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LIST OF ABBREVIATIONS

EMP	Environmental Management Plan
ESR	Elevate Storage Reservoir
GLSR	Ground Level Service Reservoir
GSI	Geological Survey of India
IMD	Indian Meteorological Department
LPCD	Litres Per Capita Per Day
MLD	Million Litres Per Day
MJP	Maharashtra Jeevan Pradhikaran
MPCB	Maharashtra Pollution Control Board
MPN	Most Probable Number
ROW	Right of Way
SMC	Shirdi Municipal Council
SOI	Survey of India
STP	Sewerage Treatment Plant
UA	Urban Agglomeration
WSAPL	Wilbur Smith Associates Private Limited

PREFACE

The religious places in India are the most important assets to be preserved since these are also the most favoured destinations for the domestic as well as International tourists. The State of Maharashtra has a laudable history of saints and pilgrim places; hence it is rightfully called "Santanchi Bhoomi" (Land of Saints). The religious places in Maharashtra are mostly located in small cities or towns having population of less than 2 lakhs. The local authorities neither have adequate funds to protect the archaeological and heritage importance of such places nor do they have infrastructure that can manage the floating population that converges on the festive days or the religious occasions at such places. This puts a very heavy demand on the available, infrastructure and amenities in such towns and creates several environmental problems, which adversely affect public health and environment.

The pollution problems arising out of the activities at these places include: water pollution of adjoining streams, rivers and lakes due to bathing, washing of clothes and human excreta; ground water pollution due to poor MSW management, noise and dust pollution due to unplanned vehicular traffic and poor road condition, visual pollution due to littering of plastic bags and containers and environment unfriendly landscapes etc. These problems are aggravated during the festive and other important days of religious celebrations due to poor / inadequate infrastructure management practices.

Considering the seriousness of the issues the Board considered implementation of project on environmental improvement of religious places in its 139th Meeting held on January 22, 2004. A conceptual paper regarding the environmental improvement at Shirdi, Shani-Shingnapur and Aland Devasthan was presented at this meeting and the concept of undertaking such projects Maharashtra was in principle approved by the Board. It is decided to engage the services of M/s. Wilber Smith Associates Pvt. Ltd., Bangalore (WSAPL) to undertake the study of Shirdi, Shani-Shingnapur and Alandi so that a detailed assessment of the environmental problems, infrastructure and financial resources required to tackle these issues at the above places can be worked out in the first phase before the actual implementation of the project can be considered by the Board. The project proposals are based on the concept of eco-city project being implemented by MoEF/CPCB at Mathura, Vrindavan etc.

Dr. D.B. Boralkar

Member Secretary Maharashtra Pollution Control Board

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The Consultants are also grateful to the all the officials of the Shirdi Municipal Council, Public Works Department (PWD), Maharashtra Jeevan Pradhikaran (MJP), the officials of Sainath Hospital for their inputs and information provided.

PROJECT TEAM

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1 INTRODUCTION

1.1 BACKGROUND OF THE PROJECT

The land of Maharashtra is blessed by the holy stay of many a great Saints and Spiritual Leaders. Some of the most important pilgrim destinations in Maharashtra are Pandharpur, Tulajapur, Alandi, Shani Shingnapur, Shirdi, Dehu, Ashta Vinyak etc. These pilgrim towns attract large number of pilgrims from various parts of the country. However, typically most of these places are small towns/villages with populations ranging about a few thousands and hence lack the necessary infrastructure to cater to the large of pilgrims visiting them every year. As a result this has put lot of stress on the local natural resources and there has been a steady degradation of the local environmental conditions.

Considering the seriousness of the issues, the Maharashtra Pollution Control Board (MPCB), considered the implementation of a project on environmental improvement of religious places in its 139th meeting held on January 22, 2004. A conceptual paper regarding the environmental improvement at Shirdi, Shani Shingnapur and Alandi was presented at this meeting and the concept of undertaking such a project in Maharashtra was in principle approved by the Board.

The objective of the project is to identify the environmental problems of these religious places, identify the suitable projects, prepare the PFR & DPR for the priority projects and provide the logistic support for raising the financial support from Central/State Govt, Public-private partnerships, individual donor organisations, NGOs etc. MPCB may also consider financing some of the path breaking projects and provide logistic support for raising the financial, so as to improve the overall environment and serenity of these places of religious importance. The local bodies, Deosthan comitees, NGOs are expected to operate andmaintain such infrastructure provided through MPCB / CPCB's assistance.

For this purpose, MPCB has engaged the services of WSAPL to carry out a detailed assessment of the environmental problems, infrastructure needs in Alandi, Shirdi and Shani Shinganapur and prepare a technical project report in line with the guidelines of Eco-City Project being implemented by CPCB.

1.2 ENVIRONMENTAL ISSUES IN RELIGIOUS TOWNS

Pilgrim towns are places developed around holy sites, usually associated with the exploits of the gods, the waters of sacred rivers or the presence of holy men, which attract people for pilgrimage and related religious activities. People travelling to these places (pilgrims) usually visit temples to experience the sacred (deity) through prescribed rituals in the religion that is supposed to be more satisfying on auspicious occasions.

Religious places in India are the most favoured destinations for domestic and international tourists and are the most important assets to be preserved by the country. Typically, pilgrim towns in India had been small towns situated in pristine environments to provide solace to the pilgrims seeking spiritual help away from worldly matters. Revered by pilgrims as sacred places, these places generally attract large number of pilgrims and tourists during the specific days / months of importance related to particular religious place. Congregation of such large number of people in a very short span of time leads to the collapse of basic infrastructure and associated health and environmental problems.

Today, many pilgrim towns have shown signs of rapid urbanization, for example in Shirdi

'the process of modernization, improvement in transport infrastructure and communication has turned the city of pilgrimage to a place of modern tourism'. Problems in the pilgrim towns have become more complex that have changed from issues purely related to pilgrimage (with religious motivation) as 'occasional events' to problems of regular visits of floating population and urban expansion driven by such activity i.e. as a part of religious travelling and tourism activities. The carrying capacities of such towns have been stressed by influx of visitors over a longer duration, leading to degradation of the very source of natural and religious environment that generated the activity of pilgrimage. It is also high time for considering to maintain the typical religious culture of these towns & avoiding the westernised approach towards modernisation of these places. The sheer volume of visitors makes such places vulnerable to severe environmental impacts seen in increased problems of disposal of solid waste and surface water, high levels of pollution (air, water and noise), constrained water supply, overcrowding, etc with rampant deforestation for provision of more amenities and facilities.

Generally these places are towns with population barely about a lakh or so and the local authorities with inadequate funds and infrastructure cannot manage such a sudden spurt of demand for basic infrastructure and amenities. In addition to inadequate infrastructure, these religious places also face the following environmental problems / issues due to the afflux of pilgrims and tourists.

- Pollution of rivers / lakes or other water bodies
- Disposal of untreated sewage and absence of sanitation facilities
- Indiscriminate disposal of solid waste
- Contamination of drinking water systems
- Risk of spreading water born diseases due to the absence of health & sanitation facilities &
- Other problems such as noise pollution, dust pollution, etc.

1.3 ENVIRONMENTAL MANAGEMENT IN RELIGIOUS TOWNS

Environmental management in pilgrim towns primarily includes decision-making on managing resources and minimising impacts of the visitors. Typical stakeholders in pilgrim towns are

1.3.1 Government Agencies

These include the State Government, District Administration and Local Authority. District level administration is the main agency that works on behalf of the State Government in organizing for peak pilgrimage (on important occasions).

1.3.2 Religious Institutions

The institutions established for religious purposes are important in a pilgrim town as most of the issues relate to religious activity of pilgrimage. Generally, there are three types of religious institutions in a pilgrim town, namely

Temple Trusts: Primary functions of the trust are to maintain the temple, perform the rituals in worship of the deities and protect the temple properties.

Ashrams and Mutts: Their function is to perform spiritual activities besides pooja (worship) and provide lodging and boarding to their disciples of certain faith, cult or sect. Mutts are private properties usually managed by caretakers or managers with a focus to serve the pilgrims and visitors.

Charitable Organizations and Public Trusts for charitable purposes: These are set-up with a purpose to serve for the welfare of the communities

1.3.3 Non-governmental Organizations (NGOs)

In general, NGOs are an important player in such places where social welfare activities are of great importance. Environmental concerns and initiatives are increasingly becoming a part of their agenda.

Many of the above-mentioned issues, associated with pilgrimage, are similar to those arising out of mass tourism. While the impacts from pilgrimage are inevitable and inseparable from local activities, it is important to look at how they are responded to, managedandminimised. A common belief is that the deity (God) will take care of all the problems and 'He does'. Thus, presence of religious institutions in such places renders high potential to realise their role in environmental management, as they are a key player in the religious activity of pilgrimage, which also happens to be the main cause of environmental problems.

Sections below presents the objectives, approach and methodology proposed to be adopted by the Consultants for the preparation of Project Report for Shirdi.

1.3 APPROACH AND METHODOLOGY

The approach to the study is based on the experience of the consultants in working on the projects of similar nature in Tamil Nadu and Rajasthan and is organised in the following three major phases.

- Phase I Preparation of Concept Plan for Environmental Improvement of Shirdi and
- Phase II Feasibility study of the specific concepts.
- Phase III Detailed Project Report for the proposed infrastructure improvements (with block cost estimates only)

In the first phase, a detailed analysis of the existing situation of Shirdi, in terms of civic amenities, tourist infrastructure and environmental features of the area will be conducted and a broad concept of improving the environmental condition of the town will be prepared. The concept prepared will then be discussed with all the stakeholder organisations for finalisation.

A feasibility study of the finalised concept plan will then be carried out in phase 2, to estimate the financial and environmental viability of the same. The feasibility study will provide all necessary cost estimates and conceptual designs for approaching CPCB for funding in the 3rd phase.

Since the proposed study is primarily in the interest of the Devasthan and the local people as well as the many pilgrims visiting Shirdi at large, the approach for the study has been all participatory. For this purpose, initially Stakeholders' meetings were organised at Shirdi and on December 13th, 2004. The respective Temple Trust authorities, Municipality authorities, officials from various concerned departments including MPCB officials as well local NGOs were invited for the meetings. These meetings helped in sensitising the Stakeholders about the project and their participation in the study. Also, their views on the local environmental issues and the mitigative measures were obtained during the meetings.

The meetings were followed by field studies by the Consultant Team through field reconnaissance surveys and collection of relevant data on demography, socio-economy, pilgrims, infrastructure available and the various schemes/project proposed from the concerned departments and the temple trust. Also, primary environmental monitoring was carried out to understand the baseline environmental status in the towns with respect to air, noise and water quality. The primary and secondary data has been used to assess the present environmental status in the towns and the adequacy of the available infrastructure such as water supply & sanitation, transportation, roads etc., in the normal and peak tourist season.

The outcome of the above exercise helped in identification of the key environmentalissues and the interventions required for improving the environmental quality. The project, thus, identified were discussed with the concerned MPCB authorities and the Stakeholders and prioritised for preparation of the Feasibility Study Report in the second phase of the project.

1.4 STUDY OBJECTIVES

The present study aims at an integrated environmental improvement of Shirdi by identification of the support infrastructure needs to minimise stress on the natural resources during normal and peak seasons and attain sustainable development of the pilgrim town. The primary objectives of the project are;

- Identification of civic infrastructure needs for environmental improvement in Shirdi
- Improvement of infrastructure facilities of Shirdi
- Conservation/ protection and improvement of environmental and religious/historic assets of the town, thereby enhancing the tourism potential and
- To transform the pilgrimage to these towns as an environment friendly excursion

1.5 **REPORT ORGANISATION**

This report is organised in Seven Chapters as below.

- The *First Chapter* of the report i.e. the present chapter discusses the background of the project, scope and objectives of the study and methodology adopted for the study.
- The town demographic, socio-economic and natural resource profile are discussed in detail in the *Second Chapter* on Town Profile.
- The *Third Chapter* on Civic Infrastructure deals with the infrastructure in the town, and assesses the current status of service delivery, system performance, and determines the key issues and problems.
- The various infrastructure facilities available for the convenience of the tourists visiting the project town as well as the additional facilities arranged during peak festive season are dealt with separately in the *Forth Chapter* on Tourist Infrastructure.
- The present status of the various environmental components such as air, water and noise, vis-a-vis the applicable CPCB standards, is presented in the *Fifth Chapter* on Baseline Environmental Status.
- The various environmental issues emerging out of the study are presented in this *Sixth Chapter* on Environment Related Issues.
- The *Seventh Chapter* summarises the environmental issues in the town and suggests the projects, which may help to for integrated environmental improvement of the town.

2 TOWN PROFILE

2.1 LOCATION AND APPROACH

Located in Rahata taluk of Ahmednagar district, Shirdi is approximately 276 km from Mumbai City and 210 km from Pune City. It is located at 19°45' North Latitude and 74°25' East Longitude. It falls on Ahmednagar-Manmad State Highway No.10. The other important areas around Shirdi are Kopargaon (15 km), Nashik (96 km), Shingnapur (80 km) and Ahmednagar, the District Headquarter, is 83 km. The famous Ellora Caves and Grishneshwar Temple (Aurangabad) are 150 km from Shirdi.

Shirdi is well connected by road network to the different parts of the country. The nearest railhead on the broad gauge line is Kopargaon, which falls on the Manmad– Daund - Pune Route. For all other main line routes of Central Railway the nearest railheads are Nashik & Manmad on Mumbai – Agra Route and Ahmednagar & Pune for all other routes from Southern and Eastern parts of the country.





Fig: 2.1 Location of Shirdi

Aurangabad, which is about 126 km from Shirdi. One can also reach Mumbai or Pune by air and then by road to Shirdi.

2.2 RELIGIOUS AND HISTORICAL BACKGROUND

The history of Shirdi is almost parallel to the history and legends of Shri Saibaba. It was after the arrival and stay of Shri Saibaba that Shirdi became a noted pilgrim place. There is very little documentation about Shirdi before the arrival of Shiri Saibaba. But definitely Shirdi was a small hamlet with mainly farmers and traders inhabiting the place. Shirdi came to prominence after the arrival of Shri Sai Baba. The District Gazetteer of the Ahmednagar District first published in 1884 does not mention about Shirdi. Shri Saibaba arrived in Shirdi in the year 1872 along with a marriage party at the age of 16 years. A goldsmith by the name Mhalsapati addressed him as "Aao Sai Aao" and welcomed him to the Khandoba Temple on the outskirts of the village; this is how Shri Saibaba got his name. No one knows the past of Shri Saibaba before this, not even his real name or his religion.

Shri Saibaba spent the rest of his life in Shirdi. He would spend his days either in the mosque now called as Dwarkamai Masjid and the "Chavadi". Shri Saibaba led a very simple life and spread the message of faith, equality, brotherhood, service and peace to the people of Shirdi. The local villagers took care of him and slowly his acts of faith and kindness spread to the surrounding areas as well. He is believed to have cured many people of their diseases and helped a number of people in distress through his spiritual powers. Thus people regardedhim as a holy man and many people started visiting Him to seek His blessings. Shri Saibabatook personal interest in the cleanliness of Shirdi and he renovated the Hanuman Temple and constructed the Shani Temple.

As the fame and popularity of Shri Saibaba spread many people started visiting Shirdi. The local people would accommodate them in their "wadas" (traditional houses). Shri Bapusaheb Buty from Nagpur also constructed one such big "wada". Shri Saibaba laid down his body on 15th October 1918, the day of Dussera. His Samadhi is constructed in the same house built by Shri Bapusaheb Buty, which is now the main Samadhi Mandir.

During the British Rule Puntamba, which is about 20 Km from Shirdi was on the trade route from Ahmednagar to Malegaon. The town of Rahata, the present Taluk Headquarter was the chief centre of the grain trade in Kopargaon area. It became a more prominent town after the Daund – Manmad Railway Line was opened in the year 1878 – 1884. Besides the information on these nearby locations around Shirdi not much information is available on the history and the importance of the place before the arrival of Shri Saibaba.

2.2.1 Religious festivals and fairs

Thursday is a very important day in Shirdi when many pilgrims visit the temple. Besides this three other festivals are celebrated with great pomp and fervour. These festivals attract a lot of people from all over India and abroad. The three festivals are

Ram Navmi: Ram Navmi is the day on which Lord Rama was born. This is the most important festival as it was started by Shri Saibaba Himself and has a legacy of nearly 100 years. The festival goes on for 3 days beginning one day prior to the day of Ramnavmi and concluding a day after that. On the day itself the temple is kept open for twenty fourshours and Bhajans are sung all night long. Similarly the Dwarkamai Temple is also kept open all nigh long. In Shirdi, two locally historic rituals are carried out during this festival: the sack of wheat that is kept in Dwarkamai is changed and the old one taken to prasadalaya to be used there, and secondly, the Dwarkamai flags are replaced. The festival usually falls in the month of March – April but dates may vary depending on the lunar calendar.

Dussera: This is the day on which Shri Saibaba took Mahasamadhi. The festival also known as *Vijayadashmi* falls in the month of October. On *Vijayadashami 'Brahman Bhojan'* (Meals for Brahmins) is arranged with *Dakashina* (Donation to Guru). Every year the number of the honoured couples of Brahman is increasing. On the last day of the festival "Gavjewan" (free meal for all villagers and devotees) is given by the Sai Sansthan.

