih at a time. Similar arrangement shall be ensured on normal days also.

Various IT proposals have been received to use technology for effective crowd managing strategies, e.g. IT based queue management.

10. That all possible efforts shall be taken to maintain an ambient temperature of the lingam room (Grabhgarh) at 17-20 degree Celsius. The Garbhgrih shall be kept dry, neat and tidy. Further, an AUTOMATIC CLIMATE CONTROL SYSTEM using sensors shall be fitted in Garbhgrih to give information about temperature and humidity which shall help in effective regulation and monitoring of environmental factors.

11. That damaged area of marble flooring and sealing of joints etc. shall be repaired within a period of six months.

12. That all efforts should be made for creating of heritage cell and for restoration/repairs and maintenance of all items of historical importance. Steps are being taken for the structure and role of the heritage cell.

13. To preserve antiques in premises of temple nameplates are being affixed in front of various small temples mentioning the names of the temples and their era etc.

14. It shall be ensured that no new significant construction is carried out in temple premises but so far as the convenience and smooth passage in the premises is concerned construction will be done with a due permission of the competent authorities.

15. It The application that in order to implement the above resolution a minimum period from one month to one Year may be sought from the Hon'ble Supreme Court."

ORDER DATED 27.10.2017

27. Following is the relevant portion of the order was passed by this Court on 27.10.2017 :

"During the course of hearing on behalf of respondent No.1-Shri Mahakaleshwar Mandir Committee, a copy of the Resolution that has been unanimously passed on 26'" October 2017 has been placed on record. It is stated that Resolution No.1 to 8 are being implemented.

Mr. Ashok Chitale learned senior counsel for the petitioner has raised objections to some of the Resolutions that have been passed and seeks time to file reply/suggestions which would be in the interest of all. Let the suggestions be filed by the petitioner and other respondents, if any, within a period of fifteen days from today. Reply thereto may also be filed by the Temple Committee within next seven days.

Geological Survey of India and Archeological Survey of India may also submit their proposals within a period of fifteen days from today on the basis of the resolution that has been passed by respondent No.1 on 26.10.2017 and objections/suggestions to the aforesaid resolution.

List on 30th November 2017."

RESPONSE OF EXPERT COMMITTEE TO THE RESOLUTION DATED 26.10.2017 OF THE TEMPLE COMMITTEE:

28. With respect to the resolution passed by the Temple Committee dated 26.10.2017, the Expert Committee appointed by this Court of ASI and Geological Survey of India has submitted the following suggestions:

"The Expert Committee has gone through the resolution passed by the temple committee and submitting following suggestion:

We have described in our original report that many offerings including Jal used during the rituals of abhisheka are the main cause of deterioration to the Jyotirlingam. We have suggested all offerings of the material to be symbolic in nature with pure quality and treated water of potable quality with pH value range from 6.8 to 7.2 to minimize the adverse effect. Apart from this, the periodical monitoring and proper management of these crucial parameters are required to manage this problem.

Suggestions/ Objections on the resolution passed by the temple committee are as below:

Resolution of temple Committee:

Keeping in consideration the suggestions/ objections and recommendations of the Expert Committee constituted by the Hon'ble Supreme Court and also in

compliance of the order dated 13.10.2017 passed by the Hon'ble Supreme Court, the Temple Management Committee hereby passes the following Resolution covering point 1 to 24 of the suggestions/ objections and recommendations of the Expert Committee constituted by the Hon'ble Supreme Court to protect and preserve the Mahakal Shivlinga:-

1. *That the devotees shall be permitted a fixed amount of water measuring 500 ml in an appropriate small pot per devotee for Jalabhishek.*

   Expert Committee's comment: *Agrees*

2. *That the water for Jalabhishek shall a from the R.O. machine installed during Simhastha, 2016 for which a connection shall be provided near the Garbh Griha to maintain the pH value at '7'.*
   Expert Committee's comment: *Agrees*

   Suggestions: *The pH value of jalabhishek water may vary as per variation in the source of supply of water which has to be controlled by treatment ranging from 6.8 to 7.2 pH, but a periodical monitoring may be done for maintaining the above-mentioned range.*

3. *That at present during Bhashma Aarti, half of the lingam is being covered with clothThe similar but as per the directions, in fifteen days, the whole of the Shivalingam shall be fully covered with a dry cotton cloth during Bhasma Aarti.*

