Tourism Impact Management Framework

FOR AUROVILLE, INDIA

2018 INDIA PROJECT COURSE
Queen's University School of Urban and Regional Planning

Tourism Impact Management Framework

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P A T H

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Finally, we wish to thank our families, friends, and significant others. Your love, support, and encouragement throughout this project from beginning to end kept us going and helped make this project a success.

Meet the Project Team

The project course is an intensive four-month course designed to give Queen's University students in the School of Urban and Regional Planning (SURP) an opportunity to apply newly acquired theories and skills in a professional setting. This year, the School of Urban and Regional Planning worked with the Auroville Integral Sustainability Institute to propose a Tourism Impact Management Framework for Auroville.

This report was prepared by eight second-year Master of Planning Students (M.Pl.) students from Queen's University in Kingston, Ontario, Canada. With a range of professional and academic backgrounds that include geography, environmental sciences, health studies, English, urban design, and civil engineering. The group worked together, using their unique and versatile skills and perspectives to contribute to the completion of this project and the formulation of the framework.

From left to right: Kelsey Jones, Natalie Armstrong, Alanna Damp, Vanessa Smith, Kassidee Fior, Sarah Butt, Carling Fraser, Nadia El Dabee, Ajay Agarwal

Executive Summary

Project Summary

Auroville and its Green Belt are currently experiencing an increase in domestic and international visitors. In 2017, Auroville received more than 700,000 visitors, with an average of 2,000 visitors per day. The Auroville Visitors Centre provides a wide suite of services catering to various needs of visitors to Auroville. The Visitors Centre also effectively manages flow of the casual visitors, i.e. those visiting Auroville for a single day, to minimize direct negative impacts on Auroville and its residents. In addition to the Visitors Centre, there are several other units in Auroville that offer to visitors various interaction opportunities with Auroville. However, resources available in Auroville to operate the Visitors Centre and other visitor-oriented services are limited. As a result, the challenge to provide visitors with a meaningful, participatory experience while also preventing undesired impacts on the community remains.

There are a variety of opinions regarding tourism, visitors, and guests in Auroville. The community does not have a collective vision for tourism and lacks the management required to address tourism impacts. Despite this, Auroville has become a tourist destination, without necessarily striving to become one. The increased number of visitors in Auroville and its Green Belt prompts the timely need to study the effects of tourism on the area and develop a strategy for managing tourism impacts. While an increase in tourism to an area can generate positive impacts such as economic growth and development, these pressures can also result in negative impacts including air and water pollution, overuse of infrastructure, and safety concerns without appropriate management strategies. It is important to ensure strategies are in place that promote positive impacts and prevent negative impacts of tourism as they each influence quality of life experienced by residents.

The purpose of this report is to provide a Tourism Impact Management Framework to manage tourism impacts for Auroville and its Green Belt.

Process

The research process for this project began in September 2018 in Kingston, Ontario, Canada by eight Master of Urban and Regional Planning students in their second year of studies at Queen's University. Multiple research methods were employed in Kingston to establish an understanding of how Auroville currently operates and gain baseline knowledge related to tourism impacts and tools for their management. Preliminary research included a policy and document review, in order to research the social, cultural and political context in Auroville, Puducherry and Tamil Nadu. Several tourism impact management case studies were researched to determine best practices for managing tourism attractions and tourism impact management plans in various geographical, political, and social environments.

Research on key tourism impact management planning practices significantly informed and supported the project team's recommendations included in the Framework. The eight case studies selected for the report highlighted several tools to manage tourism impacts at various scales. Additionally, tools and strategies for managing tourism impacts were explored by the team in order to develop an understanding of commonly used and successful tourism impact management tools. These tools include: tourism-related user fees, information signage, tourism industry accreditation, educational initiatives, alternative tourism activities, tourism working groups and stakeholder forums, regional tourism, visitor monitoring systems, and limits of acceptable use. Lastly, six pre-trip interviews were completed in Kingston via Skype and WhatsApp. The interviewees included Auroville residents and pro-

fessionals in the fields of planning, tourism, economic development, heritage conservation, and community relations. The purpose of the pre-trip interviews was to gain an understanding of stakeholders and their relationship with tourism. Additionally, the interviews looked to address the current approaches to tourism impact management in Auroville and other areas, and opportunities to manage tourism impacts in Auroville in a sustainable and beneficial manner.

In December 2018, the team travelled to Auroville to conduct further comprehensive research to identify tourism impacts being experienced by Auroville and the perspectives of various stakeholders. In total, the team spent two weeks working in Auroville. An initial workshop provided the team with invaluable feedback regarding their knowledge and understanding of Auroville, the impacts that result from tourism in the area, and the practicality of the preliminary impact management tools that were selected by the team. The project team completed interviews and group discussions, kiosks stationed at significant locations in the community, and site observations. A total of 16 interviews and four group discussions occurred with various community members from Auroville and Edayanchavadi, a smaller village located in Auroville's Green Belt. Interviews transpired with individuals from diverse backgrounds and perspectives in areas such as economy, hospitality, planning, and community engagement, with the intent to create an all-inclusive understanding of tourism impacts. The interviews were summarized and coded for various themes, impacts, and recommendations in relation to tourism impacts experienced within the community.

Two information gathering kiosks were conducted in Auroville, which allowed the team to collect data regarding residents' perspectives on

tourism impacts, and provide insight into visitor experience and understanding of Auroville. Site observations were conducted at three locations in Auroville frequently visited by visitors and residents which were intended to supplement the wealth of information obtained from the interviews and kiosks relating to tourism impacts. Following the completion of all six research methods, extensive data analysis was conducted to inform and influence the recommendations provided in this Tourism Impact Management Framework.

Research Findings

The project team's research resulted in a number of noteworthy findings related to tourism impacts and methods of impact management. A common finding from both pre-trip interviews and interviews conducted in Auroville is that domestic tourism in India is increasing due to the rise of the middle class, which is anticipated to contribute to continuously increasing levels of tourism. In terms of the economy, the team heard that there is funding available for various programs and projects in relation to tourism, but generally, Auroville is unsure of the extent to which casual visitors contribute to the community's economy. This lack of understanding surrounding the effect of tourism on the economy has not deterred tourism related development providing employment opportunities for residents of both Auroville and Edayanchavadi. Therefore, there has been a shift in Edayanchavadi's economic base from agriculture to tourism.

The project team also learned how infrastructure was impacted within Auroville and Edayanchavadi. The current capacity of tourism infrastructure is unknown in Auroville, with a lack of data being present on the issue. As a result of this, it was heard that there are pressures

on the internal systems in place in Auroville in regard to visitor management, security, and human resources. Additionally, there are pressures on hard infrastructure as the increased flow of people has contributed to an increase in traffic congestion within and surrounding Auroville.

Impacts on the natural environment have also been observed which include litter, vehicular traffic causing air and water pollution, and the additional use of natural and physical resources by casual visitors and guests. Unplanned development in villages within Auroville's Green Belt catering to visitors has placed pressure on the protection of environmentally significant green spaces. Tourism also causes social impacts on the community, with the main impact being the disruption of daily life of residents. Respondents indicated that this was largely due to a lack of awareness of visitors surrounding Auroville's culture. Interview participants also noted that the quality of tourism in Auroville could be improved as there are not enough activities for visitors to engage in the Visitors Centre. This suggestion was made to help decrease social disruption experienced by residents. Many respondents expressed that a regional planning approach is necessary for Auroville to have more influence over the types of visitors and guests. Ultimately, there is a need for better communication between Auroville residents. Strengthened communication and relations between Auroville and Edayanchavadi was commonly noted in interviews.

In summary, the team heard varying perspectives from multiple stakeholders on the impacts of tourism in the community. The lack of comprehensive informational resources for visitors and guests and the lack of space for casual visitors to participate in engaging ways place pressure on Auroville. These pressures include physical constraints of infrastructure and conflict within the community surrounding the

presence of tourism in Auroville. This complex problem of tourism in Auroville and its perception by the Township has resulted in unplanned development occurring in Edayanchavadi and other villages in Auroville's Green Belt. The villages are developing and growing in a manner to primarily capitalize on the opportunities that tourism presents. As a result of this, there is a need for increased collaboration and communication between Auroville and the villages, especially on a regional planning level. Ultimately a major issue heard by the team was the need for a unified plan, the organization and compilation of data through a guest house database, financial reports outlining the economic contribution of tourism, and the development of a Visitors Policy.

Framework Recommendations

The research conducted by the project team is broad in scope and provides a Framework for future research on the topic of tourism impact management. An extensive list of recommendations and a timeline for their implementation by Auroville are described in Chapter 4. These recommendations address the economic, infrastructure, natural environment, social, and external relations impacts identified during interviews, group discussions, and kiosks. The recommendations are informed by case study research and supported by the Auroville Integral Sustainability Platform (ISP) and WayForward. While not created with tourism in mind, the goals of these Auroville documents aid in justifying the proposed recommendations for managing tourism impacts on Auroville and its Green Belt.

The recommendations in the Framework have been categorized. Certain recommendations have been categorized as immediate, meaning they should be implemented in the near future for maximum effectiveness.

Conversely, other recommendations have been categorized as long-term, meaning that they should be implemented following the short-term recommendations and they may take a longer period of time for completion.

The Framework's five recommendations requiring immediate action are listed below and are further expanded on in Chapter 4 of this report.

- Decongest the flow of vehicular traffic entering Auroville;
- Use of tourism spending to limit visitor access and provide a source of revenue;
- Update important visitor information resources;
- Develop a certification program for guest houses and tour guides and operators; and,
- Procure additional alternative programming to facilitate knowledge sharing with day visitors

Additionally, there are five long-term recommendations in the Framework and are also listed in more detail in Chapter 4. These recommendations have been summarized:

- Improve collaboration between Auroville, Edayanchavadi and other Green Belt Villages in regard to tourism related development;
- Unite Auroville residents on the topic of tourism;
- Establish a regional planning approach to tourism;
- Increase data collection related to tourism; and,
- Determine Auroville's tourism carrying capacity

The final result is a report that provides an in-depth analysis of tourism impact management tools and their application to Auroville and its Green Belt. The recommendations contained in the Tourism Impact Management Framework offer an outlook for the next five years, to ensure that the current impacts Auroville is experiencing are not significantly amplified. The implementation of this Tourism Impact Management Framework will culminate in the creation of a Tourism Impact Management Plan for Auroville and its Green Belt.

Project Course Team visting the Matrimandir at sunset | Fraser, 2018

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Introduction

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1.1 Introduction

Tourism may result in economic, social, environmental, and physical impacts on a community. Impacts from visitors may become increasingly extensive and irreversible if appropriate interventions are not implemented. Auroville and its Green Belt are currently experiencing direct and indirect impacts from tourism; however, the approaches taken to manage these impacts are currently uncoordinated and lack a clear vision on tourism. This project explores and examines the impacts caused by tourism in Auroville and its Green Belt to recommend a Tourism Impact Management Framework that can be integrated into future planning practices.

For the purposes of this report, visitors are classified as (1) casual visitors, (2) short-term guests, and (3) long-term guests. Individuals that visit the community during the day and do not stay overnight, commonly known as day trippers, are referred to as casual visitors. Short-term guests are individuals who stay in Auroville for less than three months. These guests typically visit for recreational or individual purposes. Long-term guests are defined as individuals that stay in Auroville for longer than three months, typically volunteering or engaging in learning activities. We recognize there are other categories of visitors to Auroville; however, due to the timeline and scope of this project, only the impacts of casual visitors, short-term guests, and long-term guests will be analyzed.

Project Team on tour of International House in Auroville | Raghavan, 2018

1.1.1 Tourism

Tourism is generally defined as the activities engaged in by visitors, or people travelling to and staying in places outside their usual place of residence for less than one year (Tourism HR Society, 2018). The activities engaged in by casual visitors and guests may result in positive and negative impacts on a destination, as well as its surrounding communities. The project team understands that the use of the terms 'tourist' and 'tourism' are controversial in Auroville. This report uses these terms because this terminology is used by international tourism organizations, and in various tourism impact management plans and strategies.

Potential Impacts from Tourism

Tourism has become one of the fastest growing economic sectors in the world (Rogers, 2008; Rogers, 2003; Dwyer & Mistilis, 1999; UNWTO, n.d.). Tourism industries currently generate ten percent of the world's gross domestic product, and one out of every ten jobs world-wide (UNWTO, 2017). For many nations, tourism has become a main source of income (UNWTO, n.d.). The revenue gained from and quality of tourism largely influences the economic well-being of an area. Growth in tourism has the potential to promote economic prosperity, community development, and an increase in job opportunities which may in turn improve overall quality of life of residents within an area.

Each activity engaged in by visitors may also result in positive and negative environmental, socio-cultural, and physical impacts on a community. An increase in solid waste disposal, for example, contributes to the degradation of air and water quality, toxicity to species, habitat degradation, as well as public health issues (DENR, DA-BRAF, DILG, & CRMP, 2001; Paul, 2012). Land use changes promoting tourism development may result in changes to land cover, flood frequency and severity, resource depletion, air and water pollution, urbanization, and reduced quality of life for residents in an area (DENR et al., 2001). Though tourist activities may allow casual visitors and guests to learn about local culture, they also bring about risks such as overburdening of infrastructure, disruption of traditional values, and unwanted lifestyle changes to residents in a community (DENR et al., 2001). Without appropriate management, negative impacts may worsen and result in irreversible effects, while positive impacts may be inhibited.

A Sustainable Tourism Approach

To ensure tourism is an enriching experience for visitors and hosts, sustainable tourism policies and practices can be implemented. A key component of sustainable tourism is the involvement of federal and local governments, private sector organizations, local communities, and tourists (UNWTO, 2017). Tourism regulations and guidelines that promote sustainable management and growth actions are necessary in tourism industries. Examples of such measures include diversifying visitor activities in type and location, establishing policies and guidelines to control visitor access, and offering incentives that work to reduce energy and water consumption (UNWTO, 2017). By managing tourism impacts, a sustainable, equitable and well-managed tourism sector where people can exchange knowledge and cultural experiences is possible.

1.2 Auroville Context

1.2.1 Introduction

Auroville International Township was founded in 1968 by Mirra Alfassa, known as 'The Mother' and the followers of Sri Aurobindo based on their teachings and values. Auroville is envisioned as "a universal town where men and women of all countries are able to live in peace and progressive harmony. Above all creeds, all politics and all nationalities" (Mirra Alfassa 'The Mother', 1965). In 1996, the United Nations Educational, Scientific and Cultural Organization (UNESCO) along with the Government of India, endorsed the concept of Auroville. Auroville is currently home to 2,953 residents from 58 countries and is intended to grow to have a population of 50,000 (Auroville, 2018d). The Township is also the only internationally endorsed ongoing experiment in human unity.

Auroville directional signage located in Edayanchavadi | Smith, 2018

1.2.2 Governance

India's governmental structure is organized hierarchically into various levels of government, including the central government, state territories, districts, and taluks. Auroville International Township is located in the Villipuram District in the state of Tamil Nadu, India. It is located approximately 15 kilometres north of Puducherry, India and approximately 150 kilometres south of Chennai, India. The state of Tamil Nadu and the Union Territory of Puducherry both have villages within the boundaries of Auroville's Green Belt, which creates a unique governance challenge for Auroville.

Governance in Auroville is non-hierarchical and based on consensus building. In 1988, the Auroville Foundation Act was created which outlined Auroville's relationship with the Indian government and established The Auroville Foundation. The Auroville Foundation is a legal entity that is responsible for the decision making, management, and development of Auroville lands (Auroville, 2018b). The Act also created the governance system of Auroville, which contains the Residents Assembly, the Governing Board and the Internal Advisory Council (Auroville, 2014a). The Residents Assembly is comprised of all Auroville Residents, 18 years of age and older, and is the final decision-making body in Auroville. The Governing Board is responsible for development and ensuring it aligns with the original values, aims, and ideals of Auroville (Governing Board, 2017). The International Advisory Council is responsible for advising the Governing Board on development related matters and management of Auroville. Together, these entities work to monitor the implementation of the Master Plan for Auroville's future.

1.2.3 Planning in Auroville

The Auroville Foundation Act required the Auroville Foundation to create a Master Plan for Auroville lands as a means of helping direct the community's future (Auroville, 2014a). In 2001, the Central Indian Government published Auroville's Perspective Master Plan which directs growth through to 2025 (Auroville, 2001). The Town Development Council (TDC) is responsible for implementation of the Master Plan and deals with all matters relating to the Master Plan, including transportation, design, and the integration of regional development as it relates to Auroville (L'Avenir d'Auroville, 2014).

The Master Plan reflected the concept plan sketch drawn by the Mother, which incorporates the Galaxy Plan, to divide Auroville into four central sectors: residential, cultural, institutional, and international, surrounded by a Green Belt (Auroville, 2001). The Master Plan also focuses on the development of services only on the Crown, an interconnected mixed land use belt. Auroville's International Zone is intended to house national and international pavilions, conference and exhibitions halls, communication and visitor information centres, hostels, guesthouses, restaurants, stores, parks, and green spaces to facilitate the exchange of knowledge and research (Auroville, 2001). The purpose of the zone is to provide a place for greeting visitors through the Visitors Centre and other supportive facilities.

A challenge with planning and regulating development in Auroville is that the Auroville Foundation currently does not own all the land within the boundary of the Galaxy Plan (Auroville, 2001). As well, the use of consensus decision-making has resulted in lengthy and often piecemeal development, contributing to the slow implementation of the Master Plan.

1.2.4 Regional Planning

A Sustainable Regional Planning Framework for Auroville, Puducherry, Viluppuram, and Cuddalore was established in 2012 as a way forward for their unique and diverse communities to grow together and promote prosperity for the quality of life, culture, heritage, and the environment (ADEME, INTACH Pondicherry, & PondyCAN, 2012). The framework addresses the context of the region relating to land use, transportation, water, and energy and is intended to serve as a guideline for promoting the harmonious development of the region's communities (ADEME et al., 2012). The plan recognizes that since 2006, discussions regarding regional planning for Puducherry and Auroville have been heavily driven by citizen groups (ADEME et al., 2012). Among other aspects, the framework outlines the need for the development of a regional ecotourism strategy which will benefit the region without compromising natural resources (ADEME et al., 2012).

Map of Regional Planning Boundary, (Auroville, 2011).

1.2.5 Auroville Green Belt

Auroville contains a 1.25 kilometre-wide Green Belt around its urban centre created through an extensive citizen reforestation and re-greening initiative (Auroville, 2001; The Pioneer Days, n.d.). Additionally, work has been completed to improve water conditions, irrigation and develop the Green Belt as a barrier for Auroville's urban growth and external development pressures from Puducherry and other villages (Auroville, 2001). The Auroville Foundation owns approximately 25 percent of the Auroville Green Belt area, and the remaining 75 percent is privately owned (Auroville, 2001). The Town Development Council does not have the authority to control the development or impose uses over privately-owned lands, or lands outside of Auroville's jurisdiction.
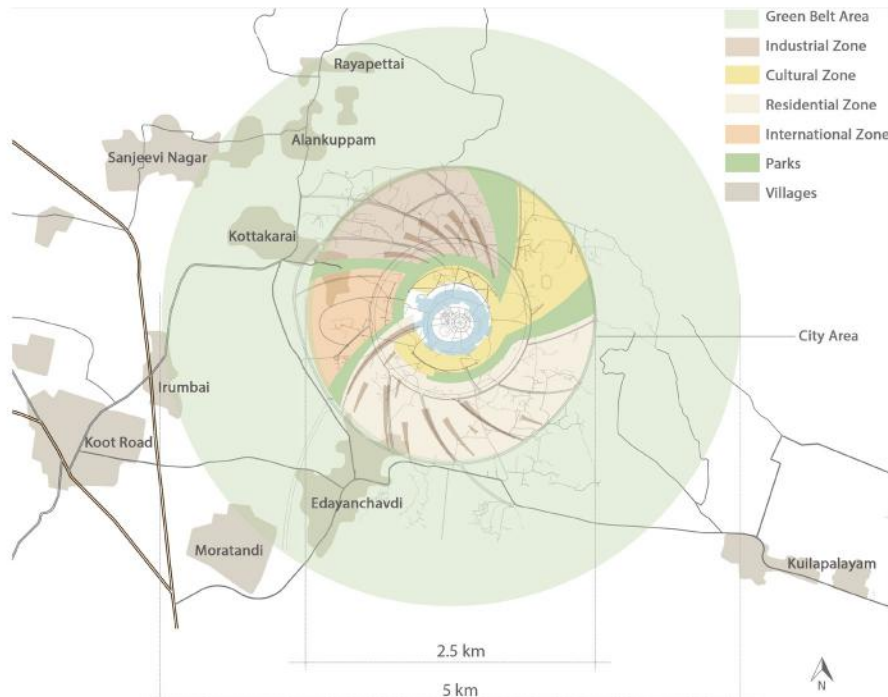
Map of Auroville's Green Belt | Path Studio, 2019

1.2.6 Village Relations

Auroville's 2001 Perspective Master Plan provides an outline for the protection of land within the Green Belt (Auroville, 2001). Since Auroville's Green Belt contains privately owned lands along with lands owned by the Auroville Foundation, strong village relations between and within Auroville, Tamil Nadu, and Puducherry are critical for protecting the Green Belt and supporting the needs of village residents, visitors, and guests. The Green Belt Development Plan (2011) outlines that Auroville does not seek to control development within the surrounding villages. Instead, this Plan encourages Aurovilians to adopt and follow principles promoting environmentally sustainable development and the protection of water resources.

While the Auroville Foundation has maintained a close relationship with the Government of India, managing tourism impacts on Auroville is dependent on relationships built with surrounding villages. The Auroville Village Action Group continues to build connections among villagers and Aurovilians through various programs focusing on educational training and employment opportunities (Auroville, 2017a). However, despite these relationships, pressures for tourism development in the Green Belt are occurring, and additional management tools to protect the future of the Green Belt are necessary. Since the Green Belt encompasses multiple state boundaries, management tools to work with local and district authorities and communities are necessary to establish a collaborative method that manages tourism impacts and their related development pressures.

1.3 Tourism in Auroville

As a result of its unique character, landscape, architecture, and attractions, Auroville is a popular destination for both domestic and international visitors. The community does not actively engage in promoting tourism; despite this, Auroville received more than 700,000 casual visitors last year (Auroville Integral Sustainability Institute, 2018). Auroville has seen an increase in casual visitors over the past few years as a result of its proximity to Puducherry and the attraction of the Matrimandir. Approximately 90 percent of tourists to Auroville are categorized as casual visitors, who do not stay overnight in the community.

One of the ways Auroville has attempted to educate visitors and guests is through the Visitors Centre. The Visitors Centre is a complex of buildings intended to provide information about Auroville to casual visitors (Auroville, 2015). It is located at the entrance of the International Zone. It is thus far the only physical infrastructure created in Auroville and its Green Belt to offer activities for casual visitors to engage in. As a result, villages such as Edayanchavadi which are located in Auroville's Green Belt, outside of Auroville's jurisdiction, have leveraged their lands to develop accommodations, restaurants, and shops to address the needs of the casual visitors.

