

Preserving and Nurturing Flowers, Communities and Heritage



The Plateau of Kaas: World Natural Heritage

UNESCO

Annual Report Card for 2017

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Preface

Solid-Rock determination: Flowering Kaas Community

History was made in 2012, when UNESCO's World Heritage Committee inscribed 39 sites of the Western Ghats of India as World Natural Heritage (WNH). It was the first ever-serial nomination of so many sites along the 1600 kms of rock-hard mountain range of Sahyadri that received such an ardent support from UNESCO's expert committee.

Kaas Plateau, the smallest of the 39 sites, perching on the northern most tip of the Western Ghats stands apart due to its wild flowers. Never before UNESCO received the nomination for the inscription that included a place that blooms with wild flowers year-after-year on the rocky plateau with just few millimeters of soil.

History is also in making for yet other reasons.

First, TERRE Policy Centre, not-for-profit organization has been passionately and unassumingly working without any external financial support, to prepare such Report Cards in consultation with the local communities around Kaas. The rapport with local community was established long before the inscription in 2012 and regularly thereafter for last 6 years.

Second, we in TERRE have directly supported Government of India in getting the UNESCO's inscription of World Natural Heritage in 2012. More than that, we held community dialogues and presented the case directly to the World Heritage Committee of UNESCO on behalf of Kaas Community during final round.

Third, it is one of the rarest examples where NGO prepares Annual Report Cards with such a forward-looking quantitative and qualitative description of conservation and community development around the WNH site.

Fourth, there has been a growing feeling among the community and Joint Forest Management Committee for improving the participative management and working in harmony with local governments, experts, researchers, youth volunteers and other NGOs.

This does not mean that all is well with Kaas. Though this year's report demonstrates even more positive transformation in sustainable management of the Kaas Plateau, there were formidable, but not intractable, challenges. Such challenges faced by the community are poised to become unparalleled opportunities.

The following pages do not constitute just a 'report card' with simple 'grades', but in reality, they report about the 'unique cord' stuck by the local community with the nature that 'grades' the potential of the participative conservation and sustainable development.

Rajendra Shende,

Chairman TERRE Policy Centre

Former Director UNEP.

About the Report

TERRE Policy Centre, coordinator for this report card, has been instrumental in supporting Government of India in getting UNESCO's World Natural Heritage Site status for The Plateau of Kaas, Western Ghats, India.

It has also been providing regular guidance and consultation for the preservation of the plateau without any external monetary support.

The Annual Report Card is an important document that tracks the progress of the site and provides the vision for the coming year.

The report recognizes the cumulative efforts of the Joint Forest Management Committee, Forest Division of Satara-circle, local Community, researchers, experts, and TERRE Policy Centre.

The information shared in this report was gathered during various communications and the visits undertaken to Kaas plateau in March and June 2018. TERRE is thankful for the time and inputs of Sachin Dombale, Range Forest Officer for Medha region; Purna Agarwal, Environment expert and former independent researcher at Kaas, Shirang Shinde, Forest guard and the team of JFMC.

Experts that conceived and authored the Report Card

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Photograph 1: Enroute to Kaas plateau

Executive Summary

The annual report for year 2017 attempts to capture the essence of emergence of evolutionary collaboration between Forest Division, local community and Joint Forest Management Committee (JFMC) at the World Natural Heritage Site of Kaas. The report puts forward the analysis of changing trends in decentralized decision making, in community participation in implementation and in addressing the emerging challenges, particularly in tourism at Kaas. Through this report, the attempt is made to foresee the challenges as well as the potential for sustainable living in UNESCO's World Natural Heritage (WNHS), mainly centered around eco-tourism at Kaas.

Since the plateau of Kaas was declared as one of the 39 sites in the Western Ghats of India as part of the serial inscription of WNHS in 2012, the attention that it

received from the civil society was extraordinary. It was one of the rare global examples, where wild flowers appearing for the limited time on expansive flat plateau at 4500 ft. height could attract the nature loving people in such large numbers. The rapid growth in tourism has encouraged and challenged local community at once to work in tandem and in cohesion in different capacities in preserving the heritage. Importantly, the community-driven and people-oriented approach has been the hallmark that was observed throughout the last five years to preserve and nurture nature and encourage tourism simultaneously. However, a plan or a policy with enhanced solution-oriented, innovative and constructive approach could help local community to address the rapidly surfacing challenges and explore opportunities that can further the tourism activities.

TERRE Policy Centre's role had been to be a catalyst and mentor for the local community. Encouraging the community to lead the conservation and not acting as hand-holding agency was the approach adopted by the TERRE Policy Centre right from 2012. In recent years, TERRE has inducted more and more youth volunteers in making the change, commensurate with the emerging young strata of Kaas community of six villages.

The Joint Forest Management Committee (JFMC) comprising of representatives from six member villages and an office bearer from the Forest Division, Satara has been the anchor-engine for Kaas Management. JFMC has been responsibly contributing the most in preserving the plateau. A blooming season for flowers, which lasts just for a couple months, attracts a huge number of tourists every year. JFMC in association with Forest Division ensures efficient planning and

management of the plateau especially during these couple of months at the plateau. Besides, it carries out maintenance and monitoring activities at the plateau throughout the year. TERRE Policy Centre focuses on assisting the committee members from the villages in culling the lessons learnt and encourage them to set in process participative planning and implementation. TERRE also provides global experiences and perspective in management of WNHS to the community.