   Expert Committee's suggestion: *Due to bhasma aarti ash particle retained in the pits over the lingam will react with water and increase its pH value, resulting aggravate the corrosion process of the lingam, therefore, the lingam should be fully covered with thick cotton cloth/ transparent polyfilm during bhasma aarti. The Lingam should be thoroughly cleaned after Bhasma aarti and ensure that all residual ash particle should be removed from the lingam, then only jalabhishek with clean and potable water with pH value range from 6.8 7.2 may be allowed.*

4. *That for Abhishek only up to maximum 1.25-litre milk/ panchamruit per devotee shall be permitted.*

   Expert Committee's suggestion:

   That for Abhishek only up to maximum 1.25-litre milk/panchamruit per devotee are appropriate, but during the rush time and special occasions such amount may increase enormously, therefore, it is suggested that the quantity may be reduced to symbolic in nature.

5. *That after Jalabhishek of the lingam with is concluded by 5 P.M. every day. The Lingam shall be properly cleaned and dried to minimize the water content and thereafter only dry pooja shall be permitted every day.*

   Expert committee's comment: *Agrees.*

6. *At present captive sewerage, treatment technique is being used for treatment and the same shall be continued till the sewerage treatment plant is installed for which steps are being taken with will require minimum one year time.*

   Expert committee's suggestion: *Kotiteerath water may be treated periodically and ensure that rainwater of the temple premises, as well as drain off water from the temple premises, should not be drained into the pond and contaminate the kotiteerath pond.*

7. *That rubbing of sugar powder on Shivlinga has been fully banned and instead the use of Khandsari is being promoted.*

   Expert Committee suggestion: *rubbing of any offering material may be banned to stop further abrasion of the lingam. A devotee may be allowed to offer their offering symbolically but shall not be allowed to rub any material over the lingam.*

8. *That dryers and fans will be used to avoid moisture. Belpatra and flowers shall be used on the upper part of*

Shivling to avoid any obstruction in natural breathing of stone.

Expert Committee's comment: *Agrees*

9. *That the crowd management shall be strictly followed as done on big festivals namely Simhashtha, 2016, Mahashivratri, Nagpanchmi and month of Shravan where maximum crowd appears on those holidays and weekends. During such time the Committee is using barricades for dong Darshna from outside the main Garbhgrih and limited devotee are also permitted in the Garbhgrih at a time. Similar arrangement shall be ensured on normal days also.*

   Various IT proposals have been received to use technology for effective crowd managing strategies, e.g. IT based queue management.

   Expert committee's comment: *Agrees*

10. *That all possible efforts shall be taken to maintain an ambient temperature of the lingam room (Grabhgrah) at 17-20 degree Celsius. The Garbhgrih shall be kept dry, neat and tidy. Further, an AUTOMATIC CLIMATE CONTROL SYSTEM using sensors shall be fitted in Garbhgrih to give information about temperature and humidity which shall help in effective regulation and monitoring of environmental factors.*

    Expert committee's comment: *Agrees*

11. *That damaged area of marble flooring and sealing of joints etc. shall be repaired within a period of six months.*

    Expert committee's comment: *Agrees*

12. *That all efforts should be made for the creation of heritage cell and for restoration/ repairs and maintenance of all items of historical importance. Steps are being taken for the structure and role of the heritage cell.*

Expert committee's comment: *Agrees*

13. *To preserve antiques in premises of temple nameplates are being affixed in front of various small temples mentioning the names of the temples and their era etc.*

Expert committee's comment: *Agrees*

14. *It shall be ensured that no new significant construction is carried out in temple premises but so far as the convenience and smooth passage in the premises is concerned construction will be done with a due permission of the competent authorities.*

Expert committee's comment: *Agrees*

15. *It is further resolved that in order to implement the above resolution a minimum period from one month to one Year may be sought from the Hon'ble Supreme Court.*

Expert committee's comment: *Agrees"*

ORDER DATED 30.11.2017:

29. Following order was passed by this Court on 30.11.2017 :

> *"We are concerned, and so express our anguish, as to the way in which the orders which have been passed so far in the matter are being misrepresented in media and otherwise. We have not passed any interim direction with regard to the manner in which the religious ceremonies have to be performed in the Temple at Mahakaleshwar, Ujjain. This Court has not passed any order whatsoever that, during the Bhasma Aarti, what rituals can, or what rituals cannot be, performed, and neither it is the job of this Court to interfere in such rituals. This Court has not passed any order in this regard. We are concerned in the petition about the protection of the lingam and how it can be done. For this purpose, this Court has appointed a Committee of Experts of G.S.I. as well as the A.S.I., and they have*

submitted their reports. They are yet to be finally considered by this Court.