1.3.1 Matrimandir

The Matrimandir is a structure dedicated to the Universal Mother and is created as a site for individual silent concentration (Auroville, 2018c). It is perhaps the most well-known site in Auroville, especially to casual visitors, and is located in the Peace Zone. The Peace Zone consists of the Matrimandir, its 12 gardens, the amphitheatre along with the Urn of Human Unity, which contains the soil of 121 nations and 23 Indian states, and a proposed lake area (Auroville, 2017b).

Matrimandir Viewing Point signage | Jones, 2018

Centre Guest House | Fraser, 2018

1.3.2 Visitor Services

The Auroville Visitors Centre provides a wide suite of services catering to various needs of visitors to Auroville. The Visitors Centre also effectively manages flow of the casual visitors, i.e. those visiting Auroville for a single day, to minimize direct negative impacts on Auroville and its residents. The Visitors Centre successfully showcases Auroville in several ways to satisfy the curiosity of visitors have about the community. This includes exhibits on local history and culture, boutiques that display and sell locally manufactured handicrafts, cafes and restaurants run by Auroville residents, unique architecture, energy-saving construction materials, and a demonstration site for sustainable technologies and alternative building techniques. The Visitors Centre aims to provide a satisfactory experience to visitors while minimizing negative impacts generated by visitor traffic. It has been extremely effective at managing and engaging the present level of visitors to the community. However, as the number of visitors to Auroville increases, the Visitors Centre will need to enhance and adapt their presently successful system to meet the future higher demands of visitors.

Additionally, organizations such as Inside India and Yatra offer tours of Auroville which often include a visit to the Matrimandir (Auroville Exploration, 2018). Guests must access the Visitors Centre Information Services to obtain a pass for the Matrimandir. These organizations, as well as individual members of Auroville, offer introductory seminars that share information on Auroville's history and culture (Auroville, 2014b). Though these organizations provide an opportunity to promote a more participatory visitor experience, the human resources available in Auroville to operate programs as such are limited. With the number of casual visitors increasing, educating visitors about the values of Auroville in an engaging and meaningful manner remains the challenge.

1.3.3 Guest Housing in Auroville

The primary form of accommodations for guests in Auroville are guest houses and homestays. These forms of accommodation can be registered through the Auroville Foundation; however, many guest houses and homestays remain unregistered. Staying at a registered guest house allows short-term and long-term guests to access certain Auroville facilities and events not available to the general public. Alternatively, guests may also choose to stay in nearby villages such as Edayanchavadi, Irumbai, and Kottakari.

1.3.4 Line of Goodwill

The Line of Goodwill is an aspect of the Galaxy Plan that envisions the creation of a physical link from the outer edge of Auroville to the centre of the community, the Peace Zone (Auroville, 2018a). It includes the construction of the Gateway and an updated learning centre for visitors and long-term guests that will include exhibits, hospitality facilities, and information on Auroville. Finally, the Matrimandir Reception and Access will include various viewing points of the Matrimandir, a reception centre, and a non-polluting transport link from the Reception Centre to the planned Reception Pavilion (Auroville, 2018a).

1.3.5 Villages

It is impossible to look at tourism in Auroville in isolation when addressing the impacts of tourism from both a community and regional scale. Compared to Auroville itself, the surrounding villages located both within and outside of the Green Belt are much more involved in providing tourism-oriented services, especially to casual visitors. The task of planning for and managing tourism impacts within Auroville largely depends on cooperation with these neighbouring villages. Most casual visitors to Auroville are domestic tourists on their way to or from other tourist sites and villages, with Auroville seen as a stop along the way rather than a final destination. As a result, many of the Green Belt villages have developed a large number of tourist-commercial uses such as accommodations, shops, and cafes and do not have restricted visitor areas.

Handicraft stalls set up by local village vendors near Visitors Centre public parking | Smith, 2018

1.4 Defining the Problem

Auroville has been experiencing an increase in number of casual visitors over the past few years as a result of the growth in domestic tourism within India, specifically to Pondicherry and the surrounding region. Casual visitors seek out Auroville for the primary purpose of viewing the Matrimandir, despite the Matrimandir being intended as a location for silent concentration rather than a tourist destination. Due to the wide variety of opinions about visitors and guests in Auroville, it is clear that the community currently lacks a clear direction for the future of tourism. As a result, it has become a successful tourist destination despite not wanting to be one.

Since the construction of the Visitors Centre, Auroville has not actively engaged in providing more infrastructure for tourists. As a result of this, communities within Auroville's Green Belt have begun to leverage the lack of tourist facilities within Auroville by establishing numerous facilities to cater to tourists needs. The village of Edayanchavadi is a small community of approximately 3,000 people located on Auroville Main Road and is in proximity to Auroville's Visitors Centre. In recent years Edayanchavadi has developed many tourist related services to support their economy and provide infrastructure for casual visitors. These new developments related directly and indirectly to tourism are continuously occurring without organization within the Green Belt and may not be compatible with Auroville's current sustainable practices. Like many of the communities within Auroville's Green Belt, Edayanchavadi's priorities surround developing economic opportunities. This is largely due to the lack of economic security many residents face. For example, traditional agriculture and farming is no longer considered a profitable endeavour in the village, which has changed over many years. Aside from selling their properties to developers, the village has turned to providing tourism services as a means of economic prosperity. In doing so, Edayanchavadi has established many facilities targeted towards people visiting Auroville.

The project team's main task was to understand the tourism impacts on Auroville and its Green Belt in order to provide a Tourism Impact Management Framework. This Framework includes recommendations and implementation tools for managing impacts of tourism in Auroville and its Green Belt. This task requires stakeholder engagement with Auroville and villages within its Green Belt to develop feasible and tangible recommendations. The scope of the research and engagement was dependent on the team's ability to meet and conduct discussions with stakeholders in Auroville and surrounding areas during the period of study in Auroville.

Banyan Tree at Centre Guest House | Butt, 2018

1.5 Project Objectives

Recommendations in this report are presented as a Tourism Impact Management Framework for Auroville and villages within its Green Belt. The report aims to act as a catalyst for the creation of ideas and understanding surrounding the topic of tourism in Auroville. This work does not promote or discourage tourism, but instead strives to provide ways to manage tourism and the associated impacts. The Framework provides recommendations, and the required steps for implementation of these recommendations. This Tourism Impact Management Framework is tailored to Auroville's unique context, however the recommendations presented can inform other tourism impact management plans worldwide. The steps are listed in the Framework section of this report and intend to help develop and implement an effective Tourism Impact Management Plan for Auroville and its Green Belt. The Framework is intended to be implemented as a stand-alone document and incorporated into Auroville's planning practices. This report aims to provide solutions to achieve the following two goals:

1 To understand the social, cultural, economic and environmental impacts of domestic and international tourism on Auroville and its Green Belt.

2 To develop a framework with measures and tools to manage tourism impacts on Auroville and its Green Belt.

Methodology

2

2.1 Introduction

Materials prepared for Kiosks | Fraser, 2018

Chapter 2 provides an overview of the research conducted by the team to inform the recommendations delivered in this report. Before arriving in Auroville, the project team conducted a policy and document review, an analysis of international case studies, research on tourism impact management tools, and pre-trip interviews. While in Auroville, the project team carried out interviews and group discussions, as well as kiosks and site observations. These methods were employed to collect data to understand the past, current, and future state of tourism and its impacts on Auroville and its Green Belt.

The project methodology objectives are to:

1   Understand the governance system and planning in Auroville;

2   Understand how tourism has occurred and how it continues to influence Auroville;

3   Understand what tourism initiatives are currently being implemented in the region;

4   Understand the potential and recommend tools for a regional approach to tourism impact management;

5   Understand what Aurovilians want with regards to the future of tourism;

6   Examine case studies for managing tourism impacts internationally; and,

7   Compile and review all possible management tools for implementation.

2.2 Policy and Document Review

A policy and document review was conducted to develop a thorough understanding of the government structure, planning policy, and planning practices implemented in Auroville and India. The documents examined were from Auroville, Tamil Nadu, Puducherry, and Edayanchavadi, as well as multiple international cities. These official documents covered topics such as the Auroville Charter and the Auroville Foundation Act. The exercise ultimately guided the team in understanding the context of the project area.

Additional documents not specific to Auroville were reviewed to gain a comprehensive understanding of how various tools can be used to manage the impacts of tourism in a sustainable manner. The review of these additional documents informed the team's understanding of best practices that could be applied to managing the impacts of tourism on Auroville and its Green Belt. Additional literature, such as academic research and municipal documents, were reviewed with regard for tourism and its associated impacts. Through this review, the team also identified potential stakeholders to interview.

Project Team during a morning meeting at Queen's University in Kingston| Armstrong, 2018

2.3 Case Studies

Case studies are an important and fundamental aspect of qualitative research particularly when the researcher's focus is on a contemporary phenomenon within a real-life context (Yin, 1984). As a research methodology, case studies can be used to understand the impacts of tourism planning and development, as well as community perception of the impacts (Xiao & Smith, 2006). In order to inform the recommendations included in this framework, several international locations were examined for key planning practices and tourism impact management tools. Eight case studies were selected for the report and researched in detail, as shown in Section 3.4. The case studies selected provide valuable lessons on tourism impact management and share some common characteristics with Auroville. Although the scope and scale of each case study may not necessarily be comparable to that of Auroville, each case study provides practical approaches to tourism impact management that may be implemented in Auroville and its Green Belt.

2.4 Tourism Impact Management Tools

A diverse range of additional policies and scholarly literature were examined to identify various tools that work to manage the impacts of tourism in various locations across the world. The project team selected 21 tools which were divided into five categories: (1) Assessments and Audits, (2) Land Use Tools, (3) Economic Tools and Strategies, (4) Community Consultation Tools, and (5) Tourist Engagement Tools. Background information on specific tools was used to inform interview questions and group discussions while in Auroville. The list of the 21 tools also informed recommendations made in this report.
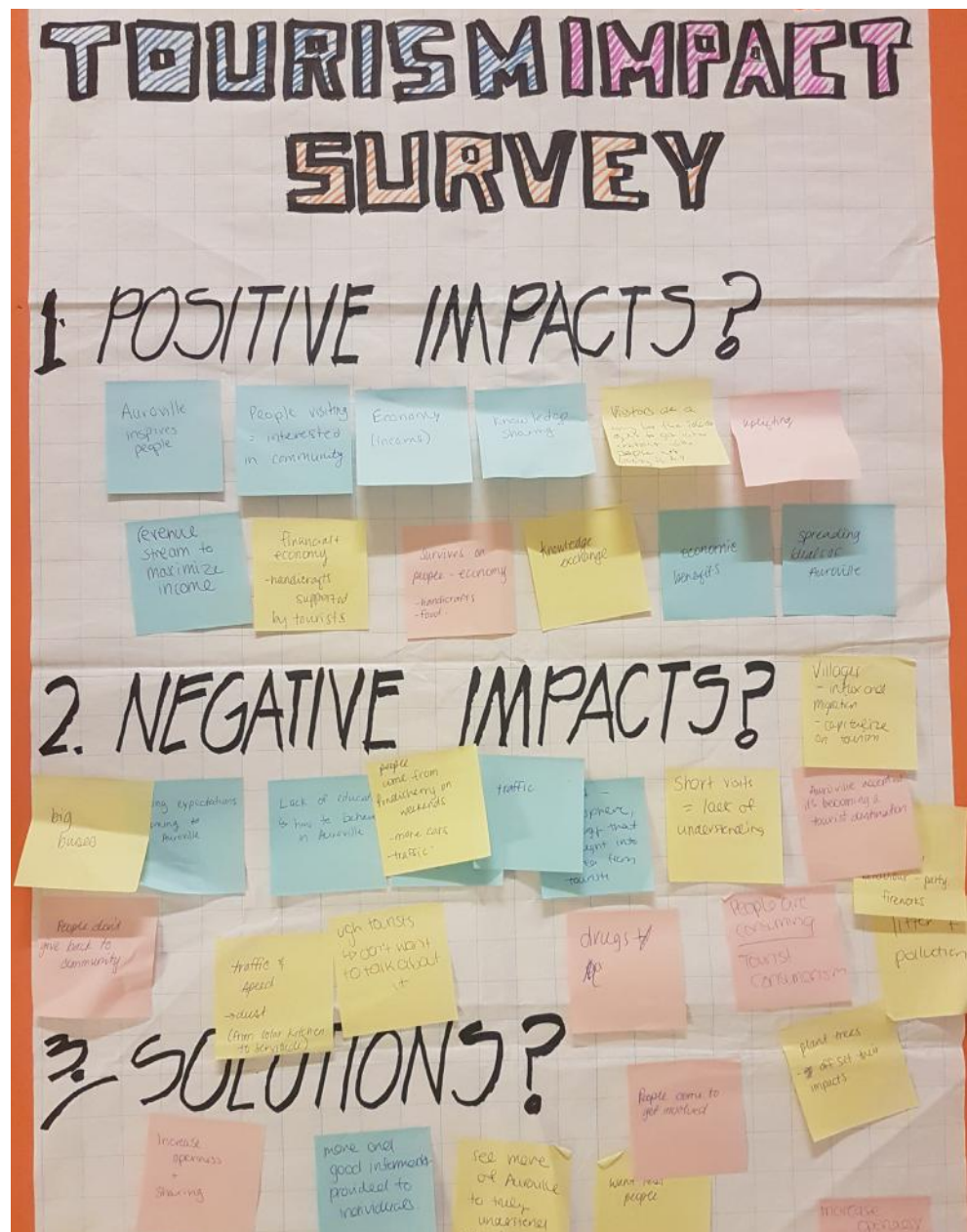

Photo of survey board following the Project Team's Tourism Impact Survey at the Solar Kitchen Kiosk in Auroville | Fraser, 2018

2.5 Pre-trip Interviews

Pre-trip semi-structured interviews were used as a research method for this project. The team conducted six interviews while in Canada with stakeholders with diverse backgrounds, including a university professor specializing in tourism, a planning practitioner, a tourism operator, a heritage conservation specialist, an economic development officer, and a community representative. Stakeholders were selected for pre-trip interviews based on their knowledge of tourism and its impacts, as well as their availability within the short project timeframe. The pre-trip interviews were carried out through Skype or WhatsApp.

The research team created a specific interview guide prior to each interview as required with semi-structured interviews. The interviewers determined the order of questions, as well as the addition of follow-up questions, based on each individual conversation. This flexibility allowed the interviewers to adapt questions during the discussions and ask for clarification or further information where necessary (Silverman & Patterson, 2015). Every interview included both general and specific questions directed towards the participant's particular area of expertise. Sample interview guides are found in Appendix A.

The data collected from interviews were used to define the scope of the research and to inform the preliminary list of tourism impact management tools. The objective of pre-trip interviews was to gain an understanding of stakeholders and their relationship with tourism. This included how tourism impacts affect Auroville and the surrounding villages, as well as the strategies currently used by Auroville to manage the impacts of tourism. Interviews attempted to identify common tourism impacts such as transportation and mobility issues, development patterns, economic impacts, environmental concerns, and social impacts.
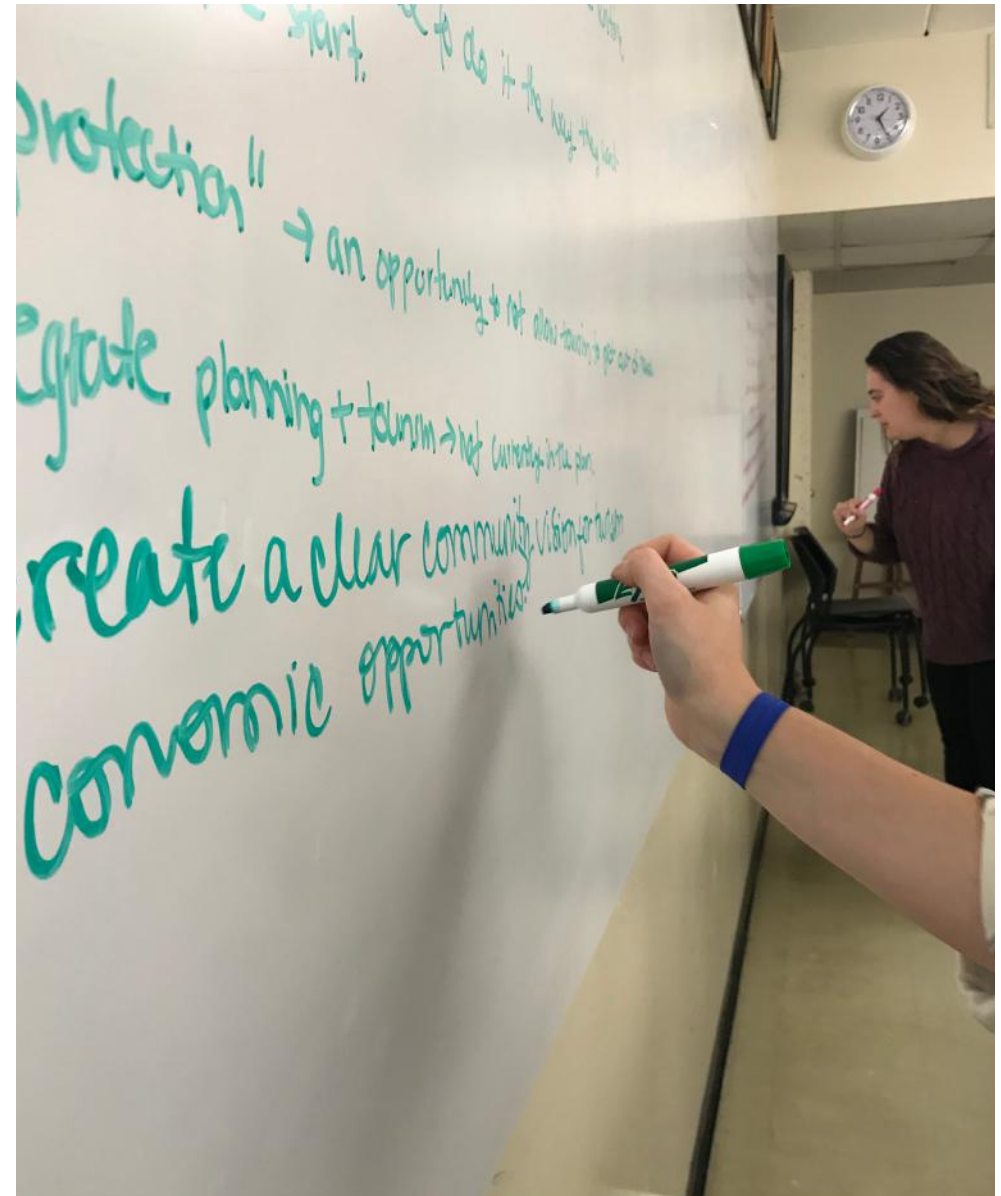
Project Course Team examining key themes from pre-trip interviews | Fraser, 2018

2.6 Interviews and Group Discussions in Auroville

Throughout the two weeks in Auroville, the team conducted 20 semi-structured interviews and group discussions. This surpassed the team's original goal of completing 10-15 interviews in Auroville. Stakeholder research was completed prior to arriving in Auroville to identify potential interviewees that would best inform further information gathering. Some of the stakeholders interviewed in Auroville were also interviewed in Kingston via Skype during the pre-trip interviews. The second interviews in Auroville provided the opportunity for follow-up discussions, which were more directed to the participant's area of expertise or interest.

Interviews and group discussions were completed with residents, Auroville planners, unit and service group members, various working group members, and Edayanchavadi residents and representatives. The interviews provided a wide representation of perspectives on tourism impacts, identifying prominent issues caused b casual visitors and guests. A complete list of the interviewees and participants from the group discussions and sample interview guides are provided in Appendix G. Each interview or group discussions involved two to three team members with one lead team member to guide the interview. The facilitation of open-ended conversations through semi-structured interviews and discussions allowed for creative ideas and concepts to be mentioned (Silverman & Patterson, 2015).

The interviews addressed impacts including:

- Transportation and mobility issues;
- Development patterns and economic impacts;
- Environmental concerns regarding the capacity of resources and pollution;

- Social impacts such as education, visitor knowledge and presence, and community relations; and
- Relations with villages and regional groups.

The purpose of conducting semi-structured interviews and group discussions in Auroville and Edayanchavadi was to develop a thorough understanding of the past, current, and future state of tourism and its impacts on the community. The discussions aimed to inform current and potential tools to manage tourism impacts on Auroville and its Green Belt. These interviews and group discussions provided information on the impacts experienced by Auroville and Edayanchavadi residents, which allowed the project team to organize each impact into appropriate categories. These methods also provided insight into which impacts were most prominent in order to formulate appropriate framework recommendations. Additionally, the interviews provided direction and logistics information for the kiosks conducted by the team.

Project Team conducting an interview | Raghavan, 2018

2.7 Kiosks in Auroville

Three kiosks were proposed for the fieldwork conducted in Auroville. The purpose of the kiosks was to guide the project team's understanding of the values, beliefs, and ideas of Auroville residents with regards to tourism and its impact, as well as gather baseline data for a visitor survey that Auroville could implement in the future. The three original locations for the kiosks included the Auroville Solar Kitchen, the Auroville Visitors Centre, and an undetermined location in Edayanchavadi. These locations were chosen based on research conducted by the team and preliminary interview discussions. Upon arriving in Auroville and receiving a tour of Edayanchavadi village, the team recognized that the proposed kiosk in Edayanchavadi would not be feasible. A different approach for facilitating discussions with, and gaining information from village representatives was chosen with the help of the client and a member of the Auroville Village Action Group. Both the Solar Kitchen kiosk and Visitors Centre kiosk were completed during the first week in Auroville and served two distinct purposes for collecting information.

The first kiosk was conducted at the Visitors Centre to provide baseline data for a visitor survey. The kiosk took place on Saturday, December 8, 2018, from 10:30 am to 1:00 pm in order to receive a large number of participants. The date and time of the kiosk were selected with input from the Visitors Centre manager and due to the occurrence of a high number of casual visitors to Auroville on the weekend. This kiosk targeted discussions with casual visitors regarding their purpose for visiting Auroville, their understanding of Auroville prior to arriving, and their experience at the Visitors Centre. Results from the kiosk are displayed in Section 3.8 of the report.

The second kiosk was conducted at the Solar Kitchen in Auroville to understand the tourism impacts observed primarily by residents and some guests. The kiosk took place on Sunday, December 9, 2018, from 11:15 am to 1:30 pm in order to gain information from residents going to lunch at the Solar Kitchen. The location of the kiosk was carefully chosen to receive maximum foot traffic without interrupting the flow, schedule, or daily life of the participants. A map of Auroville was included at the Solar Kitchen kiosk for participants to highlight areas where they have noticed impacts from casual visitors and guests. Stickers of different colours were used to identify different types and locations of the impacts being observed. A question board was also included at the kiosk to capture thoughts on both positive and negative tourism impacts, as well as recommendations for addressing those impacts. The questions that were posed to the participants at the kiosk are provided in Appendix D.

