2023 TOP 100

GOOD PRACTICE STORY

Title: Making of a Waste free Heritage Town: Good Practice Story of how Mamallapuram World Heritage Site became litter free destination

Destination, Country: Mamallapuram UNESCO World Heritage Site, Tamil Nadu, India

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In the category: ☐ Destination Management ☐ Environment & Climate ☐ Thriving Communities ☐ Nature & Scenery ☒ Culture & Tradition ☐ Business & Marketing

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Summary:

Mamallapuram or Mahabalipuram located near Chennai on the shores of Bay of Bengal in South India is a UNESCO World Heritage Site and a popular destination. The destination is visited by over three million tourists annually. Therefore, like any other destination, over the years Mamallapuram has faced issues of overtourism and waste accumulation. This Good Practice Story explains how the heritage town professionally managed to segregate waste and became a litter free destination within a span of a few years.

Good Practice Story:

Destination description

Brief background of the destination.

Mamallapuram or Mahabalipuram, located about sixty kilometres south of Chennai in Tamil Nadu State of Southern India on the shores of Bay of Bengal is a UNESCO World Heritage Cultural Site. The place is noted for the seventh and eighth century Pallava rock cut and early structural monuments. The major group of monuments in the site include the Shore Temple, the Five Rathas or Rock cut chariots, the world's largest monolithic bas relief called Arjuna's penance, ancient lighthouse, rock cut cave temples and mandapas, Krishna's butterball etc. This cultural destination has become India's most visited monument by international tourists last year surpassing Taj Mahal. It has been the venue for India China Summit (2019), International Chess Olympiad (2022), Tamil Nadu Kite Festival (2022) and the annual Dance festival.

An estimated three million tourists visit the destination annually. The group of monuments were declared a UNESCO World Heritage Site in 1984 and was declared a Heritage Town in 1992 – 93. With respect to administrative purpose the destination comprises two distinct areas: the group of monuments is managed by the Archaeological Survey of India while the township is administered by the Town Panchayath which has been recently upgraded as a Municipality. The Mamallapuram Town Planning Authority oversees the overall land use planning in the region. The town has a population of approximately 20000 and has about 5000 households.

Issues faced

Problems/issues solved with the Good Practice Story.

The large influx of tourists to Mamallapuram over the years resulted in the most severe problem faced by tourist destinations worldwide: accumulation of solid waste all over the site. The small town generates over 7500 kilograms (nearly 5.5 metric tonne) of solid waste per day and more than 500 kilograms of food waste from the accommodation and culinary establishments. The streets got riddled with trash and drainage and plastic waste and littering became a common sight. Tourists began to complain about the current hygiene and sanitation standards of the place and it began to affect the reputation of the destination.

The area around the Buckingham Canal got polluted with plastic garbage while the beach became a dumping ground. The waste problem began to seriously affect the marine biodiversity of the region. The coast used to be a favourite nesting ground for female Olive Ridley Turtles and with the accumulation of beach litter the turtles began to shunt the shore. Another phenomenon here is the recurring visit of the Indo Pacific Humpback Dolphins annually between December to August which also got dangerously affected by the waste pollution. The plastic pollution kills nearly hundred marine mammals annually and pose great danger to the endangered marine fauna.

Methods, steps, and tools applied

Solutions implemented to address the sustainability problems or issues.

The Mamallapuram panchayath and other major government departments began to think seriously about a fool proof mechanism to handle the issue of waste and started brainstorming for different alternatives. The panchayath needed a professional partner who could carry out the end-to-end process of initiating an effective solid waste management solution. They roped in 'Hand in Hand Inclusive Development Services', a non-governmental organization founded in 1988 and working officially since 2002 on a variety of issues including elimination of child labour, women empowerment

and waste management. They identified that the concept of waste segregation and disposal vary from place to place and a customized model is best suited for implementation at local level.

The organization decided to work with the local self-governing body, offer their services as a facilitator till the panchayath can run the system in a sustainable manner. At the time of commencing the professional waste management options, all the waste was taken to a large landfill spread across a few acres of land. The land facility for waste segregation was allotted adjacent to this site.

The professional waste management program commenced taking into consideration all stakeholders including the panchayath, major departments, hotels and resorts, restaurants, curio shops, vendors and above all the local inhabitants of the village. It started with collection and segregation of three to five tonnes of waste per day from five wards of the panchayath constituting around 3600 households. Each household were provided with a green bin for kitchen or organic waste, a grey bin for inert waste like diapers and a white sack bag to store recyclable items like milk covers, oil packets, plastic, and glass bottles. The organic and inert waste is collected daily and the sack once a week. The waste was collected, taken to the site, and was segregated where the organic waste was composted. It was followed by biogas plants and power generation in the later phase which has been discussed in detail in the results and achievements section.

Key success factors

Critical elements that led to successfully solving the issues.