Gurupurnima: It is an important day in Hindu Religion where the Guru or teacher is revered by his devotees / students. There is a custom of paying respects to the teacher for giving knowledge and seek his/ her blessings for the future. Many people regard Shri Sai Baba as their spiritual Guru and on this day they come to Shirdi to offer their prayers and seek his blessings. Shri Saibaba Himself initiated this festival in Shirdi and the festivities go on for three days.



Besides the above festivals there are 8 other occasions when the Palkhi of Shri Sai Baba is taken out along a designated path in the town. On the above three main festivals too a procession is taken out on the first and second day of the festival.

2.2.2 Religious tourism

Shirdi is a spiritual pilgrim place centred on Shri Saibaba. Thursday is considered the most auspicious day and maximum people visit the place during this day of the week. People visit Shirdi from far off places such as Bangalore and Hyderabad. This is a recent trend that has become more popular with direct buses plying between Shirdi and these places. Other than these, people from Mumbai, Pune, Gujarat and Delhi also visit Shirdi. Due to this trend the number of people visiting Shirdi on the weekends has also increased as it becomes convenient for them. The main itinerary of pilgrims visiting Shirdi is to take Darshan and attendat least one of the Aartis held thrice in a day. Most people also make it a point to visit Shingnapur, which is about 80 km from Shirdi. Shingnapur has a temple of Lord Saturn. Here again Saturday is considered as the day of Lord Saturn and maximum people visit the temple on this day of the week. Thus Shirdi – Shanishingnapur route is a very popular pilgrim circuit and the auspicious days coincide with the weekends.

Other than the above two, there are quite a few important pilgrim places within 150 km radus of Shirdi. Most hotel owners now offer day return packages to Nashik - Trimbakeshwar and Ellora - Aurangabad. Nashik on the banks of Godavari is a famous pilgrim place and also the venue for the Simhasta Kumbh Mela held once in 12 years. Trimbakeshwar dedicated to Lord Shiva is one of the twelve Jyotirlingas. Aurangabad is famous for its Ajanta & Ellora caves and also for the temple of Grishneshwar. This is again one of the twelve Jyotirlingas. The day trip package to Aurangabad does not include Ajanta caves, as it is further away from Shirdi.

Some of the lesser-known pilgrim places around Shirdi include Samadhi of Nivrutinath, elder brother of Saint Dynaneshwar (Nevasa, 85 Km), Datta Mandir, Deogad (Nevasa, 85 Km) and Kanifnath Madhi (Tisgaon, 120 Km).

2.2.3 important religious and historical structures

As mentioned earlier the development of Shirdi is recent and there is no recorded history of structures more than 100 years old or having archeological & religious importance other than those associated with Shri Sai Baba. These buildings are predominantly temples and mosques, which are briefly described below.

Khandoba Temple: This is a small temple on Nagar – Manmad Road. It was in this temple where Shri Mhalsapati the priest of the temple first welcomed Shri Saibaba. In the following years Shri Saibaba visited the temple many a times and it was also a place where the villagers gathered to listen to his preaching. Khandobais also the deity many local villagers and those from surrounding areas. A six-day festival in the month of Magh (December -January) is held here.

Gurusthan: As the name suggests this is the place of Sai Baba's Guru. Shri Sai Baba sat here under the Neem tree and it is saidthat the neem leaves lost all its bitterness and are sweet in taste. It is located within the Samadhi Mandir Complex on the western side.People burn incense sticks throughout the day and a fire is kept burning in a pot placed in the courtyard. The temple has a photograph and 'Padukas' of Shri Saibaba and a Shivlinga.

Samadhi Mandir: This is the main temple where the Samadhi of Shri Sai Baba is enshrined. The construction of the temple was started by Shri Bapusaheb Buty of Nagpur during the lifetime of Shri Sai Baba with an intention to have a temple of Lord Krishna. During its construction Shri Sai Baba expressed his desire to stay in it. On the death of Shri Sai Baba on 15th October 1918, there was a

dispute between the Hindus and the Muslims whether to cremate or bury the body. The collector of Ahmednagar settled the dispute and finally the body was buried in the temple complex. Today the structure has been renovated and a marble statute of Shri Sai Baba is installed on platform near the Samadhi. It is the main focus of all pilgrims visiting Shirdi. Maximum crowding happens here and hence the Sai Sansthan has built 5 halls to accommodate the pilgrims adjoining the Samadhi Mandir.

Dwarkamai Masjid: This is an old mosque named as Dwarkamai by Shri Sai Baba Himslef and is located to the east of the main temple. It is away from the Samadhi Mandir temple complex. Shri Sai Baba lived here and sat on a big stone, which is still preserved. A portrait of Shri Sai Baba painted during His lifetime is also kept here since His time. The other itemsusedby Him such as the grinding stone, bathing stone, wooden pillar for

rest, chulha, paduka, tulsi vrindavan etc are kept here in a small room. The ash from the Dhuni (Holy fire) called 'Udi' is taken out and distributed to the devotees. The Dhuni waslit

up Shri Sai Baba and it has been kept burning continuously from that time till today.

MAHARASHTRA POLLUTION CONTROL BOARD

Chawdi: It is located adjacent to the east of 'Dwarkamai'. Shri Sai Baba used it as a resting place on every alternate night. As a traditional custom being followed for a long time ladies are not allowed to enter the eastern part.









Lendibaugh and Nandadeep: This is a garden at present where earlier a Nala called Lendi Nala was flowing. There also existed a burial ground. In the southwest part of this garden there is one well, which was dug by Shri Sai Baba for drinking water. The nala was later filled up and a lamp was lit, it has been kept burning since then and is called the Nanadadeep.

Mahadeo, Shani and Ganesh Temples: These are small temples each separately built but interconnected and dedicated to the respective deity in the Samadhi Mandir Complex, which have now been renovated. It is said that Shri Sai Baba Himself took initiative in constructing the Ganesh Temple.

2.3 DEMOGRAPHIC PROFILE

Shirdi has grown rapidly in the recent years. Earlier it was a small village having population engaged in agriculture and allied activities. With the increasing fame and popularity of Shri Saibaba commercial activities have now increased in the town.

2.3.1 Population

The population of Shirdi has grown rapidly in the last decade (1991 – 2001) compared to the earlier two decades. The growth was also very high during 1951 and 1961. It is to be noted that Shirdi Grampanchayat was converted to Municipal Councilin 1990 and no additional area/ revenue villages were added to the



town. Thus the rapid growth is either natural population growth or due to influx of people. The later seems a more justified reason as with the increase in the inflow of pilgrims the employment and trading opportunities in Shirdi have increased substantially. The population density also has significantly increased from 1150 persons per sq. km in 1991 to 1991 persons per sq. km. in the year 2001.

No.	Year	Population (No. of Persons)	Decadal Growth Rate
1	1951	2950	
2	1961	5239	77.60
3	1971	6369	21.60
4	1981	8806	38.26
5	1991	15129	71.80
6	2001	26169	72.97

Table 2.1: Decadal Population growth of Shirdi

Source: Census of India & Development Plan Report, Shirdi

2.3.2 Floating Population

The pattern of inflow of pilgrims to Shirdi shows a definite weekly pattern and the numbers are maximum during Thursdays and weekends. In general Thursdays to Sundays are days with more inflow and Monday and Tuesdays are lean periods. The average daily inflow of pilgrims on lean days is 15000 to 20000. On Thursdays and weekends the figure goes to 25000 to 30000. On important festival occasions the number of people comingto Shirdi goes to 1.5 to 2.5 lakhs. Among the three important festivals maximum people visit the place on

Ram Navmi. Besides these during Christmas and Diwali vacations also many people visit Shirdi. The number goes as high as 2.5 lakh when these days coincide with a weekend.

-		
No.	Occasions	Floating Population
1	Weekday	15000 - 20000
2	Thursdays and Weekends	20000 - 25000
3	Ram Navmi	1.5 – 2.0 lakhs
4	Gurupurnima	1.0 - 2.0 lakh
5	Dussera	2.5 – 3.0 lakh
6	School vacations	50000 – 1.0 lakh

 Table 2.2: Floating Population on Different Occasions

Source: Discussions with Sai Sansthan Officers & Shirdi Nagar Panachayat

2.3.3 Socio-economic Profile

The literacy rate of Shirdi has increased in the last decade and it is now 68 %. It is lower than the state average of 76.9 %. The scheduled caste population in Shirdi is less at 16% of the total population. The decadal growth of the same is also insignificant. Shirdi has very little population of scheduled tribes and the growth rate of the same has declined in the last decade. The average household size is 5.26 as per the 2001 census.

The percentage of main workers has gone down from 36% to 32% and at the same time that of the marginal workers has increased from 1.1% to 3%.

	Features	1991	2001
1	Population	15129	26184
2	Number of Households	3242	5211
3	Average Household Size	4.76	5.26
4	No. of Literates	7961	17825
5	% of literates	52.62 %	68.07 %
6	Area in Sq. Km.	13.15	13.15
7	Population Density	1150.50 Persons/ Sq. Km	1991.17 Persons/Sq. Km.
8	Total SC Population	2459	4545
9	% to Total Population	16.25 %	17.35 %
10	Total ST Population	691	951
11	% to Total Population	4.56 %	3.63 %
12	Total Working Population	5685	9349
13	Total Main Workers	5512	8532
14	% Main Workers	36.40	32.60
15	Total Marginal Workers	173	817
16	% Marginal Workers	1.14 %	3.1 %
17	Total Non Workers	9444	16835

Table 2.3: Socio-economic Details

Source: District Census Handbook 1991 & 2001

2.4 CLIMATE

Shirdi has a dry climate. It has the typical three seasons as experienced by most areason the Deccan Plateau. The summer season starts from mid March and continues till June. The early showers of monsoon begin in June and the season continues till September. This followed by winter from mid October to February end. Hot and dry winds blow from the northeast till the middle of May. After this the weather becomes sultry till the southwest monsoon sets in which continues till October. There are occasional showers in winter but otherwise the sky



2.4.1 Temperature

The temperatures vary substantially during the year though the average minimum and maximum are temperatures are 26.6° C and 41° C respectively. In reality during summers the maximum temperature goes as high as 45°C and in winter the temperature goes down as low as 10°C

2.4.2 Humidity

Shirdi lies 185 km to the east along a straight line from the coastal area of Palgharin Thane District. The Sahayadri Range forms the boundary between the Ahmednagar District and Thane District. The rainfall and humidity is high in these areas but as one comes down to the plateau where Shirdi is located the climate becomes dry. Mean humidity varies from 34% to 80% in the morning and 17 % to 64% in the evening depending on the temperature.

2.4.3 Wind

For major part of the year the wind direction is from North West. In winter its flowisfrom the South West to North West. The sky is usually clear through out the year and visibility is good.

2.4.4 Rainfall

The rainfall is mainly due to southwest monsoon winds. The average rainfall is 42 cm. The monsoon season in Shirdi starts in the month of the June and continues till late September. Occasional showers in winter season are not uncommon.

2.5 PHYSICAL FEATURES

The Ahmednagar district has three main relief features. The Sahyadri Hill ranges with its three offshoots, Kalsubai – Adula Range, Baleshwar Range and Harischandragad Range. The second feature is the plateaus at a general elevation of 600m. There are two such plateaus the Akola Plateau and the Jamkhed Plateau. The third relief feature is the basin; the two main basins are that of Godavari (Northern part of the district) and Bhima (Southern part of the district) Rivers. Shirdi lies in the Godavari Basin.

2.5.1 Topography & Natural Drainage

Shirdi is located at an altitude of 502.6 m above the mean sea level. The town is located in the Godavari Basin on a fairly even terrain. The River runs almost parallel to the town at a distance of 19.0 km from the town. The Godavari originates in the Sahayadri Ranges near Trimbak and enters Kopargaon Tehsil at village Wadgaon. It flows in the southeast direction through rich alluvial plains.

2.5.2 Geology

The entire Ahmed Nagar District forms part of the Deccan Basalt province, which covers 82% of the state. Shirdi lies in the Rahata Taluka, this Taulka was recently carved out of Kopargaon Taluka. The Godavari River drains this entire area. The region around Shirdi predominantly consists of the compound Phaoehoe flows. The flow consists of several small units all of them have an identical geometry and dominant characteristics. Normally these units are 10 to 100 m in diameter each and 2 to 20m in height at its center with bun shaped geometry. The surface of this unit is thin chiseled, glassy, red crust with ornamentation or ropy surface. The Phaoehoe flow yields rocks that are used in road construction or as

aggregates. Dykes are absent around Shirdi. Alluvial deposits are found along the river courses of Pravara and Godavari.

2.6 LANDUSE (EXISTING & PLANNED)

The present area under Shirdi Municipal Council is 13.15 Sq. Km. The Council came into existence in 1990. According the Development Plan for Shirdi 92.50 % of the total area under the Development Plan is under agricultural use as shown in Table 2.4 and Figure 000 Thisis because a major part of the land included in the municipal limit is yet to be developed. However the landuse with respect to the developed area shows that maximum area is under transport and roads comprising 31.96 %, followed by residential use, which is 12.55 %. The area under public semipublic is 9.85 % while that under commercial is 4.47 %. The landuse with respect to developed area is given in Table 2.4 and Figure000. New residential and commercial developments are taking place along the Ahmednagar Manmad Road and the Pimpalwadi Road. Another major residential area known as Laxmi Nagar is located to the north of the Prasadalaya building of the Sai Sansthan on the Ahmednagar Manamd Road. Other areas having residential development are to the north and south of Kankur Road The predominant commercial activities of shopping are concentrated around the temple complex. Among other important commercial activities are the hotels and lodges. Most hotels are situated along the Pimplawadi Road towards the north, while a few are located on the Ahmednagar end of the Ahmednagar Manmad Road. Some old dharmshalas and lodges are situates around the Gaothan area. The Shirdi Municipal Council (SNP) has developed a commercial complex adjoining the SNP office building.

Sl.	Category/User	Area in	% to Developed	% to Total
No.		На	Area	Area
1	Residential	11.87	12.55	0.91
2	Commercial	4.23	4.47	0.32
3	Industrial	-	-	-
4	Public & semipublic	9.30	9.85	0.71
5	Transport (Roads & Parking)	30.22	31.96	2.33
6	Public Utility	0.86	0.90	0.06
7	Play ground, Open space, Garden etc	0.33	0.35	0.02
8	Vacant land	37.74	39.92	2.90
	Total	94.55	100	7.25
9	Agriculture	-		91.05
10	Water Bodies	-		1.70
	Total area	1298.40		100

Table 2.4: Existing Land use of Shirdi

The Ahmednagar Manmad Road also has many shops as well as hawkers. Most of the government offices such as the Municipal Council. Maharashtra State Electricity Board, Bharat Sanchar Nigam Limited are also locatedon the Ahmednagar Manmad Road. There are two private parkinglots on the western side of the road as well as the Maharashtra Sate Road Transport Corporation's bust stand on the eastern side on the same Ahmednagar Manmad Road.



The vegetable market for the town is situated behind the MSRTC bus stand. The Sai Sansthan

Hospital, which is the largest health & medical provider in Shirdi, also has access from the same road. Another Private hospital is located along the road towards the Ahmednagar end of the town. The Sai Sansthan has an English medium school located on the Ahmednagar end of the road. А Government school is situated behind the temple but this likely to be shifted to a new location soon. The space



vacated by the school is proposed to be developed as a shopping complex. The town is divided into 10 wards and the ward wise population is as given below.

Wards	Number of HH	Population	Household Size
Ward No.1	602	3,359	5.6
Ward No.2	769	3,820	5.0
Ward No.3	71	502	7.1
Ward No.4	1,012	4,789	4.7
Ward No.5	344	1,592	4.6
Ward No.6	354	1,824	5.2
Ward No.7	891	4,206	4.7
Ward No.8	711	3,587	5.0
Ward No.9	109	563	5.2
Ward No.10	348	1,942	5.6

Table 2.5: Ward wise population of Shirdi

Source: Census of India 2001

There are 463 slum households in Shirdi and 87 illegal shops. Break up of slums is as follows

S. No.	Area	No. of. Household
1	Gaothan	75
2	Nala No.33 &34 of Irrigation Dept.	142
3	Laxmi Nagar	185
4	Chari No. 12	61
5	Total	463

Table 2.6: Details of Slums in Shirdi

Source: Shirdi Municipal Council

2.7 WATERBODIES

There are no significant waterbodies such as lakes and ponds in and around Shirdi.



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2.7.1 Surface Water

There are no rivers flowing in the town. Two streams namely Lendi and Sira used to flow near the Sai Samadhi Temple, which have now dried up. One small stream called the Laxmi Nala passes by the town. The sewerage from the town is disposed in the stream and the water is used for agricultural purpose.

2.7.2 Ground Water

The town and the near by areas are substantially dependent on ground water for domestic and irrigation use. In Kopargaon Tehsil 36% of the total irrigated area is dependent on open well/tube well for irrigation. The area falls in the GV 120 watershed as per Ground Water Survey and Development Agency (GSDA) numbering and it has fairly good ground water potential. The ground water depth varies from 5 to 15 M.