Visitors answering survey questions at Visitors Centre Kiosk | El Dabee, 2018

2.8 Site Observations

Site visits and observations were proposed to occur during the team's two weeks in Auroville in order to contextualize areas in Auroville and Edayanchavadi and understand how groups are interacting within these environments. Field notes are a fundamental aspect of data collection for qualitative research and can provide information on the community and culture to help inform the recommendations (Silverman & Patterson, 2015).

As the team completed a higher number of interviews than anticipated, time only allowed for three site observations to be conducted. The observations took place at the Visitors Centre, La Terrace Café, and the

Solar Kitchen parking lot. Notes were taken by one or two members of the team at each site to understand how casual visitors, guests, and Auroville residents use the facilities. The site observations aimed to provide a better understanding of travel patterns and behaviour of casual visitors, guests, and locals. Additionally, how certain areas are socially, environmentally, and economically impacted by tourism and associated development.

The data collected for the site observations included:

- Context of the area;
- Interactions or conversations;
- Number of restaurants, shops, and cafes;
- Road use and human and vehicular traffic flow; and
- Available and/or missing infrastructure.

Handicraft stall set up by village vendors near Visitors Centre public parking | El Dabee, 2018

2.9 Limitations

Despite conducting 20 interviews and group discussions, these interviews and other research methods did not achieve a complete representation of all stakeholders. The stakeholders who were interviewed volunteered to do so and were chosen based on their availability during the duration of the team's stay in Auroville. Additionally, some of the stakeholders were selected with the direction of the client. Overall, due to the team's inability to meet with all potential stakeholders, not all perspectives were addressed or included in this report.

All of the interviews, group discussions, and kiosks were voluntary and included some level of a language barrier. The group discussions with village representatives from Edayanchavadi presented the most significant language barrier as the participants did not speak fluent English. These discussions relied completely upon translators to ask the questions in Tamil and summarize the answers in English. It is assumed that the original intent of the questions may have been misunderstood leading to a loss in primary data. The presence of a translator also caused the discussions to be disjointed and therefore limits the validity of the results. In addition to the language barrier, participants from Edayanchavadi were selected by representatives of Auroville or the Village Action Working Group, which may have created a bias in the results. A random sampling of village workers and residents was not completed due to the team's time constraints in Auroville. The group discussions included some members from Auroville or the Village Action Working Group, and therefore may have caused the participants to censor their responses due to their authoritative presence.

The Solar Kitchen kiosk and Visitors Centre kiosk were designed in English; however, the team was able to discuss with individuals in French, Tamil, and Hindi as well. This may have contributed to a misrepresentation in results that is not quantifiable. Both kiosks were completely voluntary and required respondents to be interested in participating. The Solar Kitchen kiosk was conducted on a Sunday during lunch hour. This limited the potential foot traffic as it is more frequently visited throughout the week. The Solar Kitchen also had restricted eating hours and thereby constrained the amount of time participants could spend at the kiosk. The Visitors Centre kiosk had many respondents answer for more than one person resulting in a misrepresentation of the total feedback received.

Local cattle on road in Auroville seen limiting traffic flow | Fraser, 2018

Research Findings

3

3.1 Introduction

The purpose of this chapter is to provide an overview of the findings from the policy and document review, case studies, tourism impact management tools and strategies review, pre-trip interviews, and interviews, group discussions and kiosks conducted in Auroville.

Project Course Team engaging in a group discussion with Edayanchavadi Village Elders with aid of translator | Raghavan, 2018

3.2 Policy & Document Review

The policy and document review provided the team with a greater understanding of the social, cultural, and political context in Auroville and its Green Belt. Key findings from this method are included in Chapter 1 under Section 1.2 Auroville Context. These findings were important to consider when making recommendations specific to Auroville and its Green Belt. Documents reviewed from Auroville, Tamil Nadu, Puducherry, and Edayanchavadi are included in the following list.

Additional documents were reviewed to gather information on best practices in tourism impact management techniques. These documents were selected from a variety of international sources and provided a baseline understanding necessary to begin research on tools chosen for Section 3.5 Tourism Impact Management Tools.

Official Documents

- Auroville Charter, 1968
- Auroville Foundation Act, 1988
- Auroville Green Belt Development Plan, 2011
- Auroville Land Suitability and Land Use Proposal, 2014
- Auroville Mission Notes by A. Ravi, 2007
- Auroville Perspective Master Plan, 2001
- Edayanchavadi International Planning Zone Task 1 & 2
- Guidlines, Rules, and Regulations for Auroville Learning Activities (ALA), 2017
- Integral Sustainability Platform, 2009
- Pondicherry Village and Commune Panchayat Act, 1973
- Puducherry Citizen's Charter, 2012
- Puducherry Town and Country Planning Act, 1969
- Puducherry Town and Country Planning Rules, 1974
- Puducherry Bye-law Amendment, 2017
- Sustainable Regional Planning Framework for Puducherry, Viluppuram, Auroville & Cuddalore, 2012
- Tamil Nadu Town and Country Planning Act, 1994
- Tamil Nadu Panchayats Act, 1994
- Viluppuram, Auroville & Cuddalore, 2012
- WayForward 2018

Tourism Impact Management

- Angkor World Heritage Area Tourism Management Plan, 2012
- Nevis Landscape Conservation Action Plan, 2014 Steps to Sustainable Tourism – Australia Government, 2014
- Strategic Tourism Plan for Catalonia, 2013-2016
- Sustainable Tourism Management in Protected Areas Using a Systematic Approach, 2015
- Tourism Destination Management Achieving Sustainable and Competitive Results, 2011
- Travel & Tourism Economic Impact India, 2017 Whistler Recreation and Leisure Master Plan, 2015
- 20 Year Perspective Plan for Sustainable Tourism in Rajasthan, 2010

3.3 SWOT Analysis

The following is a list of strengths, weaknesses, opportunities and threats related to tourism in Auroville identified by the project team following the completion of the six pre-trip interviews.

Strengths

- Proximity to Puducherry and Chennai
- Green Belt and natural environment
- Collective decision-making
- Diverse cultures and international community allow for multiple perspectives
- Strong community values
- Existing infrastructure in place (i.e. Visitors Centre, guest houses and water system)
- Unique urban design and architecture
- Matrimandir is attractive to tourists
- International reputation for sustainability practices attracts tourists
- The young population in India and rise of middle class creates more tourists
- Opportunities for knowledge sharing

Weaknesses

- Minimal amenities for visitors outside of Visitors Centre
- Lack of tourism impact management
- Lack of tourist data
- Single road to Auroville
- Unclear community vision for tourism
- Lack of communication and governance direction with tourism
- Lack of regional planning partnerships regarding tourism
- No mandatory knowledge sharing outside the Visitors Centre
- Lack of planning guidelines related to tourism
- Lengthy development decision-making process
- "Attraction tourism" not directly contributing to the local economy

Opportunities

- Create a clear community vision on tourism
- Auroville is a learning society
- Increase coordination with Puducherry and overall region
- Educational tourism and knowledge sharing
- Economic growth and development
- Tourism can finance development and attract future residents to grow Auroville
- Integrate planning and tourism policies for the protection of villages
- Develop infrastructure for both tourists and residents
- Act as an international example for sustainable tourism
- Stronger relation with villages and region regarding tourism

Threats

- Over-use of resources threatens sustainability
- Environmental degradation (i.e. air and water quality decline, soil erosion, loss of flora and fauna, increased waste levels, etc.)
- Day trippers use resources but may not contribute to the economy
- Practices of young domestic tourists and the "selfie-generation" are in conflict with Auroville's values
- Tourists threaten Auroville's values and culture due to their lack of understanding
- Production of "fake" products and experience
- Disruption of daily life for residents as day tourists spectate in residential areas
- Unwillingness to share Auroville with tourists will not facilitate knowledge exchange
- Unplanned physical development in villages
- Indirect economic competition from other villages

3.4 Case Studies

This section describes several international case studies used to gain an understanding of strategies and techniques for tourism impact management. Key takeaways highlighted from each case study are applicable to Auroville and have been used to support recommendations provided in Chapter 4 of this report.

Eight cases studies of the following tourist destinations and attractions are described in this chapter:

- Banff National Park
- The Cultural Landscape of Bali Province
- Venice and Its Lagoon
- Mount Kenya National Park
- Lampi Marine National Park
- Great Himalayan National Park
- Leaning Tower of Pisa
- Lotus Temple

Banff National Park
HERITAGE TOURISM STRATEGY

Country: Canada
Size: 664,100 ha
Annual Visitors: 4,000,000+

Banff National Park (BNP) is a UNESCO World Heritage site located in Canada's Rocky Mountains. Banff's reputation as a tourism destination is founded on the natural beauty and ecosystems preserved in BNP, as well as the significant human history which has unfolded in the Rocky Mountains of Alberta (Banff National Park, 1999). The Park contains a Heritage Tourism Strategy which aims to sustain Banff as a tourism destination by preserving and celebrating ecological integrity while encouraging the same goal in surrounding mountain communities (Banff National Park, 1999). The Strategy helps make Banff's heritage real by informing and sharing with visitors a strong local connection to place and respect for where residents of Banff live (Banff National Park, 1999). Banff encourages tourism experiences that involve local

knowledge and shared appreciation of Banff's unique nature, history and culture. This strengthens local culture while balancing tourism with park protection over time (Banff National Park, 1999). The Heritage Tourism Strategy complements the Banff National Park Management Plan and Town of Banff Community Plan by working to sustain a healthy tourism industry within the context of a national park.

Map of showing location of Banff National Park (http://improvementdistrict9.ca/local-maps/)

Relevance

- The Heritage Tourism Strategy emphasizes the cultural significance of place, proposing that Banff's unique culture and nature should be shared and appreciated. Similarly, Auroville contains unique cultural and natural heritage, which the township seeks to educate its visitors on.
- Both Banff and Auroville experience pressure from development in surrounding communities and villages. Banff National Park is surrounded by a large regional human population and other forms of land uses, which may infringe upon and threaten the park if not properly managed.

LESSONS LEARNED

1 The success of a destination is based on the preservation and appreciation of its local culture, history, and natural environment. These unique features attract visitors, therefore they must be protected to ensure the long-term sustainability of the site.

2 The tourism industry has a responsibility to help visitors understand and appreciate the heritage of the site so that they contribute to its preservation. This means that the tourism industry must be educated through employee orientation, training and accreditation programming to better educate visitors about these values.

3 Tourism management should be viewed through a collaborative and regional lens. Visitors are encouraged to recognize that surrounding communities are integral to the sustainability of a site. Additionally, collaborative environmental stewardship between the tourism industry and partners should be used to continuously improve waste, water, and energy management, and other environmental programming.

Cultural Landscape of Bali Province

SUSTAINABLE TOURISM STRATEGY

Country: Indonesia
Size: 19,500 ha
Annual Visitors: 1,680,000

The Cultural Landscape of Bali Province (CLBP) is a UNESCO World Heritage Site located in Bali, an island city and province of Indonesia. The Provincial Government of Bali provides a legal charter for the management systems and conservation activities in the CLBP, and a holistic management approach is ratified by the Governor of Bali Province Decree (UNESCO, 2016). Threats to the landscape have arisen due to tourism. These pressures include enhanced vulnerability of the site from uncontrolled development of tourism facilities, tourism activities, and infrastructure development. The development has prioritized quantity over quality and emphasized the economic benefit from tourism in comparison to farming.

These threats along with climate change externalities are jeopardizing the authenticity and integrity of the natural landscape.

A Sustainable Tourism Strategy was created to manage these threats and conserve cultural traditions, heritage, and value systems practiced by Bali's local communities. Guidance was provided by UNESCO's World Heritage and Sustainable Tourism Programme, which informs efficient, responsible, and sustainable tourism management (UNSECO, 2016). Furthermore, the site was designated as a Cultural Landscape to preserve traditional agricultural practices as a response to the tourism industry's rapid growth. Other protection efforts include farming incen-

tives, policy development, and the establishment of Forum Pekaseh. The Forum Pekaseh consists of a group of stakeholders that are responsible for creating subak forum bylaws, providing educational sessions on participatory mapping, and encouraging community involvement in meetings at various levels of government (UNESCO, 2016).

Relevance

- The Sustainable Tourism Strategy's Forum Pekaseh allows community members to be involved in decisions at all levels of government. This aligns with Auroville's Town Development Council, and Auroville's purpose of leveraging elements and realising human unity.
- Similar to Auroville, Bali experiences more than twice the number of domestic visitors in comparison to foreign visitors.
- Both the Cultural Landscape of Bali and Auroville face environmental impacts due to uncontrolled development of tourism related facilities and activities.
- Auroville and the Cultural Landscape of Bali both prioritize environmentally sustainable practices. The farming incentives discussed in the Sustainable Tourism Strategy may be applicable to Auroville.

Map of showing location of Bali (http://www.estarte.me)

LESSONS LEARNED

1 Collaborative actions among a vast network of community organizations, authorities, residents, workers, and research centres is essential for successful implementation of tourism impact management plans.

2 Creating a forum of stakeholders can be an effective way to promote educational initiatives and advocate for issues within a community. Groups as such may influence law and culture simultaneously through being involved in various projects related to the area.

3 Land designation can be an effective way to promote traditional agricultural practices and environmental sustainability. This strategy may also help address issues regarding cultural implications from increased tourism in an area.

Venice and Its Lagoon
VENICE AND ITS LAGOONS MANAGEMENT PLAN

Country: Italy
Size: 55,000 ha
Annual Visitors: 34,000,000

Venice and Its Lagoon is a UNESCO World Heritage Site situated in Northeast Italy. The site is comprised of both the city of Venice, as well as eight other municipalities, which lie in a large coastal basin. The City of Venice is known for being one of the greatest capitals of the medieval world, with a unique canal system that illustrates the interaction between people and the natural environment (Municipality of Venice et al., 2011). The canal composition makes the city and its surroundings an incredibly popular tourist destination. The influx of tourism to Venice and Its Lagoon is so great that it has exerted considerable impacts on the urban form and socio-economic fabric of the site. Pressures from tourists are causing negative externalities on the environment and discomfort to the approximate-

ly 432,789 residents of the site (Municipality of Venice et al., 2011).

The Venice and Its Lagoon Management Plan was created in order to establish more effective communication between stakeholders responsible for the preservation of Venice and Its Lagoon (Municipality of Venice et al., 2011). While the plan looks at a variety of site management techniques, there is emphasis on managing the impacts of tourism in order to preserve the heritage of the site and promote sustainability.

Relevance

- Venice and Its Lagoon is defining a Buffer Zone surrounding the site that will function as a safeguard for the natural environment and will contain services that will relieve pressure from the Site (Municipality of Venice et al., 2011). This is similar to Auroville's Green Belt, which serves to protect the natural landscape surrounding the community.
- Both Venice and Its Lagoon, and Auroville, encourage different types of tourism, as opposed to only traditional tourism.
- Similar to Auroville, Venice and Its Lagoon experience influxes of tourists that impact daily life for residents.

Map showing location of Venice and Its Lagoon (www.dailymail.co.uk)

LESSONS LEARNED

1 "Detourism" can be used to decongest tourist flows by spreading activities across a site. This concept uses different forms of tourism such as minor cultural tourism, environmentally-friendly tourism, and sport-related tourism to create authentic experiences that offer a new perspective on a destination.

2 Information signage should be designed and installed to improve the utilization and visibility of the site.

3 The development of urban and suburban argriculture, such as kitchen gardens can be used to safeguard productive land and avoid the abandonment of traditional agricultural practices to tourism.

Mount Kenya National Park

MOUNT KENYA ECOSYSTEM MANGEMENT PLAN

Country: Kenya
Size: 71,510 ha
Annual Visitors: 36,000

The Mount Kenya National Park/Natural Forest is a designated UNESCO World Heritage Site and Biosphere Reserve situated in the Central region of Kenya, approximately 200 kilometres north of Nairobi (Kenya Wildlife Service, n.d.). Mount Kenya, the second-highest mountain in Africa, is a popular tourist destination that receives approximately 36,000 visitors per year (Kenya Wildlife Service, n.d.). Local communities consider the mountain peak a place of cultural and spiritual significance and the location of many sacred areas that host frequent prayers and rituals.

The Mount Kenya Ecosystem Management Plan is a ten-year management plan that promotes low impact tourist activities by identifying high and low use zones, along with Limits of Acceptable Use (LAU) for each zone (Becken and Wardle, 2017). The Plan designates 'off-seasons' for several weeks where the number of people permitted to summit each day is restricted. The purpose of the restriction is to "protect and conserve the water catchment and biodiversity, especially endemic, rare, and threatened species" for future generations (Kenya Wildlife Service, 2010). Initiatives such as visitor satisfaction and visitor impact studies are conducted along with a visitor monitoring system to review, evaluate, and make necessary adjustments to the hikers' LAU (Becken and Wardle, 2017).

Relevance

- Both Auroville and Mount Kenya are facing ecological threats due to an increased number of tourists. The low impact tourist activities implemented in Mount Kenya such as Visitor Use Zones, Limits of Acceptable Use, and designated 'off seasons' may be applicable to particular areas of Auroville.
- Mount Kenya and Auroville have similar concerns regarding the conservation of ecological resources and balancing economic benefit.

Map of Mount Kenya National Park (https://www.mountkenyaclimbing.com)
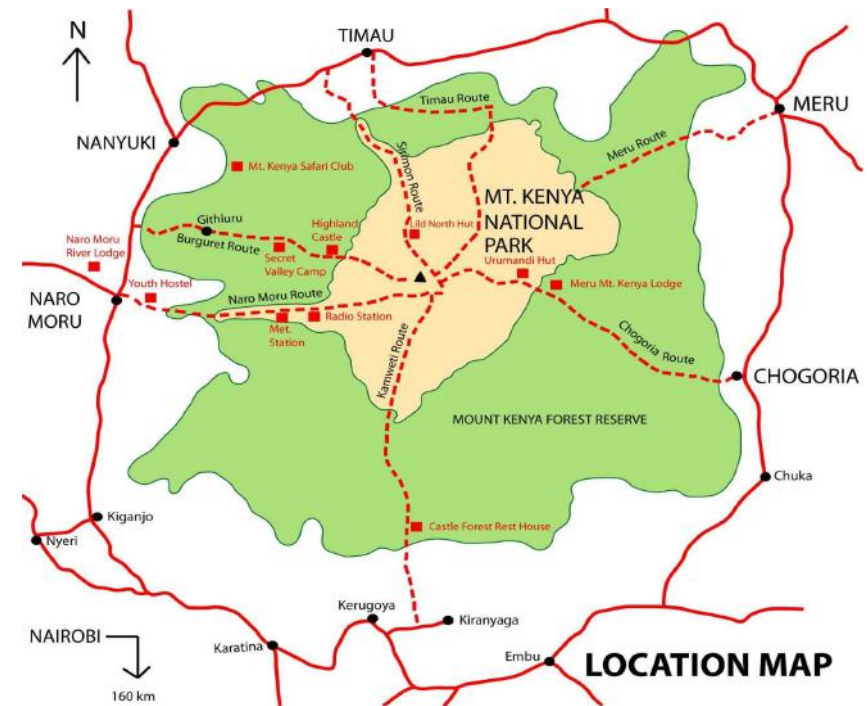
LESSONS LEARNED

1 Limits of Acceptable Use may be an effective tourism control tool for an area when complimented with a monitoring system. These systems allow the physical state of a site to be closely observed and thresholds to be updated as needed.

2 Visitor Use Zones can be tailored to the current state of particular areas within a site, which allows a community to benefit from tourism while also conserving environmental features.

3 Evaluation methods such as visitor satisfaction, visitor impact studies, and visitor monitoring systems can be utilized to evaluate existing tourism conditions and can help develop future planning policies and tools.

Lampi Marine National Park

LAMPI MARINE NATIONAL PARK ECOTOURISM PLAN

Country: Myanmar
Size: 20,500 ha
Annual Visitors: 1,300

Lampi Marine National Park (LMNP) is located on the southern tip of Myanmar in the Andaman Sea. The LMNP is Myanmar's first protected area to have a four-year management plan, the Lampi Marine National Park General Management Plan (2014), as well as a supporting Ecotourism Plan (2015). The General Management Plan sets provisions for development and management through four zones: Key Resource Zone, Wilderness Zone, Cultural Zone, and a Local Use Zone. In 1996, the Government of Myanmar officially ratified the LMNP, and as of 2014, the Park received approximately 1,300 annual tourists with this number continually increasing (Rogers, 2015).

Lampi Island's tourism activity is conducted mainly through live-aboard tour boats which operate out of a town located on the main-

land of Myanmar and pay service and operating fees to the Government of Myanmar. This industry causes social and environmental costs without benefiting the Park's economy or its residents (Rogers, 2015). The Ecotourism Plan was created to address these problems and strengthen planning and management for tourism activities. The three goals of the plan are to develop tourism-related user-fees to fund park management and conservation, engage local residents in the tourism industry, and develop educational strategies that increase awareness of ecotourism activity and climate change (Rogers, 2015). Multiple stakeholder workshops were held to discuss the strategies of the plan and to ensure interest in developing partnerships and working programs. These initiatives were essential in achieving the aforementioned goals of this Ecotourism Plan.

Relevance

- The vision of the Ecotourism Plan focuses on the Park becoming a model for protected areas and using community empowerment to provide unique visitor experiences, which aligns with Auroville's interests in having volunteer and internship opportunities available.
- Auroville and the LMNP have minimal or unorganized data on tourism and would benefit from introducing data collection strategies suggested in the Ecotourism Plan.
- The Ecotourism Plan supports the formation of an Ecotourism Management Board and community-based ecotourism group to strengthen the management of tourism. The formation of a tourism working group could be beneficial to Auroville.
- Lampi Marine National Park is working towards becoming a regional showcase for ecotourism and protected area management, as Auroville is continuously working towards greater sustainability and conservation measures to be a precedent city in India and worldwide.
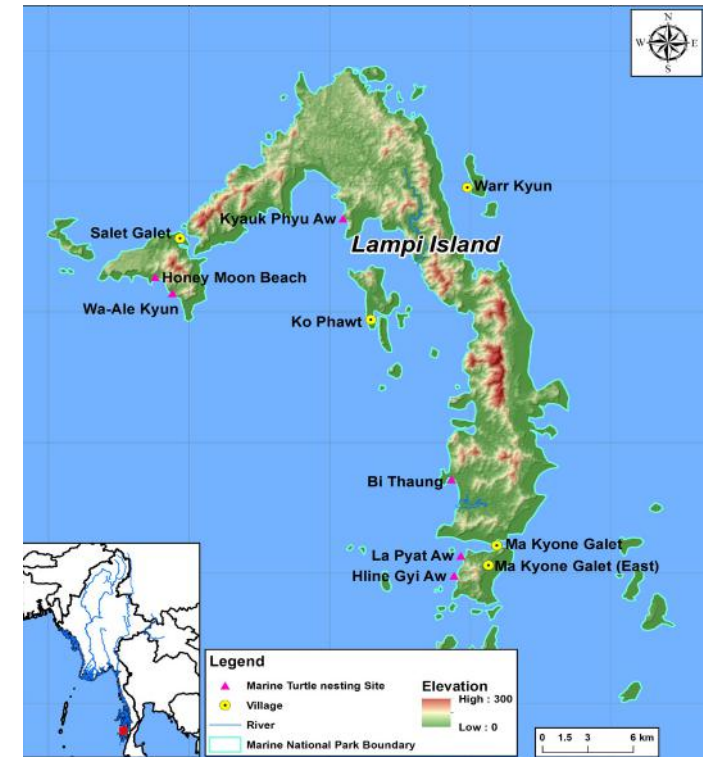
Map of Lampi Marine National Park (www.iotn.org)

LESSONS LEARNED

1 Tourism-related user-fees can provide additional sources of revenue to the conservation and management of parks and tourist destinations. These fees can be implemented alongside educational strategies to increase tourists' understanding of the region and purpose of the site.

