#### A PROJECT REPORT ON

## **KIRNOTSAV**

#### SUBMITTED TO:

## DEPARTMENT OF SCIENCE AND TECHNOLOGY



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THE INFORMATION AND IDEAS PRESENTED HEREIN ARE MY OWN AND

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ALL SOURCES USED IN THIS REPORT HAVE BEEN DULY

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## **AIMS AND OBJECTIVES**

#### **Aims**

- 1. **Cultural Preservation**: To study and document the historical, cultural, and traditional significance of Kirnotsav, aiming to preserve and promote this heritage.
- 2. **Community Engagement**: Engage with local communities, scholars, and participants to understand their perspectives, experiences, and contributions to Kirnotsav.
- 3. **Contemporary Relevance**: Explore the evolving significance of Kirnotsav in modern times, considering its impact on cultural identity, tourism, and social cohesion.
- 4. **Interdisciplinary Understanding**: Foster interdisciplinary research by involving fields such as anthropology, history, sociology, and cultural studies to comprehensively analyze Kirnotsav.

#### **Objectives**

- 1) **Historical Documentation**: Conduct in-depth archival research and interviews to trace the historical evolution of Kirnotsav, identifying key milestones and transformations.
- Cultural Significance Analysis: Analyze rituals, traditions, and cultural practices associated with Kirnotsav, highlighting their symbolic meanings and regional variations.
- 3) Community Surveys and Interviews: Engage with stakeholders, including organizers, participants, and local residents, through surveys and interviews to understand their perceptions and experiences regarding Kirnotsav.
- 4) **Impact Assessment**: Assess the socio-economic impact of Kirnotsav on the local community, tourism, and the preservation of indigenous arts and crafts.
- 5) **Public Awareness and Dissemination:** Create educational materials, exhibitions, or publications to raise awareness about Kirnotsav, aiming to foster appreciation and understanding among a wider audience.

#### INTRODUCTION

Ambabai Temple, also called Mahalaxmi Mandir, is a Hindu temple devoted to Laxmi, who is revered by the people as Ambabai and is thought to have arrived there as the Supreme Mother Mahalaxmi. Originally constructed in the seventh century, the temple is architecturally associated with the Chalukya kingdom.

The Kirnotsav festival, which translates to "festival of Sun Rays," is the most well-known event hosted at Mahalakshmi Temple in Kolhapur. The Kirnotsav festival is observed in the temple at sunset, precisely when the sun's rays fall squarely onto the god. There is a legend that the Sun God honours Mahalakshmi Ambabai for three days every year. The Sun moves through the 17th, 18th, and 19th degrees in the sign of Capricorn (Shravana nakshatra) in January, and through the 24th, 25th, and 26th degrees in the sign of Libra (Vishaka nakshatra) in November. Furthermore, because it is nine months apart, it is not in line with the Uttarayan/Daskshinayan of the Sun's journey.

It is hardly unexpected that the goddess Mahalakshmi Ambabai is worshipped by even the sun's last rays, as human existence is centred around light and wealth. However, it is a marvel of the intelligent builders who constructed the Mahalakshmi temple in Kolhapur that the setting Sun's rays briefly bow at the Goddess' feet via a window before disappearing. It is the outstanding work of the architect, completed over a millennium ago, that is still evident. Thousands of people commemorate Kiranotsav, this unique occasion.

## THEORETICAL FRAMEWORK OF TOPIC

#### **Historical and Cultural Context:**

Twice a year, the goddess' idol is directly illuminated by the sun's beams, a unique event. The most significant holidays celebrated with great excitement and fervour at Mahalakshmi Temple in Kolhapur are Varalakshmi Vratham, Lakshmi Puja, Kirnotsav, Rathotsav, Navratri, and Diwali. When the last of the sun's rays fall squarely on the feet and chest of the god inside the temple, festivities get underway. It is less of a celebration and more of a phenomenon among Maharashtrians. A large throng arrives to the Mahalakshmi temple to see this once-in-a-lifetime show because of its attraction on a global scale.

#### **Tourism and Economic Impact:**

1) Visitor Influx: Due to the festival's remarkable spectacle, Kolhapur sees an increase in both local and foreign visitors during Kirnotsav. Religious pilgrims, inquisitive visitors, and tourists seeking out new cultural experiences are among the inflow.