2.8 FOREST AND VEGETATION

There are no forest areas adjoining Shirdi Town. But there are a few Reserved Forest areas in the vicinity of the town. The details are given below. Detailed information on the crown density and species type of the forest is not available. However the general information on the vegetation of the surrounding region can be described. The two main forest types foundhere are Dry deciduous forests (5A/C3) and Southern thorn forests (6A/C1). The Semi evergreen forests (2A/ C2) are also found in Ahmednagar division but these are restricted to the Sahayadri ranges and foothills of the Western Ghats. Shirdi being further down it is unlikely to have this type of forests. The forests in the area are under tremendous pressure of being converted in to agricultural land. Hence the present forest areas are in pockets and are found on lands that are absolutely not suitable for agriculture. This has affected the condition of the trees and very little natural forests are remaining. Excessive grazing and removal of tree for firewood and timber are another reason for the degradation. The predominant species foundin the area are Bor, Babul, Prosopis, Capparis and Euphorbia. Some other species such as Ain (Terminalia tomentosa), Beheda (Terminalia bellerica), Neem (Azadicarita indica), Maharuk (Ailanthus excelsa) etc are also found.

No	Name of the Forest Range /village	Area in Ha	Distance from Shirdi
1	Korhala	340.94	1.8 Km to the west
2	Kakadi	491.13	6.5 km to the west
3	Kokamthan	37.67	6.6 Km to the north
4	Sade	14.43	5.5 km to the northeast

Table 2.7: Forest Areas Around Shirdi

Source: Ahmednagar Forest Division

2.9 TRADE AND COMMERCE

The main source of employment generation in Shirdi is the Sai Sansthan and the chief commercial activity is flower shops, local taxis and hotel industry.

2.9.1 Workforce Participation

The Table 2.8 describes the total workers population and the workers engaged in the different sectors and the changes in the last decade in their ratio. The working population has almost doubled in the last decade. However the percentage to the total population has decreased very marginally. Amongst the different categories of workers those engaged in the tertiary sector shows a substantial increase, followed by those enraged in the primary sector. The growth in

the working population could also be due to migration of people from near by areas. The rise in the tertiary sector is an indicator of the growing service industry. (Table 2.6)

2.10 REGIONAL PROFILE

The environment improvement of Shirdi cannot be looked at in isolation without the taking into consideration the surrounding areas, their landuse characteristics, economic profile and environmental features & sensitivity. This section describes the above aspects.

2.10.1 Linkages

Shirdi does not have a rail link and therefore is totally dependent on road network for accessibility. The road network is strong and road conditions are good and hence it is easily accessible from all parts of Maharashtra and the neighbouring states. The nearest rail heads of Nashik, Manmad, Ahmednagar and Kopargaon are well connected with roads from Shirdi and this improves its connectivity to different parts of India.

Sector	Workers			
	199	1	20	001
	Nos.	%	Nos.	%
Primary Sector	2248	39.54	1520	16.25
Cultivators	805	14.16	1085	11.60
Agricultural Labour	1396	24.56	435	4.65
Livestock, Forestry, Fishing, & Plantation	47	0.83	-	-
Mining & Quarrying	-		-	-
Secondary Sector	574	10.10	338	3.61
Manufacturing and Processing in Household	53	0.93	338	3.61
Industries				
Manufacturing & Processing in Other than	305	5.63	-	-
Household Industries				
Construction	216	3.80		
Tertiary Sector	2690	47.32	7491	80.12
Trade and Commerce	1486	26.14	-	-
Transport, Storage & Communication	105	1.85	-	-
	199	1	20	001
Other Services	1099	19.3	7491	80.12
Total Workers	5685	37.57	9349	35.72
Main Workers	5512	96.95	8532	91.26
Marginal Workers	173	3.04	817	8.73
Non Workers	9444	62.42	16835	64.33
Grand Total Population	15129	-	26184	-

Table 2.8: Category of workers in Shirdi

Source: Census of India 1991 & 2001

2.10.2 Land use

Shirdi and Rahata are the urban centres separated by 10 km however the entire belt can be considered urban as hotels and other areas of Shirdi are growing towards Rahata. There are few forest areas in 15 km radius of Shirdi. Other than these the predominant land use is agriculture and a few sugar industries. The table below gives the broad land use of the villages in the immediate vicinity of Shirdi.

Name of the Village	Area	Forest	Irrig	Unirrigat	Culturable	Not available
	HA		ated	ed	Waste	for cultivation
Nighoj	4.68	-	4.5	0.18	-	-
Nimgaon Korhale	7.51	-	5.5	2.01	-	-
Dorhle	8.79	-	2.15	7.25	0.19	0.1
Kankuri	3.89	-	13.5	0.96	0.39	0.39
Pimpalwadi	9.7	-	8.5	0.5	-	-
Ekrukhe	14.2	-	2.75	0.7	-	-
Sakuri	9.11	-	1	0.5	-	0.11
Nandurkhi Bk.	9.1	-	4	5.25	-	1.1
Nandurkhi Kh.	3.3	0.03	1.65		-	-
Korhale	25	0.7	1.19	20	0.3	-
Dahigaon Korhale	6.65		1.5	4.8	0.2	-
Kelwad Bk.	6.19	0.09	1.98	4.61	0.3	-
Kelwad Kh.	6.5		13.5	4.8	0.2	-
Khadakewake	7.98	0.1	7	5.8	0.1	-
Astagaon	33.42	-	4.5	19.5	0.42	-
Ranjangaon Kh.	7.42	-	5.5		-	-

Source: Census of India 1991

2.10.3 Significant Economic Profile

As stated above the economy of Shirdi town per se is mainly dependent on the service industry in the form of hotels, travel agents and memento shops. The Sai Sansthan employs over 1000 people. The nearby region is popularly known as sugar cane belt as it is the chief cash crop of the region. There are a quite a few sugar industries in the region. The closest to Shirdi are the Ganesh Sugar Mill at Laxmi wadi (19 km on Nashik side) and the Sanjivini Sugar Mill (15 km on Ahmednagar side). However the conditions of these and many other sugar mills is not so healthy as there has been a reduction in the production of sugar cane due to draught like conditions for the past 4 - 5 years. The region also produced good quality fruits such as guava and pomegranates, however farmers have reduced cultivatingthem due to low returns and more stress is on growing sugar cane.

Rahata town, which is 8 - 10 km from Shirdi, is an important center for wholesale grain trading. It also has the Agricultural Produce Market Committee Centre (APMC). The surrounding area is predominantly agricultural with chief crops being jowar, bajra, corn and groundnuts. Thus the economy of the region is still dependent on agriculture; it is only in urban areas of Shirdi and Rahta where the service sector is prominent.

The work force participation details from the 2001 census for the villages shows that maximum numbers of people are employed in the primary sector. They are either cultivators or agricultural labourers. The number of people employed in household industries is the lowest. Sakuri village has the largest number of agricultural labourers as well as maximum number of people employed in the tertiary sector.

Village	Total	Cultivators	Agricultural	House Hold	Other
_	Workers	(%)	Labourers	Industries	Workers
			(%)	(%)	(%)
Dorhale	543	60.0	36.6	1.8	1.5
Pimpalwadi	723	25.3	69.8	1.0	3.9
Nighoj	246	39.8	39.0	2.8	18.3
Nimgaon Korhale	357	10.6	65.3	3.1	21.0
Kankuri	172	15.1	82.0	0.6	2.3
Nandurkhi Kh.	264	65.5	28.0	1.9	4.5
Korhale	908	57.8	29.4	1.4	11.3
Nandurkhi Bk.	617	38.9	38.6	8.9	13.6
Sakuri	961	18.9	55.7	3.3	22.1
Dahigaon Korhale	339	49.3	41.6	0.3	8.8
Kelwad Bk.	941	70.2	25.6	1.1	3.1
Kelwad Kh.	43	55.8	30.2	7.0	7.0
Khadakewake	428	46.0	46.7	0.9	6.3
Astagaon	1,614	48.0	43.7	2.4	5.8
Ekrukhe	816	41.1	52.7	0.6	5.6
Ranjangaon Kh.	1,341	29.2	65.3	2.2	3.4

Table 2.10: Work force participation in villages around Shirdi

Source: Census of India 2001

2.11 LOCAL ADMINISTRATION

The Shirdi Municipal Council came into existence on 10^{th} January 1990. Prior to this all the civic administration and planning was looked after by the Shirdi Grampanchayat. The Grampanchayat did not have any technical staff and hence there was quite a bit of haphazard development with out any planning considerations, taking place in Shirdi. The Municipal Council now looks after the civic administration as well as the planning of the town. The Department of Town and Country Planning has prepared the first development plan for Shirdi, which was sanctioned in 1993, it is still in force and is being implemented by the Shirdi Municipal Council. The Municipal Council has a total permanent staff of 112 persons (2003 –04) distributed amongst various departments such as Revenue collection, Public safety, Health and Services, Water supply, Construction and Education. The Chief Executive Officer nominated by the Government heads the Municipal Council

			,	
No.	Category	No.	Head	Amount in 1000
				Rs.
А	Income	1	Revenue collection	21353
		2	Grants	17454
		3	Loan	8940
		4	Other	3853
		5	Total Income	51600
В	Expenditure	1	General Expenditure	23493
		2	Capital Expenditure	20599
		3	Total Expenditure	44092
С	Expenditure on	1	Amount	7175
	Establishment			
		2	Percentage of	33.60%
			expenditure	

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Table 2.11 Income and ex	openditure statement of SNP	for the year 2002 – 2003

Source: Annual Report Shirdi Municipal Council

The Sai Sansthan is the Governing and Administrative body of Shri Saibaba's Samadhi Temple and all others temples in the premises. It is the authorised body to control and manage the day-to-day activities at the Shri Saibaba Samadhi Temple. It also provides various facilities like accommodation, lunch (at economical rates), refreshments, railway reservations, and bus reservations. The Sansthan also runs Kanya Shala (Girls School) and English Medium school, hospital, blood bank, Industrial Training Institute (I. T. I.), drinking water supply, etc.

The Sansthan has 22 trustees and a governing board. It functions through various departments such as water supply, sanitation, garden and security department. It employs more than 1000 people.

The Sansthan also helps financing developmental project in Shirdi and near by village. The Sansthan has its own water supply system and it also supplies water to the villages of Kankuri and Pimpalgaon. The Sansthan is also financing a new water supply scheme for Shirdi Town. The total cost of the scheme is 15 crores of which Sansthan is contributing 10 crores and Shirdi Municipal Council is contributing 5 crores.

The Shirdi Municipal Council and the Sai Sansthan are two important institutions involved in the development of Shirdi. Besides these there are no notable organizations or voluntary agencies active in Shirdi.

CHAPTER 3 CIVIC INFRASTRUCTURE

3.1 WATER SUPPLY – SHIRDI TOWN

3.1.1 Source

Shirdi Municipal Council supplies water to the town and has the source from Nandurkhi Lake, which receives water from the Godavari Canal. The lake has a capacity of 22 million litres, which is about 20 - 25 days of storage.

3.1.2 Treatment and Distribution system

The Municipal supplies 9-lakh liters of water per day to the town. The supply levels in monsoon and winter are 30 LPCD where as in summer it goes down to 18 LPCD. The treated water is stored in an Overhead Tank of 3.5-lakh liter capacity situated near the Municipal Council Office. The water is supplied to the different areas by gravity. There two 30 HP pumps installed near the OHT to pump water in the OHT. A 10 HP pump is installed near the intake well at the filtration plant. The water is given primary treatment of bleaching and alum before being supplied to the town.

The Council levies an annual water charge to its users. The details of the charges based on domestic & commercial users and size of connection is as follows.



No	Size	Household	Commercial
		Amount in Rs Per connection	Amount in Rs Per connection
1	Half Inch Dia	806	3580
2	Three fourth Inch dia	1555	7138
3	One inch dia	3602	16152

Table 3.1: Details of Charges for Water Supply Connections

Source: Shirdi Municipal Council, Water Supply Department

The Gaothan area is covered with piped water supply while most of the other areas receive water through hand pumps and stand alone connections. The town is also dependant on ground water to fulfill its daily needs. The Municipal Council has 122 bore wells and 3 wells for water supply and water is supplied by tankers from these wells when there is shortage. There are about 90 private wells in the town. Most hotels in the town find the water supply inadequate and almost each hotel has its own bore well. Some hotels also purchase water from tankers.

No.	Size	Household	Commercial
1	Half Inch Dia	562	107
2	Three fourth Inch dia	2	4

Source: Shirdi Municipal Council, Water Supply Department

The town is divided into 8 water supply zones which are further divided into 36 areas, as given below. The Gaothan area is slightly elevated.

Table 3.3: Water Supply Zones

1	Main Gaothan	5	Muslim Galli
2	Rajwada Galli	6	Kote Galli
3	Pimpalwadi Road	7	Laxmi Nagar
4	Shivaji Nagar – Kankuri Road	8	Ahmednagar – Manmad Road

Source: Shirdi Nagar Panachayat, Water Supply Department

Table 3.4: Sub-Divisions of Water Supply Zones

1	Laxmi Nagar	19	Vivekanad Nagar
2	Om Sai Nagar	20	500 room Parisar
3	Datta Nagar	21	Wagh Vasti
4	Imamwadi	22	Aasne Vasti
5	Ahilyadevi Nagar	23	Sakuri Vasti
6	Pimpalwadi Road - Shinde Vasti	24	Panmala
7	Pimpalwadi Road – Samrat Nagar	25	Sri Krishna Nagar
8	Satbhai Mala	26	Prasad Nagar
9	Viroba Mandir Parisar	27	Ganesh Nagar Vasti
10	Barde Vasti	28	Sant Nagar
11	Sambhaji Nagar	29	Vitthalwadi
12	Banraod Gaikwad Vasti	30	Mahaloba Nagar
13	Kalika Nagar	31	Kankuri Road
14	Dwarka Nagar	32	Sri Ram Nagar Kote Galli
15	Navin Bajarpeth Parisar	33	Sri Ram Nagar 200 Room
16	Shejwal Vasti	34	Ambedkar Nagar
17	Gaikwad Vasti	35	Sita Nagar
18	Bustand	36	Shivaji Nagar 52 Bunglow

The water supply department has a staff of 14 persons all together.

3.2 WATER SUPPLY - SAI SANSTHAN

3.2.1 Source

The main source of water to Shirdi is the Right Bank Canal coming from the Godavari River. In Shirdi the Sai Sansthan has its own independent water supply and distribution system that takes care of the needs of the various Dharmshalas, dining hall, common toilet complexes, staff housing colonies and also two villages namely Kankuri & Pimpalgaon. The water from the is stored in four canal



interconnected reservoirs together having storage of 327 MLD. (45 days storage). The water from the canal is stored in three open tank the capacity of each is as follows

			Depth (m)	Storage (Million Litres)
Tank 1 271	1	114	2.4	90
Tank 2 265	5.6	314	2.4	227
Tank 3 182	2 (65	2.4	15

Table 3.5: Water Supply Details of Sai Sansthan

Source: Water Supply Department, Sai Sansthan

3.2.2 Treatment and Distribution system

The water is given primary treatment with bleaching powder and alum. It is then filtered and stored in a sump of 3,75,000 litres capacity. Here the water undergoes chlorination before being supplied. The water is then supplied to different buildings of the Sai Sansthan, which have individual overhead tanks. The details of the same are given in Table 3.5



Table 3.6: Water Supply Details of Sai Sansthan

No	Building	Water Tank Capacity in litres
1	Administrative Building	10,00,000
2	New Bhakta Niwas	10,00,000
3	Sai Prasad	1,00,000
4	Sai Hospital	1,53,000
5	Hospital Staff Quarters	3,500
6	Blood Bank Building	2,000
7	Sewadham Staff Quarters	20,000
8	'A' Type Staff Quarters	25,000
9	Sai Nagar Staff Quarters	14,020
10	Samarpan Building	26,5000
11	Sai Niwas 1 & 2	8,000
12	New Sai Udyan	10,00,000

The total daily water consumption of different areas such as temple area, hospital, staff quarters etc is given in Table 3.6

Building Name	Suction tank capacity in Litres	Tank capacity in Litres	Water used pei day/Lit.
Shanti Nivas	92000	146660	200000
Saiprasad No.1	100000	97540	81000
Prasadalaya			400000
Saiprasad No.2		47990	84000
Sai Udyan/Garden	100000	112470	145700
New Bhukt Nivas 500 rooms	294000	310640	543500
New canteen			25000
New Dharmashala 200 room	140900	121290	290400
New canteen			10000
Hospital	153000	24290	100000
Hospital staff quarters		35030	50000
Blood bank		10000	60000
Sai Sanidhya/ Sai Sahavas		12000	10000
New staff quarters Sainagar		56000	36000

pe r

	Suction tank	Tank capacity in	Water used per
Building Name	capacity in Litres	Litres	day/Lit.
Old A type (saidhyan)	25000	34250	28800
Old B type (saidhyan)		34250	24000
Sainagar		29990	18000
Samarpan		26460	21600
Sevadham		20000	57600
Shaikhanik Sankul		47550	68600
Sulabh Sauchalaya			50000
Bagicha/ Garden			100000
Pimpalwadi Gaon			75000
Kankuri Gaon		50000	50000
Overhead tank Kankuri Road		1000000	2529200
Kankuri Talav		700000	
Clarifier Kankuri Tank		1000000	
Washout tank Kankuri Tank		200000	
Total			25.29.200

Source: Water Supply Department, Sai Sansthan

3.2.3 Key Issues

- Increasing demand due to increasing floating population
- Operation and maintenance of the WTP of Municipal Council is poor.
- A new WTP will have to be constructed with increased capacity.
- The distribution network is old and its condition needs to be assessed.
- The coverage has to be extended to cover the entire town
- The Sansthan has been permitted to extract water from Dharna Dam about 130 km from Shirdi. The exact amount is being worked out. The water has to be conveyed to Shirdi and the WTP and distribution has to be modified accordingly

The MJP has prepared and sanctioned a new water supply scheme costing around 15.81 crore rupees. The execution of the same has begun and once it is operational it will solve most of the water supply problems of the town. The salient features of the scheme are given in Table 3.8. The technical details of the scheme are given in Annexure VI. The Sai Sansthan and the SMC are jointly financing this scheme. The SMC is contributing 5 crores towards the cost of the pipes and the Sansthan is contributing the rest of the amount.