In 2017, JFMC witnessed a structural reform that allowed the inclusion of two new villages as members of the committee. Thus, the number of members increased from 11 to 18, with 3 members representing each member village. A president and a chairperson were elected democratically from the members of JFMC. Also, to create JFMC gender balance, it was decided to include at least one female representative from each of the six villages.

One of the key developments resulting from the community driven approach was creation of multiple employment opportunities for local community by employing local residents in various capacities, including infrastructure development, at the plateau before and during the blooming season. As a result, the intervention of outsiders was reduced and the sense of responsibility was imbibed into local residents. JFMC led by example of being a democratic institution with a prime aim of community development through improved system related initiatives.

JFMC firmly believes in focusing on following for the World Natural Heritage Site of Kaas:

1. Sustainable Conservation of the ecosystems
2. Sustainable Community Development of the six villages
3. Sustainable Eco-tourism at the plateau

In 2017, JFMC provided better tourist-friendly facilities such as parking spaces, sitting areas, toilet facilities and well-trained guides. In 2017, JFMC charged INR 100 for a single ticket to visit the plateau and kept it free for children below 12 and senior citizens above 65. Despite the fact that blooming season was shortened by nearly a month due to an unfortunate incident of landslide on the road from City of Satara to Kaas, the season turned out to be profitable in terms of the revenue generation for JFMC. JFMC raised funds of approximately 97, 00,000 INR. Apart from the monetary benefits, while facing a challenge of landslide and difficult commute, JFMC displayed better management of funds and other resources.

To preserve flowers and, subsequently the heritage, **JFMC also envisioned to emphasize upon the potential of other tourist spots near the Kaas plateau.** For example, the scheme of visits of tourists to nearby caves, natural trails through hills having historical importance and directing to old temples was brought to the table to encourage tourism throughout the year. Although this will help in creating more economic opportunities for the local community, it needs to be thoughtfully planned without distracting from the objective of conserving nature through community participation. There is a risk of diluting the focus on nurturing the plateau of wild flower. That risk can certainly be managed by careful planning of

sustainable tourism and may well prove to be strengthening the objective of Kaas Plateau conservation.

The sincere efforts of JFMC and its maturing ability to execute projects have opened avenues for sustainable tourism. Thus, it is important to urgently document the various existing challenges and untapped possibilities for tourism before the essence of nature and sustainable tourism model is lost.

Refraining tourists from entering into the 'Restricted Entry Zone' of the plateau is still a challenge despite the fact that barricades have been protecting plateau since 2012. Also, the increase in illegal cement construction on the way towards Kaas has raised alarms. The increasing use of non-biodegradable material such as, plastics among the tourists visiting from cities creates an overhead burden of collecting and disposing the waste in higher quantities during the flowering season. The tedious task of collecting plastic waste requires intensive human resources to ensure that the plateau is plastic-waste free. Currently, due to the lack of a regulatory framework particularly for the large number, uncontrolled and unplanned presence of food and other stalls affects the tourist carrying capacity as well as disturbs the predesigned flow of tourists. Indeed, there is need to scientifically decide the carrying capacity of the Kaas Plateau.

Apart from the above mentioned short term challenges, **a platform for exchange of knowledge and information** needs to be institutionalized where experts of different streams such as Environment, Botany, and Community Development can

collate and work together with local community on the WHS of Kaas. Such a platform would be able to initiate documentation of the changing and emerging trends of dynamic play between nature conservation and tourism expansion. A research focusing on conservation vs development, eco-tourism and capacity building of locals and tourists, conflicts between city culture imported by the tourists and the essence of indigenous culture could be useful subjects for such proposed platform for exchange of ideas. The dynamics of modern technologies and traditional knowledge is the emerging subject, which needs collective deliberation. TERRE is attempting to promote such platform.

For the community driven administration, there's room for improvement in terms of community development and tourist-friendly facilities leading to sustainable tourism. The preservation practices followed by the local residents and JFMC could be advanced with better policy planning suggested by experts and agreed by the locals. The geography of the plateau is inherently favorable for a complete sustainable and eco-friendly model of community development and sustainable tourism. Further, the plateau has a wide scope to implement the ideas of electrical vehicles, IoT (Internet of Things), generation of renewable energy, smart communication technology, and environment practices that could reduce the carbon footprint.

Possibilities for better local commuting facilities, supplementary infrastructure for differently-abled and elderly people, creating a platform for exchange of ideas

and gaining knowledge from other World Natural Heritage Sites through networking need to be explored further.

Creating network of WNHSs, starting with the northern cluster of 4 WNHSs Western Ghats, then spreading to 39 sites of the Western Ghats and eventually, to all the WNHSs in India could be cost effective way for the communities to learn from each other.