- 2) **Promotion of Cultural Tourism:** Kirnotsav acts as a cultural draw, exhibiting the area's unique customs, rituals, and history. In addition to attending the event, tourists are drawn to Kolhapur to learn more about its cultural and historical significance.
- 3) **Extended Stays and Local Engagement:** The event frequently encourages visitors to remain longer, which increases income for nearby hotels, restaurants, and tourist destinations outside of the festival's official dates. Additionally, it promotes interaction with regional markets, artists, and cultural landmarks.
- 4) **Promotional Opportunities:** Kirnotsav serves as a platform for Kolhapur's tourist industry to promote itself, increasing its exposure and drawing in new guests who hear about the event through word-of-mouth or media coverage.



A couple from California visits mahalaxmi temple to witness Kirnotsav NOV 2022

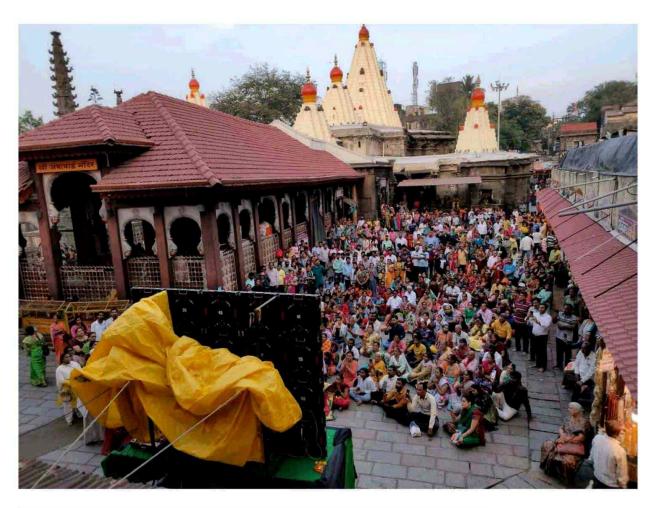
#### **Economic Impact:**

- 1) **Boost to Local Economy:** The increasing number of visitors during Kirnotsav leads to a considerable amount of commercial activity. Local companies saw increased sales and earnings, including lodging facilities, dining establishments, gift shops, transportation services, and tour companies.
- 2) **Employment Opportunities:** Locals can find part-time work in the hotel industry, transport, event planning, or artisan sales during the festival season because to the increase in tourists.
- 3) **Infrastructure Development:** The money raised during Kirnotsav may also go towards improving Kolhapur's infrastructure. The festival's economic impact can stimulate investments in infrastructure geared towards tourists, public spaces, and roadways.
- **4) Sustained Economic Benefits:** The enhanced visibility and favourable perception of Kolhapur as a tourist destination might result in long-term economic benefits beyond the festival season.

#### **Theoretical Perspectives:**

**Heritage Studies:** Kirnotsav is the subject of this viewpoint as it is an intangible cultural heritage. It looks at efforts to preserve it, how the festival transmits cultural information, and how important it is in relation to the larger picture of conserving cultural heritage.

**Ecological Perspective:** Examining Kirnotsav from an ecological angle takes the environment's effects into account. It looks at how the event engages with and impacts the local ecosystem, covering topics like resource use, trash management, and environmental sustainability.



People witnessing the Kirnotsav in the LED screen

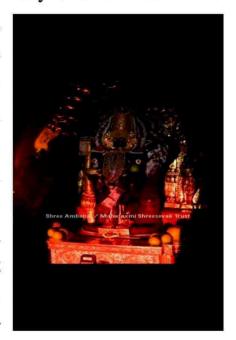
#### **Chapter 1: KIRNOTSAV**

Every year, the Mahalaxmi Temple in Kolhapur, Maharashtra, India, hosts the "Kirnotsav" festival. The sun's rays fall directly on the idol



of the deity for a few days, a rare phenomenon that usually occurs around the end of January or the start of February. Kirnotsav is significant because it is said that on certain particular days, the sun's rays enter the temple via its windows and exactly align to illuminate the idol of the goddess Mahalaxmi. Because it is seen as a fortunate and divine event, devotees go from far and wide to observe it and ask the goddess for her favours. The holiday is observed with a

religious fervour great deal of and excitement. The mesmerising sight of the sun's rays lighting the statue draws devotees to the temple, where they participate in unique rites and prayers. The local culture is strongly rooted in the purity and spiritual significance of this event, which attracts both pilgrims and visitors. Kirnotsav is a major religious holiday in Kolhapur that emphasises the veneration of the goddess Mahalaxmi and the customs surrounding her



worship. It is a festival rich in cultural and religious significance. The celebration draws tourists who want to see this rare celestial phenomena, which enhances the region's cultural identity and tourism.