No	Feature	Details
1	Source	Right Bank Canal of Godavri River, Shirdi
2	Design year population 2031	70746 persons
3	Supply levels	70% population 70LPCD
		30% population 40LPCD
4	Water Demand	9.49 MLD
	(Excluding present supply)	
5	Daily Pumping	20 Hrs
6	Block Cost	Rs.15.83 Crore
7	Cost per head	Rs. 1950
8	Cost of treated water	Rs. 3.07 per 1000 litres

Table 3.8: Salient Features of Water Supply Augmentation Scheme for Shirdi

Source: MJP, Kopargaon



3.3 SEWERAGE AND SANITATION

3.3.1 Existing Sewerage System

Presently Sewerage Scheme in Shirdi is in a limited area. The total length approximately having the sewers is about 10 km. Sewage in some places is discharged to open gutters. The Sewage collected from the network also leads to the natural nalas only. Existing network covers less than 16% of the area of the town.

Shirdi Sanstan has its own under drainage scheme for all its buildings, roads. The Sewage generated from the bhakata nivas, sulabh shouchalaya, sullage from are sent to septic tank through internal sewerage network. There are waste recycle plants proposed for hospitals, treating the sewage anaerobically and the sewage treated is utilised for horticulture purposes. The sewage from the premises of other building reaches the septic tanks and leads to the Laxmi Nagar nala.

3.3.2 Existing Sanitation System

Individual sanitation facilities are available to most of the houses in the town. The SMC and the Sansthan have also constructed public toilets for the residents and pilgrims. The SMC has 3 toilet blocks having a total of 62 seats. The Sai Sansthan has constructed a toilet complex near the Samadhi Temple. It is managed by Sulabh International. The complex has 256 toilets and bathroom. There is one Biogas generation plant of 35-cum/day capacity (3 no) to treat Sulabh



shouchalaya sewage and to generate power through methane gas. But this is not efficiently generating the gas, as loading is not done properly. The sewage from the premises of other building reaches the septic tanks and lead to the natural nala. There are about 2 recycle plants for hospital and dharmashala and above 25 septic tanks to treat the sewage. The Sansthan also has another toilet complex of 48 toilets and bathrooms near the lodging facility named Sai Prasad.

Location of Public Toilets

- Laxmi Nagar 34 seats
- Rajwada 10 seats
- New Market area 18 seats
- SMC office Urinal
- Shopping Complex Urinal
- Nandurkhi Road Urinal

The total length of covered drains is 14 km

where as the length of open drains is 7 km. The water from the storm water drain finally goes to the LaxmiNagar Nala.



3.3.3 Key Issues

- Shirdi does not have any sewerage system or underground drainage facility.
- Absence of sewerage system and high risk of pollution of groundwater
- Being a pilgrim place such a situation can be disastrous
- The storm water drains are clogged and present a very unhygienic picture of the town

3.3 MUNICIPAL SOLID WASTE MANAGEMENT

The Sansthan and the Municipal Council both are involved in the collection and management of the solid waste.

3.3.1 Sources and Type of Solid Waste

The sources of solid waste generation in Shirdi include the waste generated at various religious places in the town, Dharmashalas, the accommodation facilities developed by the Sai Sansthan, hotels, restaurants, the domestic solid waste from residential areas, waste form the public places such as bus stand and commercial areas.



Since Shirdi is a major tourist center the waste generated in the town would

contain large quantities of organic waste. From the field survey it was observed that the solid waste from the town largely contains organic waste from religious offering and functions, flowers, food items, households and markets, commercial waste like paper, plastic, bags, etc. and inert material like sand, stones and silt from street sweeping and drain cleaning activities. An important source of plastic in the waste is from the offerings given in plastic bags and tea served by the Sai Sansthan Canteen in plastic cups. A conservative estimate from the officials shows that average 20000 teacups are sold daily. These cups when disposed find their way into the solid waste.

3.3.2 Quantity of Solid waste

As per the preliminary estimates and discussions with the officials, the solid waste generated in the town is about 7.5 tons per day including that generated by the temple area. Out of this, only 4 ton of the waste is collected and transported. Thus, substantial quantity of the waste remains unattended.

Source of Waste Generation	Quantity	Total
	(MT/day)	%
Sai Sansthan (Includes Samadhi Temple Complex, Prasadalaya &		
accommodation facilities)	2	27
Households	1.75	23
Hotels, restaurants and commercial establishments	1.5	20
Vegetable market	0.5	7
Street sweepings, drain de-silting and others	1.75	23
Hospital waste (non-infectious and non-hazardous)	0.001	0
Total	7.501	100.0

	Table 3	3.9:	Solid	Waste	Generation	in	Shirdi
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Source: Analysis and discussions with SMC officials

3.3.3 Existing Solid Waste Management System

The Shirdi Municipal Council and the Sai Sansthan both are involved in the collection of the solid waste. The Sansthan collects the waste from the Samadhi Temple Complex, Dininghall (Prasadalaya), New Bhakta Niwas, Dharmashala, Sai Nagar (Staff quarters) and enquiry office (accommodation facility near temple). The Shirdi Municipal Council carries out the collection from the rest of the town. The waste is disposed at the landfill site at Rui Shiwar 3km from the town. The site is within the SMC limits near the northeastern boundary. The area of the site is 1.03 hectares.

The total manpower employed for solid waste management in the town consists of 55 employees of which 25 people are SMC staff and the remaining 30 are on contract.

Collection

At present house to house collection is done by one mini door vehicle of the SMC. The vehicle does one trip daily to the different residential areas. However the coverage is around 50%. SMC has provided about 44 RCC dustbins at various locations covering the entire town. Dustbins have been provided on all major and minor roads and the average spacing of the dustbins is about 500 to 800 m (average 800 m for a road length of 52



km). However, this spacing is not uniform through out the town and it varies from place to place depending on the density and locality.

The reconnaissance survey conducted in the town and discussion with the SMC officials reveal that many of the households, shops and commercial establishments throw the waste on to the streets drains, open spaces creating unhealthy conditions.

There is no structured secondary collection of the solid waste for the town. Being a small town the whole process of collection of the waste is handled at primary collection level where waste from the dustbins is directly loaded into the transport vehicles and carried to disposal site. There are no transfer points for the waste collection.

Transportation

The SMC has three vehicles one tractor, one tempo and a mini tempo. The waste collected from the town is then transported to the dumping ground. All the vehicles make two trips daily. However, considering the bulk density of the solid waste as 0.35, the actual collection of the waste is only 3 tons per day out of the 5.5 tons generated in the town.

The Sai Sansthan has one tempo, which makes two trips daily. The waste collected by the Sansthan contains left over food from the dining hall, flowers, garlands etc andhence the bulk density can be taken as 0.45. This gives a daily collection of 1.9 tons of the total 2 tons generated daily.

Disposal

At present the municipal council dumps solid waste at a site on the Pimpalwadi Road near Rui Shivar. The site has an approximate area of 1.03 hectares. The SMC has given contract to a private agency M/s Clean Eco and Environment Developers Pvt. Ltd for converting the bio
degradable waste to manure. The company pays an annual royalty of Rs. 45000 to the SMC for using the waste. The manure is marketed under the brand name of 'Nisarga Raja'. The setup is not yet fully operational. Discussions with the company officials revelaed that of the total waste brought to the landfill only 10% is biodegradable. This may be because the substantial amount of organic waste is generated by the Sansthan area and this does not come to the land fill. The Sansthan has its own



vermicompost plant. The company has not yet setu up a segeragtion plant on the landfill site. Segregation is done manualy and carried to the compost plant of the company at Loniabout 25 km from Shirdi.

No scientific disposal methods are being practiced at the site and the waste is just dumpedin the open land. The site is also devoid of basic infrastructure facilities such as weigh-bridge, compound wall, etc. and watchman for monitoring vehicle arrivals.

The Sai Sansthan dumps all the non-biodegradable waste on the SMC landfill site. The organic waste generated by the Sansthan is carried to the vermi compost plant at the New Bhakta Niwas. The waste from Sansthan area consists of 0.4 tons of left over foodandother organic waste from dining hall and canteen which converted to manure using BTM solution. The other waste of about 0.3 tons consisting of flowers, garlands etc is converted to vermi compost. The site has 14 pits of size 3m x 24m x 1m each. At present 2 are being used for vermicompost and 2 for BTM compost.



Item	Details
Estimated Quantity of waste generation, tons/day Shirdi Town	5.5
Quantity of waste collected, tons/day	3
Collection Efficiency, %	55
Estimated Quantity of waste generation, tons/day Sansthan areas	2.0
Quantity of waste collected, tons/day	1.9
Collection Efficiency, %	95
Frequency of waste collection (both)	Daily twice
Sanitary manpower - SMC	
Sanitary Inspector	1
Supervisors	2
Sweepers	16
Drivers	3

Item	Details
Contract Staff	30
Equipment	
Trucks	1
Tractors	1
Minidoor	1
Push carts	15
Dust bins	44
Sanitary manpower - Sansthan	
Sanitary Inspector	1
Supervisors	2
Drivers	1
Contract staff (includes conservancy & SW)	Maximum 220
Method of Disposal	Dumping in low land area
Area of Site common for SMC and Sansthan	1.03 hectares

Source Shirdi Municipal Council and Sai Sansthan

Table 3.11: Solid Waste Management F	Performance Indicators for Shirdi Town
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Indicator	Norm	Existing Service Levels
Waste Collection Performance	90-95%	55%
Vehicle Capacity Adequacy Ratio	30% of total	100%
	waste	
	generation	
Spacing of Dust Bins	100 m	600 – 800 m (avg 700m)
Road Length per Sweeper	400 – 600 m	2000 m
Conservancy staff per 1000 population	3	1.6 (52 for 26169 + 5000)
		persons)

Source: Analysis.

The Sai Sansthan collects the waste from the temple area and other accommodation facilities. It does not look after the solid waste collection of the entire town. However most of the floating population visiting Shirdi stays in the facilities provided by the Sansthan and also the temple area frequented by the pilgrims is maintained by the Sansthan. Thus the Sansthan takes care of most of the waste generated by the floating population. Thus the above mentioned performance indicators will not apply for the solid waste management for Sansthan areas as there is fluctuation in the floating population varying from 15000 to 3 lakhsduring festivals.

3.3.2 Bio Medical Waste

The Sai Sansthan Hospital is the prime source of bio medical waste in Shirdi. It has a capacity of 197 beds. The Sansthan has installed its own incinerator to dispose the bio medical waste generated by the hospital. The disposal system has been approved by the Maharashtra Pollution Control Board. The ash generated after burning is disposed off at waste disposal site 1 km from the new Bhaktaniwas building. It has not yet been mandatory for the private hospitals to send their waste to the Sansthan. A mechanism is



being worked out for the collection and centralised disposal of bio medical waste in Shirdi.

No	Type of waste	Waste generated per month	Category
1	Human waste	500 kg	1
2	Waste shards	600 kg	4
3	Discarded medicines	0.1 kg	5
4	Soiled waste	2000 kg	6
5	Solid waste	250 kg	7
6	Liquid waste	1150 kg	8

Table 3.12: Details of Bio Medical Waste of Sai Sansthan Hospital

Source: Maharashtra Pollution Control Board, Ahmednagar Region

The waste is stored in HDPE poly bags with proper colour coding before being destroyed. The incinerator installed by Sainath Hospital has a capacity of 20 kg. The desel consumption for 20kg waste is 30 litres. The stack height of the incinerator is 52 feet.

3.3.3 Key Issues

- The collection of solid waste needs to be improved considering that there is a substantial floating population visiting the town.
- Discussions with Sai Sansthan and SMC officials revealed that the waste contains significant amount of plastic. The main source for this is plastic bags for offerings, teacups and bottles. Since no detailed study on waste charcterisisation has been carried out the exact quantity of plastic waste is not available.
- The manpower allocated for collection, number of dustbins and other equipments are inadequate.
- House to house, collection of garbage is inadequate in Shirdi
- There is need to create awareness among the people for better solid waste management

3.4 TRAFFIC AND TRANSPORTATION

This section deals with the connectivity of the town to different parts of the state and the country as well as means of local transport in the town. The level of connectivity is an important factor in attracting pilgrims and on the other hand the transport network needs to be planned keeping in mind the future inflow and generation of traffic.

3.4.1 Regional Connectivity

Shirdi lies on the Ahmednagar – Manamad Road which, is a State Highway. The SH 10 connects the towns of Kopargaon.

Shrirampur, Rahuri, and Sangamner in AhmedNagar district and thus form an important road link. It also connects Shirdi to the surrounding metropolitan areas of Nashik (96Km), Manmad (100 km), Aurangabad (150) Mumbai (276 km) and Pune (210 km). Shirdi does not have a rail link and the nearest railhead is Kopargaon, which is 15 km from Shirdi. But the more important railheads for northern and southern region are Manmad(100



km) and AhmedNagar (83 km) respectively. The adjoining villages of Shirdi namely Pimpalgaon, Kankuri, Sakuri, Nandurkhi, and Biregaon are accessible by road.

The Maharashtra State Road Transport Corporation has a bus stand on the Ahmednagar

Manmad Road. The MSRTC operates buses from Shirdi to over 214 places all over Maharashtra and the neighbouring states of Maharashtra. Like wise the neighbouring states also operate buses to Shirdi from important towns such as Indore, Devas, Surat, Baroda, Ahemdabad, Hyderabad and Bangalore. In the recent years there has been a considerable increase in private bus operators from these towns as well as other places in Maharashtra namely Mumbai, Pune, Aurangabad, Kolhapur etc. The private buses do not have adequate parking place in the town and are parked along the internal roads near the hotels. The MSRTC bus stand has a daily traffic of 352 buses, 14 buses ply on the Shirdi – Mumbai route. Discussions with travel agents revealed that average 50 pt/private buses visit the town daily.

Since Shirdi is not directly connected by rail it is heavily dependent on road transport. Many people from Mumbai, Pune, Nashik etc now come to Shirdi in their own private vehicles. Private share taxis also operate between Shirdi and Shingnapur, which do not have authorised parking place or a taxi stand.

3.4.2 Roads & Internal Communication

The Ahmednagar Manmad road is one of the important roads of Shirdi running in the North South direction. Near the Sai Baba temple another road branches off to Pimpalwadi, which runs in the East West direction perpendicular to the Ahmednagar Manmad road. The Kankuri Road on the west of Ahmednagar Manmad Road is the third important road. It serves as an accessto three marriage halls and a big hotel. Large area to the north of this road has



developed recently. The fourth major road is the Nadurkhi road running in the South West direction from Ahmednagar Manamad Road. The Sai Sansthan Hospital is situated on this road. The Ahmednagar Manmad Road is widened to 30m width and has been concretised. Similarly the Pimpalwadi Road is being concretised and the width of the road is 15m. The roads in gaothan area are narrow, especially those near the Chavadi and the Dwarkamai Masjid. The Palkhi route of Shri Saibaba has been recently widened and strengthenedin most areas. The total length of roads in Shirdi is around 60km. Some other details are given below.

Sl No	Road	Туре	Width (m)
1	Pimpalwadi Road	CC	15 m
2	Ahmednagar Manmad Road	CC	30 m
3	New Pimpalwadi Road	CC	12 m
4	Palkhi Marg	BT	9 m
5	Kankuri Road	BT	12 m
6	Nandurkhi Road	BT	12 m

Table 3.13: Major Roads in Shirdi

Source: Shirdi Municipal Council and field survey 2005

The Ahmednagar Manmad Road being a State Highway attracts lot of traffic around 20000

PCU per day. The Sai Samadhi Temple is located on this road. The road has been widened to 30 m width, 4 lane divided carriageway, for a length of 2.5 km (distance within SMC limits) and concretised. 2 m wide footpaths are being constructed on either side of the road. The road also had lot of shops which have now been relocated or shifted outside the ROW thus most of the problems of congestion on this road are solved. However presently auto rickshaws and private taxis plying



between Shirdi and Shingnapur are parked on this road especially near the bus stand. The SMC has declared it as "No parking" zone but implementation is poor. The total cost of the road development project is rupees 2.5 crores which has been borne by the Sansthan. A bypass is being developed by the PWD, which will reduce the through traffic on this road. The bypass is called the Shirdi - Rahata Bypass and the alignment is as shown in Figure

The Pimpalwadi Road has the Sai Santhan's Dharmashalas, Dining hall and many hotels along the road. Being close to the temple there many hawkers on this road and also auto rickshaws are parked along the road reducing the effective width. The road has been widened

to 15m and has been concretised. The cost for this is rupees 66 lakhs and the Sansthan has sponsored the project. The SMC has contributed Rs.8.61 lakhs towards providing streetlights and dividers.