Photograph 2: Participants : In community-dialogue on Plateau



Photograph 3: Interview of the President JFMC

1. Introduction

1.1 Background of Kaas

The region of Western Ghats in India was inscribed as the 39 serial WNHs by the UNESCO in July 2012. These 39 sites of Western Ghats are spread over the area of 7953.15 km² and four Indian states. As part of the Sahyadri range of mountains' northern sub-cluster, the state of Maharashtra inhabits Koyna Wildlife Sanctuary, Chandoli National Park, Radhanagari Wildlife Sanctuary and Kaas plateau all in circle of about 200 kms. The area of 1972.85 hectares of the plateau is inscribed as the WNHs-World Natural Heritage Site for its unique, endemic ecosystem and for its outstanding universal values that included rich biodiversity. The plateau is situated

at the height of approximately 1213 meters above sea level. The volume of rainfall during June to October, called as monsoon season, at Kaas is about 2500 to 3000 mm. These weather conditions nurture more than 850 species of flora during the flowering season. The plateau is home for around 350 flowering plants that include species listed as rare, endemic and threatened by Botanical Survey of India and International Union for Conservation of Nature (IUCN). Along with these flowering plants, many species of medicinal values and some large and small species that are new to science have been discovered at the plateau. The heritage site of Kaas is approximately 25 km away from Satara, the nearest town and district place.

The plateau of Kaas inhabits rich natural heritage of highly specialized edaphic plant groups with about 350 flowering plant species and exceptional aesthetic beauty. The outstanding universal value of Kaas is its flowers and their naturally attractive aesthetics. Most of these ephemeral communities of rock-outcrops are insect pollinated and they mass bloom to attract pollinators. They have a very short growing season. For endemic species such as *Aponogetonsatarensis* and *Rotalaritchiei*, Kaas is one of the last remaining hopes.



Photograph 4: Carpet of flowers on Kaas Plateau

1.2 Collaborative Institutional Setup

1.2.1 Joint Forest Management Committee (JFMC)

A Joint Forest Management Committee (JFMC), a collaborative institute formed by the representatives from local communities and the Maharashtra Forest Department have been responsibly taking care of the conservation of the plateau since July 2012. The committee also ensures that local communities achieve a sustainable living out of the tourism activities carried out around the plateau. The JFMC in association with several other organizations and local residents carries out capacity building initiatives like guide training, waste management camps and crowd management to maintain the serenity of the plateau throughout the year.

1.2.2 Enhanced Governance

The committee has successfully achieved to increase the overall involvement of the local communities in the preservation activities for the plateau. The revenue generation has been on the rise till 2016. In 2017, due to the unfortunate incident of landslide on the mountainous road leading to the plateau, the season for tourism was shortened by 2 months. This affected the number of tourists and resulted into generation of lesser revenue. However, the season turned out to be profitable for the JFMC due to the solution-oriented and constructive approach in tourism activities.

Inclusion of two new villages around the plateau i.e., Kusumbi Mura & Pateghar reflects positively on the governance of JFMC and its inclusive management of Kaas Plateau. In comparison with the earlier committee of four member villages,

the newly formed JFMC displays a strengthened and participative approach towards the preservation of the WNHS.

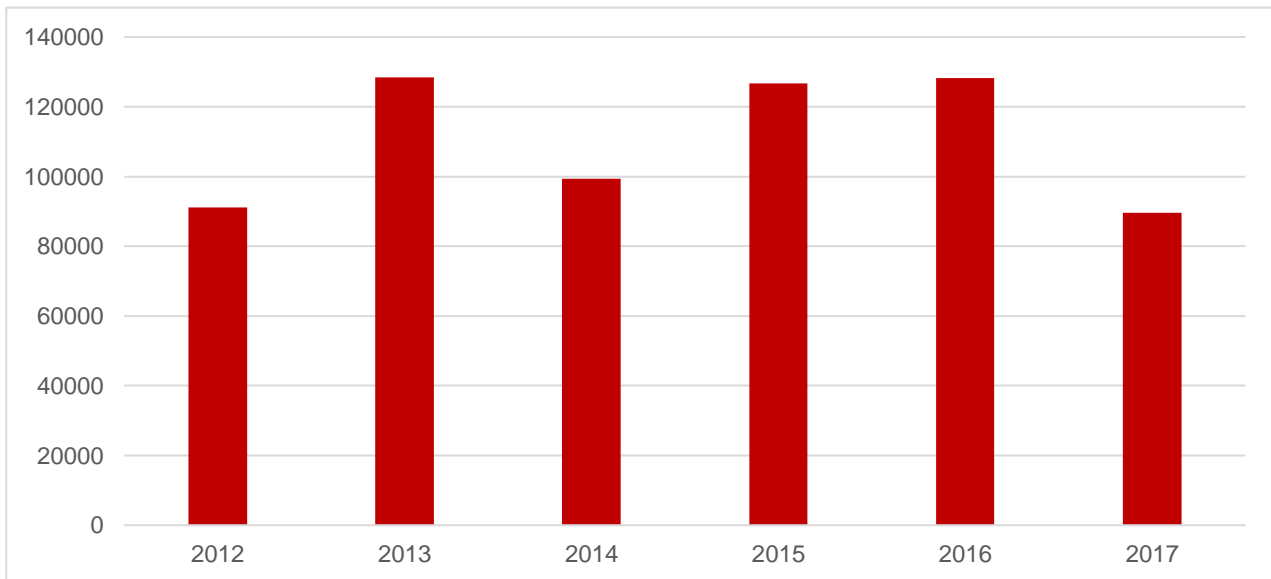
1.2.3 Gender Balance

The new structural reform in JFMC allows three members from each of six villages out of which one place for every village is reserved for a female member. The previous edition of 11 members JFMC now comprises of 18 members with more female members, which is led by a female president for the year of the report card.