2 Destination Management Organizations, or Working Groups, can engage local residents in tourism matters and develop on the ground solutions to benefit the community in a sustainable manner. These groups can manage tourism development and introduce data collection and monitoring to assess and minimize negative impacts on nature, culture, and host communities.

3 The promotion of responsible business models through action items and activities in a tourism management plan can engage and benefit local people, reduce over-harvesting of natural assets, and deliver conservation benefits. Action items can include training for local entrepreneurs in hospitality and tourism, and educational opportunities for residents and visitors to ensure all practices are sustainable.

Great Himalayan National Park
MANAGEMENT PLAN

Country: India
Size: 90,540 ha
Annual Visitors: 20,000

Community-Based Ecotourism in the Great Himalayan National Park (GHNP) is a visitor strategy that fosters links between tourism, conservation, and local economic development. A key facet of the strategy is to account for local level development issues by connecting livelihood with tourism and the conservation of biodiversity. To achieve this, the strategy proposes to market locally-owned and operated tourism enterprises in GHNP that are environmentally-friendly (DeCoursey, 1998).

GHNP, declared a UNESCO World Heritage Site in 1984, was formerly home to village communities that were economically dependent on the land's natural resources (GHNP, 2018). The establishment of the park eliminated some of these economic sources and moved the villages on park premises to a 26,550 ha buffer zone, known as the Ecodevelopment Zone, or Eco-Zone (DeCoursey, 1998). The Eco-Zone is the area of greatest human population pressure containing approximately 113 small villages and 11,000 people (DeCoursey, 1998). As a result of this shift, tourism management for GHNP focuses on redirecting and replenishing community livelihoods using tourism, so that protection of the park can be embraced.
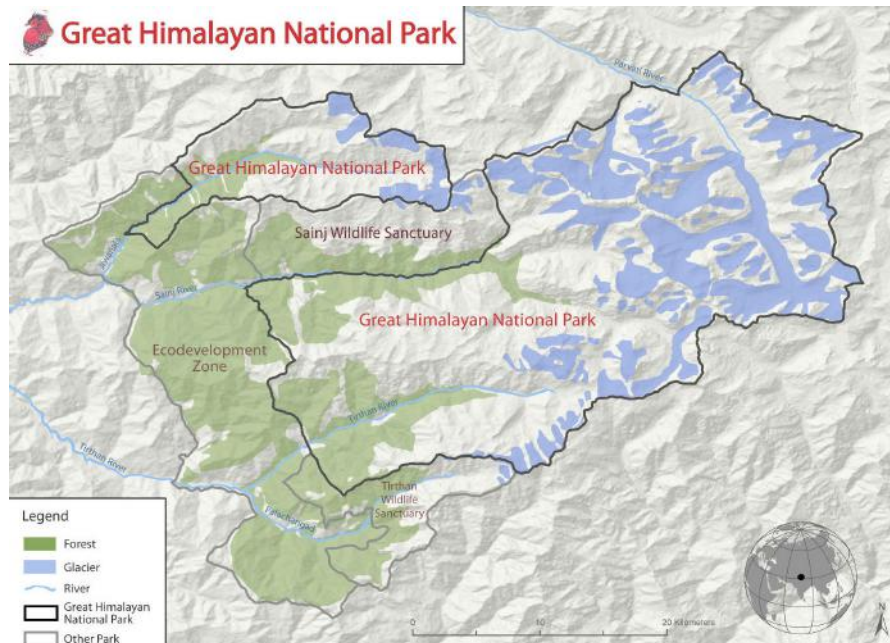
Map of Great Himalayan National Park (www. greathimalayannationalpark.com)

Relevance

- The Eco-Zone is a buffer area that acts in a similar manner to Auroville's Green Belt. Both the Eco-Zone and Auroville's Green Belt contain villages that put human pressure on conservation areas.
- Both Community-Based Ecotourism in the GHNP and Auroville's Green Belt Plan encourage participatory management and decision-making at the local level.
- GNHP contains different zones for differing levels of human use. This is similar to the various zones planning in Auroville, which contain areas of land with varying levels of use and development such as the International Zone and Green Belt.

LESSONS LEARNED

1 Community-Based Ecotourism (CBET) can be used to help communities promote environmental protection and tourism, by ensuring that the social and economic benefits of tourism are realized. CBET protects the environment by providing nearby villages with options for income and employment that are less harmful and consumptive. By redirecting sources of income away from protected areas, local communities are more likely to encourage environmental protection and stewardship.

2 CBET encourages community involvement in decision-making and the development of tourism. Ecotourism Working Groups can guide development with community participants such as Guest House owners and operators, porters, guides, park administration, local organizations, and panchayats. Tourism and management plans are to be ratified by the local panchayats, encouraging participatory decision-making and governance at the local level.

3 Zonation can be used to achieve differing levels of development and human activity. Additionally, carrying capacity studies and monitoring can establish which areas should be off-limits or seasonally-used due to ecological sensitivity, and zone for appropriate levels of use.

Leaning Tower of Pisa

Country: Italy
Size: 8.87 ha
Annual Visitors: 1,011,000

The Leaning Tower of Pisa is located in Piazza dei Milacoli (The Square of Miracles) in Pisa, Italy and was originally built as the church's bell tower. The Tower and Square of Miracles is an extremely popular destination for casual day visitors from Florence, Lucca, and other surrounding cities. The province of Pisa has a population of approximately 420,900 people and received 1,011,000 international tourists in 2016 (Statistica, 2017). The Square of Miracles comprises the Leaning Tower, the Pisa Cathedral or Duomo di Pisa, and the Pisa Baptistery, which are surrounded by the Field of Miracles, including the cathedral's museum and the cemetery (Camposanto). Tourists are encouraged to climb the Tower of Pisa and explore other aspects of the city, including the Arno River, Clock Palace, and the Piazza dei Cavaleri.

Visiting hours are in place throughout the year at the Tower and change based on the season; however, tourists are encouraged to purchase tickets in advance due to strict schedules that cap the number of entries per half hour (Leaning Tower of Pisa, n.d.). Tickets can be purchased on site for 18 euros or in advance online for 28 euros, both of which provide access to the Cathedral as well (Leaning Tower of Pisa, n.d.). Tourists can reach the Square of Miracles by bus, train, a taxi from the Pisa international airport, or drive in for the day from Florence.

The Tower receives several day visitors, which do not provide the highest economic benefit to Pisa and result in the city being responsible for environmental and social costs of the casual visitors. The city continually promotes tourism to visitors and provides several incentive activities such as tours on foot, bikes, in horse carriages, or on mini-trains, and offers deluxe tours of prestigious artistic exhibitions and historical buildings (Convention Bureau Italia, n.d.). Additionally, the cultural heritage authority announced plans to build a 56 metre Ferris Wheel located close to the Tower, to provide tourists with a better view of Pisa and the coast of the Mediterranean. The Ferris Wheel aims to attract tourists to stay in the city longer as they would increase their awareness of what the city has to offer (The Local, 2017).
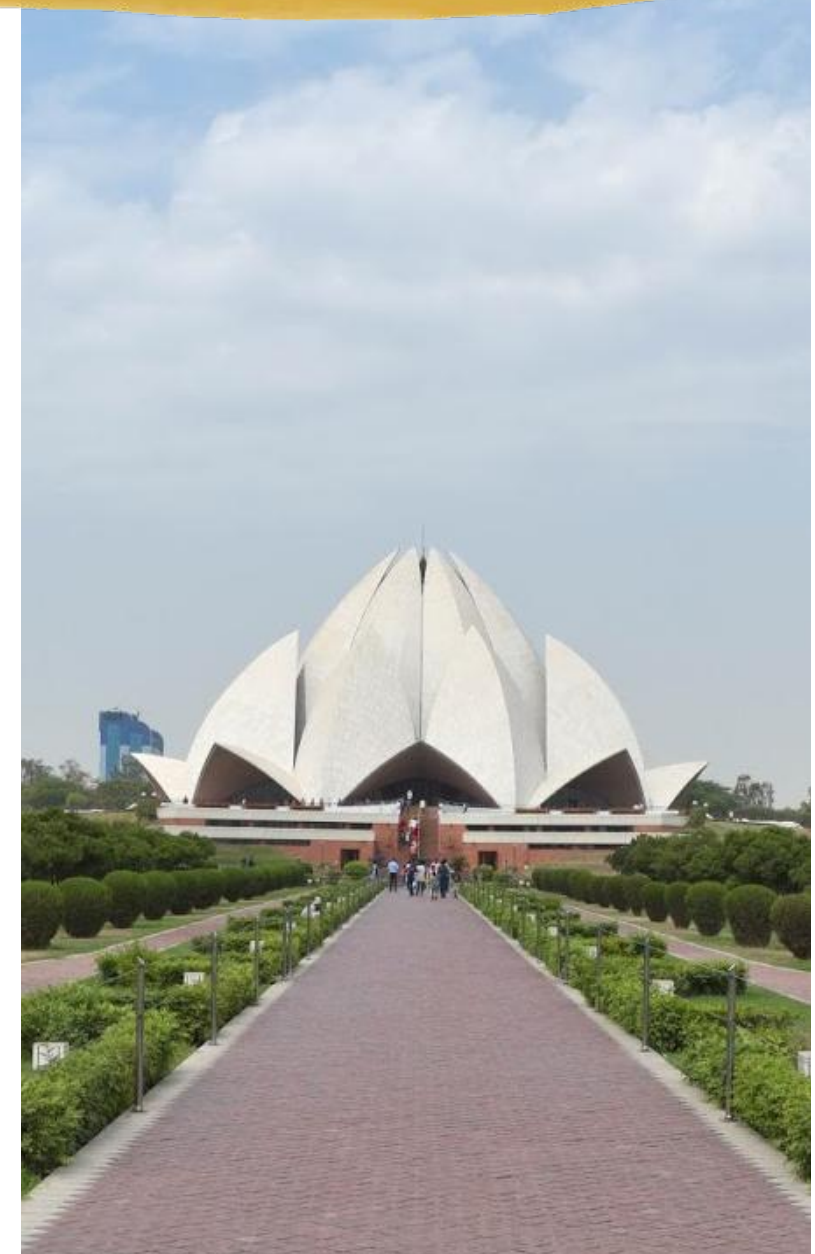
Lotus Temple

Country: India
Size: 10.5 ha
Annual Visitors: 4,000,000

The Lotus Temple, also known as the Baha'l Mashriqul – Adhkar, is a popular tourist attraction in Kalkaji, south of Delhi, India. The Lotus Temple is considered a modern architectural wonder and is shaped like a lotus flower which signifies peace and tranquility. Located on 26 acres of land, the temple attracts people of all faiths from across the globe who come for peace, meditation, prayers, and study. Tourism to the Lotus Temple is promoted by both the Government of New Delhi and the National Capital Territory of Delhi. Annually, the temple receives 4,000,000 tourists, with an average of 10,000 daily visitors.

The Lotus Temple has implemented restricted visitor times to permit visitors from 9:30 am to 5:30 pm through the winter and from 9:00 am to 7:00 pm through the summer. Additionally, the temple is only open six days a week, Tuesday to Sunday, and closed on Monday. The Lotus Temple does not require an entry fee and does not restrict who is permitted to enter. Mobility to the site is offered through public transportation by the metro, as well as automobiles. The temple site offers free parking (Yadav et al., 2010).

Tourists and visitors have identified dissatisfaction while visiting the Lotus Temple. Congestion related to the high number of people entering the temple has been identified by visitors as a means of dissatisfaction. Cleanliness and hygiene in the temple and in its surrounding area and a lack of efficient tourist infrastructure have been identified as a means of visitor dissatisfaction. Visitors expressed a desire to have access to additional amenities and infrastructure, including accommodation, transportation, toilet facilities, and food options (Yadav et al., 2010). While restrictions have been implemented to limit the timing of visitor entry, the Lotus Temple currently lacks a plan to manage the impacts caused by tourists.

LESSONS LEARNED

1
The Lotus Temple, the Leaning Tower of Pisa, and Auroville experience attraction-based tourism. The Lotus Temple, however, is advertised by the Government of New Delhi and the National Capital Territory of Delhi as a tourist attraction. The Leaning Tower of Pisa is also advertised by the City of Pisa as a tourist attraction. Auroville, on the other hand, does not officially promote the Matrimandir as a tourist attraction. Promotion and advertising of attractions are not necessarily required for tourism to occur as Auroville is experiencing, however promotion can direct appropriate practices for tourism activities.

2
Visitor restriction times have been implemented at the Lotus Temple, the Leaning Tower of Pisa, and the Matrimandir, however visitor dissatisfaction continues. Stricter visitor regulations could be implemented to potentially manage visitor impacts, as done by the Tower of Pisa which limits entries per half hour to minimize the degradation of the site. Additionally, the use of an entry fee at the Tower of Pisa produces funding for the conservation and management of the site.

3
Overall, the Lotus Temple, the Leaning Tower of Pisa, the Matrimandir, and their respective surrounding areas lack effective strategies to manage the impacts caused by tourism.

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3.5 Tourism Impact Management Tools

Public seating at Auroville's Visitors Centre| Butt, 2018

As mentioned in Chapter 2 Section 2.4, 21 tools were selected and divided into five categories: (1) Assessments and Audits, (2) Land Use Tools, (3) Economic Tools and Strategies, (4) Community Consultation Tools, and (5) Tourist Engagement Tools. These tools informed discussions in Auroville and helped guide the formation of the recommendations provided in the Framework. See Appendix H for complete list of tools and strategies.

3.5.1 Assessments and Audits

Inventorying tourism data is an initial step towards tourism impact management (Stange, Brown, & Solimar International, n.d.). The growth of the tourism economy requires assembling tourism statistics thoroughly and systematically to regulate and organize the industry (Rögnvaldsdóttir, 2015). Without a method for data collection, municipalities and key stakeholders are unable to utilize evidence-based decision making for planning, managing, and investing in their tourism sector. The United Nations World Tourism Organization recommends tourism be measured not only at the destination level, but from a regional perspective to grasp a better understanding of the impacts of tourism (Stange et al., n.d.).

Specific tools and initiatives, such as monitoring systems, assessments, and audits, can be implemented to overcome a lack of visitor and tourism data. These initiatives can range from using ticket sales to keep track of how many tourists visit a particular site, requiring hostels, hotels, and guest houses to report the number of visitors they have in a set yearly report, or through various other tourism regulating tools. Audits and assessments can provide communities with a detailed outlook on the current state of tourism and infrastructure in order to move forward and implement beneficial policies and strategies for the management of tourism impacts.

Assessments

Environmental Impact Assessment

From a tourism perspective, Environmental Impact Assessments (EIA) are an environmental management tool used to determine the impacts of tourism on the environment (Uchegbu, 1997). EIAs provide in-depth examination of environmental impacts on existing vegetation and wild-life, air and water quality, and soil properties in a region. EIAs examine principal physical features including topography, geology, drainage, aquatic systems, and man-made physical environments such as buildings and cultural facilities, and human health.(Uchegbu, 1997).

Economic Impact Assessment

An economic impact assessment examines the direct and indirect spending associated with tourism activity in a region or community, by analyzing changes in sales, income, jobs, and tax revenues (Stynes, 1997). This assessment is beneficial to understand the direct, indirect, and induced economic effects of tourism on the local economy, which are important to consider from a planning, marketing, and managing perspective (CMBAC Trusted Advisors Inc., 2014).

Tourism Mobility Study

A mobility study provides meaningful insight into the movement of people in an area. An in-depth knowledge of the spatial movement patterns of visitors is key to an efficient and successful destination management plan (Bauder & Freytag, 2014). Mobility studies related to tourism provide researchers with a better understanding of where tourists go, and what areas experience the largest impacts as a result. A comprehensive tourism mobility study includes examines tourist traffic such as the number of visitors flowing through a particular area, the peak modes utilized by travellers, usage of transportation corridors, and environmental impacts on these transportation routes. The results of the study can assist in forming recommendations for the management of tourism traffic flows and pioneering sustainable mobility initiatives (Scuttari, n.d.).

Transportation Impact Assessment (TIA)

A Transportation Impact Assessment (TIA) provides the basis for identification and evaluation of transportation related improvements or mitigation measures to be included as conditions of approval for new development or growth within a community (City of London, 2012). This type of assessment analyzes performance measures and can index measures into sustainability parameters such as system effectiveness, environmental, economic and social impacts (City of London, 2012). This tool allows for a sustainable assessment to occur and the use of the indicators to evaluate the trade-offs between competing factors. It also identifies alternative strategies that may be implemented to manage negative impacts of increased transportation.

Heritage Assessment

Heritage and tourism are closely related, as the majority of top tourism destinations and attractions are heritage features. A heritage assessment is recommended for understanding a community's potential heritage features and protecting valued sites. As heritage resources are defined by a community, policies should be enforced to manage and conserve these sites and surrounding areas. Following this, a tourism heritage impact assessment can be completed to ensure sites are preserved and protected from the impacts of tourism (UNESCO, 1997).

Audits

Visitor Audits and Surveys

Visitor audits and surveys can provide an extensive profile of visitors to a certain area or region, to understand the purpose of their visit and the economic influence they have on the community. Visitor data is often gathered through visitor questionnaires to better understand the knowledge visitors have about the area, why they chose to visit, and inform them of potential information they previously did not consider (Stange et al., n.d.). Exit surveys can be utilized to develop an understanding of visitor satisfaction in order to effectively administer community resources.

Amenity Checklist

Establishing a comprehensive understanding of which tourism products and services exist at a destination represents a critical early step in understanding tourism and its impacts on an area (Stange et al., n.d.). The completion of a yearly checklist of various amenities provides greater insight into the ever-changing field of tourism. Amenity checklists include tracking information on accommodations providers such as hotels, hostels, guest houses, the number of restaurants, tour operators, transportation providers, visitor attractions of all types, and other components of the tourism supply chain.

3.5.2 Land Use Tools

Tourism can place significant pressure on the development of communities and can lead to rapid urbanization. Land use tools can be adopted to manage these pressures and control how land and private property is utilized and developed. Various tools can be implemented to control where tourist specific development can occur, the function

and management of tourist attractions, and how land can be protected from tourism related development pressures.

Zoning

Zoning is a means of allocating areas for specific levels and intensities of human activities and conservation (Eagles et al., 2002). Effective land use measures should be developed and implemented in order to maximize the benefits of tourism while minimizing the potential environmental impacts. Tourism specific zoning can be used to concentrate tourist uses and regulate access to certain areas. Implementing tourist specific zoning that regulates the location of guesthouses, restaurants, and attractions can control where visitors and tourists spend time as well as concentrate the impacts they may cause (Candrea and Ispas, 2009).

Land Boundary Changes

Land boundary changes are a land management technique that strive to protect the existing land area of a park or an environmentally significant area, while expanding the boundaries into adjacent areas that are deemed to have high value. Governmental agencies within an environmentally protected system may redraw land tenure and boundaries to allow for development expansion into certain areas and potentially restrict development in others. This method has been previously used in Garibaldi Provincial Park in partnership with the Regional Municipality of Whistler and Whistler Blackcomb Ski Resort. This tool allows for growth within a community to be accommodated while maintaining the ecological integrity of the area. Land boundary changes are addressed through planning legislative frameworks and policies, as it is important that detailed studies and discussions be initiated with various agencies, organizations, and individuals prior to boundary chang-

es (Ministry of Parks British Columbia, 1990).

Public Use Plan

A Public Use Plan is a method of managing visitors and the volume of traffic, protecting sensitive areas, provoking a deeper understanding of sites, and implementing associated fees. Cities and attractions which experience day trip tourism and daily visitors on tour buses are prime candidates for Public Use Plans. For example, part of the Public Use Plan for China's Jiuzhaigou Valley uses computers to monitor the movement of tour buses and re-route buses to uncongested areas. Alternatively, part of Belize's Public Use Plan involves conducting workshops to engage tourism service providers to offer more sustainable products and limit impacts on fragile areas. Granada, Spain, on the other hand, has partnered with tour companies to offer city to site transportation opportunities which has encouraged tourists to wander the city and spend more quality time while waiting for their visitation times (Stange et al., n.d.).

Restrictive Visitor Times & Visitor Allocation

The number of visitors and tourists to a site can be restricted in order to better manage congested tourist sites and attractions. A few key mechanisms to limit the number of visitors can involve: setting a daily limit for the number of visitors permitted to enter a site, limiting the time of day during which tourists are permitted to enter a site, limiting the number of licenses granted to tour companies, or prescribing certain months as the tourist season (Legare, 2006). For example, Machu Picchu in Peru and the Maldives limit the number of licenses granted to manage the overall number of visitors to their sites. Mount Kenya, on the other hand, limits the number of visitors permitted in certain areas by zone (Zan & Lusiana, 2011). One challenge of restricting the number of visitors using any of the above methods is that it requires

enforcement and can be viewed as a means of restricting rather than encouraging tourism.

3.5.3 Economic Tools and Strategies

The increase of domestic and international tourism at tourist attractions around the world has strengthened opportunities for businesses to profit from tourism by providing services and physical development. While environmental resources support economic production and consumption opportunities, these same economic activities can have impacts that result in negative environmental consequences (Emerton, 1999). Thus, it is of interest to incorporate environmental concerns into economics. These strategies address how to meet the current needs of the community in a way that is equitable and efficient without diminishing the natural environment of the area and its availability for future generations (Emerton, 1999).

Tourism User Fees (TUFs)

Many municipalities and countries across the globe have found ways to collect tourism fees from visitors in order to offset costs related to various tourism impacts. Collectively, these fees are known as Tourism User Fees (TUFs) (United Nations Development Programme, 2001). TUFs can be structured for a variety of tourism-related fees including entrance fees for visiting attractions, concession fees for businesses offering items like food and lodging, licence and permit fees for tour operators, guides, and excursions, as well as tourism-based taxes similar to hotel and airport taxes (United Nations Development Programme, 2001). These fees can be delivered back to the community in order to manage tourism impacts and assist in sustainable tourism practices.