The Palkhi Marg is being widened to 9m and is being concretised. Similarly the New Pimalwadi road has also been concretised. Storm water drains along the road are to be constructed the work for the same has just begun.



Table 3.1	4: Details of	Roads in Shirdi	

	Type of Road	Owned by NP	State Highway	Other	Total
1	Cement Concrete	10.16	-	-	10.16
2	Tar road	20.91	2.50	-	23.41
3	Stone/ Mud topped	14.20	-	-	14.20
4	Other	11.13	-	-	11.13
	Total	56.40			58.90

Source: Shirdi Municipal Council

At a conceptual level the road network in Shirdi has 4 ring roads. The first is the Palkhi Marg followed by the ring formed by Pimpalwadi Road, New Pimpalwadi Road and part of Ahmednagar Manmad Road; the third is 18m wide DP road of 3km length. The fourth is a 24 m wide DP road of length 1.18 km. The DP roads are not yet constructed and MSRDC has recently shown interest in developing the road network of Shirdi along with other infrastructure. The details of the same are being worked out. The tentative cost is about 100 crores of which the Sansthan is contributing 10 crores.

Sl No.	Road	Туре	Approx. Length (km)
	Roads maintained by PWD		
1	Ahmednagar Manmad Road	CC	2.5 (within SMC limits
	Sub-total PWD roads		2.5
	Roads maintained by SMC		
1	Pimpalwadi Road	CC	0.465
2	New Pimpalwadi Road	CC	0.63
3	Palkhi Marg	CC	0.55
	Nadurkhi Road	BT	0.875
	Kankuri Road	BT	2.0
	Sub-total SMC roads		4.52
	Total		7.02

Table 3.15: Details of Agencies Involved in Road Maintenance in Shirdi

Source: SMC, Road Department

The above table shows that most of the roads in the town are maintained by the SMC. The Ahmednagar Manmad road forms the major spine in the town and all the important junctions are located along this road. The three main junctions are

- The Pimpalwadi Road Junction
- The Kankuri Road Junction
- The Nandurkhi Road Junction

At present there no signals at any of the junctions. The Pimpalwadi Road Junction is a threeway junction but a DP road is proposed near the Jain Mandir. It would then become a 4-way junction. Being close to the Samadhi Temple and the Dining hall signals need to be installed for better traffic management.

The Kankuri Road junction is a three-way junction. It is junction between a 12 m wide road and a 15 m wide road. The work for junction improvement is under progress. The Nandurkhi Road is an awkward junction as it is a 4-way junction with tow arms staggered. The Ahmednagar Manmad Road forms one part the Nadurkhi Road joins on the east side and the New Pimpalwadi Road joins at about 50 m distance from the junction.



Table 3.16: Important Traffic Junctions in Shirdi

Sl No.	Name	No. of Roads
1	Pimpalwadi Road Junction	3
2	Kankuri Road Junction	3
3	Nandurkhi Road Junction	4

Source: SMC and field Survey 2005

3.4.3 Parking

The vehicle ownership of local people is moderate and traffic in most internal roads is not very high. The ownership of two wheelers is more than that of four wheelers. The new commercial complexes have adequate parking for two wheelers for the present requirement. The temple has parking area reserved for it s members and VIPs. There is adequate parking facility provided by the Sansthan in its staff quarters and accommodation facilities. The

details of parking facilities by Sansthan are described in Chapter 4. The SMC does not have a parking facility of its own. The two parking areas are one on Ahmednagar ManmadRoad and the



other on the Pimpalwadi Road are privately owned. The area of Pimpalwadi Road parkingis bigger but is not used frequently. Discussions with the operators revealed that the owner is not keen on the income from parking. Its location is not easily identifiable hence it is not used much.

Sl No.	Name	Approx Area	Vehicles inflow
1	Ahmednagar Manmad	1 Ha	Thursdays – 250
	Road Parking		Normal weekdays – 100
	-		Weekends – 400
			Ram Navmi & festivals - 1000
2	Pimpalwadi Road Parking	2 Ha	Thursdays – 200
			Normal weekdays – 70
			Weekends – 300
			Ram Navmi & festivals - 500

Table 3.17: Details of Vehicle	Parking in Shirdi
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Source: Discussion with parking operators

3.4.4 Streetlights

Provision and maintenance of streetlights is an obligatory function of Shirdi Municipal Council. The Council executes the work of installing new streetlight poles and cabling works. The Potentials of private sector participation in streetlight operation and maintenance need exploration.

There are 550 streetlights in the city, spaced at an average distance of 107m. Conventional fluorescent tube lights account for 61% of the total lights, and the Mercury and Sodium Vapour Lamps accounts for 31% of the total number of streetlights. High mast lighting and High-powered fixtures are absent in the town. The Temple complex is well lit and the lighting is managed by the Sansthan.

Luminary Type	Units (Nos)
Halogen Lamps	-
Mercury and Sodium Vapour Lamps	214
Tube Lights	336
Others	
Total	550
Total road length, km	58.90
Spacing of street lights, m	107.09
Desired spacing	

Table 3.18: Street Lights

Source: Shirdi Municipality Annual Report 2002-03

3.4.5 Key Issues

Roads

- Absence of traffic management on important junctions.
- Since there is no parking for private taxis they park on the arterial roadsthereby reducing the effective width.
- Road encroachments effectively reducing the road width causing traffic jams and vehicular noise and air pollution
- No planned parking areas in the town. Haphazard parking causing reduction in effective road width and creating traffic hazards.
- Kuchha parking area resulting in dust pollution.
- The Ahmednagar Manmad State Highway passes through the town which has heavy through traffic
- Residential development coming up outside the Gaothan does not have sufficient road link.

Streetlights

- Large spacing between streetlights,
- Inadequate coverage The new residential development is not sufficiently covered by streetlights.
- Poor lighting quality of road junctions

3.5 HEALTH INFRASTRUCTURE

The Shirdi Municipal Council does not have its own primary health centre or any kind of medical facility. Bulks of the requirements are taken care by the Sai Sansthan Hospital and a few private clinics and nursing homes. Rahata also has a 10-bed Government hospital.

3.5.1 Health & Medical Facilities

The Sai Sansthan Hospital is the premier health provider for the town. It has been operational since 1961. It has a capacity of 197 beds and approximately treats 21000 patients per month. It is clear from the figure that it has a sizeable catchment area in the rural areas around Shird. It has a total staff of 197 people including 28 doctors. The hospital has its own blood bank and an intensive care unit (ICU). The out patients department treats around 800–900 patients daily. The staff works in two shifts and there 3 ambulances to take care of emergencies. The total number of people employed in the hospital is about 200. Besides the hospital there are a few private clinics and nursing homes in the town. Among the private hospital one has a 10-bed capacity while all others have 4 to 5 bed capacity.

	Туре	Number	Bed Capacity
1	Public Hospital	Nil	Nil
2	Semi Public (Sai Sansthan Hospital)	1	197 (Max 200)
3	Private Hospital	4	30 (Total)
4	Private Clinics	15	-
5	Private family welfare centres	4	-
	Total		227

Table 3.19: Health & Medical Facilities in Shirdi

Source: Shirdi Municipal Council, Health Department

3.5.2 Health Profile

Shirdi and the surrounding areas do not have any recorded history of epidemics. The common aliments observed in the region are typhoid, malaria, tuberculosis and anaemia. The water supplied to Shirdi is hard water. Due to this there are sizeable incidences of kidney stone and bladder stone in the area. The following table gives an account of deaths due to various diseases in Shirdi.

Discussions with the Sainath Hospital officials revealed that there are about 10 operations taking place every moth for kidney stone related ailments. The officials also said that daily there at least 2-3 patients with ailments related to kidney stone and bladder stone. The main reason according to them is the high content of hardness in the water supplied to the town especially ground water. It is to be noted that the patients coming to the Sainath hospital include those coming from the nearby rural areas as well. Thus the situation is likely to improve in Shirdi Town once the new water supply scheme becomes operational.

	Cause of death		Total Deaths			
		Males	Females	Total		
1	Malaria	-	-	-		
2	Gastro	-	-	-		
3	Tuberculosis	1	3	4		
4	Pneumonia	16	8	24		
5	Diarrhoea	-	-	-		
6	Heart attack	46	20	66		
7	Typhoid	-	-	-		
8	Cancer	8	2	10		
9	Accident	2	-	2		

Table 3.20: Health Profile of Shirdi (2002 - 03)

Source: Shirdi Municipal Council, Annual Report

4 PILGRIM INFRASTRUCTURE

4.1 PILGRIMAGE PATTERN

The number of pilgrims visiting Shirdi has been increasing rapidly over the years. Though it can be attributed to the increasing popularity of Shri Saibaba and ever increasing faith of His devotees, there are some other factors as well such as improved connectivity and better accommodation facilities now available in Shirdi. Both these aspects are interlinked andit's really difficult to differentiate between the reasons for the increasing inflow. In case of a tourist place the natural & cultural attraction of the place are the assets and if there is any deterioration in the natural beauty or overcrowding, tourists tend to move to a different destination. Tourist places are also linked to seasonal conditions, like hill stations are more popular during the summer season and winters are usually off-season. In areas such as Rajasthan the summer season is off-season and winters are peak season. The same isnot true in case of pilgrim places as people come here to satiate their spiritual needs and the inflowis related to fairs & festivals and the individual's perception. Pilgrim places have many repeat visitors and hence numbers increase rapidly over the years. Thus it is imperative to study the inflow pattern and plan accordingly as it is almost impossible to restrict the number of people visiting the place.

4.1.1 Inflow Characteristics

There has been a significant rise in the inflow of pilgrims in the last 20 years. In 1980'sthe maximum number of devotees was 14000 per day, at present the same is around 25000 per day. Similarly the population during the three festival days was 50000 per day, which is now around 2.5 lakhs.

	1985 –1990		2000 - 2004				
Period	Max	Min	Average	Max	Min	Average	%
	Inflow	Inflow		Inflow	Inflow		Growth
Normal	14000	5000	8500	25000	15000	20000	235.29
Days							
Festivals	-	-	50000	-	-	250000	400.00
Days							

Table 4.1: Decadal Variation in inflow of Pilgrims

Source: 1993-2003 Development Plan and Sai Sansthan Shirdi

It is clear from the above table that in the last decade the inflow of pilgrims has grown four times. It is also noted that the gap between the maximum and minimum inflow has reduced considerably. In the past decade the difference between maximum and minimum was almost 64 % where as now it is 40%. It signifies that throughout the week there is a certain amount of floating population in Shirdi. All the above figures are based on the number of halls filled during the queue for 'darshan'. It does not necessarily mean that all of them stayed over in Shirdi. There could be some number of people form nearby areas that would have visited the temple and left immediately. In order to know the pattern of people staying over in Shirdi we need to look at the data on the hotel occupancy. Since there is no centralized information on the bookings of the hotels all over Shirdi the data from the accommodation facilities of the Sansthan can be used as pointer. The Sai Sansthan provides the largest number of accommodation facilities, in terms of bed capacity in its different Dharmashalas and guesthouses. The following table gives an idea about the inflow of the pilgrims who have used the facilities of the Sansthan and from this we can get an indication on the inflowpattern of pilgrims who have stayed in Shirdi.

No.	Months	2001	2002	2003	2004
1	January	NA	133179	129204	120883
2	February	NA	76586	77256	97601
3	March	NA	74643	43068	81400
4	April	118708	98786	99988	92889
5	May	147577	134000	123605	98436
6	June	137848	118558	117486	109803
7	July	116345	106151	46739	73348
8	August	100586	108861	151521	57107
9	September	106005	86900	92422	50910
10	October	130281	104511	109319	123328
11	November	143781	143454	122624	143120
12	December	153377	144476	140421	139391

Table 4.2: Month Wise Inflow Pattern

Source: Sai Sansthan

The pattern clearly shows that February, March, July and September are lean period months. The months coinciding with school vacations such as April, May, November and December are peak months. Other than these, months coinciding with the festival days of Dussera (September – October), Ramnavami (April) and Gurupurnima (July – August) also show peaks. There



seems to be some deviation in the data for year 2003, however the trend is more or less similar for the years 2002 and 2004 and follows the above pattern.

There are around 180 hotels in Shirdi having a total of 4058 rooms. Considering an average

bed capacity of 2.5 per room we have a total bed capacity of 10145 persons. Considering occupancy of 70 % (peak season) and stay duration of 1 day we have another 213045 people staying in Shirdi in a month. The figures during lean season (30% occupancy) work out to 91000. Thus in a peak month of November 2004 a total of 356165 people would have stayed in Shirdi. The figures for a lean month of February 2004 would be 188601.



To find out the weekly inflow of pattern data for three months in the year 2001 istaken as a sample. (The said data is selected only on basis of availability of the data). It is seen that maximum numbers of people visit Shirdi on weekends and Thursdays. It's only in the month of May where this pattern is not observed. From the above analysis we have an average of 12000 people per day in the month of November 2004 and similarly the daily floating population for February is 7000 persons.

No	Day		No. of Person				
		April 01	May 01	June 01			
1	Monday	15962	16375	24313			
2	Tuesday	14356	26982	15866			
3	Wednesday	17358	26072	16275			
4	Thursday	17017	24860	15730			
5	Friday	17341	16181	26521			
6	Saturday	17207	19159	21913			
7	Sunday	19467	17948	17230			

Table 4.3: Day Wise Inflow Pattern

Source: Sai Sansthan

4.1.2 Itinerary and Stay Pattern

Most people visiting Shirdi try and attend one of the Aartis that takes place three times in a day. The morning aarti starts at 5:15 AM, the noon aarti at 12:00 noon adthe evening aarti at 6:00 PM. The other activities and their timings are as follows.

No	Programme	Time
1	Holy bath of Shri Saibaba	6:00 AM
2	Kakad Aarti	6:30 AM
3	Darshan begins	7:00 AM
4	Shri Sai Satyanarayan Pooja	7:00 AM
5	Abhishekh	9:00 AM
6	Pravachan	4:00 PM
7	Dhuparti	6:00 PM (Sunset)
8	Bhajan Keertan	9:00 PM
9	Shejarti	10:00 PM (Temple closes)

Table 4.4: Daily Programme at Saibaba Temple

Source: Sai Sansthan

The temple closes for darshan after 'Shejarti'. The pilgrims usually reach Shirdi in the early morning take bath attend the morning aarti or take darshan and are free by noon. If time is available they make a visit to Shani Shingnapur and leave by night. The increased andfaster means of transport have now reduced the duration of stay to as short as 8 hrs. This periodis more, about 1 to 1.5 day for people coming from far off places like Bangalore and Hyderabad A typical Mumbai or Pune pilgrim starts early morning to reach Shirdi by noon take darshan and return by evening.

Some of the hotel owners have now started offering packages to Nashik and Aurangabad. These are day return packages where people are taken in small vehicles such as Sumo's or Jeeps in groups of 8 - 10. The approximate charges are Rs. 150 to Rs. 200 per person. But the percentage of people taking these tours is small. It can be said that almost 70% of people visiting Shirdi visit Shingnapur but about 10 to 15% visit Nashik and Aurangabad. Another aspect is that both Nashik and Aurangabad are important railheads hence people visit these places and return to their hometowns directly. The stay pattern can be summarized as follows.

	Туре	Stay	Percentage to total
1	People visiting Shirdi only	8 hrs	80 %
2	People visiting Shirdi & Shani Shingnapur	8 – 12 hrs	70 %
3	People visiting Shirdi and Nashik/ Aurangabad	1-2 days	20 %
4	People visiting any other place	1-2 days	10 %

Table 4.5: Categorization of Pilgrims on Itinerary & Stay Pattern

Source: Discussions with hotel owners and Sai Sansthan officials

Around 10 -15 years back the minimum stay was of 1 to 1.5 days and most hotels had full occupancy. The number of hotels has greatly increased and the average occupancy has come down to 40% from earlier rate of 80 %.

4.1.3 Type of Pilgrims (catchment area, budget, socio-economic background)

The catchment area of people visiting Shirdi is very large. People not only from India but also abroad visit the place. In India most people come from Mumbai, Pune, Ahmednagar, Nashik, Aurangabad, Nagpur etc. From the neighbouring states there is a striking number coming from Bangalore, Hyderabad, Baroda, Surat, Ahmedabad and places in Madhya Pradesh. This fact is justified by the number of direct buses both government and private plying between Shirdi and these places. Over and above during vacation time people from Delhi, Uttar Pradesh and Bihar also visit the place. The Maharashtra State Road Transport Corporation bus stand receives 352 buses from different parts of Maharashtra. Besides these there are 32 interstate buses coming to Shirdi. These include Andhra Pradesh 8 buses, Madhya Pradesh 6 buses, Karnataka 8 buses, Gujarat 8 buses and Goa 2 buses.