1.3 Five Years in Overview

1.3.1 Tourism

Since the inscription of the World Natural Heritage Site in 2012, the plateau has witnessed rapid growth in tourism. Tourists have been flocking the plateau every blooming season that lasts for a couple of months. Initially, the lack of awareness about the significance of the place led to grave concerns of trampling down the flowering plants and threats of increasing constructions near the plateau. However, over the five years, JFMC and Forest Division put extensive efforts to spread awareness among the visitors. On the other hand, the growth in tourism has turned out to be monetarily beneficial for JFMC, which has not only helped development of local community but also raised funds for preservation activities. Tourism at a place with sensitive ecology such as Kaas needs a direction that would make it sustainable and eco-friendly.



Graph 1: Number of visitors over the period of five year

It can be observed that there is fluctuating number of tourists over the time span of five years. The main reason for the fluctuation is change in the season duration every year. Availability of infrastructure, better media outreach and connectivity to the site are the other issues reflecting through the number of tourist. The graph also points out probable number of carrying capacity of the Kaas plateau, though more scientific base is needed.

1.3.2 Community Development

To encourage as well as control the ever-growing tourism at Kaas, JFMC in association with Satara Division of Maharashtra Forest Department implements various initiatives at the plateau. Along with management and administration, JFMC looks after fundraising through tourism to primarily execute preservation activities and development of local community. Over the last five years, JFMC has supported member villages to execute public welfare activities and household. TERRE Policy Centre and other NGOs along with researchers who were actively

involved in tracking the work by JFMC since last 5 years have provided regular guidance in implementing welfare activities to JFMC and local community.

1.3.3 Structural Reforms

Over the last five years the Joint Forest Management Committee (JFMC) has displayed commendable enthusiasm and responsibility to preserve the World Natural Heritage Site of Kaas plateau. JFMC responsibly brought the local residents from six different villages to stand together strongly and relentlessly for the single cause of conserving nature and its outstanding universal value. JFMC also witnessed regular structural reforms since its inception to make it more democratic, transparent and inclusive. Forest Division, of Satara circle ensured to conform with the Joint Forest Management Guidelines of 1990 and National Forest Policy of 1988 for a smoother implementation of JFMC at Kaas



Photograph 5: Focused group discussion

2. Kaas 2017: Year of Transformation

The collaboration between Forest Division, Satara-Circle and representatives from six nearby villages formed a structurally reformed JFMC in 2017. It included three members, two men and one woman, from each member village and one official from Forest Division. The JFMC also included two new villages- Kusumbi Mura and Pateghar. Formed with the strong foundation of democracy, transparency and inclusion, the new JFMC moved forward with an intent of sustainable tourism and community development. The inclusive nature of reforms in JFMC not only encouraged new ideas but also increased the number of human resources from the two new member villages. As JFMC implemented numerous activities with thorough transparency throughout the year, the sense of responsibility and ownership was imbibed into local residents.

2.1 Approaching Sustainability

JFMC followed more participative approach, while working at the plateau throughout the year and especially during the flowering season.

Somnath Jadhav, a member of JFMC while explaining the vision and mission of JFMC expressed, *"It was decided since the first meeting of a newly formed JFMC to focus precisely on*

1. Sustainable Conservation of the ecosystems
2. Sustainable Community Development of the six villages
3. Sustainable Eco-tourism at the plateau

2.2 Activities and Initiatives

While focusing on the aspect of sustainability in conservation of the plateau, community development and tourism, JFMC undertook following activities and initiatives in 2017 during the blooming season and rest of the year.

2.2.1 Conservation of Natural Heritage

- Diligent vigilance to refrain tourists from visiting 'Entry Restricted Zone'.

- On the spot penalty if found trampling over or plucking the flowers.
- 48 spots under the surveillance of guards within the 'Entry Zone' for a better vigilance.
- Free and mandatory trained local guides to make tourists well informed and aware about the conservation of the plateau.



Photograph 6: Water holes for animals

2.2.2 Employment Opportunities for Indigenous People

- Deliberate efforts to understand the skill sets and interest of local residents.
- Maximum participation of local residents- A total of 110 people worked at the plateau with significant number of female participants.
- Per day wages for various job roles - 200 to 400 INR, which is comparable to average wages in India for the kind of work they are employed for.
- A group of local residents, including both men and women, formed a team for surveillance, avoiding an outside authority or agency of home guard that may not have same urge to protect and conserve the nature. Presence of women guards helped in penalizing female defaulters without causing any gender conflict.