Agricultural Incentives

Agricultural incentives involve offering subsidies, tax benefits, or other incentives to encourage long-term viability of the agricultural sector. As employment and land uses change with growth and development, the use of agricultural incentives can protect agricultural land and allow farmers to increase and diversify the amount and type of crops that they grow. As a tourism impact management tool, these incentives allow for the protection of agricultural lands and the promotion of local goods and services. Additionally, agricultural incentives can be offered to guest houses and restaurants that purchase local foods, or discounts tax benefits, and marketing materials can be given to local commercial operators that prioritize selling locally. In combination, these incentives promote agricultural sustainability and responsible tourism management.

Sustainable Tourism Certifications

Certification can be defined as the process of assuring industry and consumers that an assessed company has met a certain standard of sustainable measures (Dodds et. al., 2005). The main purpose of certification has been to achieve standards that have met or exceeded baseline standards or legislative frameworks established by various agencies. An example of a certification process is Green Tourism, a not-for-profit organisation with a mission to encourage and enable people to make sustainable tourism decisions that reduce negative impacts on the planet. Established in Scotland in 1997, Green Tourism has grown to over 2,000 members across the UK, Ireland, Italy, Canada and Zimbabwe, making it the world's largest sustainable certification programme of its kind. The organization provides businesses with guidance in all aspects of sustainability, from energy and water efficiency, waste management and biodiversity to social and ethical choices (Green Tourism, 2018).

3.5.4 Community Consultation Tools

Community members experience both positive and negative impacts of tourism first hand, therefore their involvement in the development of policies and tools to manage tourism impacts is pertinent. To benefit the community as a whole, various strategies can be implemented to provide opportunities for resident engagement at different scales. By continuing to develop strong village partnerships, residents benefit both socially and economically and help support a greater effort for regional tourism planning.

Village Partnerships

Village partnerships allow communities directly impacted by tourist sites to collaborate on tourism management. Partnerships can include both informal and formal connections between villages, and the co-management of a site or visitor services. Building strong village partnerships can be a long-term process involving significant effort and communication, however, this process can be very worthwhile in increasing the coordination of efforts and sharing of information.

Regional Tourism Planning

Regional tourism planning is a form of tourism impact management planning that guides stakeholders in developing better tourism products, services, and experiences (Newfoundland and Labrador Ministry of Tourism, n.d.). Regional tourism planning can also lead to the creation of a broader-scale plan, a comprehensive document with objectives, guidelines and strategies for tourism planning that involves multiple regional stakeholders. In order to develop a long-lasting and effective regional tourism plan, a high level of collaboration, coordination, and cooperation between various local governments, communities, and other stakeholders throughout the region is required (Partner-

ship of the Manitoba Capital Region, 2016).

Tourism Clusters

A tourism cluster is a geographic concentration of companies and institutions interconnected in tourism activities and may include companies, suppliers, services, governments, institutions, universities, and competitors. The overall objective of a tourism cluster is to bring together stakeholders that generally work alone, to build a successful tourism product in a region (Estevao and Ferreira, 2009). Tourism clusters often involve a set of tourist attractions concentrated in a geographical area and look to organize them in a manner that focuses on quality, efficiency, cohesion, and coordination to generate a competitive advantage for the region. In doing so, the region can better regulate the flow of tourists, and maintain a level of control over the industry (Stange et al., n.d.). Globally, countries such as Sri Lanka, Mongolia, Dominican Republic, Croatia, and Bulgaria have adopted cluster tourism practices to regulate their tourism industry (Stange et al., n.d.).

Tourism Working Groups

Tourism working groups composed of community members can be an important method for understanding the impacts of tourists in a community. Residents experience the impacts of tourism first-hand, and can provide valuable insight into the strategies that can be implemented to mitigate such impacts. A tourism working group can also work closely with varying levels of government to facilitate integration and better communication with other city departments.

Community Tourism Self-Assessment Instrument

A Community Tourism Self-Assessment Instrument (CTAI) is a part of a larger participatory process that aids in creating an outline of a sus-

tainable tourism approach (Potts et. al., 1998). The CTAI starts the discussion about tourism among residents and allows for expectations and fears related to tourism to be expressed and accounted for in the tourism impact planning process. The results of a CTAI can inform a baseline for a community, upon which knowledge about the impacts and evolution of tourism can be built upon (Reid, Mair, & George, 2004). It can aid planners and professionals in the administration and monitoring of the process, as concerns and attitudes towards tourism development change over time.

Auroville Visitors Centre | El Dabee, 2018

3.5.5 Tourist Engagement Tools

Tourists are easily capable of causing damaging economic, social, and environmental impacts if they lack an informed understanding of a tourist attraction, site, or community. By educating tourists, as well providing information at additional locations, casual tourists and guests can obtain knowledge that can better inform their decisions and in turn minimize the impacts they may cause.

Education

Travel and tourism are activities associated with learning about new places, cultures, people, or food. Knowledge exchange can be a valuable process for both visitors and community residents. Through an exchange of knowledge, visitors and tourists may become more appreciative of a place or attraction and may become increasingly aware of the impacts they cause. This awareness can help mitigate the impacts they create. Education tourism is a tourist activity which emphasizes the desire to gain knowledge during travel (Malihah & Setiyorini, 2014). Through the implementation of social media platforms, Visitors Centre videos, and other educational strategies, knowledge can be shared and exchanged (Hajli & Lin, 2014).

Visitor Centres

Village partnerships allow the communities directly impacted by tourist sites to collaborate on tourism management. Partnerships can include both informal and formal connections between villages, and the co-management of a site or visitor services. Building strong village partnerships can be a long-term process involving significant effort and communication, however, this process can be very worthwhile in increasing the coordination of efforts and sharing of information.

Site map signage at Auroville Visitors Centre | Fraser, 2018

3.6 Pre-Trip Interviews

Several key themes emerged from interviews conducted prior to arriving in Auroville. These themes were identified as: (1) the Growth of Tourism, (2) Types of Tourism, (3) Economic and Village Development, (4) Mobility, (5) Education and Knowledge Sharing, (6) Regional Planning, and (7) the Future of Tourism. Interview participants had a variety of opinions on these themes, which are summarized below. Throughout the interviews, there was a consistent message that Auroville is already focused on sustainability in all aspects of daily life, including tourism.

Project Course Team conducting pre-trip interviews via Skype | Armstrong, 2018

3.6.1 Growth of Tourism

One of the key takeaways identified through the pre-trip interviews was that India, and as a result Auroville, are experiencing a large growth in tourism. Interviewees commonly mentioned the sheer volume of tourism in India. One participant stated that in 2017, India received over 15.5 million international tourists. It was also mentioned that approximately 90 percent of tourism in India is domestic, as more people are taking holidays, leading to an increase in weekend and day trips. The rise of the middle class in India translates to an increase in disposable income for travelling, which also supports the high proportion of domestic tourism. Additionally, increasing numbers of local airports and more frequent flights have made travel more accessible by shortening travel time. Respondents also indicated that younger people are considered to be part of the 'selfie generation' and are motivated by social media to engage in tourism. India is poised to have one of the largest populations of young people by 2025, which indicates tourism rates are likely to continue to grow.

Through pre-trip interviews, it was mentioned that Auroville is also experienc a rise in tourism, which is likely due to an overall increase in tourism to the region. While some interviewees noted that it is unclear exactly how many tourists Auroville receives, one participant noted that Auroville receives an average of 2,000 to 5,000 visitors per day. Another respondent noted that Auroville received 9,000 visitors on one Saturday alone. While interview subjects stated that the origin of visitors to Auroville is not recorded, it is likely that the majority of visitors in Auroville are day trippers. It was also noted that Puducherry is continuing to promote tourism and is in the process of constructing its first airport, which is anticipated to result in more regional tourism and ultimately increase tourism in Auroville as well.

3.6.2 Types of Tourism

The types of tourism that occur within Auroville was another key topic mentioned by multiple interviewees. Auroville receives several different types of tourists, including day trippers and long-term visitors, each of which experiences Auroville in different ways. One respondent stated that approximately 90-95% of the overall number of visitors to Auroville are day trippers. Multiple respondents mentioned that day trippers commonly only visit the Visitors Centre and the Matrimandir to take photographs and selfies before leaving the community. These practices result in a lack of meaningful knowledge exchange and understanding of Auroville. Other interviewees noted that villages in the surrounding Green Belt have developed tourism-focused economies to capitalize on day trippers headed to or from Auroville, as these day trippers often stop in the villages to purchase inexpensive handicrafts.

Long-term visitors were also mentioned in pre-trip interviews. One respondent noted that Auroville is more welcoming to long-term visitors because guests looking to stay for a longer period of time tend to actively seek out Auroville as a destination, and desire to learn from and contribute to the community. However, another respondent noted there can be downsides to long-term guests, stating that there is currently some pressure on local tourism service providers to allow long-term guests to have the same access as residents to community facilities. It was also noted that some residents find that the behaviour of guests makes a spectacle of their daily life and invades their privacy.

Through pre-trip interviews it was also discovered that tourism service providers in Auroville often encourage non-traditional forms of tourism, discouraging strictly consumptive behaviour such as sightseeing. Many providers promote experiences, allowing visitors to engage in learning and self-development by gaining a better understanding of Auroville. One example that was mentioned was Auroville's support for student and learning groups, as well as volunteers, as these groups engage in more meaningful interaction with Auroville and tend to experience the community on a deeper level.

Large domestic bus tour vistiing Auroville's Visitors Centre | Smith, 2018

3.6.3 Economic and Village Development

While some interviewees identified that economic benefits generated by tourism, several interviewees noted that there is a lack of data to determine exactly how tourism affects Auroville's economy. Multiple respondents pointed out that many restaurants and guesthouses in Auroville are largely dependent on visitors. Interview subjects also suggested that there has been a notable increase in classes, programs, and amenities offered in Auroville in recent years. However, it was mentioned that visitors are often unclear as to what visiting guests can and cannot participate in. Multiple interview subjects noted that the villages located in Auroville's Green Belt have shifted their economic focus to tourism and hospitality as a means of economic independence, by opening cafes, restaurants, and guesthouses. One interview subject also noted that Puducherry is developing their hospitality sector as a primary economic generator, which places significant pressure on Auroville to adapt to increasing tourist numbers.

Many respondents stated that Auroville has experienced tourism-related development, such as cafes, guest houses, and restaurants. Despite this, it was mentioned that Auroville continues to lack existing physical infrastructure to adequately support tourism and that Auroville cannot cope with the level of tourism occurring. Multiple respondents noted that if Auroville does not develop this infrastructure, surrounding villages will do so in a potentially in less sustainable manner. One respondent noted that in order for meaningful development of tourist infrastructure to occur, such as another Visitors Centre or additional accommodations, Auroville must determine the actual needs of casual visitors. In order to address the problem of tourist infrastructure, another respondent stressed that Auroville must decide how to proceed with development by determining how much they want to support tourism.

3.6.4 Mobility

Another key theme was the mobility of tourists in the region. In various interviews, it was noted that most day trippers come to Auroville by car from the East Coast Highway. It was also suggested that the primary road into Auroville, the Auroville Main Road, is unable to accommodate the current volume of tourist traffic. One respondent suggested that Auroville should develop a second Visitors Centre strictly for day trippers in order to alleviate pressures on the Auroville Main Road. Another respondent suggested that collecting data on the use of the Auroville Main Road is vital to better understand tourism and its impacts. Others explained this road contains predominantly residential buildings and many residents find the traffic to be invasive, distracting, and a burden on current road infrastructure. One respondent explained that more efficient transportation is needed to support tourism into Auroville, noting the vehicle traffic as an unsustainable method of tourism.

A related theme mentioned in multiple interviews was the need for the dispersion of tourist flows. One suggestion to disperse visitors was to provide information regarding places to go and things to do other than visiting the Matrimandir, which could prolong visits to Auroville and provide greater knowledge exchange and learning.

3.6.5 Education and Knowledge Exchange

A common theme of education and knowledge exchange was present throughout all pre-trip interviews. Several respondents discussed disseminating knowledge through Auroville's website, Auroville's mobile phone application, and various social media platforms. Multiple respondents stated that better website organization would benefit visitors. One interviewee suggested more thoughtful website design that

would better link Auroville's sustainability with many different facets of tourism in the community. The need to deliver more clear and concise information to day trippers about Auroville and its vision was also noted. It was suggested that a more detailed or up-to-date mobile phone application providing visitors with information about Auroville at their fingertips could be developed.

The positive and negative aspects of social media in Auroville was also discussed, with some interviewees noting that the "social media generation" is the primary reason day trippers stop in Auroville. It was noted that Auroville must be prepared for an increase in tourists wanting to visit the Matrimandir after seeing images posted on social media platforms by previous visitors. Overall, respondents tended to suggest that education and knowledge exchange should be used to create meaningful experiences in Auroville for both long-term guests and day visitors.

3.6.6 Regional Planning

It was mentioned in the pre-trip interviews that tourism in Auroville is largely influenced by tourism to the overall region, including Puducherry, Villupuram, and Cuddalore. One respondent stressed that Auroville must be proactive in collaborating with other stakeholders in the region in order to more effectively manage tourism, as there is a high level of tourist spillover from Puducherry. One respondent shared that Puducherry differs from Auroville in their liberal means of development and forms of entertainment. As a result, Puducherry may attract different types of tourists seeking a particular type of experience that may conflict with Auroville's values. Another respondent identified that promoting and managing tourism on a regional level is difficult due to differing levels of development and complicated government jurisdictions found within the region.

3.6.7 Future of Tourism

All interviewees noted that proactive steps must be taken to manage tourism in Auroville. It was mentioned in multiple interviews that the increase of tourism in Auroville is inevitable, and is going to occur whether the community desires such an increase or is prepared for it. As a result, more conversations about tourism need to occur, and consensus on how to proceed with tourism must be formed to better direct Auroville in the future. Going forward, it was noted that Auroville should attempt to establish new ways to track and count visitors, and could benefit from the lessons learned by other cities that have experienced large increases in impacts from tourism.

Lines of people walking to Matrimandir Viewing Point | El Dabee, 2018

3.7 Interviews, Group Discussions, and Solar Kitchen Kiosk in Auroville

The following section includes information gained from 20 semi-structured interviews, three group discussions and the kiosk conducted at the Auroville Solar Kitchen. The findings are organized in five categories: (1) Economy, (2) Infrastructure, (3) Natural Environment, (4) Social, and (5) External Relations. The interviews informed the team's understanding of current and potential strategies to manage tourism impacts in Auroville and its Green Belt. The kiosk, interviews, and group discussions illustrated the scale of the impacts from tourism and allowed for impacts to be categorized in order to formulate appropriate recommendations for the framework.

Project Course Team conducting Solar Kitchen Kiosk | Armstrong, 2018

Day visitors walking to newly added Visitors Centre parking lot| El Dabee, 2018

3.7.1 Economy

Economic impacts from tourism to Auroville, along with potential tools and strategies to manage these impacts, were identified in group discussions and interviews conducted with residents of Auroville and Edayanchavadi.

Economic Opportunities

Multiple participants stated that tourism may benefit Auroville's economy. Tourism was suggested by many Aurovilians as a potential source of income that may be used to fund Auroville related-projects or contribute to the development of additional tourism-related management and infrastructure. Some respondents identified that Auroville could build more facilities which cater to visitors, such as restaurants, guest houses, transportation options, and restrooms. This would provide visitors with more opportunities to spend money in Auroville than what is currently available, ultimately increasing the revenue that Auroville generates from tourism.

One Auroville resident noted that tourism fees could be established to contribute to Auroville's financial situation and the maintenance of resources. For example, one participant suggested that Auroville collect a 100-rupee fee from each day visitor. This fee may also be used to maintain and support services required for casual visitors such as transportation, restrooms, and security. While one participant supported the implementation of tourism fees, another participant did not support charging visitor fees because of the commercialization that is associated with this form of transaction.

Village resource persons stated that the community economically benefits from tourism. Many tourism-related businesses have developed in Edayanchavdi such as guest houses, restaurants, and hand-

icraft sales centres. Job opportunities have also become available to Edayanchavadi residents with the increase in services and businesses catering to casual visitors and guests.

Interview participants indicated that there are conflicting viewpoints surrounding the economic benefit of handicraft sales. One participant noted that village handicrafts from Edayanchavadi are an important source of income for the village. Another resident indicated that the volume of sales is not high, as most visitors prefer to buy Auroville products at the Visitors Centre. A village resource person recommended implementing a regularly-occurring market that could provide a space for villagers to operate their businesses and potentially increase handicraft sales. Another village resource person similarly proposed that a market stall could be located at the centre of Auroville that allows vendors from Edayanchavadi to showcase and sell their handicrafts to visitors. One participant also suggested that allowing handicraft stalls inside Auroville boundaries could limit the number of stalls encroaching on the road and entrance to the Visitors Centre.

Economic Challenges

While tourism was positioned by some residents as a potential source of income, other participants indicated that Auroville does not create opportunities to financially benefit from casual visitors. Casual visitors to Auroville are not required to spend any money during their visit. Alternatively, some Auroville representatives noted that there is a lack of understanding of how much tourism is currently contributing to Auroville's economy. This is because tourism-related spending is not monitored.

It was also indicated by many Auroville residents that tourism creates economic competition within Auroville. For example, one Auroville res-

ident noted that increased tourism in the area is inciting the sale of private land at increased or more competitive prices. Guest house operators also specified that there is competition between registered Auroville guest houses and private guest houses in terms of pricing and revenue. While it was noted that registered Auroville guest houses must contribute 20 percent of income to Auroville, private guest houses do not contribute to Auroville and are for individual profit. The Guest Facilities Coordination Group noted that this fact is worsened due to the inability of guests to distinguish between Auroville affiliated and private guest houses.

While employment opportunities are created by tourism, village resource persons noted that these opportunities have caused the traditional economic base of Edayanchavadi to shift. It was reported by village resource persons that there is less cultivation of land in the village because of tourism employment opportunities in Auroville. Many villagers are selling off their agricultural lands, which are often converted into residential properties. As a result, Edayanchavadi is experiencing a loss of agriculture.

Project Team conducting interview at Auroville Bamboo Centre | Raghavan, 2018.

3.7.2 Infrastructure

Several interviewees noted that casual visitors and guests to Auroville direct and indirect impacts on the built environment and infrastructure in Auroville and Edayanchavadi. Suggestions were provided on how to manage these impacts.

Resources

Interview participants noted that casual visitors are coming to Auroville and going to the Visitors Centre, which offers public restroom facilities and water refilling stations. An Auroville resident noted that Auroville currently does not collect data regarding how many people Auroville can accommodate in a day. They mentioned the need for understanding how many vehicles the roads can accommodate, the level of resources, such as water and sanitation, necessary to accommodate current and future tourists, or restaurant capacity. They noted this makes it difficult to understand the actual use of these resources by tourists, and the overall capacity of sanitation, water use, watershed and aquifer systems to handle tourists and residents.

Roads and Congestion

Traffic congestion from tourism was noted by multiple kiosk respondents, village resource persons and interview participants from Auroville. With an increasing number of visitors and guests to Auroville, it was noted by interview participants that congestion from personal vehicles, autorickshaws, and buses within Auroville and Edayanchavadi has occurred. It was heard that due to the abundance of casual guests visiting Auroville, they are congesting the roads, specifically in proximity to the Visitors Centre parking entrance. Sundays were identified by some stakeholders as the day with the majority of traffic congestion. Interview participants described the existing roads in Auroville and Edayanchavadi as too narrow to accommodate any new future traffic

Large tour buses utilizing local road infrastructure in Edayanchavadi Village to access Aurovlle's Visitors Centre | El Dabee, 2018

from tourists. Participants also doubted the ability of existing road infrastructure to accommodate everyone having a car.

There were multiple methods noted by interview participants to manage transportation impacts by casual visitors. Interview participants suggested opening a new parking lot further from the existing Visitors Centre in order to manage the increased number of buses and vehicles entering Auroville, specifically by casual visitors. Another participant noted that an additional parking area could be used as a point for visitors to park their cars outside of Auroville and enter Auroville using an electric transportation vehicle. Providing public transportation for employees of Auroville's tourism sector as well as providing more scooters and bicycles for guests, was suggested to manage traffic congestion.

Additionally, multiple respondents from Auroville and village resource persons noted the necessity of constructing a new road for visitors entering Auroville in order to by-pass Edayanchavadi and reroute traffic outside the village. One Auroville resident noted that the by-pass road could have multiple centres of interest based on education, commercial, workshop, and hands-on-activities. The participant shared that this new route could be used to bring visitors to one space while creating fewer impacts and disturbing fewer residents. In order to create this new by-pass road or widen the existing access road, it is necessary for the government to work with Edayanchavadi and Auroville as noted by an Auroville resident. These efforts would be beneficial in managing impacts from visitor traffic congestion.

New Tourism Development

The occurrence of tourism related development was noted by multiple stakeholders. Village resource persons noted that new construction of shops is encroaching on the already narrow road to the Visitors Cen-

tre. Interviewees also noted that more homestays are opening in both Auroville and Edayanchavadi in addition to existing guest houses. An Auroville resident mentioned that residents in Auroville and Edayanchavadi are offering rooms for homestays due to the increasing number of visitors to Auroville and the pressure to accommodate them.

The team heard from members of the Guest Services Coordination Group that private houses in Edayanchavadi are being converted to guest houses. These guest houses do not require registration, and therefore can be converted and offered to guests without permission. Additionally, it was heard that guest houses are being constructed on private lands within the boundary of Auroville that Auroville does not control, which poses conflicts between Auroville residents and private guest house operators. One Auroville planner noted that some Aurovilians are focusing on providing development that caters to visitor. An Auroville resident recommended using zoning as a tool to control impacts of tourism because it protects community members from social nuisances.

The Guest Facilities Coordination Group recommended that Auroville should create a recognition system or plaque system that differentiates Auroville guest houses from private guest houses within Auroville, so visitors know where they are staying and who they are supporting. The group recommended that Auroville could coordinate this system with villages in the Green Belt in order to manage the competition and conflicts caused by visitors staying in Auroville and its Green Belt. One member of Service Link recommended locating guest houses on the periphery of Auroville's property. Locating guest houses on the periphery of Auroville's boundary would help reduce traffic congestion further within Auroville.

Signage advertising private guest house | El Dabee, 2018

Quality of Infrastructure

The team heard from one Auroville resident that in recent years, Auroville's roads have been upgraded and paved due to the increase in the number of vehicles. The respondent did not specifically identify this as an impact from tourism, however, other interview respondents have noted the traffic congestion in Auroville and Edayanchavadi as a result of tourism. One interview participant noted that quality needs to be brought to physical development to manage visitors because the number of visitors cannot be changed.

Visitor Centre Systems

The team heard from multiple interview participants that the number of tourists coming to Auroville are applying pressure and strain to systems and locations, such as Auroville Security, the Visitors Centre, and the Matrimandir. It was heard from one Auroville resident that they did not feel the Visitors Centre can support the continuous increase of visitors and casual guests coming to Auroville. One participant noted that there are only a certain number of people that can be supported by the Visitors Centre in a day and once this number is reached it negatively impacts the system's function and effectiveness.