The socio-economic background of the pilgrims also shows a wide spectrum ranging from popular filmstars. sportspersons. industrialists. politicians, and bureaucrats to the ordinary farmers from rural areas. Many people visit Shirdi in their own private vehicles as is evident from the overflowing capacity of the parking lots in the town. During the important festivals of Gurupurnima, 12-15 Palkhis, Dussera, 10 - 15 Palkhis and



Ramnavmi 50 – 60 Palkhis from different parts of the state come to Shirdi. People walk to Shirdi from places such as Mumbai and Pune. They usually travel in groups of 30 to 40 persons.

4.2 TRANSPORT FACILITIES & CONNECTIVITY

Shirdi is not on the rail map as yet. There was a proposal to connect Shirdi by a loop rail link starting from Kopargaon to Puntamba. This would facilitate all the southbound passengers. A link express from the Nashik Manmad section could also be started. This proposal was mooted in 1980's and was shelved, as there wasn't enough passenger traffic. It also involved the construction of a bridge across the Godavari River. It's been quite



some time and the proposal can be looked at again in the light of the increased inflow. There are MSRTC buses to Mumbai and Pune almost every hour from Shirdi. The occupancy of these buses is about 70% during early morning and late evenings where as during other time of the day it is about 45 %. The occupancy is higher on weekends and Thursdays and during festival times. Besides the rail heads of Nashik, Manmad and Ahmednagar also have buses

every 45 minutes to 1 hour. There are many private taxis also available from Mumbai to Shirdi. As mentioned earlier there are direct buses available to places in neighbouring states.

Since the Samadhi Mandir and the other important places are close by there is no need of local transport. The Sai Sansthan's Bhakta Niwas is situated at a distance of 1.5 km from the Samadhi Temple on the Ahmed Nagar Road. The Sansthan organizes free bus service from the Bhakta Niwas to the Samadhi Mandir. They have two 35 seater buses runningon this route for 24 hrs. The buses run on diesel. The Municipal Council collects a toll from all private vehicles entering Shirdi. These include cars, jeeps (Rs. 10),



Minibuses (Rs. 20) and Buses (Rs. 40). All government buses, goods vehicles, two wheelers and through traffic are exempt from the toll. Annually the Municipal Council gets an income o around 45 lakhs from the toll. Based on the toll collected on an average 1500 vehicles enter Shirdi on normal days. The number goes to 2000 – 2200 on weekends and special events.

Parking: There are parking lots in Shirdi. One is situated on the Nagar – Manamad Road with a capacity of 600– 700 vehicles and the other on Pimpalwadi Road with a capacity of 900 –1000 vehicles. At present the Pimpalwadi road is being concretized hence this parking lot is not much in use. The Municipal council is planning to develop the 1-hectare area of parking lot on Ahmednagar Manmad Road into a commercial and shopping complex along with parking. A detailed proposal for the same is being prepared.



Besides this the Sansthan has parking facilities in the residential complexes developed by the Sansthan. This parking is not open for general public and only people using the accommodation facility can park their vehicles. The details are as follows

No	Place	Parking Capacity
1	Dharmashala	100 vehicles (or 60 buses)
2	Bhakta Niwas	100 to 150 vehicles
3	Sai Prasad	50 to 60 vehicles

Source: Sai Sansthan

Efforts are underway by the Municipal Council for developing another parking lot near Nagar side entry of the town. There is no authorized parking for the private buses operated by private operators. The existing MSRTC bus stand is also proving inadequate as the number of buses leaving the place is increasing. There are many



private taxis that ply between Shirdi and Shani Shingnapur and other short distances such as Manmad, Nashik and Kopargaon. These are also parked on the Nagar Manamadroadnear the bus stand.

4.3 ACCOMMODATION FACILITIES

The Sai Sansthan is the largest provider of economic and clean accommodation facilities. Very nominal charges are taken for pilgrims for using these facilities and they are open 24 hrs. People are provided hot water for bathing. Three main complexes namely Enquiry Office, Sai Bhakta Niwas and Dharmashala take care of the accommodation facilities.

Dharmashala (200 Room)

The Dharmashala has two identical buildings but one building is presently used as the Sai Sansthan Hospital as the original hospital building is under renovation and extension. The Dharmashala serves the purpose of people visiting in groups of 20's, 30's and more. The Dharmashala has been operational since the year 2000. It accommodates 1200 to 1300 people during lean season and up to 4000 people during festival times. The open ground andhalls in the Dharmashala are also given out for marriages. Provision of hot water and bedding has been outsourced to contractors. The average wood consumption for water heating isone ton per month but can very depending on the inflow of pilgrims. The water consumption is about 0.3MLD. The Dharmashala has wastewater recycling plant but it does not function properly.

Enquiry office

This is one of the oldest accommodation facilities of the Sansthan. In all its buildings such as Sai Prasad No.1, Sai Prasad No.2, Sai Udyan and Sai Nivas it can accommodate 8000 to 10000 people.

Sai Bhakta Niwas(500 room)

This facility serves the purpose of people travelling in very small groups or small families as it has rooms with capacity of 3-4 persons. It has 542 rooms in all. (Hence



popularly known as 500 rooms) It also has VIP guesthouses and some small halls in all it can accommodate3000 people. (Refer Annexure for details on bed capacity of all the above facilities). The daily water consumption of this place is about 0.5 MLD. The New Bhakta Niwas has two solar water heaters each having a capacity of 45000 litres and 7500 litres.

Besides the above there are around 180 other hotels and Dharmashalas in Shirdi. Together they have a total capacity of 4058 rooms. The number of hotels has increased rapidly in the last 8 - 10 years. Shirdi now has a five star hotel also. Technically the hotel is outside the limits of the Shirdi Municipal Council. The hotel has a helipad and it serves the purpose of most of the high-end pilgrims visiting the place.

4.4 FACILITIES & AMENITIES AROUND TEMPLE AREA

The temple premises of Shri Saibaba are spread in approximately 2000 sq. m. It is situated at the junction of the Ahmednagar Manamad Road and the Pimpalwadi Road. The Temple premises is renovated in the year 1998-99 and now is equipped with all



necessary facilities like, Darshan Lane, Prasada (Lunch and Dinner), Donation Counters, Prasad Counters, Canteen, Railway Reservation Counter, Book Stall etc.

At the end of 1999, Lendi Gardens was radically re-landscaped, and the previously paved and tree-lined area turned into a lawn with waterfall and flowerbeds. Lendi is significant as a place, which Baba used to visit every day. It contains some tombs, a shrine, and most importantly the perpetually burning lamp lit by Baba and placed between the two trees he planted. A few months before Baba's Mahasamadhi the land was purchased by a Mumbai devotee M. W. Pradhan and later presented to the Sansthan.

In Baba's time, Lendi was an area of wasteland between two small streams, the Lendi and the Sira (now dried up). Baba used this area for toilet purposes. He would leave the mosque for Lendi around nine o' clock in the morning accompanied by some devotees.

The Sansthan's Garden Department maintains the Lendi Baug Garden. Besides this also has gardens at the Sai Bhakta Niwas and Dharmashala. A children's park also has been built. The department has its own rose garden and nursery. The area around the lake used for the Santhan's water supply has been planted with mango and coconut palms. Vegetable are also grown here which, are used by the Prasadalaya.

The Darshan lane has been accommodated in halls and each has seating facility interspersed in the rows. The halls have toilets, drinking water facility and canteen staff serving tea, coffee, cold drinks etc. The halls are well lit and have fans all along to prevent suffocation. Each hall can accommodate 5000 people approximately and there are 5 such halls.

The administrative building housing the offices of various departments of the Sai Sansthan is also built in the complex. A museum displaying various articles used by Shri Saibaba has been built in the temple. Besides this there is a meeting hall, VIP waiting and Parayan halls for devotees.

Common dining facility

The Sansthan provides meal to all devotes at a nominal charge of Rs. 5. The number of people dining at the Prasadalaya is minimum 10000 to a maximum of 35000 (on festivals and weekends). A minimum of 4000 people and maximum 10000 people have breakfast daily. Minimum 30000 Laddus are distributed in a day and the maximum number goes to 60,000. The Prasadalaya generates a daily waste of 400 –550 quintals, which consists of vegetable waste. Cooked food, which is left over, is distributed among the poor. It consumes 1.5 lakh liters of water daily. The fuel consumption is in the range of 1000 –1200 kg of LPG A bare minimum of 500 kg is consumed daily. There are 2 tanks of 10 tons capacity each for storing LPG. The Sansthan has installed 40 solar dishes on the terrace of its Dharmashala Building The steam generated from these solar dishes is used to cook 500 – 600 kg rice daily. This leads to the saving of 20% in the fuel consumption. Besides this Sanasthan also has a canteen facility with counters at various locations and it is open 24 hrs and serves tea, coffee, and light snacks.

The organic waste generated from the Prasadalaya is sent to the compost plant at NewBhakta Niwas. The wastewater generated is sent to a septic tank behind the building. Sullage water from the septic tank is let into the Laxmi Nagar Nala.

4.5 FAIRS AND FESTIVALS

The three important festivals in Shirdi are the Ramnavmi (April), Gurupurnima (July) and Dussera (October). These festivals attract lakhs of pilgrims who have to be accommodated in Shirdi. During this period all the accommodation facilities of the Sansthan are full and people also sleep in balconies and corridors of the buildings. A pandal is put up near the 500 room

Dharmashala to provide shelter for the devotees. Ramnavmi and Dussera are three day festivals, which start a day prior to the actual day and end a day after. During this period the temple is kept open for 24 hrs on the actual day of the festival.

Darshan queue is arranged in the halls, which are distributed on 5 floors. A minimum of 10 workers is posted at each floor to take care of the crowd. Each floor has 5 toilets including 20 rooms (10 for ladies and 10 for gents). Fire fighting facilities are available at each floor. A medical centre is opened at the main gate and one ambulance is stationed nrthe temple for 24 hrs. To maintain cleanliness the sanitation department works 24 hrs in three shifts and 10-15 extra people are employed.

Entry of vehicles in the town is moderated. The MSRTC arranges extra buses to various places in Maharashtra. The Sansthan has 2 -3 generators for back up during the festivals. The daily security consists of 120 guards during festival an additional 30 to 40 people are stationed around the temple complex. Till date there have been no major incidences of health hazards, epidemics or any mass casualties during the congregation. The Shirdi Municipal Council does not have any disaster management plan in place.

4.6 **ISSUES & AREAS OF CONCERN**

Though the festival lasts for three days the amount of people attracts is enormous. Providing safe drinking water and shelter to such a large crowd is very difficult. There few open grounds near the temple where the people can be accommodated in temporary shelters. Providing toilet facilities for such a huge crowd is another big issue.

The Ahmednagar Manamad road being a Sate Highway has a very heavy traffic flow; this interferes with the local traffic. The problem becomes more critical during the festivals as Palkhis, which consist of a vehicle having an idol/ image of Shri Saibaba, decorated with flowers and lights start arriving in Shirdi from the Ahmednagar as well as Nashik side. These processions usually have a minimum of 50 - 60 people walking and dancing all along.

During festivals and also on all Thursdays a procession of Shri Saibaba is taken out along the town. The Palkhi route is narrow at places. The route is being widened and strengthened however certain stretches remain to be done so.

5 BASELINE ENVIRONMENTAL STATUS

5.1 INTRODUCTION

In order to understand the existing environmental quality of Shirdi and surrounding area, field environmental monitoring of the environmental components namely, ambient air, ambient noise, surface and groundwater, and soil was carried out. The monitoring was carried out in the month of February 2005 and the samples were analysed in laboratory as per CPCB guidelines. Results of the environmental monitoring are presented summarily and discussed in this section.

5.2 IMPORTANT ENVIRONMENTAL FEATURES IN AND AROUND SHIRDI

Shirdi is situated on a fairly even terrain and the typical environmental features such as waterbodies (rivers, lakes and seas), mountains, hills, forests etc are away from Shirdi. The Godavari River is about 20 km, the Sahaydri Mountains and other ranges are more than 80 km away. The Ahmednagar District does not have any National Park it, has four sanctuaries in the tehsils of Akola, Karjat, Shevgaon and Nevasa but all of these are at least 100 km from Shirdi.

5.3 AMBIENT AIR QUALITY

Methodology - In order to monitor the ambient air quality in Shirdi, an air quality monitoring station was set up near the New Hospital Building on Ahmednagar Manmad Roadin center of the town and near the MTDC's Pilgrims Inn hotel on Pimpalwadi Road. 24 hourly air samples were collected for the Suspended Particulate Matter (SPM), Respirable Particulate Matter (RPM), Oxides of Nitrogen (NOx), Sulphur di-oxide (SO2) and 8 hourly samples were collected for Carbon Monoxide (CO). The results of monitoring are given below.

No.	Description	Unit	Result-1	Result-2	NAAQS
1	Date of Sampling		09,10 & 11 Feb 2005	09,10 & 11 Feb 2005	-
2	Time of Sampling	Hrs	16.30 09/02/2005	17.00 10/02/2005	-
3	Ambient Temperature	⁰ C	31	31	-
4	Dry Bulb Temperature	⁰ C	31	31	-
5	Wet Bulb Temperature	⁰ C	25	25	-
6	Relative Humidity	% RH	59	59	-
7	Sampling Duration	Min	1440	1440	-
8	SPM	ug/M^3	189.23	193.24	200
9	RSPM	ug/M^3	143.80	146.89	100
10	Sulphur Dioxide	ug/M ³	39.84	42.14	80
11	Oxide of Nitrogen	ug/M ³	62.22	56.98	80
12	Carbon Monoxide	mg/M3	B. D. L.	B. D. L.	

Table 5.1: Ambient Air Quality in Shirdi near MTDC Hotel

Note - NAAQ – National Ambient Air Quality

No.	Description	Unit	Result-1	Result-2	NAAQS
	_				
1	Date of Sampling		03,04 & 05 Feb	03,04 & 05 Feb	
			2005	2005	
2	Time of Sampling	Hrs	17.00	17.30	
			09/02/2005	04/02/2005	
3	Ambient Temperature	⁰ C	31	31	
4	Dry Bulb Temperature	⁰ C	31	31	
5	Wet Bulb Temperature	⁰ C	25	25	
6	Relative Humidity	% RH	59	52	
7	Sampling Duration	Min	1440	1440	
8	SPM	ug/M ³	224.15	232.83	200
9	RSPM	ug/M^3	169.34	173.89	100
10	Sulphur Dioxide	ug/M^3	69.93	72.14	80
11	Oxide of Nitrogen	ug/M ³	103.73	101.96	80
12	Carbon Monoxide	mg/M3	B. D. L.	B. D. L.	

Table 5.2: Ambient Air Quality near New Hospital Building on Ahmednagar Manmad Road

Note - NAAQ – National Ambient Air Quality

It is seen from the above results that the ambient air quality in the town is generally within the NAAQ standards prescribed by the CPCB. The SPM and RSPM levels are slightly high. This is due to the dust generated from vehicles plying on kutcha roads.

5.4 AMBIENT NOISE QUALITY

Methodology – The ambient noise levels in the town were measured at two locations in the town namely near the Samadhi Mandir, covering the Pilgrim Zone and on Pimpalwadi Road covering the Shirdi Town area. The noise levels were monitored on hourly basis continuously for 24 hours; covering both the day and night time noise levels. The same are compared with the CPCB standards for ambient noise levels in residential area.

l abi	e 5.3: Ambient Noise Levels in St	nırdı		
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Location	Leq (day)	Leg (night)
Near New Hospital Building	77	65
in dB (A)		
On Pimpalwadi Road	76	55
CPCB Standards in dB (A)	55	45

Source of pollution – The main source of noise is the vehicular movement in the town. The Ahmednagar Manmad Road being a State Highway attracts lot of traffic.

5.5 WATER RESOURCES

5.5.1 Surface Water Characteristics

The surface water was selected from the main source of drinking water before treatment namely the Godavari Right Bank Canal. The results of the same are given in table 5.4. It is observed that the water quality is ok except high percentage of total coliforms. The calcium content is quite high and Magnesium content is just within limits.

5.5.2 Ground Water Characteristics

Since the town substantially depends on the ground waster for its domestic needs the ground water sample was taken from one of the wells at random in the Gaothan area. The results

show that ground water quality is good and it meets all the IS Standards.