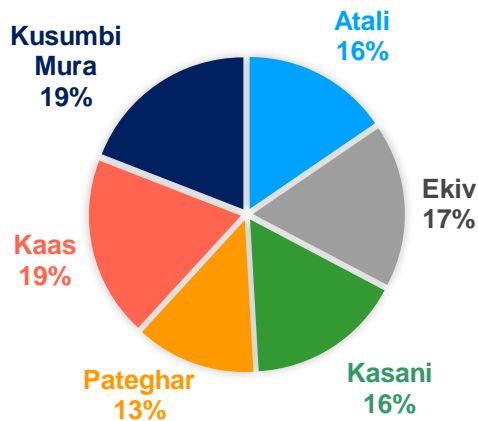
- The type of employment could be divided into
 - a. Administration.
 - b. Ticketing and Fare Section
 - c. Facilities for Local Commute
 - d. Surveillance
- Training for guides was provided to interested local residents. Fair employment opportunities through a guided one-hour tour with scheduled and rotational duty hours for local guides were also provided.
- Entrepreneur-opportunity were given for the locals to encourage food stalls and other souvenir stalls near the parking and at other spots which needs to be managed well.



Photograph 7: Interaction with villagers



Photograph 8: Road maintenance work for rainy season



Revenue allocation to the six member villages to preserve and nurture @ Kaas plateau

2.2.3 Tourist-Friendly Services

- Affordable Shuttle service in association with private vendor between parking and the plateau charging fare of 10 INR per person.
- Mobile toilets at six locations with a dedicated team for regular cleanliness and sanitation to ensure a comfortable experience for tourists.
- Enclosed short time sitting area made out of fiber at four locations for senior citizens.



Photograph 9: Portable toilets at parking area



Photograph 10: Enclosed sitting area

2.3 Dialogue with Stakeholders

Sachin Dombale is the Range Forest Officer for Medha region under Satara forest division. Since the last couple of years his work in guiding the JFMC to manage various activities at the plateau has been considered instrumental by the local residents.

In 2017, he helped the local communities for smooth inclusion of two new villages to form the new JFMC. While talking about this transition he said, "The idea was to make the newly formed JFMC more democratic as Kusumbi Mura and Pateghar were included into JFMC, it helped us to reform the structure of the committee." Under the guidance of Mr. A. M. Anjankar, Deputy Conservator of Forest, Satara Division, while representing forest division he emphasized more on making the JFMC independent in decision-making. He also ensured that the committee would work with utmost transparency and inclusion.

The JFMC also revised the entry fees and other charges at the plateau. He further added that to make sure that visiting Kaas should be a tourist friendly experience, the JFMC took various initiatives during the season. To further these initiatives the forest division is considering the idea to shut down the gate booking facility and instead run entire booking facilities online for every visitor. This would help in managing the crowd by keeping the number of visitors restricted for each day.

“Conserving the biodiversity of the plateau to maintain its outstanding universal value intact has always been the primary objective of the forest division.” – Sachin Dombale

The unfortunate incident of landslide on the road reduced the season by almost a month in 2017. “I must admit that despite the challenge was extreme and inevitable, the local communities and JFMC displayed exemplary unity and provided commendable service at the plateau. Year by year, season by season community is becoming more and more independent and efficient.”

Developing new tourist spots is also under consideration in order to distribute the tourists and to reduce over-crowding that risks the conservation of flowers at Kaas.

Vimal Shingare, President, JFMC

The six villages around the plateau have come together to implement various preservation community development and tourism activities through the platforms developed by JFMC. Vimal Shingre is leading JFMC to execute the arduous task of bringing six villages on the same platform of JFMC. While sharing her experience of working at Kaas as the president of JFMC, she said, “Although I’m elected as the president, I firmly believe that when it comes to finding solutions everyone from JFMC is a decision maker and that’s what has kept us going. I feel proud especially to represent women from our six communities while conserving the plateau as the president of JFMC.”

“Although I’m elected as the president, I firmly believe that when it comes to finding solutions everyone from JFMC is a decision maker.” – Mrs. Vimal Shingare

The need for deliberate efforts to preserve the unique aesthetic beauty of flowers at Kaas was not addressed until it became a point of attraction for tourists. To elaborate this further she said, “Our ancestors followed traditional ways to conserve the biodiversity of the plateau, but after it was declared as the Heritage Site, we recognized its importance on global map. We are grateful to UNESCO as it made us aware of our plateau’s unique and rich biodiversity.”

Shrirang Shinde, Forest Guard, Medha

Shrirang Shinde has been working as a forest guard in Satara forest division since the last couple of decades. To represent forest division, he joined the newly formed JFMC as the Secretary in 2017.

He said, “Ever since the tourism at Kaas has grown significantly, waste management has remained the main challenge. The vulnerable biodiversity at Kaas is hampered severely due to the waste that is generated on and off the season.