#### **Architecture Of Mahalakshmi Temple**

Hemadpanthi architecture was used in the construction of the Mahalakshmi Temple. The temple is an example of Chalukya Empire architecture, and it was supposedly first built around 700 AD. The four-armed, crowned goddess statue is made of sandstone and is resting on a stone platform. Mahalaxmi's black stone sculpture stands two feet and eighteen inches tall. The Shri Yantra is etched on the corner across from the Mahakali within the temple grounds. The compound of the temple has a big hall and five enormous towers. Above the sanctuary, which houses the goddess Mahalakshmi, is a large spire as well.

#### 1.2 Importance and relevance of research project :

Kirnotsav was once observed for just three days, but following a research conducted by professor Milind Karanjkar and his students at Vivekanand College, the festival is now observed for five days in a row.

Our study reveals the Kirnotsay celebration, which is usually thought to last three days, really lasts five days. This finding may broaden challenge the preconceived notions about how the festival long lasts.



# Observational Studies Revealing an Extended Duration of Kirnotsav:

Using a lux meter for data collection during Kirnotsav which is a practical method to measure the intensity of sunlight and track its alignment with the idol over the observed period.

#### **Equipment Preparation:**

- 1) Lux Meter Selection: We chose a trustworthy lux metre that is well-known for giving accurate light intensity readings. Furthermore, by confirming that its sensitivity levels are acceptable, we verified that it is suitable for correctly collecting the broad range of sunlight intensities..
- 2) **Calibration**: Our careful calibration of the lux metre followed the manufacturer's instructions to provide reliable readings for usage in a professional setting.



## **CHAPTER2: Data Collection Process:**

Carefully collected data was gathered on light intensity readings at various sites and at certain times. At 4:45 PM, our team made it to the agreed-upon site in enough time to start recording. The main goals were to trace the path of light beams across the allotted region and record minute details. The methodical technique of gathering data resulted in the accurate recording of light intensity at different geographical locations and at exact intervals. The data is collected over a five-day period that is continuous, providing detailed information that is essential to our study.

The table below displays the methodically arranged detailed data that was gathered for each of the five days in November 2023:

We are confident that the information gathered will make a substantial contribution to our current research and comprehension of the dynamics of light in the designated region.

DATE/PLACE		MAHADWAR GATE	GARUD MANDAP (BACKSIDE)	GARUD MANDAP CHAUTHARA	GARUD MANDAP	GANAPATI TEMPLE (BACKSIDE)	GANAPATI CHOWK	KASAV CHOWK	PITALI UMBARTHA	KHAJINA	CHANDICHA UMBARTHA	SANGAMRAVRI	KATANJAN	IDOL'S FEET	IDOL'S KNEES	IDOL'S WAIST	IDOL'S SHOULDERS	IDOL'S NECK	CROWN	S, IOUI
08-11-2	21																			
Time		5.00	5.05	5.18	5.23	5.25	5.30	5.32	5.36	5.38	5.39	5.42	16.	5.46	-	4	×	4		
Intensity		144000	32500	8600	5920	19010	60500	90200	41600	22000	1410	25.5	ē	<b>4</b> 70.	Ħ	F	Ή.	1207	,	
09-11-2	21																			£ £ £
Time		5.00	5.04	5.09	5.13	5.24	5.27	5.30	5.34	5.36	5.38	5.42	5.43	5.44	5.45	5.46	5.47	5.48		
Intensity		14100	12490	9490	6690	3390	3300	1076	634	381	251	130	70	Ξ,	÷		-	- <del>-</del> -	4	
10-11-2	21																			
Time		5.00	5.04	5.09	5.13	5.24	5.27	5.30	5.34	5.36	5.38	5.42	5.43	5.44	5.45	5.46	5.47	5.48	-	
Intensity		15870	13610	9550	4630	3370	350	357	246	289	119	100	50	i i		-	<b>3</b> 8	ĵ.	•	
11-11-2	21											, , , , , , , , , , , , , , , , , , ,								4
Time		5.00	5.04	5.09	5.13	5.24	5.27	5.30	5.34	5.36	5.38	5.42	5.43	5.44	5.45	5.46	5.47	5.48	-	
Intensity		18300	13300	9360	5510	1530	1420	1613	802	332	209	-		₩2		-	-	Ĭ		
12-11-2	21														2					
Time		5.00	5.04	5.09	5.13	5.24	5.27	5.30	5.34	5.36	5.38	5.42	5.43	5.44	5.45	5.46	5.47	5.48	5.4	9
Intensity		17258	12500	7460	4512	1730	1350	1519	950	430	220	<del>.</del>	-	F	<del>-</del>	-	×	¥1	3	

The aforementioned information makes it evident that the Kirnotsav celebration lasts for five days throughout both the moon's Uttarayan and Dakshinayan journeys.