Parameters		SW - 1	SW - 2	GW -1	IS 10500
	Unit				
Essential characteristics					
Colour, Max	Hazen	Colourless	Colourless	Colourless	5.0
	units				
Odour		Odourless	Odourless	Odourless	Unobjectionable
Taste		Agreeable	Agreeable	Agreeable	Agreeable
pH Value		8.2	8.5	8.8	6.5 - 8.5
Total Hardness (as CaCo3) Max	mg/l	143.0	112.0	98.0	300
Iron (as Fe) Max	mg/l	0.09	BDL	BDL	0.3
Chlorides (as Cl) Max.	mg/l	112	63.0	73.0	250
Residual, free chlorine,	mg/l	0.01	0.9	0.08	0.2
Min					
Alkalinity	mg/l	123	110	96	200
Desirable					
Characteristics					
Total Dissolved solids,	mg/l	173	160	130	500
Max					
Calcium (as Ca), Max	mg/l	110	80	60	75
Magnesium as Mg	mg/l	30	40	36	30
Sodium as Na	mg/l	BDL	BDL	BDL	75
Sulphate (as SO4), Max	mg/l	31.8	41.8	32.8	200
Nitrate (as NO3), Max	mg/l	0.4	0.1	0.3	45
Fluoride (as F), Max	mg/l	0.8	BDL	BDL	1.0
Ammonical Nitrogen	mg/l	0.6	0.5	0.1	1.0
Phenolic Compounds	mg/l	BDL	BDL	BDL	0.001
(as C6 H5OH), Max.					
Dissolved Oxygen	mg/l	6.8	6.8	6.2	NS
C.O.D	mg/l	40	60	45	NS
Bacteriological					
Parameters					
Total Coliforms	No./	≥ 1600	≥ 1600	900	00
	100 ml				
Faecal Coliforms	No./ 100 ml	< 2	< 2	7	10

Table 5.4: Surface & Groundwater Quality in Shirdi compared with National water quality stds

Source: Analysis

BDL- Below desirable limit, NS- Not shown

Locations

SW-1: Canal Water (Godavari Right Bank) SW-2: Shirdi Public Tap GW-1: Shirdi Open Well

The water samples from the Canal and Public Tap show high levels of calcium and slightly high levels of Magnesium. All the other parameters are within limits prescribed by the IS standards.



							BIS 10500:
Parameters	GW-1	GW-2	GW-3	GW- 4	GW- 5	SW-1	1991
pН	8.33	8.43	8.14	8.18	7.96	8.48	6.5 to 8.5
D.0	6.9	7.0	7.1	6.8	6.4	7.0	
B.O.D. 3day27°C	8.0	8.0	6.0	5.0	8.0	12.0	
C.O.D	280.0	260.0	280.0	300.0	264.0	180.0	
Suspended solids	44.0	28.0	38.0	42.0	10.0	10.0	
T.D. solids	1028.0	816.0	1248.0	1264.0	396.0	282.0	500.0
Chloride	212.0	90.0	330.0	270.0	33.0	30.0	250.0
Sulphate	186.4	125.0	167.2	169.0	44.8	57.0	200.0
Phosphate	0.007	0.007	Nil	0.011	Nil	Nil	
Hardness	760.0	560.0	740.0	520.0	348.0	232.0	300.0
Calcium	32.0	16.0	44.8	35.2	19.2	48.0	75.0
Magnesium	160.0	126.28	152.53	104.93	72.86	27.23	30.0
Total Alkalinity	480.0	410.0	450.0	440.0	196.0	120.0	200.0
Nitrate	91.7	677.0	120.0	220.0	31.86	22.4	45.0
Sodium	147.0	123.0	136.0	156.0	55.0	39.0	75.0
Conductivity ms	2.11	1.66	2.45	2.66	0.543	0.365	
Turbidity NTU	1.0	1.0	2.0	1.0	1.0	1.0	5.0
Total D. Chloring	NL1	NL1	N:1	N:1	NL1	NL1	
T Otal R. Chlorine	IN11 48.0	IN11 46.0	IN11 48.0	IN11 5.4.0	N11 22.0	19.0	
I.K. Introgen	48.0	40.0	48.0	54.0	22.0	18.0	
Ammonia	N1l	N1l	N1I	N1I	N1l	N1l	
Uil/G	N1l	N1l	N1l	N1l	N1l	N1l	
Phenol	Nil	Nil	Nil	Nil	Nil	Nil	0.0
Potassium	1.0	2.0	1.0	9.0	2.0	6.0	
Nitrite	0.33	0.12	0.053	0.090	0.137	0.033	

Table 5.5: Surface and Groundwater Quality in Shirdi – MPCB samples

Source: MPCB, Ahmednagar Division (samples taken in May 05)

GW1 - Well near SMC Office

GW2 – Bore well near Sai Amrut Hotel

GW3 – Gaikwad Colony

GW4 – Hand pump Rajwada Colony

GW5 – Well near storage tank of SMC

SW1 - Storage tank SMC (water supply intake) Nandurkhi

All the ground water samples except GW5 show very high levels of hardness and TDS. The alkalinity of these samples is also beyond the permissible limits.

5.6 SOIL CHARACTERISTICS

The Kopargaon – Shirdi belt is part of the Godavari basin and is popularly known as the sugar belt of the region. It is one of the most fertile parts of the district. Soils in the region vary from Medium Soil to Deep Black Soil. Area under Medium Soil is 847.43 sq. km and that under Deep Black Soil is 107.37 sq. km. These two types of soils have good depths and thereby good moisture retention capacity. Medium Soils are 22 to 65 cm deep and have moisture saturation of 65 to 67 mm. The Deep Black Soils have depths above 60 cm and moisture retention up to 140 mm. The details of soil types and cropping pattern are given below.

Table 5.6: Soil	Types in Shirdi	Region
-----------------	-----------------	--------

Soil type	Rainfall	Soil Status	Water	Nutrient status		
			Drainage	Ν	Р	K
Medium and	Medium	Saline-alkaline	Low	Low	Low	High
Deep soil		soil				
(Black soil)						

Source: Agriculture Department, Rahata

The main crops of the rabi season are jowar, wheat, corn, vegetables where as that of the kharif season are bajra, sugarcane (major crop) and sunflower. Sugar cane is a very important cash crop of the region.

6 Environment Related Issues

6.1 INFRASTRUCTURE PROVISION & MANAGEMENT

The steady inflow of pilgrims in Shirdi causes a stress on the existing infrastructure of the town. Looking at the figures the resident population of Shirdi is about 25000 persons and almost an equal floating population comes to the town daily. Besides this it is quite likely that people from near by areas come here to seek employment in the hotels, commercial activities and other service facilities.

6.1.1 Water Supply

There is shortage of water during the summers and supply levels go down to 18 LPCD. The Municipal Council provides water to most hotels but the supply is inadequate. Both the local people and the hotels are heavily dependent on ground water for fulfilling their requirements. This is not a healthy trend because the nearby areas surrounding Shirdi are predominantly agricultural and the chief crop is sugar cane, which is water intensive. Farmers want to go in for the crop for quick and large returns. Most of the irrigation in the area is dependent on ground water. With increase in urbanization in Shirdi there would be an increase in the dependence on ground water if a stable source were not available.

Name of the Village	Area in HA Total	Source	Area in HA Under Irrigation	% to total area
Nighoj	4.68	GC	2.5	53.42
0 3		W	2	42.74
Nimgaon Korhale	7.51	GC	2.75	36.62
		W	2.75	36.62
Dorhle	8.79	WE	1.25	14.22
Kankuri	3.89	W	2.15	55.27
Pimpalwadi	9.7	GC	3.8	39.18
		W	2	20.62
		WE	3.4	35.05
Ekrukhe	14.2	GC	6	42.25
		W	5.5	38.73
		WE	2	14.08
Sakuri	9.11	GC	8	87.82
		W	0.5	5.49
Nandurkhi Bk.	9.1	GC	1.25	13.74
		W	1.5	16.48
Nandurkhi Kh.	3.3	GC	0.3	9.09
		W	0.7	21.21
Korhale	25	W	4	16.00
Dahigaon Korhale	6.65	W	1.65	24.81
Kelwad Bk.	6.19	W	1.19	19.22
Kelwad Kh.	6.5	WE	1.5	23.08
Khadakewake	7.98	WE	1.98	24.81
Astagaon	33.42	GC	7.5	22.44
		W	6	17.95
Ranjangaon Kh.	7.42	GC	2	26.95
		W	5	67.39

Table 6.1: Source of Irrigation in surrounding villages

Source: Census of India 1991 (GC- Govt. Canal, WE – Well with electricity, W – Well) From the above table we can infer that the total area irrigated by Government Canalis43.07 % of the total irrigated area and that irrigate by ground water (includes source as well and well with electricity) is 56.92%. This makes it evident that the nearby villages are equally dependent of ground water for irrigation. The government canal is the Right Bank Canalof Goadavri River.

6.1.2 Sewerage & sanitation

At present all the wastewater from the sewer drains goes untreated in the LaxmiOdha. As the population will increase along with the inflow of pilgrims this trend may cause health problems to the locals as well as the pilgrims. Hence the water should be given at least primary treatment before being used for any other purposes.

6.1.3 Solid Waste

The collection efficiency has to be improved in order to prevent as waste dumps are seen in many places in the town. There is substantial amount of plastic waste generated in the town due the offerings and Prasad packed in plastic items. Disposing this plastic is a major problem.



6.1.4 Health & Medical

The Sai Sansthan Hospital is well equipped to serve the needs of the local people as welltake care of emergencies. But because of high salt content in the drinking water instances of kidney stone and bladder stone are on the rise. The Sansthan has a biomedical waste incinerator but the waste generated is not to the full capacity of the incinerator hence the waste has to be stored for some time.

6.1.5 Transport & Communication

The Ahmednagar Manamad road is experiencing heavy through traffic and it also forms the main commercial axis of Shirdi. This leads to traffic congestion and also poses accident problems as many people keep crossing the road. At present there is no signal on the road All the important buildings of Shirdi are located on either side of the road. The private taxis, auto rickshaws, hawkers and private bus stops along the road make the situation further chaotic.

Location	Dec 99	Dec 02	Dec 03	May 04	Dec 04
Savli Vihir	26355	22482	24680	20121	-
Babhleshwar	Not Avlbl	Not Avlbl	Not Avlbl	20065*	20596
Ahmednagar MIDC	23806	20293	21306	22944	-

Table 6.2: Traffic Volumes on Ahmed Nagar Manamad Road

* Data for September 2004

Source: Public Works Department, World Bank Division, Ahmednagar

6.1.6 Other Environmental Issues

The heavy traffic on the Ahmednagar road and absence of trees and footpath alongthe road make the area very dusty. The internal roads are narrow and solid waste and plastics dumped along these roads pose health problems as well as add to the visual pollution. A detail study on the ground water of the region needs to be done to establish its status.



Based on the above discussions the sensitivity of the important environmental resources is summarised in table 6.3 below

Sl. No.	Resource	Characteristics	Sensitivity
1	Land	Mixed landuse in core zone	Medium - contamination due to
		Substantial commercial	indiscriminate disposal of solid
		development	waste
2	Ground Water	Increased dependence for	High – Risk of contamination
		water supply	due to seepage form septic
			tanks
3	Surface Water	Increasing demand due to	Medium – Inadequate coverage
		increasing floating	
		population	
4	Forests	No major reserve forests in	Low
		vicinity	
5	Air Quality	Signs of deterioration	Medium – RSPM & SPM levels
			are just below the prescribed
			Standards, could be due to
			vehicular movement and dust
6	Noise Level	Noise levels higher than	Medium
		prescribed Standards	
7	Wildlife	No major wild life habitats	Very Low

Table 6.3 Environmental Resources and Sensitivity

Source: Analysis

6.2 INSTITUTIONAL ARRANGEMENTS

In Shirdi the Sai Sansthan and the Municipal Council are the two key organization engaged in providing and maintaining facilities for the pilgrims as well as the locals. The Sai Sansthan takes care of the needs of the pilgrims where as the Municipal Council takes care of the rest of the town. But these are broad classification and the Sansthan is actively involved in provide civic amenities which are beneficial to both and at times are an asset to the town. As regards environmental aspects are concerned both need to work in closer co-ordination in addressing the issues and other state government agencies and departments also need to be involved. Voluntary organizations or citizens groups or pilgrims bodies are not very active in the area. This is in spite of the fact that many people visit Shirdi regularly.

A large number of hotels ad restaurants have come up in the town. There is no hotelowners association in Shirdi which can take up the problems of the hotel owners and which can also be looked at for involvement of the business community in the betterment of Shirdi.

The shops and establishment acts is not applicable in Shirdi. The town is governed by Development Control Rules of the 'C' Class Municipal towns for all construction purposes.

7 IDENTIFICATION OF **PROJECTS**

7.1 INTRODUCTION

In the present study various elements of the environmental infrastructure in Shird have been studied and the projects for integrated improvement of the environmental infrastructure have been identified. For the purpose of identification and implementation of the projects, the Shirdi town has been broadly divided into pilgrim nodes based on the concentration of the pilgrim activities and civic zone for the rest of the town.

7.1.1 Pilgrim zone

The old gaothan area including the Sai Samadhi Mandir, Chawadi, Dwarkamai Masjid along the new Pimpalwadi Road, proposed DP road along Laxmi Nagar Nala behind the Pimpalwadi Road parking, 300m west of Ahmednagar Manmad Road up to Kankuri Road, along Kankuri Road, Ahmednagar Manmad Road up to Nandurkhi Junction and including Sainath Hospital, MSRTC Bus stand and SMC Building.

7.1.2 Shirdi Town

The rest of the town area including the new developing areas is classified as buffer zone.

Following this, project-specific "Detail Project Report (DPR)" for the selected projects should be prepared through a separate exercise. For each of the short listed projects, detail survey and engineering design & analysis would be required to be undertaken in the DPR Stage to arrive at final designs and cost estimates.

The identified projects for preparing the Pre-Feasibility Reports have been prioritised as Immediate, Medium and Long term in both, pilgrim and Shirdi town. The summary of the identified projects is given below followed by details of PFR components for each project.

Table 7.1: Summary of Integrated Environmental	Improvement Projects for Shirdi for Preparing
Pre Feasibility Reports (PFR's)	

PH	PHYSICAL INFRASTRUCTURE DEVELOPMENT PRIORITY						
Se	ctor	Projects Identified	Pilgrim	Shirdi			
			Zone	Town			
Α	Landuse Planning	Analysis of existing development	Immediate	Medium			
		plan on eco-city principles.					
В	Traffic & Transport	Road condition improvement for	Immediate	Medium			
		8 km road length					
		Comprehensive traffic and					
		transport study					
		Developing a Private Taxi Stand					
С	Waste Management	Preparation of solid waste	Immediate	Medium			
		management plan for solid waste					
		generation of 20T/day,					
		(collection, treatment and					
		disposal) for 10 acres composting					
		and landfill site.					
D	Sewerage &	Preparation of a comprehensive	Immediate	Medium			
	Sanitation	plan for sewerage, sewage					
		treatment and disposal for 10					
		MLD capacity STP					
PI	_GRIM INFRASTRU	JCTURE DEVELOPMENT					
Se	ctor	Projects Identified	Pilgrim	Shirdi			
			Zone	Town			
А	Religious Tourism	Development of Eco-Pilgrimage	Medium	-			
	Development	package plan for Shirdi and					
		surrounding region					
В	Camping ground	Planning and Development of 2	Medium				
	for Palkhis	Hectares Reservation in DP as					
		Camping ground for Palkhis					
С	Appropriate	Roof top rainwater harvesting	Medium				
	Technology	systems for reuse and ground					
	Projects	water recharge.					
		Solar Water heaters for	Medium				
		accommodation facilities and					
		hotels					
		Renewable Energy Park	Medium				

7.2 PHYSICAL INFRASTRUCTURE DEVELOPMENT

The projects identified under this category are related to the improvement of the civic infrastructure in the town. The need for these projects is derived from the discussions on the level civic infrastructure as mentioned in chapter 3. However for each project the priority in the pilgrim nodes and Shirdi Town has been mentioned separately.

7.2.1 Landuse Planning

PROJECT: Review of existing development plan on eco-city guidelines and preparing concept Eco city development plan

PRIORIT Y: Immediate

PFR Components

Policy Measures

- Distinguishing Pilgrim activities from regular civic activities of the town by zoning
- Formulating Development control regulations on Eco city principles
- Shifting of non-pilgrimage activities out of Pilgrim Zone
- Providing and developing adequate open spaces as per the Planning Standards
- Allocation of land for Public utilities such as toilets, cremation ground etc.
- Recommendations for modification or revision of Development Control Regulations and Zoning Guidelines.

7.2.2 Sewerage & Sanitation

PROJECT: Preparation of an underground sewerage scheme Shirdi Town

PRIORITY: Pilgrim Zone - Immediate, Shirdi Town - Medium

PFR Components

Policy Measures

• Measures to prevent discharge of waste water in open drains

Management Techniques

- Sensitising the pilgrims for hygienic practices such as avoiding open urination.
- Involvement of NGOs in public awareness and in providing and maintenance of public toilets and urinals to keep them in hygienic condition during festival time.
- Regular Desilting of existing storm water drains.
- Review of technology options for sewage treatment
- Signs & signage creating awareness on cleanliness at strategic locations such as
 - Entry Point to the town from both sides along with a welcome arch

- Railings on arterial roads
- Public places such as MSRTC Bus Stand, Parking areas

Infrastructure Development

- Connecting Public toilets to the sewerage network
- Providing sewerage network to all areas within the Municipal Limits with immediate priority for area near the Temple and Gaothan area.