“It is essential for the tourists to understand the significance of the place that they are visiting.” – Shrirang Shinde

Local residents, NGOs and various other organizations in association with JFMC have initiated weekly waste collection drives, waste management camps to keep the plateau and its surrounding area clean and serene." To make tourists more informed and aware he has written a booklet that offers information about flowers from Kaas. He believes simple language of the booklet would help people to understand the sensitive ecology of Kaas.

Somnath Jadhav, member, JFMC

Somnath is an active member of the JFMC and has played a key role in implementing various activities at Kaas in 2017. He explained that all the members of JFMC share the same vision of Sustainable Conservation activities, Sustainable Community development and Sustainable tourism at the plateau. He said, "In 2017 to go a step forward towards our vision, we identified that we need to retain local population in the villages, and prevent their migration to the cities.

"To refrain people from migrating to cities in search of jobs, the newly formed JFMC envisioned multiple employment opportunities throughout the year." – Somnath Jadhav

This includes opportunities to work as guides, guards, local food stall and souvenir vendors etc. In 2017 a total of 110 people from the local community were employed by the JFMC and forest division to work in various capacities at the plateau during the season." He also informed that it was a unanimous decision of the JFMC to involve local residents instead of hiring human resources from home

guard agencies for traffic management, crowd control and surveillance. The decision turned out to be extremely cost effective and most importantly it generated more employment.

Prerna Agarwal, Researcher

Prerna Agarwal is an independent researcher in the field of Recreation Ecology. At Kaas, she studied ecological impacts of rapidly growing tourism since UNESCO inscribed it as the World Natural Heritage Site (WHS) in 2012. Apart from her area of study, Prerna worked extensively to increase the involvement of local communities in the preservation, development and management activities at Kaas. While sharing her experience of working at Kaas over the last five years, she said, "The pristine site of Kaas since my first visit in 2005 was very different than what it is now. Tourism surged after the World Heritage inscription and it has negatively affected the sensitive ecology of Kaas. Thus, addressing issues such as human trampling, crowd & waste management, became imperative. However, in 2012 the flow of tourism was restricted to certain parts of the plateau as barricades were put in place. This year also marked the beginning of an inclusive approach taken by the Satara Forest department by forming a Joint Forest Management Committee with the local villagers. I would consider these steps as milestones in the preservation of Kaas."

During her long association with Kaas and its people, she mobilized the forest department and the local communities to build capacity through organizing guide-training programs for local guides, bridging knowledge gaps for tourist

control and surveillance. She said, "Last year, it was immensely satisfying to finally witness women participation in the decision-making process. Women representation was observed throughout the hierarchy from attending guide training to leading the JFMC." She further added that the capacity building programs carried out over the last couple years helped the team this year. The further empowerment of JFMC from the forest department, especially by DCF A.M. Anjankar and RFO Sachin Dombale, and the inclusion of two more villages definitely strengthened the preservation activities at Kaas.

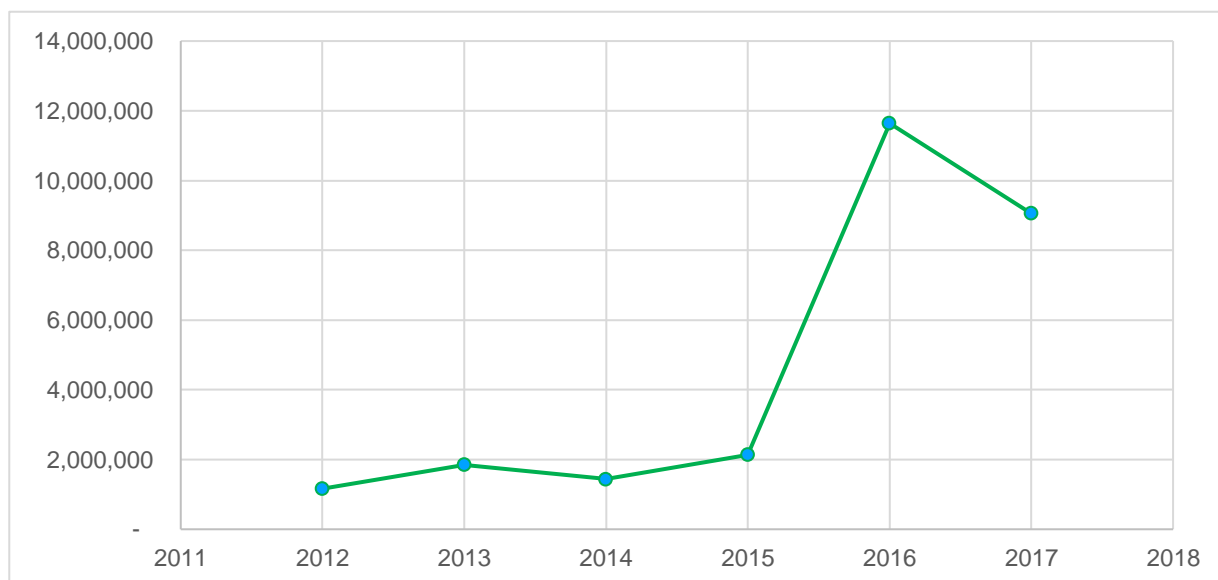
"The inscription of WNHS by UNESCO recognized not just wild flowers and their unique aesthetic value but it vouched for the importance of rocky plateaus such as Kaas, being far from barren. Recognition of Kaas as WNHS has set an example to preserve the ecology at other rocky plateaus in the rest of the world." - Perna Agarwal