Multiple interview participants identified the construction of a new visitor centre as a method of managing tourists coming to Auroville. Auroville Arts Services suggested opening a new visitor centre that is larger and located further from the centre of Auroville compared to the existing Visitors Centre. Similar to Arts Service, Inside India suggested that a new visitor centre be located away from main roads in Auroville where there are places for children and families to explore and space for boutiques, shops, exhibitions and information to operate. Another Auroville resident recommended that a visitor centre could be placed at the East Coast Road or the Tindivanam Road. The participant also

recommended that shuttles could be provided from a new visitor centre to other locations in Auroville, if necessary. Programs such as Auroville introductions in different languages, or tours by guest houses and tour companies were noted by one participant as being an opportunity to incorporate in either a new visitor centre or the existing one.

International Zone and Line of Goodwill

A member of Auroville Arts Service and SAVI suggested connecting the International Zone to the Visitors Centre in the future. One participant recommended doing this by providing programs, exhibitions, and concerts. These initiatives were recommended to allow visitors to observe Auroville, satisfy visitor curiosity, reduce unwanted behaviours, and concentrate visitors. It was also recommended that the Line of Goodwill be used to house visitor experiences in one place. It was noted that programs may provide more opportunities for knowledge exchange between Auroville residents, casual visitors, and guests. It was also recommended that activity fees or donations should be collected in key areas to support the maintenance of each activity.

Matrimandir Management Systems

We heard from the Matrimandir Access Team that casual guests are becoming pushier by trying to book a same-day appointment for silent meditation and concentration inside the Matrimandir. We heard tourists are trying to bend the rules to bring their younger children inside the Matrimandir during silent meditation and concentration. It was heard that these pressures from casual visitors and guests stretch the resources of the Access Team thin, impacting their booking system and human resources available. The Matrimandir Access Team suggested that more filters should be created for people visiting. The Team recommended that more restrictions, such as only one day a

week for visitor silent concentration, could be implemented to manage the number of visitors to the Matrimandir each week. Another suggestion was to create a longer introductory video on the Matrimandir for visitors to watch as well as create a better way of quieting people down when they enter the Park of Unity.

Another suggestion from the Matrimandir Access Team was to create a new system for Matrimandir bookings for visitors who only come to Auroville for the Matrimandir. Another participant noted that the Visitors Centre does not have the time or space to accommodate all visitors in peak days to watch the required Matrimandir video or obtain passes for silent concentration. This same participant identified that the Visitors Centre should identify new ways to either by-pass the video or provide the information to visitors through a different method.

Internal Security

One member of the Auroville Safety and Security Team noted that visitors and casual guests impact the human and physical resources needed for the Matrimandir. We heard from this team that casual visitors have been climbing the fence around the Matrimandir, which their team has to respond to. They also noted the private guest houses, which allow for parties and alcohol consumption to occur, are causing conflicts between Auroville residents and private guest house occupants and owners, which the Safety and Security Team is also responsible for addressing.

The Auroville Safety and Security Team suggested that a better structure of security should be created to organize and communicate messages between different security of locations in Auroville, such as the Matrimandir and the Visitors Centre. A suggestion from village resource persons was to provide CCTV at all of their junctions in order to understand who is coming into the village and know what they are

doing. Overall, the Auroville Security Team suggested that more data needs to be collected to make the security processes more efficient.

3.7.3 Natural Environment

Multiple participants indicated that vistiors impact the natural environment. Mitigating environmental impacts, such as pollution and waste, is important to sustain the health and well-being of the community

Pollution

Multiple participants identified that tourism pollutes the natural environment. Kiosk respondents, interview participants from Auroville, and village resource persons stated that increased vehicular traffic congestion from tourism creates large amounts of dust, causing air pollution. Multiple participants noted that air pollution from vehicular traffic worsens on weekends and in summer months. Village resource persons also suggested that air pollution may contribute to current respiratory health concerns in the village. One participant observed that sounds from vehicles circulating through Edayanchavadi cause noticeable noise pollution within Auroville and its Green Belt. Noise pollution contributes to the disruption of the everyday lives of residents.

Waste Management

Many kiosk participants, interview participants, and village resource persons observed an increase in litter in Auroville and Edayanchavadi. Different village resource persons, however, had conflicting perspectives on who contributes to the increase in litter. One group of village resource persons stated that visitors produce waste such as plastic, paper, and rubbish particularly along the roadside. Other village resource persons believed that visitors do not contribute to the increase in waste. Auroville Art Service recommended creating a workshop that allows visitors to participate in a trash clean up initiative in order to

maintain cleanliness in Auroville and educate visitors about the importance of sustainability.

Litter located outside Visitors Centre parking lot | El Dabee, 2018

3.7.4 Social

An increase in casual visitors and guests directly and indirectly influences the safety of Auroville and Edayanchavadi residents. This change also influences the social-cultural context in the area, educational opportunities available, and how human resources within the communities are allocated.

Safety Concerns

Safety concerns due to traffic, crime, as well as alcohol and drug use were expressed by residents of Auroville and Edayanchavadi. Various members of Auroville noted that with more traffic congestion from personal vehicles, autorickshaws, and buses, there was also an increase in the number of accidents experienced by residents of Auroville and Edayanchavadi. Additional safety concerns from traffic congestion expressed by village resource persons include an unsafe environment for children walking to school, which they expressed may create a barrier to educational opportunities.

Residents of Edayanchavadi have also experienced an increase in theft as the number of people visiting Auroville increases. The project team heard that theft was occurring by both members of other villages surrounding Auroville, as well as international and domestic visitors to Auroville. The term "chain snatching" was used to further describe the theft occurring from residents of other villages in Auroville's Green Belt.

Social Nuisances

In addition to safety concerns, multiple Auroville residents expressed concerns that visitors and guests disrupt their daily lives. Participants noted that there has been an infiltration of undesired types of visitors who sneak around areas in Auroville. For example, people use distant connections to get into Auroville that are not always verified with a contact. This may be someone they have heard of rather than a personal connection. The team learned that many visitors are thereby curious about culture of Auroville and are unsure of how to appropriately approach certain situations. For example, an Auroville resident explained that a group of students knocked on her door with no invitation because she was playing a Hindi song. If social nuisances as such occur more frequently, living in Auroville may become less desirable.

Alcohol and drug consumption were also noted as an issue for Auroville residents. A member of the Auroville Safety and Security Team, along with multiple Auroville residents indicated that some guests staying in Auroville for weekend trips do not follow the alcohol-free rule. Auroville residents indicate that alcohol consumption of visitors has resulted in an increase in noise levels as well as other unwanted behaviours, both of which disrupt the lives of Auroville residents.

Multiple interview participants suggested methods for managing the social disruptions and impacts caused by visitors. One suggestion included a system of ranking visitors and guests to determine what access they should have based on need and level of participation in the community. The same participant also recommended implementing a mobility plan that would further indicate how people could circulate throughout Auroville and its Green Belt. These approaches would further mitigate unwanted behaviour through policy.

Other recommended ideas to manage disruption to residents' lives include conducting a visitor's survey and audit on an ongoing basis to understand who is visiting Auroville. One respondent recom-

mended that surveys be conducted in the future on a deeper level than this project's Visitors Centre kiosk to further explore the demographics of casual visitors and guests. By understanding more about casual visitors and guests, more informed policies and standards can be created. Other recommended tools from one respondent included: social mapping, resource mapping, livelihood mapping, stakeholder mapping, and community participatory methods for Auroville and its Green belt.

Shift in Human Resource Allocation

The human resources allocated to tourism-related activities has increased. An interview participant indicated that with an increased focus on catering to visitors and guests to Auroville, members of Auroville and Edayanchavadi allocate more time and energy into activities engaged in by casual visitors and guests. A member of the Auroville Safety and Security team indicated that an increase in traffic also increases the amount of work necessary to manage the flow of people. This in turn prevents people from carrying out responsibilities of other aspects of their job or life.

Information Dissemination

Residents of Edayanchavadi stated that an increase in visitors has provided residents of Auroville and Edayanchavadi with the opportunity to meet people from various parts of the world. It was also indicated by village resource persons that tourism allows Auroville and Edayanchavadi residents to interact and share information with people who live in different parts of the world. A member of the Village Reconstruction Organization mentioned that guests of Auroville have the opportunity to learn about and share knowledge on waste reduction practices once they leave. The information being shared to visitors of Auroville works to inspire people not currently living in Auroville to adopt similar values and practices.

Despite this, a member of the Visitors Centre noted that casual visitors often lack knowledge of Auroville and its culture prior to arrival. Multiple residents indicated that they feel intimidated when outsiders arrive without background knowledge on the community. Various participants agreed that Auroville needs a more organized approach to disseminating information to visitors before and during their visit.

A variety of measures for disseminating information to visitors while in Auroville were suggested. One participant noted that local tour operators could provide in-person introductions at the Visitors Centre upon arrival in Auroville. Another group suggested that Auroville hold introductory tours of the International Zone in order to familiarize visitors with values of Auroville. Multiple participants identified the Visitors Centre as an ideal location for exhibitions targeted to casual visitors. Exhibitions with examples on how Aurovilians live may satisfy visitor curiosity and reduce the disruption by casual visitors and guests. Finally, updating and increasing the number of signs at the Visitors Centre to provide up-to-date information on Auroville and remind people of appropriate behaviours while visiting was recommended. The purpose of new signage may include marking a boundary where particular behaviours, such as speaking loudly, may not be appropriate.

Multiple participants highlighted the need to update Auroville's existing cellphone application and website. An interview participant recommended creating new audio-visual media on Auroville history and culture to share information with visitors on-demand. Providing opportunities to receive information through multimedia caters toward a younger population and may improve awareness of visitors upon arrival.

Education

The economic benefits realized from tourism discussed earlier in this section influences the quality and quantity of educational opportunities available to members of Auroville and Edayanchavadi. Multiple residents from Edayanchavadi, including youth and representatives from the Women's Group Federation, mentioned that the economic benefits from tourism and associated development provides more educational opportunities in Auroville's surrounding villages. Multiple Edayanchavadi residents indicated that night schools now exist in each village, which provide residents the option to enroll in school while also working during daytime hours.

The quality of education offered to Edayanchavadi residents has also been influenced indirectly by economic benefits of tourism in Auroville. Village resource persons mentioned that one woman from Edayanchavadi had the opportunity to go through necessary education to become a medical doctor. Village resource persons have also noted that English proficiency has increased as a result of visitors and informal knowledge exchange. With more educational opportunities, necessary skills can be developed to fulfill requirements of available jobs, and ultimately increase quality of life experienced by residents in an area.

Stakeholder Engagement

Many community and stakeholder engagement recommendations were made by interview participants. A member of Auroville Council recommended creating a tourism working group that connects with learning groups in Auroville, and ultimately facilitates a participatory approach to tourism management. To ensure a meaningful experience is created for visitors, one Auroville resident recommended educating tourism operators, private guest house owners, and residents

Project Team engaging with residents at Solar Kitchen Kiosk| El Dabee, 2018

of villages within Auroville's Green Belt. It was heard that by providing education to these stakeholders on the way in which Auroville will approach tourism once a community vision is created may be beneficial in ensuring a more coordinated approach to tourism is taken in the future.

Communication with Edayanchavadi

Various recommendations from interview participants were made specifically for Edayanchavadi. Village residents recommended working with members of Auroville to widen the road at the Visitors Centre and reduce traffic congestion in the area. For this to be possible, it was noted by various participants that communication between Auroville and Edayanchavadi needs to improve. An Auroville resident suggested creating a comprehensive model that villages within Auroville's Green Belt can follow. It was suggested that this model includes a cleaning program and an educational program to promote consistency across villages in terms of sustainable planning development for tourism. The same respondent suggested that the educational program be approached in a "social enterprise" manner, where village members can reach out to enroll in the program when opening a business.

Vision for Tourism

Multiple participants indicated that decision making at a governing level needs to occur to avoid scattered, uncoordinated development within Auroville. Multiple interviews have confirmed the need for a common vision and plan for tourism that is understood and followed by Aurovilians and residents in the Green Belt. This may be beneficial in ensuring a coordinated approach to tourism is taken. One resident recommended consensus building exercises where key values for tourism would be determined. Another participant had a different perspective, mentioning that you cannot centralize or create a common vision for tourism because Auroville is composed of individuals. To

that point, an Auroville planner indicated that dialogue related to goals and objectives for Auroville's approach to tourism would be beneficial; however, community visioning exercises that address specific details may be difficult.

3.7.5 External Relations

Tourism impacts may be influenced by regional decision making, as well as other governmental processes. Understanding tourism impacts from this perspective is important when developing long-term recommendations that sustain tourism practices.

Regional Planning and Relations

Auroville residents noted that regional tourism influences tourism to Auroville. Participants indicated that Puducherry and Tamil Nadu are marketing their proximity to Auroville, which increases the number of tourists to Auroville that may not be desired Auroville visitors. Participants noted that this promotion results in many casual visitors travelling to Auroville to visit the Matrimandir, while not necessarily participating in knowledge sharing.

Multiple respondents identified the need to approach managing tourism impacts in Auroville on a regional scale. Members of L'Avenir stated that a regional planning approach is a first step, and that they are already facilitating work on specific regional planning projects. Regional planning projects may address water security, healthy living, and mobility issues directly or indirectly related to tourism impacts. Auroville Art Service expressed interest in working with Pondicherry and its tourism companies in order to better understand and plan for a daily maximum number of visitors to Auroville. This approach could potentially include selling tickets for a bus trip from Puducherry to Auroville.

Visa Requirements

Members of the Guest Facilities Coordination Group mentioned that government issues related to obtaining visas may contribute to Auroville receiving a higher number of domestic tourists compared to international tourists. Participants noted that prior to restrictions being implemented on visas, guests were able to stay in Auroville for a longer period of time. Members of the Guest Facilities Coordination Group also indicated that there has been an increase in the number of short-term stays, which restricts the time available for visitors to participate in activities within Auroville. Guests that have a tourist visa are also not permitted to participate in some workshops Auroville offers. These restrictions may inhibit casual visitors and guests from experiencing Auroville in a more participatory manner.

The project team also heard there is no visa requirement for domestic volunteers, therefore, their first time visiting Auroville is often when they are seeking volunteer opportunities, and possibly registering. Prospective international volunteers in Auroville, however, have more recently experienced barriers in attaining a volunteer visa because precise details of the volunteer program or stay must be provided. Participants noted that this results in about half of the prospective volunteers visiting Auroville first on a tourist visa to understand the community and the volunteer opportunities available before coming back to volunteer. One suggestion presented by an interview participant is establishing a better approach to visa requirements with the Government of India. The participant suggested that the proposed approach should not hinder visitor access to Auroville as a learning society that offers educational experiences.
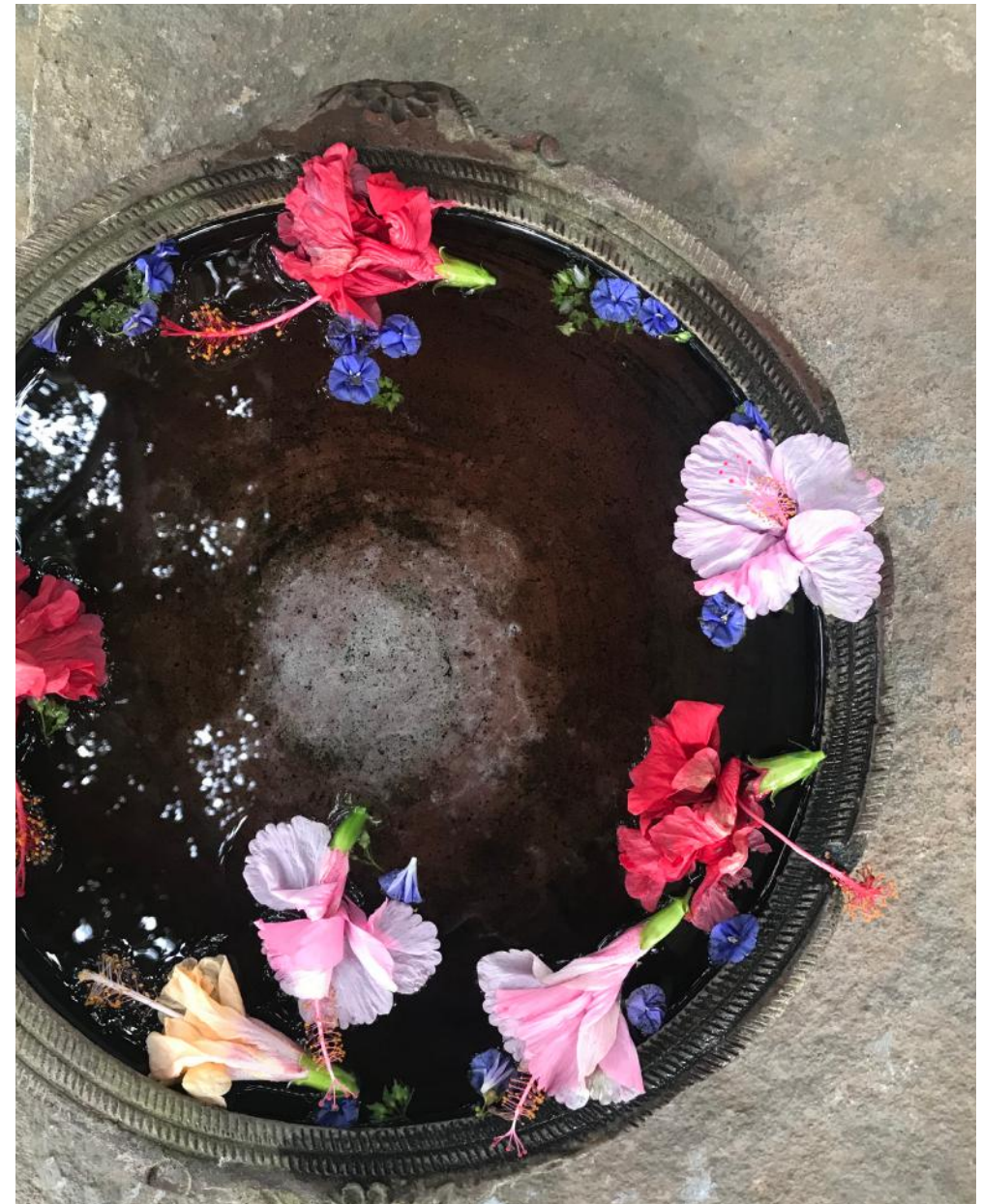
Flower offering at local guest house | Fraser, 2018

3.8 Visitors Centre Kiosk Findings

The kiosk was conducted at the Auroville Visitors Centre from 10:30 am until 1:00 pm on Saturday, December 8, 2018. The purpose of the kiosk was to allow additional qualitative and quantitative data to be collected from a variety of respondents in a format similar to a visitor audit or visitor survey. In total, 139 respondents answered all or at least one of the questions asked at the kiosk.

It should be noted that not all response totals equate to 139, as the survey was entirely voluntary, and some respondents decided not to answer certain questions. Percentages are adjusted based on total number of responses for each individual question.

The following is key information collected from participants of the Visitors Centre Kiosk:

- 79% of respondents were day visitors not staying in Auroville, while 21% of respondents were visitors staying in Auroville
- 68% of respondents were visting Auroville as part of a tour, compared to 32% respondents who were not visiting Auroville as part of a tour
- The primary modes of transportation used to travel to Auroville were two-wheeler or car, followed by bus, auto, and van
- A large majority of respondents indicated that they had visited the information building and found it informative
- Approximately an equal number of respondents indicated that they had visited Auroville's website before travelling to Auroville compared to those who had not looked at the website prior to their arrival

A final question was included which asked for general feedback or suggestions. The most frequent responses were regarding access inside the Matrimandir, requests for improvements to the Matrimandir booking process, a lack of access to information, and the overall Auroville experience. Additional information and consolidated data obtained from the Visitors Centre Kiosk is included in Appendix D.

Project Course Team engaging with visitors during Visitors Centre Kiosk | Smith, 2018

3.9 Site Observation Findings

Three site observations were conducted by the team while in Auroville. As the team conducted a higher number of interviews than anticipated, time only allowed for a small number of site observations to be conducted. The observations took place at the Visitors Centre, the Terrace Café, and the Solar Kitchen parking lot. Notes were taken by one or two members of the team at each site to understand how casual visitors, guests, and Auroville residents use the facilities.

Due to the two-week time constraint faced by the team and the higher priority placed on completing interviews and group discussions, the site observations did not provide a complete understanding of the areas impacted by tourism in Auroville. No new information or information of value was obtained from the site observations. Appendix E contains the notes taken during the three site observations.

Crowds at Visitors Centre | El Dabee, 2018

Framework

4.1 Introduction

Chapter 4 outlines the Tourism Impact Management Framework for Auroville and its Green Belt that was created using the data collection and research findings described in Chapter 3.

The Framework is divided into two sections, Recommendations and Implementation, and is intended to be used to plan and manage the impacts of tourism to benefit Auroville and its Green Belt.

Project Team's work space at the completion of study| Fraser, 2018

4.2 Recommendations

The following ten recommendations address the impacts caused by casual visitors, short-term guests, and long-term guests identified by interview participants from Auroville and Edayanchavadi. Each recommendation addresses specific impacts noted by interview participants and puts forward associated tangible tools to implement the recommendation. The proposed recommendations contained in the Tourism Impact Management Framework are supported by the goals and recommendations of the Auroville Integral Sustainability Platform (ISP) and WayForward, an action plan for the future (L'avenir d'Auroville, 2009; Residents Assembly Service, 2015). While the ISP and WayForward recommendations were not initially created with tourism in mind, they can be applied to the topic of tourism impact management and aid in justifying the proposed recommendations for managing tourism impacts on Auroville and its Green Belt. Additionally, the eight international case studies also provide examples of the recommendations successfully utilized in tourism impact management. Overall, these recommendations are anticipated to manage tourism impacts identified by Auroville and Edayanchavadi interview participants.