The main bottleneck the panchayath faced for implementing the project was the lack of awareness towards proper waste disposal and sense of a clean place among the local resident community. Therefore, creation of awareness among all those concerned was considered as the key factor towards the project becoming a gamechanger. The project kicked off with a series of initial stakeholders' meetings which brought together the local body, residents, women groups, other community organizations and industry stakeholders. An intense awareness and sensitizing campaign were needed which involved volunteers visiting every household distributing pamphlets and use of auto rickshaws driving around the neighbourhood spreading the message. The project identified that women constitute caretakers of 80% to 90% households and hence are responsible for waste disposal. Therefore, the project employed 'Lady motivators' to visit households, interact with the homemakers and spread awareness which was another factor that contributed to the success of the program.

The panchayath to cover its expenses decided to collect a nominal Rupees Thirty from each household towards maintenance cost for the project. This created another issue as the residents were initially reluctant to pay the amount for the waste being collected from their home. Therefore, the NGO cleaned the entire township and removed all waste bins for preventing the people throwing away the garbage into the bins without segregation. This action was met with success and residents began to fully cooperate with the mechanism.

Lessons learned

Challenges faced while implementing the Good Practice and their solutions.

The waste is collected from door to door by government appointed waste collectors. Since they are mostly from the disadvantaged background, the project named them 'Green Friends' to create dignity to their profession and were provided with uniforms, masks and gloves and a tricycle for the collection purpose. On a rotation basis, they cover three hundred houses daily across all the wards. The tricycle has educational display boards and is fitted with audio equipment which plays songs on the importance of waste segregation and maintaining cleanliness.

The project involved tourism industry stakeholders and some of them thought of contributing innovative ideas. For example, the Mumu Surf School, one of the popular establishments of its kind in the region came forward and played a major role in creating awareness about the impact of plastic waste. Apart from cleaning the beach themselves, they began to offer free tea and snacks to those who bring one bag full of trash and using recycled items they adored the furniture and decorative items in their shop. They adopted a local orphanage, 'Little Lambs' and thought the children about the impact of plastic accumulation and the need to clean the shoreline before every season. They conducted awareness programs in local schools and educational institutions and provided free training and usage of surfing equipments for those students who conducted beach cleaning campaign.

Narendra Modi, the Honourable Prime Minister of India did 'plogging', when he visited the destination along with Chinese President Xi Jinping during the Indo Chinese Summit in October 2019. This action went viral in social media and helped to spread awareness about the relatively new activity of plogging against beach litter all over the country. This also helped the media to focus on the achievement that Mamallapuram attained in waste management.

Achievements and Results

Direct and indirect results of the Good Practice.

The project was a big success that Mamallapuram became waste free in just two years. The project now deploys one lady motivator and four 'Green friends' for every 800 households. The initiative started with preventing 60% of the waste from 3600 households of the five wards reaching the landfill. The project has now been expanded to over 5000 households and presently 85% of the waste is segregated at source and is diverted from reaching the landfills. Over the years, the waste management campus and the landfill were converted into a beautifully landscaped site with composting sheds amidst a green flower garden which made it an aesthetically pleasing site.

The project, once met with success planned a comprehensive bio and organic composing process. Two composting sheds with rows of concrete tanks were erected for which one shed was for vermicompost and the other for organic bio compost aided using cow dung. When both sheds are full the excess waste is arranged in neat wind rows which turn into compost naturally. The compost produced is used for filling and landscaping of the campus and rest is sold in the market. The inorganic waste is segregated further, the recyclables are sold and the remaining waste is either stored or send to the landfill. The site also uses compression machines to compress plastic bags into pellets.

Mamallapuram being a major tourist destination has many hotels and restaurants which generate about 500 kilograms (nearly three metric tonne) of food waste on an average. Food waste is collected from the hospitality establishments and they are charged based on the weight collected. As part of the program, a large floating biogas plant with a capacity of 100 cu. m. with a capacity to handle 500 to 800 kilograms of food waste was constructed by the panchayath. In addition, another 60 cu. m. biogas plant was installed to treat the meat waste generated in the town. The waste is converted to methane and is used to generate electricity of 10 Kw/hr through a biogas generator with a capacity of 15 KVA/ 12 KW which power thirty street lights in the East Coast Road.

The food outlets including street vendor shops in Mamallapuram have received quality certification from Food Safety and Standards Authority of India (FSSAI). The destination also has Clean Food Streets which has enhanced the quality of the site.

Tips for other destinations

Your suggestions or recommendations for other destinations facing the same issues or implementing similar solutions

The waste management project in Mamallapuram can be considered as a replicable role model for similar smaller towns and heritage sites. Many destinations have come forward to study the model and how it can be adapted in other places. Similar projects have been initiated in other towns in the state, notable being the industrial township of Sri Perumbudur in Kanchipuram District near Chennai, the Cantonment of St. Thomas Mount – Pallavaram in Chennai, the famous pilgrim island of Rameswaram and the municipality of Karaikal in Puducherry.

Recognitions and Additional references

Recognitions and awards the Good Practice received and supporting evidence.

The project was praised by the BBC World Challenge and by 'Swacch Bharat Abhiyaan' of Government of India. The cleanliness of the destination was also appreciated by delegates of the Indo Chinese Summit and the International Chess Olympiad. The destination in order to get recognized for sustainability initiatives has registered for the 'Green Destinations Awards and Certification Program'.

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