Observational strategies: strategies for tracking the alignment of the sun with the idol, including as placement and timing of observations. To observe the obstructions in the beams' route, a telescope was used. Additionally, using a magnetometer made it easier to determine which way the sun is shining.

Results: The study's conclusions point to a longer Kirnotsav celebration than the customary three days.

Extended Alignment Period: The kirnotsav phenomenon is seen for a total of five days, as indicated in the table above and the local newspaper below.



A newspaper cutting indicating the previous research done for 5 days which was previously done for 3days.

## CHAPTER 3: Significance and Implications of the Extended Duration of Kirnotsav

#### **Cultural Significance:**

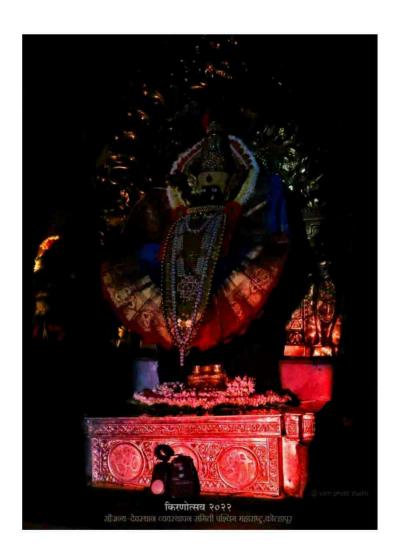
- Preservation of Tradition: The longer duration casts doubt on the conventional wisdom on Kirnotsav and alters the festival's traditional story.
- 2. **Cultural Identity**: The extended alignment of sunlight with the idol throughout the festival has the potential to transform the cultural identity of the town and local narratives surrounding the significance of Kirnotsav.
- **3. Community Beliefs and Practices:** It might have an impact on the beliefs, customs, and festivities of the community related to Kirnotsav, possibly resulting in modifications to cultural traditions.

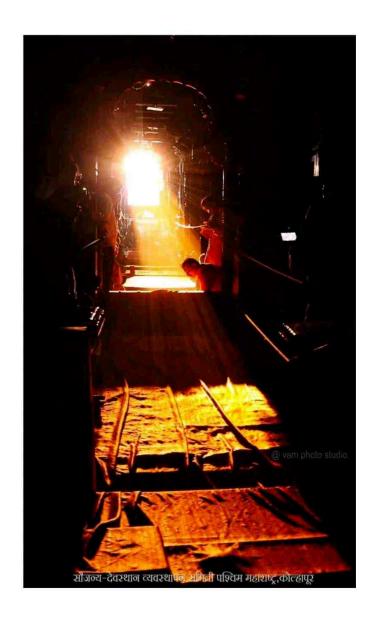
## **Scientific Relevance:**

- 1. **Astronomical Insight:** The longer length yields scientific data and observations on celestial events, bringing important astronomical insights regarding the alignment of sunlight with the idol.
- 2. Validation of Observational Studies: It advances scientific understanding of solar alignments by confirming the validity of observational studies and scientific techniques used to monitor natural events.

## **Societal Impact**:

- 1. **Tourism and Awareness:** The festival's longer duration may draw more attendees and tourists, raising knowledge of the event and its distinctive celestial phenomena and maybe helping the local economy and tourism sector.
- 2. **Community Engagement:** Given that the significance of the celebration goes beyond the previously established timeline, it could encourage a greater feeling of community involvement and pride.





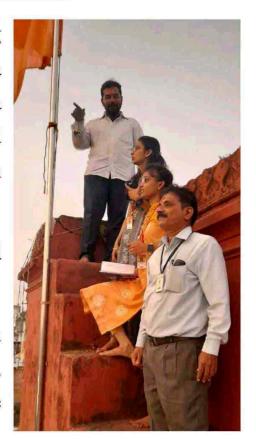
The Path Travelled by the rays

## **CHAPTER 4: Research methodology**

Any cultural celebration, including Kirnotsav, must be studied using a methodical approach to data collection, analysis, and interpretation. This is the approach we suggest using:

# Ethnographic studies and fieldwork

For Kirnotsav, fieldwork entails an immersive, on-site study to watch, record, and interact with the community.



## Pre-Site Visits for Obstacle Mitigation

To uncover the similarities, distinctions, and distinctive qualities of Kirnotsav, compare the results with other festivals or cultural events of a similar kind. This can entail doing studies in comparison with comparable events in the area or throughout the world. Interdisciplinary Approach: Take into account utilising an interdisciplinary approach that incorporates knowledge from sociology, cultural

anthropology, By combining qualitative and quantitative research approaches, this methodology seeks to offer readers a thorough knowledge of Kirnotsav, including its cultural, social, economic, and historical components. Adapt and improve this approach in accordance with the particular goals and extent of the research project.