Human and vehicular trampling has severely affected the growth of flowers and overall ecology of Kaas in the past, and continues to happen in the tourism sector. Perna's study focused upon the impact of the same. Her study clearly shows that human trampling can cause much damage to the flowering plants of Kaas. While emphasizing on the significance of the WHS inscription Perna added,

When asked if the carpets of wild flowers of Kaas are fading over the years, and whether restriction on fire during the summer and cattle grazing are the reasons,

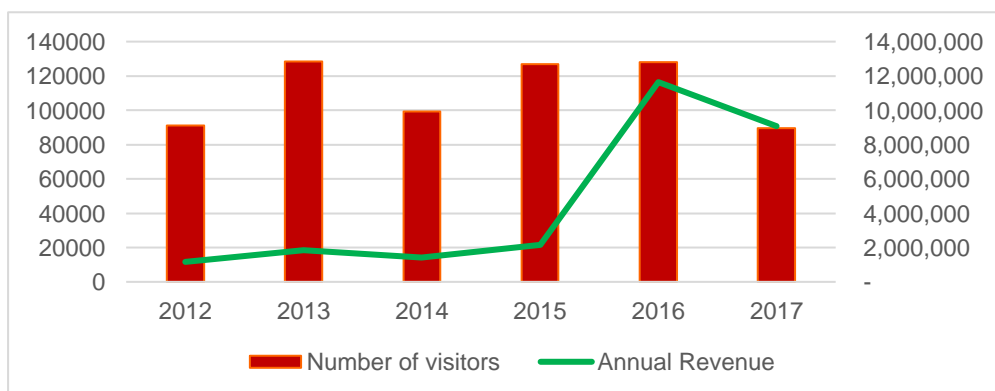
she replied “I do believe that grazing and fire have an impact on flowering. But to say if the impact is positive or negative needs some urgent research efforts.”

3. Financial Statement



Graph 2: Revenue over the span of five years

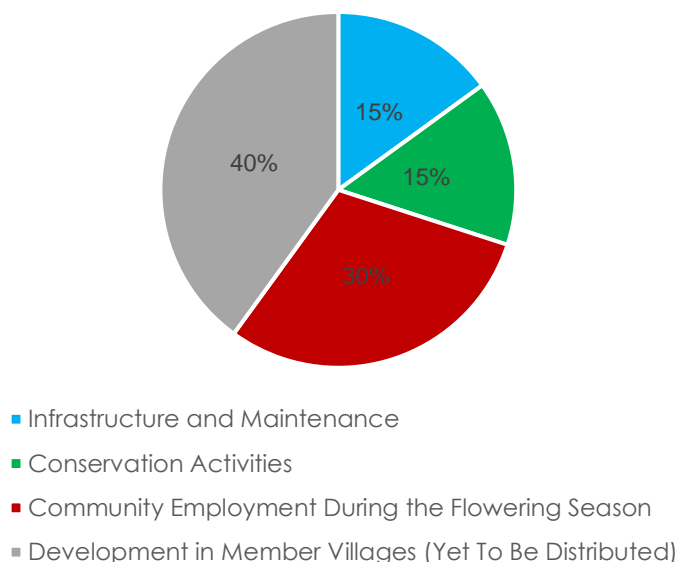
The ticketing system for visiting the plateau has witnessed a few reforms over the last five years, which reflected into the number of visitors and revenue generation. Unlike 2016, the system of multiple tickets for various activities such as fees for camera, guide, parking, local commute etc. was brought under single entry ticket of 100 INR in 2017. This helped in avoiding discrepancies in accounting records and generated equal revenue as compared to last year.



Graph 3: Number of Visitors vs Annual Revenue

In the initial years, when JFMC was still trying to understand the potential of tourism at Kaas, the entry fare to the plateau wasn't turning out to be profitable. However, in the last couple of years the fare was regularized to provide better facilities to tourists.

Revenue Utilization



In 2017, approximately 60% (approximately 50, 00,000 INR) of the total revenue (approximately 97,00,000 INR) was spent on infrastructure development, conservation purposes and employment in the community. The remaining amount of funds is going to be distributed amongst the member villages for development initiatives.

4. Recommendations

Kaas has been identified as one of the most attractive tourist places in Maharashtra, India with ever increasing number of tourists since 2012. Kaas, due to its unique weather conditions, lack of hustle and bustle of the city in the nearby surroundings, rich biodiversity and responsible local community has a great potential to be developed as a 'Community Responsive Eco-tourism Model'.

Flourishing tourism can be seen as the opportunity for the economic benefits of the local community but at the same it raises concerns over harm to the biodiversity and the Natural Heritage of the plateau. Increasing construction sites on the way to the Heritage Site, increasing pollution due to growing number of vehicles visiting the plateau, lack of sense of awareness and information towards the natural habitat and lack of planning with a vision for exploring the tourism potential in surrounding area are the major challenges. These challenges need to be addressed with urgency by long term planning instead of quick and temporary solutions.