Project Course Team conducting interview with Edayanchavadi youth | Khetan, 2018

4.3 Recommendations Table

Recommendation	Impact Management	Justification	Concentration
Decongest the flow of visitor vehicular traffic entering Auroville Construct a parking lot on the periphery of Auroville's geographic boundary and implement an electric shuttle system to bring visitors to the Visitors Centre without the use of personal vehicles Complete a mobility plan for the International Zone and the Visitors Centre	Reduces visitor traffic within Auroville, which is anticipated to decongest roads, increase pedestrian safety, and reduce air pollution Anticipated to manage the flow of visitors in Auroville	The ISP mentions the necessity to develop guest-related mobility services in order to reduce the need for transport in Auroville (L'avenir d'Auroville, 2009, p. 11).	INFRASTRUCTURE ENVIRONMENT SOCIAL
Use tourism spending to limit visitor access and provide a source of revenue for Auroville Strengthen the use of the Aurocard amongst long-term guests and eliminate the use of cash outside of the Visitors Centre Implement a mandatory visitor contribution or donation	Concentrates visitor activity in one area to discourage day visitors from using facilities within Auroville, while incentivizing guests to stay for longer durations by providing access to more facilities within Auroville Concentrates visitor spending in one area to aid in the collection of data to determine the impact of tourism on the economy Provides a source of revenue to contribute to the creation and maintenance of facilities and services used by visitors	Transparency related to the finances of all guest related activities was noted as necessary by the ISP (L'avenir d'Auroville, 2009, p. 138). As well, the ISP identifies the need to provide a clear framework for the relation between multiple types of people and their access to different services (L'avenir d'Auroville, 2009, p. 125). The ISP also identifies income generating activities that support Auroville's economy as a necessary step to promote self-sustainability (L'avenir d'Auroville, 2009, p. 181). As included in the Lampi Marine National Park case study, the Lampi Marine National Park General Management Plan encourages implementing tourism-related user fees to provide additional sources of revenue to the management of a site.	ECONOMY SOCIAL

Recommendation	Impact Management	Justification	Concentration
Update visitor information resources Disseminate information to visitors by: • Designing the Auroville website and cellphone app to expand reach and include more organized information about visitor access to facilities and services • Implementing visitor signage offering friendly behavioural reminders	Anticipated to improve the security and safety of Auroville by proactively forming visitor expectations, providing information, and clearly communicating visitor behaviour expected in Auroville Signage in Auroville may include reminders about exhibiting appropriate behaviours, engaging in environmental stewardship, and keeping noise levels down	As per the Venice and Its Lagoon case study, the Venice and Its Lagoon Management Plan prioritizes implementing information signage to improve the utilization and visibility of the site.	SOCIAL
Create a certification program for guest houses and tour guides Establish a set of standards and plaque system for Auroville guest houses, which could be extended to private guest houses in Edayanchavadi and other settlements within the Green Belt Develop a certification program for tour guides operating in Auroville	Reduces competition for bookings and tension over differences in operating standards between Auroville guest houses and private guest houses that are viewed as disruptive Facilitates tourism collaboration with Puducherry, and aids in ensuring internal and external tour guides are providing visitors with accurate and educational tours of Auroville	The ISP provides the recommendation to register all unregistered guest houses in Auroville (L'avenir d'Auroville, 2009, p. 139). As included in the Banff National Park case study, Banff National Park's Heritage Tourism Strategy encourages the tourism industry to receive accreditation to better educate visitors about community values.	SOCIAL EXTERNAL RELATIONS

Recommendation	Impact Management	Justification	Concentration
Provide alternative programming in one location to facilitate knowledge sharing with casual visitors Create revenue-generating programming showcasing the different facets of Auroville, which could take the form of: • Introductory tours to Auroville • Rotating exhibitions in or outside of the Visitors Centre • A Sustainable Model House • A children's playground	Centralizes activities alternative to sight-seeing in one area in order to concentrate visitors and prevent disruptive exploration around Auroville Alternative programming could be located in the Visitors Centre while the Gateway and International Zone are being constructed Generates a potential source of revenue to aid in the maintenance and creation of visitor programming	The ISP identifies the goal of coordinating all guest related activities as well as centrally coordinating all programs and day tours in Auroville (L'avenir d'Auroville, 2009, p. 138). Creating income generating activities that support Auroville's economy was listed as a goal in the ISP (L'avenir d'Auroville, 2009, p. 181). As included in the Banff National Park case study, Banff National Park's Heritage Tourism Strategy encourages educating visitors about local history, culture, and respect for the natural environment. As per the Venice and Its Lagoon case study, the Venice and Its Lagoon Management Plan encourages the development of alternative tourism activities in addition to traditional sight-seeing.	SOCIAL ECONOMY
Collaborate with Edayanchavadi on tourism-related development Involve key stakeholders from Edayanchavadi in a tourism working group Educate villagers on sustainable development practices and environmental stewardship	Facilitate improved collaboration between Auroville and Edayanchavadi regarding tourism Directs tourism-related development in villages to align with the Auroville Master Plan and reduce threats to the Green Belt	The ISP outlines multiple village sector strategies including the creation of an outreach newsletter, a communication forum or outreach board, an online interactive platform, and open sessions of different outreach units (L'avenir d'Auroville, 2009, p. 143). Additionally, the ISP includes external communication strategies including the coordination of a body to mediate between Auroville working groups and villages, more involvement of village residents in planning issues, and the determination of better tools for communication (L'avenir d'Auroville, 2009, p. 143). Goal 1 of Land and Town Planning in WayForward outlines the desire to create bioregional co-development with two-way community strategies and village development (Residents Assembly Service, 2015). As included in the Great Himalayan National Park	INFRASTRUCTURE ENVIRONMENT EXTERNAL RELATIONS

Recommendation	Impact Management	Justification	Concentration
		case study, Great Himalayan National Park's Community Based Ecotourism plan involves villages highly impacted by tourism to partake in working groups and collective decision-making. As per the Banff National Park case study, the Banff National Park Heritage Tourism Strategy encourages the management of tourism on a regional scale, as changes in surrounding land uses can cumulatively impact a site.	

Bring the community together on the topic of tourism
 	
Improve community awareness and collaboration by:
  • Running a community visioning workshop on tourism
  • Forming a tourism working group
  • Undertaking a community self-assessment
	Provides outlets for voicing differing perspectives on tourism, establishes an approach for tourism and identifies additional methods for managing its impacts	Goal 1 of Growth in WayForward recommends the mobilization of competent people to join working groups to work full time (Residents Assembly Service, 2015).
		
		As included in the Cultural Landscape of Bali Province case study, the Cultural Landscape of Bali Province's Sustainable Tourism Strategy created a stakeholder forum responsible for encouraging community involvement in decision-making on tourism-related matters.
			SOCIAL

Recommendation	Impact Management	Justification	Concentration
Collect data related to tourism Data collection methods could include: • Visitor audits and surveys • Economic impact assessment • Guest facilities database • Amenity checklist	Data collection aids in informed decision making about how to proceed with tourism impact management	The ISP recommended the creation of transparent financial overviews for all guest-related activities through a central handling system (L'avenir d'Auroville, 2009, p. 138). Similarly, Strategy 16 of Economy in WayForward includes the recommendation to assess Auroville's economic situation through estimation rather than guestimation (Residents Assembly Service, 2015). As included in the Mount Kenya National Park case study, Mount Kenya National Park's Ecosystem Management Plan prioritizes evaluation methods such as visitor satisfaction surveys, visitor impact studies, and visitor monitoring systems in order to evaluate existing tourism conditions and help develop future tourism policies and tools.	ECONOMIC INFRASTRUCTURE
Determine Auroville's tourism carrying capacity Complete a comprehensive carrying capacity study regarding tourism which reviews the limits of existing: • Physical infrastructure • Natural resources • Internal systems	Helps Auroville determine the capacities of existing infrastructure, resources, and systems, and determine if future expansion is required to accommodate and manage additional visitors Based on carrying capacity results, the option of a second visitors centre or an alternative route could be explored	As included in the Mount Kenya National Park case study, Mount Kenya National Park's Ecosystem Management Plan recommends calculating Limits of Acceptable Use or carrying capacity to determine how many visitors an area can sustain before deterioration occurs.	INFRASTRUCTURE ENVIRONMENT

Recommendation	Impact Management	Justification	Concentration
Establish a regional planning approach to tourism Dissuade Puducherry and Tamil Nadu's promotion of Auroville as a tourist destination Form collective agreement regarding an approach for tourism in the region and how it impacts Auroville Address misuse of Auroville name	Create an understanding of how Auroville would like to be portrayed to promote a better working relationship between Auroville and the region Manage the number of visitors coming to Auroville by referral of Puducherry and Tamil Nadu Prevent non-Aurovilians from using and profiting off of the 'Auroville' name	As per the Banff National Park case study, Banff National Park's Heritage Tourism Strategy supports approaching tourism management through a regional lens, as surrounding communities contribute to the sustainability of a site.	EXTERNAL RELATIONS

4.4 Implementation

An implementation timeline containing the recommendations detailed in Section 4.3 has been created to identify key priorities and guide the management of tourism impacts. The timeline outlines each of the proposed recommendations and their required duration of implementation. Some recommendations require implementation on an ongoing basis and have been identified as such in the table. The recommendations are categorized as requiring either an immediate action or a longer-term focus. The timeline should act as a guideline for when specific actions should be initiated and completed in order to effectively achieve the key principles of the Framework. The numbering of the recommendations within the immediate and long-term prioritization is for convenience and is not necessarily indicative of the order of importance. All recommendations are linked and important for successful implementation.

As the continual increase in visitor numbers is an uncontrollable factor, it is imperative that Auroville addresses the impacts that are currently being experienced and plan for the future. In order to effectively carry out the long-term recommendations, the formation of a Tourism Working Group is required. Additionally, the successful implementation and monitoring of the recommendations requires the creation of a Tourism Impact Management Plan. The Tourism Working Group should provide the direction for the aforementioned plan using the recommendations included in this Framework.

The recommendations provided in Section 4.3 should be initiated within one to five years to ensure the current impacts are not significantly amplified. Addressing the current impacts will allow Auroville to have the time required to draft a detailed Tourism Impact Management Plan, which will require extensive data collection and a unified community direction.

Some of the proposed recommendations are to be implemented on an ongoing basis, as noted in the Implementation Timeline, including those involving monitoring or comprehensive data collection. These recommendations and tools will therefore not have a specific completion date and will span over multiple years. The Tourism Impact Management Framework and subsequent implementation timeline should remain dynamic and flexible, using the Framework as a guideline rather than a concrete timeframe. This flexibility will allow the Framework to easily adapt to changes in the community.

Following the completion of the recommendations outlined in the implementation timeline, continuous monitoring and assessment are required and should be prescribed in the plan. It is important that Auroville and surrounding villages, such as Edayanchavadi, continue to strive for effective communication in order to ensure that goals and objectives relating to tourism impact management are adaptive and met over time. In five years, it is expected that Auroville will have an official Tourism Impact Management Plan to benefit Auroville and its Green Belt.

Matrimandir | El Dabee, 2018

4.5 Implementation Timeline

Implementation Timeline						
Focus	**Recommendations**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
IMMEDIATE	**1. Decongest the flow of visitor vehicular traffic entering Auroville**					
	Periphery parking lot and electric shuttle system	▉	▉			
	Complete mobility plan for the International Zone and the Visitors Centre		▉	▉		
	2. Use tourism spending to limit visitor access and provide a source of revenue for Auroville					
	Strengthen use of Aurocard and eliminate cash outside of Visitors Centre	▉				
	Implement a mandatory visitor contribution or donation		▉			
	3. Update visitor information resources					
	Implement visitor signage	▉				
	Provide cellphone application	▉	▉			
	Update Auroville website with a visitor tab	▉				
	4. Create a certification program for guesthouses and tour guides					
	Set of standards and badge system for guesthouses in Auroville and surrounding villages		▉			
	Certification program for tour guides/operators in Auroville			▉		
	5. Provide alternative programming in one location to facilitate knowledge sharing with day visitors					
	Rotating exhibitions in or outside of the Visitors Centre		▉			
	Sustainable Model House	▉				
	Children's playground			▉		
	Introductory tours of Auroville		▉	▉		

Implementation Timeline

Focus	Recommendations	Year 1	Year 2	Year 3	Year 4	Year 5
LONG-TERM	**6. Collaborate with Edayanchavadi on tourism-related development**					
	Involve key stakeholders from Edayanchavadi in a tourism working group	■				
	Educate villagers on sustainable development practices and environmental stewardship		■	■	■	Ongoing
	7. Bring community together on topic of tourism					
	Run a community visioning workshop on tourism	■				
	Form a tourism working group	■	■			Ongoing
	Undertake a community self-assessment		■	■		
	8. Collect data related to tourism					
	Visitor audits and surveys	■	■	■	■	Ongoing
	Economic Impact Assessment		■			
	Guest facilities database	■	■	■	■	Ongoing
	Amenity Checklist	■	■			
	9. Determine Auroville's tourism carrying capacity					
	Physical Infrastructure		■	■		
	Natural Resources		■	■		
	Internal Systems		■	■		
	10. Establish a regional planning approach to tourism					
	Dissuade Puducherry and Tamil Nadu's promotion of Auroville as a tourist destination	■	■	■		
	Form collective agreement regarding tourism in the region and how it impacts Auroville		■	■		
	Address misuse of Auroville name	■	■			

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Conclusion

5

5.1 Conclusion

After four months of extensive preliminary research, data collection, and the evolution of the project, the project team has developed a Tourism Impact Management Framework for Auroville. Diverse stakeholder perspectives and opinions were collected throughout the research, highlighting Auroville's unique context and strong focus on community engagement and connection to the natural environment.

With an increasing number of casual visitors and guests to Auroville, the impacts of tourism currently being felt will continue to amplify if implementation of clear guidelines and management tools does not occur. Addressing the impacts of tourism on Auroville and its Green Belt requires collaboration across a large number of sectors and stakeholders, including multiple levels of government and several communities. Additionally, increased community awareness is important in preventing unplanned and uncoordinated tourism development within Auroville and its Green Belt. A regional planning approach is necessary to move forward and ensure Auroville can effectively manage visitors in order to enhance positive impacts while mitigating negative impacts of tourism. This report has provided a Framework with ten recommendations as well as an associated implementation timeline that can ultimately inform a Tourism Impact Management Plan for Auroville.

The project team acknowledges the limitations of the methods used in this research and subsequent development of the Framework. One of the more significant limitations is the reduced validity of interview findings due to the use of a translator in some group discussions. The perspectives included in the interviews pose an additional limitation to the research, as the interviews were voluntary and therefore did not allow for broad stakeholder representation. A more detailed study may result in additional stakeholders being identified presenting the opportunity to capture new perspectives and opinions.

The team also faced considerable time constraints, with only two weeks in Auroville to conduct, compile, and evaluate all applicable data before providing final recommendations to the community. This resulted in the kiosks being implemented only once at each location, and therefore engaged only a small sample size of Auroville residents, casual visitors, and guests. Additionally, the team's limited time in Auroville did not provide many opportunities for stakeholders to evaluate the team's final recommendations and implementation timeline in great detail.

The creation of this Tourism Impact Management Framework for Auroville will assist in Auroville's understanding and management of visitor and guest impacts on the community. The ten recommendations in this Framework provide a foundation for the creation of a Tourism Impact Management Plan for Auroville and its Green Belt, and present measures to address some of the pressing tourism impacts on the community and surrounding area.

Project Team after final presentation on December 15th, 2018 in Auroville| Bhati, 2018

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Appendices

7

Appendix A: Interview Guides

Sample Pre-Trip Interview Guide

1   What do you think are the impacts from tourism on Auroville?
2   Do you think casual visitors are important to Auroville?
3   What significant tourism developments have you observed over the last five years? What do you think has changed in Auroville as a result of tourism?
4   What is sustainable tourism in Auroville's context? What are some of the challenges to promoting sustainable tourism in Auroville?
5   Are there threats to Auroville's way of life from the increase in casual visitors? What places or areas are considered particularly vulnerable?
6   What impacts have been observed in the district as a result of tourism? What kind of solutions would you suggest for mitigation of these impacts?
7   What do you want tourists in Auroville to gain from their visit? How should tourists experience Auroville? What activities should they partake in?
8   What type of tourism development fits within your image of Auroville's future?
9   What persons or organizations would you suggest be contacted to seek their views on the future of tourism in Auroville?
10 Is there anything you would like to include that we haven't discussed, or anything that peaked your interest that you would like to elaborate on?

Auroville Interview Sample Guide #1

1   Can you tell us about yourself and your relationship with Auroville?

2   Overall, what are your thoughts on tourism in Auroville?

        a.   Have you noticed impacts from the increasing number of visitors?

3   Do you think casual visitors contribute to Auroville? If so in what ways?

4   Based on what you've observed or experienced, how is the relationship between Auroville and its surrounding villages?

5   How should Auroville address the impacts of tourism in the future? Do you think there are things Auroville can do to lessen impacts now and in the future?

        a.   On a governance level, how should Auroville respond to tourism?

6   Is there potential for the working groups in Auroville to collaborate for managing tourism impacts? Would this be beneficial?

7   Do you have suggestions on how Auroville can come together to develop a vision for visitors in the future?

8   Our team has developed this sheet with data collection methods and tools to manage tourism impacts, can you provide us with feedback and suggestions on this list?

Sample Auroville Interview Guide #2

1   Can you tell us about yourself and your relationship with Auroville?
2   To what extent do you interact with casual visitors and guests?
         a.   How do you think they contribute to and impact Auroville?
3   What are your thoughts on tourism in Auroville?
4   How should Auroville respond to casual visitors and guests?
5   Our team has developed this sheet with data collection methods and tools to manage tourism impacts, can you provide us with feedback and suggestion on this list?

Sample Edayanchavadi Interview Guide

1. Introductions
2. What does your day normally look like?
   a. Is tourism a disruption to your daily life? If yes, how?
   b. Do you get a lot of visitors/tourists in the village?
3. Do you see a lot of development (growth) due to tourism?
   a. In what way/what type?
   b. Where do you see it?
   c. Do you see this growth as beneficial?
4. What facilities would you like to see develop in the village?
5. How has an increase in tourism affected the safety of the village?
   a. Do you think that increased traffic is a safety concern?
6. Do you think tourism brings more cleanliness or litter to Edayanchavadi?
7. Do you think tourism brings more jobs to Edayanchavadi?
   a. Is tourism important in any other ways to the village?
8. Do you think increased traffic through the village is a safety concern for residents?
9. How do you see your relationship with Auroville? Do you think it can improve?
   a. How can Edayanchavadi and Auroville learn from each other?
10. Is there anything we missed or anything else you would like to talk about?

Appendix B: Workshop Summary

On Monday, December 2nd, the team presented their initial research findings, including policy review, case study review, impact management tools and their proposed methods for data collection in Auroville, to approximately 40 people from the Auroville community. The presentation was workshop style and lasted for approximately one and a half hours. The team spoke for approximately 30 minutes with question, comment, and feedback periods scattered throughout. Members of the community had the opportunity to provide initial feedback to the Project Team.

Many members of the public had concerns regarding the use of the term "tourism" in Auroville. Some community members shared they did not believe that Auroville receives tourists, but rather they receive visitors to the community. The Project Team heard that many Aurovilians do not consider Auroville a tourist attraction, while other Aurovilians acknowledged that they feel are now feeling this way due to the increase in visitors. The audience seemed to agree that they do have sites that tourists are attracted to (Matrimandir, etc.).

There seemed to be much disagreement between Aurovilians regarding its vision of tourism. Some stated they did not want tourism, while some Aurovilians acknowledged that they want the positive economic advantages of tourism. However, these same individuals identified that they also do not want the disadvantages associated with tourism. Throughout the presentation the Project Team heard that a goal of Auroville is to determine how to channel the energy of visitors and tourists to create more meaningful connections and experiences.

The Project Team also heard several suggestions on solutions and tools to manage tourism to the community. Suggestions included that is potential to expand the current Visitors Centre, the creation of a 'model

home' for guests and visitors to explore, and the benefits of classifying tourists into eco, wellness, learning, in order to allow visitors to experience more. Lastly, the Project Team heard that Auroville and its villages cannot develop without mutual collaboration.

Overall, the team learned that Auroville is not a united house regarding the topic of tourism, casual visitors, and guests and that their report can be used to start and ignite the conversation of tourism and impacts to the community.

Appendix C: Solar Kitchen Kiosk Data

Solar Kitchen Kiosk Data

Survey Results:
37 Comments Received

All Responses Recieved

Positive Impacts
Auroville inspires people
People visiting = interested in community
Economy (income)
Knowledge sharing
Visitors are a way for the ideas of Auroville to get -into contact with people living in Auroville
Uplifting
Revenue stream to maximize income
Financial and economy (Handicrafts supported by tourists)
Survives on people -economy, handicrafts, food
Knowledge exchange
Economic benefits
Spreading ideals of Auroville

Negative Impacts
Big buses
Wrong expectations coming to Auroville
Lack of education (how to behave in Auroville)
People come from Pondicherry on weekends (more cars, traffic)
Disruption to residents (noise pollution, air pollution, different vibes coming in)
Traffic
Impact - atmosphere, the energy that is brought into the area from tourists
Short visits = lack of understanding
Villages -influx and migration -capitalize on tourism
Auroville accepted it is becoming a tourist's destination
Unwanted behaviours - party fireworks
People do not give back to community
Traffic speed (dust, from Solar Kitchen to Servitude)
Ugh tourists do not want to talk about it
Drugs
People are consuming / tourism consumerism
Litter and pollution

Solutions
Increase openness and sharing
More and good information provided to individuals
See more of Auroville to truly understand (tours for more info)
People come to get more involved
Plant trees (off set their impacts)
Want to see visitors very involved
Want less people
Increase openness / spreading awareness (patience)

Appendix D: Visitors Centre Kiosk Data

Survey Results:
139 Surveyees
71 Comments Received

Questions Included:
Are you a day visitor or staying in Auroville?
How did you get to Auroville?
What is the purpose of your trip?
Did you visit the information building?
Was the information building informative?
Did you visit the website before coming?
Any suggestions or comments?

Comments Received from "Any suggestions or comments section"

Good Matrimandir
Good
Allow us inside the temple
Allow us
Thank you
Not merci good
Good
Lack of awareness of booking
Keep it up
Good
Bus facility from Pondicherry
Good
Fine
Need book on info of thoughts
Early booking not availbale i.e. January
Very beautiful place
Excellent
Hope to see inside the Matrimandi next time
Should allow to go inside
Excellent

Good
Provide online booking for see Auroville
Keep it up
Good
Good
No water availability
Excellent
Encourage photography
From Pondicherry to Auroville we have bus problem
Passionate to visit place like this
No entry inside
No entry
Better indication
Please provide bus facility
No location map visible
It's a perfect place
Be the path of creativity
Good already
Easier entry into Matrimandir

Good
Online Matrimandir to visit globe
Good
Good way of approaching visitors and collect feedback
No proper map is available
Perfect
Water availability
Very good thank you
Use Esperado international language
Peaceful and serene place
Provide more information
Good
Be patient
Need proper guidance
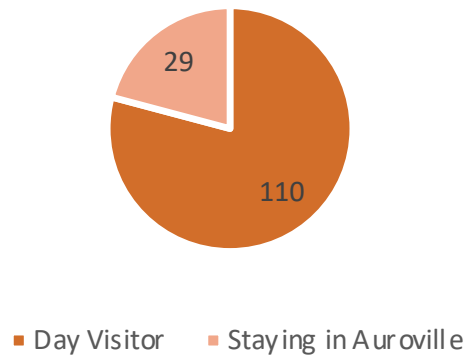Matrimandir can open on all days
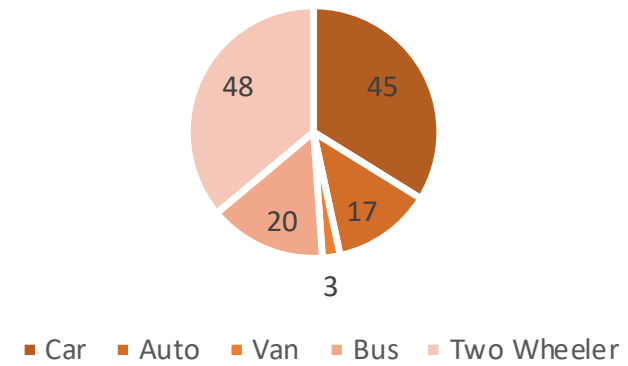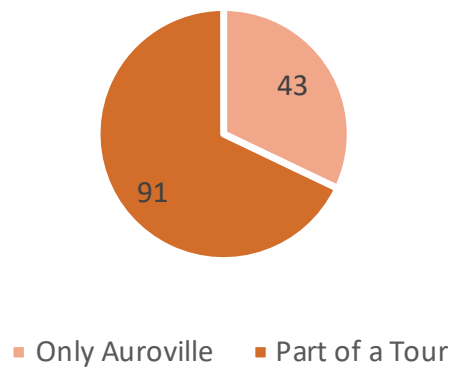Good
Nice
Nice place
Nice flower
Not yet excellent

Results from Questions Asked

Are You a Day Visitor or Staying in Auroville?