### **CHAPTER 5: ADVANTAGES**

# Expanding the Kolhapur Kirnotsav research from a 3-day event to a 5-day event can offer several advantages:

- 1. <u>In-depth Exploration:</u> As researchers, we had two more days to explore more deeply into different facets of this scientific phenomenon. Its longer duration makes it possible to examine its historical, cultural, and social importance in more detail.
- 2. **Broader Scope:** Extended study allows us to incorporate a wider range of viewpoints, including local community engagement, economic effects, and the festival's influence on local tourism, arts, and crafts.
- 3. <u>Enhanced Data Collection</u>: We have more time to perform surveys, interviews, and observational studies, which results in a more comprehensive dataset for analysis.
- 4. **Thorough Analysis:** Having extra days allows us to analyse the data we've gathered more thoroughly and gain a more complex picture of the dynamics of the festival and how it affects social cohesion, cultural exchanges, and the local economy.
- 5. **Detailed Documentation**: The additional days provide us the opportunity to evaluate the data we've collected in greater detail and develop a more nuanced understanding of the dynamics of the festival and its effects on social cohesion, cross-cultural interactions, and the local economy.
- 6. <u>Deeper Engagement:</u> By interacting more closely with festival organisers, attendees, and stakeholders, researchers may build stronger bonds and get a better understanding of the event's organisation, execution, and community participation.

- 7. <u>Longitudinal Study Opportunities:</u> Because of its longer duration, the festival offers the opportunity for a longitudinal study that compares and analyses trends, modifications, and evolutions over the course of several days, seasons, or years.
- 8. Education and Outreach: Extended research periods provide educational outreach initiatives like seminars, workshops, and presentations, which can benefit local communities as well as scholarly audiences with an interest in cultural festivals. Increasing the length of the study yields a more thorough knowledge of the Kolhapur Kirnotsav and offers insights that may aid in the preservation of cultural heritage, the promotion of tourism, and the encouragement of community involvement.

#### **CONCLUSION**

To sum up, expanding the Kirnotsav research project from its original 3-day scope to a longer 5-day study has greatly improved our comprehension of this important cultural event. The extra time we spent on our research has produced some really insightful findings and brought to light some important details. First of all, the longer time frame made it possible to delve deeper into Kirnotsav's complexities and conduct a thorough examination of its social, cultural, and historical facets. When the celebration was examined over a longer period of time, it became apparent that customs, rituals, and community involvement were more intricately woven together than had been initially thought. Additionally, the extension made it possible to collect data in a more thorough manner. Our study had a solid basis thanks to the abundance of qualitative and quantitative data we were able to collect, which included in-depth interviews, a wide range of observations, and thorough surveys. This longer study period made it possible to examine the festival's effects in greater detail. Our findings point to Kirnotsav's multifaceted contribution, ranging from its deep cultural value to its economic impact on the local population. Over the course of five days, the event demonstrated not just its historical origins but also its ability to adapt to contemporary influences while maintaining its essential customs. In this prolonged time of interaction with organisers, participants, stakeholders, and locals helped us to better understand their viewpoints and build stronger bonds with them. Their opinions have greatly influenced how we perceive the festival's place in the community and how they hope to see it grow in the future. In conclusion. Kirnotsav's richness and complexity have accentuated by extending our research time to five days. This

extensive study has benefited our academic endeavours and has the offer useful suggestions for the maintenance. advancement, and long-term development of this beloved cultural event. As we come to the end of this research project, it is clear that expanding the investigation from three days to five days was a crucial step in revealing the intricate details of Kirnotsav, enhancing scholarly discourse, and making a significant contribution to the general knowledge of cultural festivals and their significance to society. To sum up, Kirnotsav's long history has a variety of meanings and ramifications that span social, religious, scientific, and cultural domains. This expansion casts doubt on long-held notions, provides fresh perspectives on cultural identity, reaffirms spiritual importance, advances scientific knowledge, and may have an effect on tourism and community involvement.

#### **Future research**

The Kirnotsav project's original study plan included a brief three-day timeframe. But based on initial observations and exploratory research, it has been determined that a 5-day period would offer a more wide canvas for in-depth inquiry. Moreover, extending the research time to seven days is being considered for improved insight acquisition, given the intricate and varied character of this cultural celebration. We are striving towards its successes in the same environment. Furthermore, we are exerting additional effort to get the desired outcome sooner.

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