A notice issued by the Managing Committee on Board has been placed before us today, indicating that this Court has directed that how much water has to be offered on the lingam by the devotees or about the quantity of Panchamrit etc. This Court had issued no such direction. In fact, it appears that the Committee itself has taken various decisions and they are being implemented. The Notice Board which has been put by the Managing Committee of the Temple should be removed forthwith i.e. by today itself, and it is open to the Committee to put it on the Notice Board as per its resolutions if any. In case any wrong or misleading reporting is made by the media, in any form, at the instance of any person about the order passed by this Court, the person so responsible for such wrong reporting, misrepresentation about the order shall be liable to be dealt with in accordance with law. It is regrettable that there has been wrong reporting at somebody's instance. We caution the parties before us that they should not indulge in any such wrong reporting, in any manner whatsoever, and if it is found that any wrong reporting is made, the same shall be viewed seriously, and the person responsible for it shall be dealt with in accordance with law.

List the matter for further hearing on 4th December 2017."

30. As it was noticed that misrepresentation was being made with respect to the order passed by this Court and unrest was tried to be created on the ground that this Court is interfering with the religious rituals to be performed in the temple during Pooja. Thus we have clarified that we have not interfered with the same. Aforesaid direction holds good for this order also and to be scrupulously observed by all concerned. The only objective of entertaining the writ petition on the

aforesaid question was just to ensure that all the rituals which may be necessary be performed however to ensure that the Lingam does not deteriorate any further.

31. It is apparent from the report that there is a decay of the Lingam and certain damage has been noted by the Expert Committee. Negative factors have also been pointed out in extensive details. Activities regarding the daily cleaning of temple premises, gaushala, Vedic samsthan, mandir, rasoi of the temple etc. have been pointed out. The study has been done by Spectroradiometer, portable XRF studies, water analysis, ash analysis, the extent of weathering etc. Various suggestions and recommendations had been made including the remedial measures Mr. Madan Singh Chauhan, Regional Director, ASI, Central Region, Bhopal report is contained in the first chapter. The second chapter contains the report submitted by Dr. V. K. Saxena, Director (Science), ASI, Science Branch, Dehradun. The third chapter deals with the Geo-scientific study of the Shivalinga made by Mr. Hemraj Suryavanshi, Deputy Director General and Mr. L. Vishvakarma, Director, Geological Survey of India, Bhopal.

32. It has been noticed in the report of the experts of the ASI and GSI that deterioration of Lingam has taken place during the last 40 to 50 years as depicted in photos 1 to 4 and 5 to 8 annexures with the report. It is further observed that the deterioration is continuous in nature and can be managed with remedial measures.

33. It has been pointed out that the water analysis of the temple premises used in the Jalabhishekam is highly alkaline in nature and pH value ranges from 8.4 to 8.7. Various other causes have been delineated in the report of the experts. In all 24 causes have been given. Milk particularly contaminated one, sugar, leaves, petals and flowers, poor drainage sanitation and water spillage, use of the water should be minimum. Rubbing of jaggery/sugar powder should be restricted or minimized. Use of a lot of flowers and leaves also keeps the Jyotirlingam wet all the time and hinders natural breathing of the stone of Jyotirlingam. Use of metal buckets, pots, utensils also causes abrasions to the Lingam. If possible entry of devotees in Garbh Griha should be limited. Garbh Griha should be kept dry and clean. There should be proper air circulation in Garbh Griha. Arrangements for disposal of waste may be improved and should be made more effective. Since scientific/chemical treatment may not be acceptable, preventive conservation methods may be helpful to keep the Jyotirlingam in the best of its conservation state. Considering the historical importance of the premises, use of modern materials in the premises should be avoided so as to maintain the antiquity. There is a need to identify the sculptures and they are required to be properly documented and identified.

34. Some unwarranted restoration work has also been noticed by the Committee in para 21. That should be looked after and remedial measures should be taken as suggested in the report.

35. In para 22 certain new constructions have been pointed out. Let the conservation be carried out with the help of conservator and experts of ancient architecture. Other suggestions have been made in the report. Paras 1 to 24 of these are required to be looked into and suitable remedial measures should be taken by the Temple Committee. Remedial measures suggested in the report with respect to water quality, maintaining the pH value from 6.8 to 7.2, cleaning of Jyotirlingam, also requires to be observed in the best possible manner by the Committee and ambient temperature be maintained from 17 to 20 degree Celsius. Use of ghee, milk, curd, honey etc. be minimized.