29
110

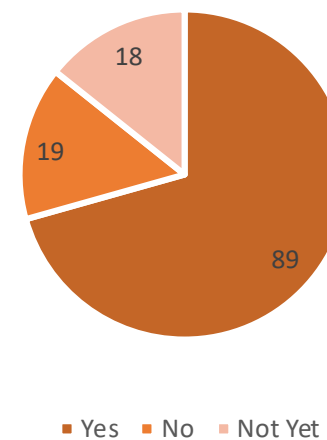■ Day Visitor ■ Staying in Auroville

How Did You Get to Auroville?

48 45
20 17
3

■ Car ■ Auto ■ Van ■ Bus ■ Two Wheeler

What is the Purpose of Your Trip?

43
91

■ Only Auroville ■ Part of a Tour

Did you Visit the Information Building?
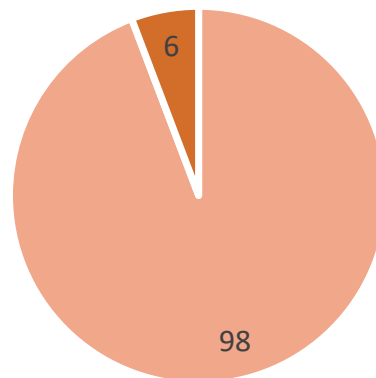
18
19
89

■ Yes ■ No ■ Not Yet

Did You Visit the Auroville Website Before Coming?
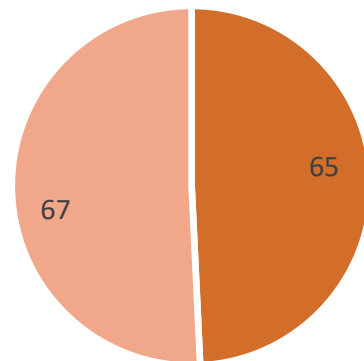
■ Yes ■ No

Was the Infomation Building Informative?

■ Yes ■ No

Appendix E: Site Observations Sample

Kitchen
12:05 pm

Solar Kitchen
12:45 pm

Site Observation (La Terrace Kitchen (cafe) & Solar Kitchen) Notes

Area Character, Landscape, Geography, Size (nb of ppl surrounding)
Roof top café, quiet, seating area & open space   chairs & tables ¢ ≈ 8 people
Cozy, natural vegetation, cow catchers, small entrance gate ≈ 50 people

Behaviours observed (i.e. recreation, working, socializing)
Customers → eating lunch, reading, socializing
informal seating, ordering food / line cannot differentiate between guests & residents
individuals, small groups 2-3ppl
Walking to and from parking lot to eat lunch
lots of socializing at tables while eating

Accessibility
No-spiral stair case, uneven floor
ordering counter very high
good spaciousness
Yes, slope entrance
no ramp

Infrastructure (i.e. condition)
clean
clean

1/3

Building Designs (i.e. Façades, windows, materials)
Lots of open space, warm colours, columns, shaded overhang w fans, air vents
2 storey flat roof, trees cover the façade overhang entrance, screens with wires

Cultural Heritage
No
No

Types of Businesses
Café
Cafeteria / lunch

Surrounding Land Uses & Number of amenities (i.e. commercial, institutional, etc)
Commercial 1. restaurant/café
Guest services → office
Commercial 1. cafeteria/restaurant

Mobility / Circulation (i.e. transit, pedestrians, cycling, parking)
Good pedestrian flow, lots of sitting
Parking → 2 wheelers, bikes, some taxis
few cars . good pedestrian flow

Access to views & entrances & daylight
Lots of daylight, lots of tree cover → view
1 entrance by stairs
1 large entrance pass tight gateway
lots of daylight with trees covering

2/3

Building Designs (i.e. Façades, windows, materials)
Lots of open space, warm colours, columns, shaded overhang w fans, air vents
2 storey flat roof, trees cover the façade overhang entrance, screens with wires

Cultural Heritage
No
No

Types of Businesses
Café
Cafeteria / lunch

Surrounding Land Uses & Number of amenities (i.e. commercial, institutional, etc)
Commercial 1. restaurant/café
Guest services → office
Commercial 1. cafeteria/restaurant

Mobility / Circulation (i.e. transit, pedestrians, cycling, parking)
Good pedestrian flow, lots of sitting
Parking → 2 wheelers, bikes, some taxis
few cars . good pedestrian flow

Access to views & entrances & daylight
Lots of daylight, lots of tree cover → view
1 entrance by stairs
1 large entrance pass tight gateway
lots of daylight with trees covering

2/3

Appendix F: Sample Interview Summaries

Sample Interview with Edayanchavadi Village Youth

Date: December 5, 2018
Interviewers: Carling, Kelsey, Natalie
Location: AVAG Office

1. What do you want Edayanchavadi to look like in the future?

- Want to see the village neat and clean – solid waste management program
- Village roads wider- Main road is too narrow and school bus is too big
- Lots of cows on the road
- Proper drainage system
- More employment opportunities for young people
- If more jobs, more students will be motivated to finish high studies
- College close by – girls cannot travel
- Less pollution in village
- Traffic during weekend causes air pollution and smoke
- Increase water supply and improve drainage improvements
- Better living condition/houses for lower caste in village

2. What tourism activities do you see in your village?

- More guest houses/handicraft sales centres
- During visits, the tourists do not use village facilities (e.g. restaurants)
- Visitors believe the maintenance in Auroville to be higher, so they use those facilities
- Auroville guests mainly prefer to stay in Auroville guest houses as they feel more secure
- Some villagers sell handicrafts on way to Visitors Centre, but sales volume is not much – most visitors prefer to buy Auroville products at the Visitors Centre
- Women from village are working in the Visitors Centre – prefer to work there as it is close to the village
- The village sends young girls to work there because they can walk

3. Is tourism a disruption to daily life?

- In the evening, traffic is very high – lots of school buses, visitors, villagers, and Aurovilians are all uses the road
- Children find it difficult to cross the road
- Young people ride bikes at high speeds
- From 3:30pm to 5:30pm peak time
- Villagers not allowed inside Auroville – checkpoint makes it difficult to transport construction materials to their land
- For last ten years have not been allowed to use road to village because of Auroville
- This means they have to travel extra, and all vehicles are coming through the village (causing traffic)

4. Does tourism have an effect on the environment?

- Villagers appreciate effort of Auroville
- More species in environment because of forest
- Ground water very drinkable
- Cool breeze when inside Auroville
- Less disease
- Big trees in Auroville protect village from cyclones
- Tourists litter plastic on the roadside – there is more garbage
- Problem of air pollution because of tourist vehicles
- Visitors to Auroville are different/conscious
- Village graveyard at entrance of Visitors Centre and funeral processions – have faced no problems from tourists in that regard
- Feel proud to be a neighbour of Auroville
- "We are close to Auroville" used when describing location
- Point of pride/identity
- Tourism gives villagers a chance to see people who come through village on their way to Auroville
- Development is good because it gives jobs
- However, there is less farmers now and less cultivating land because of opportunities for work in Auroville
- Agriculture in village becoming lost
- Agricultural lands converted into house plots

5. How can the village and Auroville work together?

- Auroville and the village can work together to get a wider road at the Visitors Centre
- People are allowed to travel within Auroville
- Many people have encroached on the land – necessary steps need to be taken to clear the encroachment
- Because of the encroachment, some trees are very close to the road and branches fall on the road
- Make market stall at centre of village/Auroville, so that village vendors will not come close to the roadside
- There are 10 auto-rickshaws in village that make trips to and from Auroville and Pondicherry
- This could be a possible development
- Auroville supplies dynamized water to village for free from 7:00 am to 7:00 pm
- Partial reason why their health/immunity has improved
- Auroville could help to develop the villages school

Sample Interview with Guest Facilities Coordination Group

Date: December 6, 2018
Interviewers: Natalie and Kelsey
Location: Centre Guest House

1. What changes have you noticed over time?

- More tourists/guest from northern India
- There are more short than long term visitors
- More yoga bookings through word of mouth
- Government issues related to obtaining visas could be contributing to more domestic than international tourists
- Visitors with a tourist visa are not able to participate in yoga workshops, etc.
- More domestic volunteers than international who want cheap accommodation in Auroville
- There are a lot of weekend guests
- Volunteers want long, cheap accommodation
- There are less phone calls/people desperate for accommodation due to homestays becoming more readily available
- Homestays are cheaper than guest houses (competitive prices)

- Inflation = 8%-10% /year in India for both wages and accommodation prices
- Outsiders do not understand this fact of India/Auroville, and they expect the prices to be the same every year
- Private guest houses not affiliated with Auroville are using the Auroville name
- Guests don't understand they aren't staying in an Auroville guesthouse
- Some Auroville guest house owners feel the competition makes them keep the standards of their guest houses up, whereas other disagreed saying they didn't need the competition to keep up their standards
- The service you give and the attention you give your guests makes a difference
- Recommendation: there should be a recognition program or badge/plaque system that recognizes Auroville guest houses
- This could also be coordinated with the villages to have them follow the same guidelines
- Brand Auroville as conscious and different
- Internal and external education
- Auroville ambassadors
- For guest houses there should be immediate networking – service to automatically connect people with what they are interested in when they arrive in Auroville
- People want to find out what Auroville is about
- Short term visitors are curious

2. What are guests giving to Auroville?

- They give residents, any one that comes is a potential resident
- We were all once residents and now we're Aurovilians
- Don't advertise, people share their experiences, word of mouth to bring new people
- The Auroville website is a platform for attracting
- People from outside Auroville are also creating documentaries
- Non-Aurovilians promoting
- Word of mouth is main way Auroville is promoted
- 20% of guest house money is given to Auroville
- This money supports night schools in Auroville
- Guests also give various support to Auroville
- Guests also share their own information and knowledge with Auroville
- Take advantage of the external (Mother)

- Before visa restrictions, people were able to come to Auroville and stay for longer
- Now there is a shift to short term stays and less volunteers
- 2 days is not long enough to participate in Auroville
- Some people just come for the Matrimandir, not just to see Auroville
- Most weekenders are domestic tourists
- Rise of the middle class
- Auroville is becoming better known
- People recognize the name Auroville from other places

3. What are some impacts that are occurring?

- Guests bring positive impacts
- Day trippers bring different impacts
- Increased traffic, parking
- Need to manage the number of people
- Young people on motor bikes, especially on Sundays
- Plastics, paper, rubbish, litter in general
- Private guest houses located near Auroville guesthouses
- "Auroville smoking lounge" is being advertised at private guest houses
- They blast music
- There was not enough money for Auroville to buy all the land initially
- Private guest houses have very short stays on weekends but not during the week (during the week they are empty)
- They have parties every night, young Aurovilians and visitors
- In Auroville there shouldn't be partying or drinking
- No public drinking, respect of the place
- Alcohol taxes are 45% lower in Pondicherry, people buy it there and then bring it to Auroville (day trippers and guests)
- This influences Aurovilians and long-term guests
- There are more female than male visitors

Appendix G: Individual and Organization Interview List

The following is a list of individuals and organizations that participated in individual and group discussions.

Aneeta Pathak

Ashok Pand, INTACH – Pondicherry

Balu Ponnusamy, Auroville Bamboo Centre & Mohanam Cultural centre

Cristo, former L'Avenir d'Auroville Member, Village Co-Development Works

Daniel Grings

Edayanchavadi Village Groups – Elders Group, Women's Group and Youth Group

Guest Facilities Coordination Group

Inside India

International Zone Coordination Group

Isha from Auroville Service Link

Jerald Moris, Auroville Village Action Group

Kiran Shinde, Senior Lecturer in Urban and Regional Planning, La Trobe University, Australia

Krishna, Marco, and Renu, Auroville Art Service

L'Avenir d'Auroville – Town Development Council

Matrimandir Team

Mona Doctor-Pingel

Mr. Balamurugan

Nicole, Visitors Centre Manager

Sam, Auroville Security

Sandyra Andrassy, Member from Auroville Council

Sara, SAVI

Torkil Dantzer, Economist, Line of Goodwill

Appendix H: Potential Tools for Managing Tourism Impacts in Auroville

The following list is informed by research related to the use of tourism management tools in multiple international context. Research conducted over the two weeks in Auroville informed the tools from this list that were ultimately recommend in the Tourism Impact Management Framework. References for these tools can be found in Chapter 3 References in this report.

Management Tool	Description
Assessment & Audits	
Environmental Impact Assessment	An environmental management tool used to determine the impacts of tourism on the environment in order to assist decision makers with creating tourism policies.
Economic Impact Assessment	An assessment tool used to evaluate the economic impacts of tourism on a community in order to assist decision makers on how to proceed with creating tourism policies.
Tourism Mobility Study	Examines various aspects of tourist traffic including: (1) the number of visitors flowing through a particular area, (2) peak travel modes utilized by travelers, (3) usage of transportation corridors, and (4) environmental impacts on transportation routes. This information assists the creation of recommendations for the management of tourism traffic flows.
Transportation Impact Assessment	Provides an assessment, conducted by engineers and transportation planners, of transportation related improvements necessary to manage impacts.
Heritage Impact Assessment	A tourism heritage impact assessment can be completed in order to ensure valued sites are conserved and protected from the impacts of tourism.
Visitor Audits and Surveys	Provide an understanding of who visitors are, why they visit, what they see, and how much they spend in the area.
Amenity Checklist	Provides an understanding of which tourism products and services, such as hotels, hostels, guest houses, restaurants, tour operators, transportation providers, and visitor attractions, exist at a destination.
Land Use Tools	
Zoning	Tourist specific zoning can be implemented to regulate the location of guesthouses, restaurants, or attractions in order to manage where visitors are going and concentrate their impacts.
Land Swapping/ Boundary Changes	Allows for community growth to be accommodated while protecting the ecological integrity and expanding boundaries of a community into adjacent areas.
Public Use Plans	Cities and attractions which experience day trip tourism via tour buses are prime candidates for Public Use Plans, which are a method of managing visitors, their volume of traffic, protecting sensitive areas, provoking a deeper understanding of sites, and implementing associated fees.

Restrictive Visitor Times & Visitor Allocation	The number of visitors to a site can be restricted to better manage tourism congestion. Key mechanisms can include: limits on daily visitors, time of day entrance limitations, and limiting tourism companies licenses.
Economic Tools	
Tourism User Fees	These may include: attraction entrance fees, restaurant or accommodation concession fees, license and permit fees, guide and excursion fees, tourism taxes for hotels and airlines.
Agricultural & Rural Incentives	Involves offering subsidies or tax benefits to encourage long-term viability of the agricultural sector. Promotes the protection of agricultural lands while supporting local goods and services.
Sustainable Tourism Certifications	The main purpose of this certification is to achieve standards that meet or exceed legislative frameworks for sustainability established by various agencies. The issuance of certifications assures consumers that businesses have met minimum sustainability standards.
Community Consultation Tools	
Village Partnerships And Collaboration	Village partnerships allow communities directly impacted by tourism to collaborate on management. Partnerships can include both informal and formal connections between villages and can include co-management of a site, attraction or visitor services.
Community Tourism Self-Assessment Instrument	Results in discussions among residents about their expectations and fears of tourism, which in turn are accounted for in the tourism impact planning process.
Regional Tourism Planning	Includes broad-scale planning with multiple regional stakeholders and creates a comprehensive document with objectives, guidelines, and strategies related to tourism in a region. Requires a high-level of collaboration between various local governments, communities, and other stakeholders.
Tourism Working Groups	Through the composition of community members, tourism working groups are an important method for understanding the impacts of tourists from first hand resident perspectives and experiences.
Tourism Clusters	The geographic concentration of companies and institutions interconnected with tourism activities, including companies, suppliers, services, governments, institutions, and competitors, may result in better of control of tourism and its impacts.
Tourism Engagement Tools	
Education	Through an exchange of knowledge, visitors may better appreciative a place or attraction and may become increasingly aware of the impacts they cause. Through social media platforms, visitor centre videos, and other educational strategies, knowledge can be shared and exchanged.
Visitor Centres	These centres can be an essential component of a tourist experience and are often the initial point for education, access, and data collection. Scattering multiple visitor centres throughout a community can regulate first contact and the movement of tourists.

Appendix I: Additional Documents

Below is a list of documents that in addition to the ones included in the report have been reviewed by the team.

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Auroville. (2017). Terms of Reference.

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Auroville Community Participation Framework, Queen's University School of Urban and Regional Planning, in association with the Auroville Integral Sustainability Institute, 2016

Bernroider, L. (2015). Dynamics of social change in South Delhi's Hauz Khas Village. SOAS South Asia Institute Working Papers. 1, 1-16.

Bhandari, A., Roy, G., & Chawla, N. (n.d.) Gaps between Norms and Reality – Hauz Khas Village Market. Poster Presentation for MEU 163: Sustainable Pro vision and Management of Urban Services, Teri University.

Bhati, L. (2018). Understanding the role & impact of Tourism in Growth Pattern of Auroville's Surrounding Area & Working towards Suitable Environmental Management Strategy. (Presentation, September 18 2018).

Chattopadhay, S., Dey, P., & Michael, J. (2014). Dynamics and Growth Dichotomy of Urban Villages: Case Study Delhi. International Journal for Housing Science, 38:2, 81-94.

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Dinur, B. & Yakolchik, A. Integral Sustainability Platform. For l'avenir d'Auroville.

Grings, D. (2018). Notes by Daniel Grings.

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Line of Goodwill: The Gateway/Habitat/Matrimandir Visitor Access.

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Revi, A. (2007). Auroville Mission Notes (23-25 January 2007).

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Shinde, K.A. & Pinkney, A.M. (2013): Shirdi in Transition: Guru Devotion, Urbanisation and Regional Pluralism in India, South Asia. Journal of South Asian Studies. DOI:10.1080/ 00856401.2012.726605

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Appendix J: Solar Kitchen Kiosks Perceived Impact Map
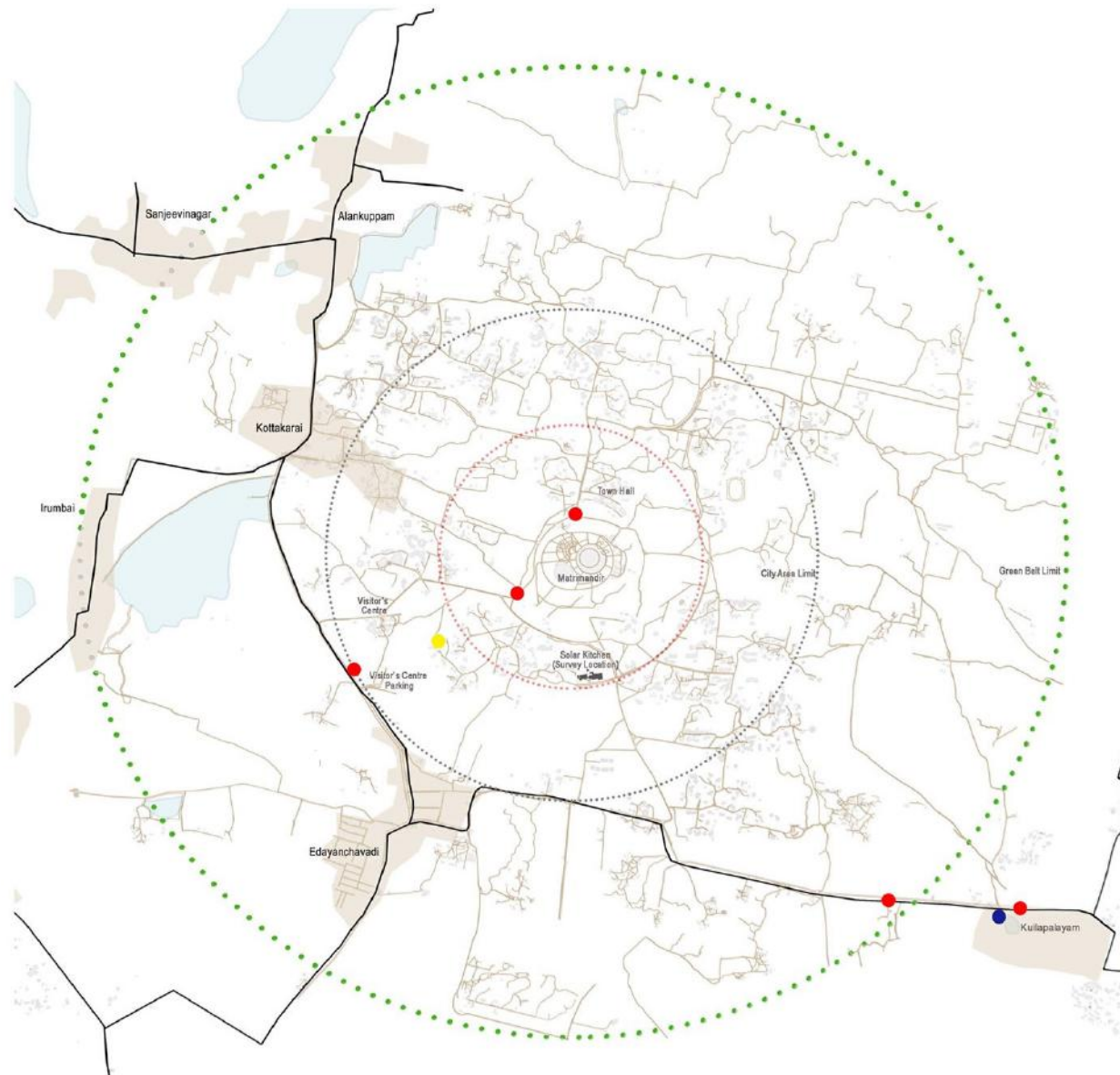
LEGEND : Nature of Impact

● Traffic (Example; people and vehicles)
● Development (Example: new shops, cafes, restaurants)
○ Others (Example: noise, drinking, unwanted behaviour)

The current map shows the location of visitor impacts (as perceived by Aurovillians) in and around Auroville. The data was acquired through a survey targeted towards Aurovillians conducted on Sunday, 9th of December 2018 at the entrance of Solar Kitchen.

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N

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