The current JFMC has shown a proactive attitude towards learning and understanding the needs for better functioning and has taken steps with a vision of the conserving the natural habitat vis-à-vis developing a Sustainable Tourism Model.

Following is the list of challenges that need to be addressed on priority and the probable solutions that can help in developing a sustainable tourism model

Sr. no	Challenge	Suggested Initiative
1	Lack of sense of awareness and information for the tourists about the outstanding universal value of the plateau	Developing a pre-sanctioned 'Interpretation Centre' for tourists, which could also be developed as a platform for various researchers, scholars, artists, NGOs, and academicians for exhibiting their work. The objective would be to sensitize tourists through such exhibitions.
2	Lack of visionary planning and guidelines	Strategy needs to be developed regarding the development of the eco-friendly tourism infrastructure, conservation guidelines and monitoring systems which could be prevention oriented than cure-every-year approach.
3	Increasing Pollution due to increasing traffic at the plateau	JFMC has finalized the place at a distance from the plateau to avoid/ reduce the through traffic and also arranged a shuttle service as a commute for people to travel from parking to entry gate. Thus, the need is to explore eco-friendly options for local commute such as CNG vehicles or electric vehicles. The shuttle service would be more comfortable for tourists and helpful in preserving the heritage.
4	Management of numerous facilities for tourists at the plateau.	Unlike the previous blooming season, the JFMC showcased better understanding towards the infrastructure to encourage tourism. However, assessment of demand could be completed in prior rather than depending upon the comments and suggestions from the tourists for improvement.
5	Lack of Documentation and Information Gathering	Kaas inhabits a sensitive ecology, which needs to be documented with proper research. The site needs to be seen over the timeline to assess the trends in biodiversity. The documentation would help in creating a database for a comparative study, which would highlight the existing challenges and preservation activities that are needful.
6	Lack of Networking	Networking provides the means to learn from

	opportunity	each other's experience. It is proposed to bring all the 39 sites in the Western Ghats in a network that would meet once or twice in the year and operate digitally to share the experience. The exchange of the information among the various WNHSs should be held through such networking
7	Use of Modern technology	Daily information and photos of Kaas plateau could be provided through space technology. App on flower recognition, caring and nurturing plateau could be developed. Example: Hold smart phone at flower, scan it to get full information about flower. Various information on Kaas tourism can be developed on smart devices.
8	Inviting the experts on nature to give lectures and arrange exhibitions	These could be arranged in Kaas or Satara or Pune.
9	Information on Operational Guidelines for management of Kaas	UNESCO guidelines on how to protect the WNHS and what is allowed as development and what is restricted in the core area and in buffer zone should be made available to JFMC in the local language.
10	The progress/management reports by the central government:	Local community and even JFMC and forest department are not aware of the progress/management reports submitted by MOEFCC in New Delhi. It is important that they should be made available to them.
11	Carrying capacity of Kaas Plateau:	Depending on the infrastructure and sensitivity of the site, it is important to decide the carrying capacity of the Kaas every year

It was observed that the plateau of Kaas is situated at the heart of Sahyadri Mountain Ranges, which in itself is rich in heritage, history and nature. Thus, Kaas has the potential to be developed as a tourist place, which can be visited throughout the year. The plateau is surrounded by natural caves, cliffs, and trails in nearby dense forests. The current monetary profits earned as a result of seasonal tourism prove to be sufficient for satisfying the basic needs of the community. However, it is also observed that there is a strong inclination

towards migration of youth to cities in search of work or education. The rate of migration would be reduced by creating opportunities through tourism that sustains throughout the year.



Photo 11. Concluding remarks by JFMC-members and Forest Guard

5. Conclusion

The Plateau of Kaas is managed and preserved with a proven democratic model of administration, which focuses on combining development of community and conservation of nature. However, the challenge of turning harmful tourism into eco-friendly and sustainable tourism needs to be addressed immediately. It can be overcome through sensitization and awareness programs for tourists and capacity building of local community. Infrastructure that encourages tourism and complies with the naturally enriching surroundings needs to be developed.

Initiatives need to be planned with a vision of eco-friendly future of tourism instead with the existing problem solving approach. As a result, the potential of the World Natural Heritage Site of Kaas could be explored further through:

1. Platforms and networking for knowledge sharing
2. Scientific approach towards preservation and development of the site.
3. Interpretation Centre at the site, which would help in making tourists more informed and aware about the significance of the plateau.
4. Sustainable Tourism Model which would address not only the existing challenges but also allow innovation that is beneficial for nature



Photograph 12: Glimpses of Kaas Plateau

References

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3. <http://www.moef.nic.in/sites/default/files/jfm/jfm/html/strength.htm> - Strengthening of Joint Forest Management, MOEF
4. <http://terrepolicycentre.com>
5. Previous years' Report cards are available on request
6. Recorded information with community and JFMC
7. Informal discussion with local experts, university researchers and other NGOs
8. Notes by TERRE staff on visit to Kaas Plateau
9. Press reports on 2017 season