36. There should be proper disposal of temple garbage and it should be ensured that it does not contaminate the Kotiteerath Pond. Better use of flowers would be that they are recycled for the production of scent/itra. For that project may be prepared by the administration with the help of concerned bodies or on the basis of PPP. Cleaning methods should be modernized.

37. It is apparent from the response of the Committee filed pursuant to the order dated 25.8.2017 of this Court that the Committee has agreed (1) to save the Lingam by minimizing the flowers and offerings

material. (2) It has also been resolved that the Temple Committee shall install an RO plant to maintain pH value of water at 7 and devotees should be allowed to use minimum water. (3) Temple Committee has also resolved that during Bhasma Aarti also they will take appropriate steps which may be permissible. (4) As permissible, use of ghee, milk, curd, and honey shall be restricted per devotee. These materials shall be of ISI standards. (5) Lingam shall be properly cleaned and dried after Puja. (6) Expansion of drainage system was under process and be completed at the earliest. (7) Rubbing of sugar powder on the Lingam shall be banned. (8) It would be ensured that there is no harm caused to the Jyotirlingam. (9) There is a management plan to permit limited devotees at one time in Garbh Griha so that there is no stampede. (10) They are ready to maintain the temperature of garbhgriha from 17 to 20 degree Celsius. There should be more air conditioners. (11) Damaged area of marble flooring and sealing of joints shall be repaired. (12) Provision has to made for proper circulation of air in garbh griha. (13) Arrangements for disposal of wastes have to be improved.

38. Preventive conservation methods shall be used by the Committee. Efforts shall be made to preserve the originality and antiquity of the temple.

39. They have to also ensure that they will undertake necessary steps for saving structure and life of devotees during Nagpanchmi. Let a plan

in this regard be prepared within two months. It is also directed that let them make an effort for the preservation of historical monument the new development work if any, should only be made to match with ancient nature of the temple so that its heritage look is maintained. As to the recommendations as mentioned in para 22 of the report of the Experts Committee, same have been accepted by the Committee. Let the Committee implement the recommendations as agreed to and resolved by it. Considering the national and international importance, Temple Committee has rightly resolved to create a Heritage Cell for maintenance and restoration of the old temples and structures inside the premises. Let such cell be created at the earliest.

40. In compliance of the order dated 13.10.2017 the Committee has passed various resolutions accepting various recommendation of the Expert Committee quoted above. The Expert Committee of ASI and GSI has filed response to the various resolutions passed by the Committee. The Expert Committee has also agreed with most of the resolutions. However, it has made certain suggestions which are to be considered by the Committee and implemented in best possible manner.

41. Expert Committee suggestion in respect of Kotiteerath Pond water to be treated periodically and to ensure that the rainwater of temple premises, as well as drainage water from the temple premises, should

not be drained into the pond and contaminate the Kotiteerath Pond. Has to be implemented in true spirit.

42. Committee of expert has also suggested that rubbing of any offering by devotees may be stopped. Devotees may be allowed to offer their offerings symbolically but not to be allowed to rub any material over the Lingam. Let the Committee consider the aforesaid aspects and to ensure that as far as possible no rubbing is done by the devotees on the Lingam or by any material. The committee has also pointed out that no new significant construction to be carried out in the temple premises except so far as convenience and smooth passage in the premises is concerned, let the resolutions be carried out and fully implemented as resolved by the Committee on time bound basis for different stages within one year.

43. With respect to the method of "lingarchan", *i.e.* the method of linga pooja, the 27th chapter of "Ling Mahapuranm" has been placed on record. That contains a detailed method of lingarchan running into 54 strotam. Apart from that "Shiv Mahapuranam", Vayveey Sanhita containing details of Shastrokt Shiv Poojan method in twentyforth chapter has been placed on record. Pooja of different lingam may be somewhat different. It is for the experts in the field of religion to decide about the rituals and ceremonies to be performed. It is not for this Court to make suggestions in this regard.

44. It is not within the jurisdiction of this Court to dictate or to prescribe or restrain the religious practices and Pujas to be performed in temple. They are required to be performed, as rightly pointed out, in accordance with the ancient rituals and practices but, at the same time, it has to be ensured that no damage is caused to the lingam. The temple which is known as Mritunjaya Mahadev and is most ancient Jyotirlingam in one of the ancient cities of India, Ujjain. 'Simhast' is also organised 6 years and 12 years which has international importance visited by several millions of people. The Government spends thousands of crores of rupees for development of infrastructure in Ujjain for each such occasion and lot of development has taken place. Owing to all these development work, Ujjain has come up. But at the same time very cause of all developments, the Lingam of Lord Shiva requires to be preserved, protected by way of preventive conservation methods.

45. In order to ensure purity of pooja materials and to prevent further erosion of Lingam it would be appropriate and fitness of things that a plan is prepared regarding the entire offering materials on the lingam to be manufactured and provided by temple itself as is done in several famous temples in the Southern part of India and other places. By pouring the adulterated Milk, Ghee, Kumkum, Gulal, Abir containing chemicals due to adulteration is improper and cannot be permitted to be part of the ritual. Lingam cannot be permitted to be destroyed by

chemical reactions of impure materials or by pouring of the dirty water such acts of offerings cannot be allowed and as are done innocently by the people unaware of ill effect on lingam. Had devotees been aware of all these, adverse effect of their Puja on the Lingam of their God itself of which they are performing Puja for the spiritual or other gains they would not have even dreamt of doing it. Let the Temple Committee and other stakeholders rise to the occasion and take positive steps in this direction in reasonable time.

46. It was also pointed out that use of Bhang (cannabis) has been started in recent past. It has been started approximately for the last 50 years and that is one of the causes of erosion as per the petitioner. Earlier it used to be offered symbolically. It is for the Temple Committee to decide on these rituals and which material to be used by it and in which quantity for purpose of Puja by Temple and for how much time, in what manner Bhang should be applied and in what rituals. Let Committee consider it with help of scriptures and experts. How its use can be best modulated by the Committee itself, considering past practices, as the ultimate duty of Committee is to make preservation of the Lingam itself for its existence and for that it has to consider and adopt what is the best mode of performing the rituals, what are the materials which should be used and in what quantity but it has to be ensured that the materials are not impure and are without such

chemicals which may cause erosion of the lingam itself otherwise the very purpose of Puja would be defeated.

47. Puja is to be performed in such a manner which should be befitting to the deity and not to cause erosion itself of lingam for which so much infrastructure exists. Lingam is known as 'Mrityunjaya Mahadev', who prevents from destruction, it cannot be permitted to be destructed. Lingam cannot be permitted to be exploited in a manner it is destroyed. If one believes in the concept of real pooja, such Pooja is to be performed by pure materials as purest of thoughts. No spiritual or other gain can come if Puja is performed in a manner which damages the deity itself as that would amount to displeasing the saviour. That would be against the basic tenets of performance of Pooja and of making offerings.

48. Let the Temple Committee also invite and consider various views for further improvement of the temple. Let the Temple Committee make an endeavour along with other stakeholders to prepare/manufacture the offering material in purest of the form and by such time it becomes a reality to make an arrangement in such a manner that only pure and unadulterated materials are offered in pooja on Lingam. No impure and adulterated material is offered in Puja and the resolutions made by the Temple Committee are scrupulously observed by all concerned.

49. Let a concrete plan be made by the Committee for further improvement including its Gaushalas. Let existing Gaushala and kitchen be improved and modernize and for that purpose, in case, additional land is required, plan be prepared and implemented with the help of all concerned so that temple becomes self-sufficient to provide all pooja material based on milk product etc.

50. On merits, we find that the decision by the Single Bench has rightly been set aside by the Division Bench for the various reasons mentioned in the order and in particular in view of the fact that in the impugned order the Division Bench has relied on decision in *Ramchandra Mangilal & Ors. v. State of M.P.* ILR (1991) MP 444 = (1987) MPLJ 668 which had been affirmed by this Court as SLP against it was dismissed. Hence no case for interference on merits is made out.

51. We appreciate the gesture to all concerned in acting with positivity for the preservation of Lingam. We direct the ASI and GSI teams as has been constituted that has visited and had submitted the report to make a visit in January 2019 and submit a report in this regard with respect to the position of the lingam and improvements made as per suggestions made in the report.

52. Before parting with the judgment, we would like to reiterate that there should not be any misreporting of the Court's order, as specified in our order dated 30.11.2017. Any violation on this count shall be

viewed seriously and sternly with appropriate consequences, wherever necessary. It is hereby made clear that we have not interfered with religious ceremonies to be performed in the Temple. Registry is directed to preserve the original combined report of the Expert Committee as part of the record as it is a valuable document.

53. The appeal is accordingly disposed of.

54. We appreciate the assistance rendered by Mr. Tushar Mehta, the Additional Solicitor General of India, and all other counsel who appeared in this case for various parties and also appreciate the gesture of the experts of the Expert Committee.

.....J.
(ARUN MISHRA)

.....J.
(UDAY UMESH LALIT)

NEW DELHI;
MAY 02, 2018.