7.2.3 Solid Waste Management

PROJECT: Preparation of solid waste management plan for solid waste generation of 21 T/day (year 2031), (collection, treatment and disposal) for 16 acres composting and landfill site.

PFR Components

Policy Measures

- Ban on sale & use of plastic bags in the town.
- Ban on sale of Prasad, offerings for temple etc in plastic bags
- Awareness generation amongst pilgrims to prevent littering in town
- Awareness generation amongst shopkeepers for discouraging use of plastic bags
- Engagement of local agencies in developing various recycling techniques for the solid waste
- Using alternate material for serving tea and coffee in Sansthan Canteen

Management Techniques

- Maintenance of equipments and vehicles used for solid waste collection.
- Preventing dustbins and other equipments from vandalism
- Organising cleanliness drives through Govt. and NGOs at periodic intervals involving locals and pilgrims.
- Segregation of organic, inorganic & recyclable waste at source.

Infrastructure Development

- Identification of solid waste disposal site(s) considering future growth of the town
- Identification of an appropriate treatment technique(s) such as composting vermiculture, for the solid waste.
- Setting up of a composting plant/ vermiculture unit for organic waste, especially that received from the Temple
- Providing adequate vehicles and equipments for waste collection
- Allocation of manpower and appropriate equipment to increase efficiency, for daily sweeping of streets and public places and coverage of all areas, particularly in the Pilgrim Zone.
- Providing standard containers for separate collection of organic and inorganic wastes from commercial establishments such as hotels & restaurants, vegetable markets shops, marriage and community halls etc.

• Providing additional dust bins at public places

7.2.4 Traffic and Transport Planning

PROJECT: Road condition improvement

PFR Components

Policy Measures

- All roads in Shirdi Town should be CC or BT roads with adequate footpaths.
- Road network to be planned keeping in mind future needs of the town, inflow of pilgrims and surrounding developments.

Management Techniques

- All the important roads to be kept encroachment free.
- Hawking zones to be identified

Infrastructure Development

- Junction improvement of the roads joining Ahmednagar Manmad Road.
- Relocation of MSRTC bus stand & Share Taxi Stand
- Improvement of surface condition of the existing roads by repairing the marginally damaged roads and relaying new roads where necessary.
- Construction of a 4 lane Bypass Road for diversion of Ahmednagar-Manmad heavy vehicle traffic.
- Ring road proposed in Development Plan of Shirdi to be taken up on priority
- Providing additional roads connecting the various newly developing parts of the town, which could be useful during the peak pilgrim season.

PROJECT: Comprehensive traffic and transport study

PFR Components

Policy Measures

- Undertaking a Comprehensive Transport Study for the town for normal & festival season and keeping in mind the future growth and development of the town with the regional context.
- Developing Eco-friendly Public Transport (PT) and Intermediate Public transport (IPT) systems such as
 - Buses running on Compressed Natural Gas (CNG)/ Liquefied Petroleum Gas (LPG)
 - Auto rickshaw running on CNG / LPG
 - Electric/ battery operated vehicles for routes such as Shirdi Kopargaon, Shirdi Rahata/ Bhableshwar, Shirdi – Savli Vihir etc.
- Traffic regulation during normal days & festival days.

Management Techniques

• Identification of traffic routes for "one-way traffic" to ease traffic movement and

minimize air and noise pollution.

- Providing adequate number of traffic signs, traffic signals, construction of traffic islands, and road dividers at appropriate places.
- Designation roads/ areas for vehicle types based on available width, area served & activity/ land use.
 - Pedestrians Zone / Roads
 - Pedestrian & slow moving (cycle, animal drawn etc)
 - Two wheelers & three wheelers
 - Four wheelers (car, jeeps etc)
 - Heavy vehicle (Buses, Trucks, Tankers etc)

Infrastructure Development

- Develop supporting infrastructure for smooth running of Eco-friendly PT/IPT vehicles (CNG filling stations, break down services, maintenance workshops etc)
- Developing Traffic Junctions/ Islands, Signalling Systems etc at important junctions such as Pimpalwadi Road Junction, Kankuri Road Junction and Nandurkhi Road Junction.
- Landscaping and beautification of traffic island(s)

PROJECT: Developing a Private Taxi Stand and Bus Stand

PFR Components

Policy Measures

- Identification and strict implementation of 'No- Parking Zones'
- Identifying land for parking area for different users such as Tourist Buses, Private Taxis, Auto rickshaw etc) in the town
- Augmenting 'Pay and Park' facility for pilgrims / tourists

Management Techniques

- Developing queue system for private taxis especially those plying on Shirdi Shingnapur route. This will benefitr the pilgrims as well as operators.
- Parking Management plan for festival days.

Infrastructure Development

- Developing of parking areas including paving, landscaping & beautification.
- Exploring the feasibility of developing basement parking and developing gardens/seating area above the parking.
- Parking lots to be designed to serve as rainwater harvesting areas.

7.3 PILGRIM INFRASTRUCTURE DEVELOPMENT

The projects in this category are identified keeping in mind the specific needs and requirements of the pilgrims visiting Shirdi. The projects when developed would however be an asset to the town and would also benefit the local residents. The need for this project is arrived at based on the discussions in chapter 4. These projects would also be instrumentalin giving visibility to Shirdi and making it an important national & international pilgrim destination.

7.3.1 Religious Tourism Development

PROJECT: Development of Eco-Pilgrimage package plan for Shirdi and surrounding region

PRIORIT Y: Immediate

PFR Components

Policy Measures & Infrastructure Development

- Developing adequate clean & hygienic accommodation facilities for all socio-economic groups
- Promoting local cuisine in tune with the religious setting of Shirdi in the hotels and restaurants
- Preparing a Pilgrim Circuit Plan & Itinerary for Shirdi taking into consideration the nearby destinations such as Nashik, Trimbakeshwar, Grishneshwar etc
- Preparing a tourist map & information Brochure of Shirdi showing important places within the town, their distances, history, legends, surrounding places, information on hotels, their pricing etc.
- Opening a information counter at suitable location in the town for providing information to Pilgrims.
- Compiling information related to disaster management such as availability of health facilities, risk prone areas of town emergency Numbers etc.
- Training of various stakeholders such as tour operators, hotel owners, tourist guides' etc for promoting environment friendly and socially acceptable tourism in Shirdi.
- Preparing an environment & social code of conduct for pilgrims and tourism stakeholders.
- Urban design guidelines for location and siting of hoardings and banners.

7.3.2 Demonstration projects for use of Appropriate Technologies

PROJECT: Solar water heaters for hotels and Dharmashalas

- At present most hotels and Dharmashalas use wood for water heating this causes air pollution as well affects the natural resource.
- Solar water heaters have a high initial cost but in the long term they are beneficial in improving the quality of the environment and preventing depletion of natural resources.
- It should be made mandatory for all hotels and Dharmashalas to use solar water heaters

PROJECT: Rooftop Rain water Harvesting

• Shirdi has many hotels and public buildings. The town is dependent on ground water for its daily needs. Hence roof top rainwater harvesting should be made mandatory for all buildings having 1000 sq. m area.

- To begin with the hotels and Dharmashalas of the Sai Sansthan can be used to promote and develop this concept.
- The water can be used to recharge the ground water or stored and used for secondary purposes

PROJECT: Renewable Energy Park

- Shirdi is pilgrim place and is visited by many people. It has no other attractions other than the Samadhi Temple. Hence it is proposed to develop a renewable energy park with exhibits running of solar power such as solar car, toy train etc
- This will also help creating awareness on non-conventional energy resources and thereby popularising their use.
- The park could also have buildings constructed using sustainable building technologies such as compressed earth block, fly ash etc

No	Project Details	Black Cast (Rs)	Details	Romarks
110	PHASEI	28.77 crore	Details	Kemarks
1	Drinking Water Supply Scheme	12.95 Crores	48 Km length	DPR complete
2	IDSMT Schemes	12.95 610165	to itili length	Direcomplete
	a Multipurpose Hall	150 60 lakhs	46.00 sa m	
	h Commercial Complex	93 32 lakhs	3000 sq m	
	c Construction of 8.0 m wide	47.85 lakhs	1100 m length	
	road length from Laxmi Nagar	+7.05 ldKli5	1100 m length	
	to Ring Road			
	d. Development of Traffic signals	7.5 lakhs		
	& islands			
	e. Construction of Sulabh	11.56 lakh	187.67 sq.m	
	Shauchalaya near Ahmed		1	
	Nagar Road			
	f. Construction of Sulabh	11.56 lakh	187.67 sq.m	
	Shauchalaya near Laxmi Nagar			
	g. Drinking water supply some	29.48 lakh		
	part			
3	Underground Drainage System	12.10 crores	65 km length	DPR in final
				stages
4	Solid waste management	0.50 crores	10300 sq. m	
	PHASE II	50.00 crores		
1	Rehab of Tapri Shops in	6.00 crores	-	On going
	Shopping Centre			
2	Development of Garden	5.00 crores	-	
3	Construction of playground near	5.00 crores	-	
	stadium			
4	Bypass/ Ring Road	4.00 crores	-	DPR Complete
5	Rehabilitation of people below	25.00 crores	-	
	poverty line			
6	Establishing convention centre	5.00 crore	-	
	PHASE III	21.00 crore	-	
1	Road Development	10.00 crores	-	
2	Parking Development	2.00 crores	-	
3	Play ground	1.50 crores	-	
4	Housing of dishoused persons	2.00 crores	-	
5	Development of Burial	2.00 crores	-	
	&Cremation Ground	2.52		
6	Development of remaining DP	3.73 crore	-	
	Sites			

Table 7.2 Projects Undertaken / Planned by Shirdi Municipal Council

Source: Shirdi Municipal Council

ANNEXURE I

Rotation	Canal O	pen Timing	O pen	Canal close	Timing	Close
No.	Period		Days	Period		Days
	From	То		From	То	
Rabbi Season						
01	5/12/2004	31/12/2004	27	1/1/2005	24/1/2005	24
02	25/1/2005	20/02/2005	27	21/2/2005	14/3/2005	22
Kharif Season						
01	15/3/2005	30/3/2005	16	31/3/2005	14/4/2005	15
02	15/4/2005	30/4/2005	16	5/5/2005	14/5/2005	14
03	15/5/2005	30/5/2005	16	30/5/2005	30/6/2005	31

Canal Rotation Timetable for the year 2004-2005
ANNEXURE II

Sr. No.		Lodge Names	Total	Min. Staying	Max. Persons staying	
			Rooms	Capacity	capacity	
Enquiry Office and Lodging						
01	Saiprasad No.1 VIP		12	-	10	
02	Saiprasad No.1 VIP		09	-	05	
03	Saiprasad No.1		54	-	12	
04	Saiprasad No.1		06	-	04	
05	Saiprasad No.2 VIP		18	-	06	
06	Saiprasad No. 2		06	-	08	
07	Saiprasad No. 2		54	-	04	
08	Sai Udhyan		20	-	20	
09	Sai Udhyan		16	-	10	
10	Sai Udhyan Hall		12	-	50	
11	Sai Udhyan Locker		99	-	99	
12	Sainivas Guest house VIP		24	-	02	
Sai Bh	Sai Bhaktaniwas (500 Room)					
01	4 bed rooms		200	-	06	
02	3 bed rooms		206	-	05	
03	VIP rooms		22	-	10	
04	VIP rooms		03	-	15	
05	3 be	d A/C rooms	13	-	04	
06	3 be	d non A/C rooms	04	-	04	
07	Hall		06	-	50	
08	Hall		02	-	60	
09	Ground floor rooms		56	-	12	
Saibab	Saibaba Dharmashala					
01	Ground floor		08	50	80	
02	First floor		32	15	25	
03	Seco	ond floor	64	05	10	
04	Loc	ker (4 Hall x 64)	256			

Table 1 Details of Lodging Facility provided by Sai Sansthan

Table 2: Staff Details at various facilities

No	Facility	Permanent Staff	Contract Staff
1	Enquiry Office	39	47
2	Dharmashala	14	16
3	500 room Guest house (Bhakta nivas)	68	64

ANNEXURE III

Minutes of the Meeting with regard to the "Integrated Environmental Improvement of Shirdi and Shani Shinganapur"

Date: 13-12-2004 Time: 3 PM Venue: Conference Hall, Shri Saibaba Sansthan, Shirdi

The meeting convened by M's. Wilbur Smith Associates Pvt. Ltd. (WSAPL), Banglore and was presided over by Dr. S. B. Katoley, Adviser, Maharashtra Pollution Control Board (MPCB), Mumbai. Dr. D. B. Boralkar, Member Secretary, MPCB could not attend the meeting. List of Participants present for the meeting is attached at the end.

- A meeting was held at Shirdi to start off the project on "Integrated Environment Improvement of Religious Places in Maharashtra'- Shirdi and Shani Shinganapur" sponsored by MPCB. The purpose of the meeting was to sensitize the different stakeholders and project beneficiaries about the project on making Shirdi and Shani Shinganapur as model religious tourism destinations with special reference to the environmental issues and take into account the ideas, issues and problems of all the stakeholders.
- The meeting began with a brief introduction by Dr. B. A. Giridhar, Project Consultant, WSAPL, about the purpose of the meeting and the proposed study.
- Dr. A. R. Supate, Project Leader, MPCB explained all the participants in detail about the project background. He mentioned that the MPCB Board in its 139th Board meeting has approved the proposed project of `Integrated Environmental Improvement Of Religious Places in Maharashtra'. The religious places experience significant inflow of floating population. Usually, being small towns or villages with little infrastructure to cope with such huge number of pilgrims, there is a deterioration of the overall environment of the town and thereby the quality of life. Hence, the said study has been taken up on the lines of the Eco-city projects promoted by the Central Pollution Control Board (CPCB) for places like Mathura, Vrindavan and Puri. An important objective of the project would be to boost tourism in an environmentally sustainable manner, which will also help improve the socio-economic conditions of the local people.
- Mr. Anand Kulkarni of WSAPL made a presentation in Marathi on the aim, objectives and methodology of the proposed study, the various tasks to be undertaken during the study, the data required from the stakeholders and the benefits of the projects to each stakeholder in particular and the entire tow nship in general.
- The presentation was followed by a discussion among the participants on the issues and problems of Shirdi and Shani Shingnapur towns and ideas/suggestions were invited from the participants to address those issues.
- Mr. Joshi, Administrative Officer of Shri Saibaba Sansthan Shirdi asked about the funding for the project and the role of the Project Consultant.
- Dr. S. B. Katoley and Dr. A. R. Supate clarified that MPCB has appointed WSAPL as Project Consultant to the carry out this study. The aim of the study is to understand

the current environmental issues of long term & short term concern & come out with specific project proposals related to environment protection and improvement. The detailed project proposals thus prepared will be placed for full/partial financial assistance from Central/State Government and/or MPCB depending upon magnitude of the project and their priority for the betterment of these places.

- Dr. Supate suggested WSAPL to consider potentials and weakness of the nearby Urban Local Bodies (ULBs) Rahata and Kopargaon while considering technoeconomic viability of certain projects such as MSW management, green belt development etc. He also suggested that the nearby places and pockets of tourist/ religious importance should be considered so as to develop a tourist circuit for the region. This will relieve the burden on Shirdi and help in the overall socio-economic development of the region.
- Mr. P. K. Mirashe, Regional Officer, MPCB Nashik pointed out that heavy traffic on the roads of Shirdi generates lots of dust along the roadside. There should be carpeting in the form of greenery and plantation to curb the problem.
- Mr. Mirashe also suggested that for disposal of solid waste the ULBs of Rahata and Kopargaon can be involved jointly for having a common landfill site.
- Mr. Gaikw ad, Chief Executive Officer of the Shirdi Municipality, said that at present Shirdi Municipality has given the contract of solid waste collection and disposal to a private contractor.
- Mr. Gaikw ad also suggested that a flyover be constructed on the AhmedNagar Manmad Road to facilitate the movement of the through traffic thereby preventing traffic congestion in Shirdi tow n.
- He also suggested preventing the entry of buses in the town. The proposed truck terminals near Laxmi Nagar and towards the entry point from Pune can be partly used for parking of buses. Eco- friendly transport from bus terminus to the temple should be developed.
- Dr Supate added that, options of developing properly designed & managed parking lots at existing parking places or free transport from car-parks to Temple/City can be thought of to minimize traffic congestion in tow n.
- All the participants suggested that the area around Shirdi could be developed to promote tourism in and around Shirdi. At present the large number of people visiting Shirdi do not visit places around Shirdi, barring those few visiting Shani Shingnapur. Promotion of tourist destinations around Shirdi w ould help decongest the old gaothan area.
- The Project Consultant suggested the idea of roping in the sugar factories and distilleries in the area in future to support some of the development projects.
- The officers from MPCB felt that, existing status of environment should be substantiated by current data on Air, Water, and Groundwater quality in and around Shirdi & Shani Shingnapur. M/s. WSAPL and SRO, MPCB, Ahmednagar shall work in coordination for this purpose.
- The issue of plastic wastes generated was also a concern felt by all the participants. It was suggested that, the Municipality and the Shri Saibaba Sansthan should

collectively put a ban on the use of plastic bags, especially plastic should not be used to pack the Prasad and offerings made to Sai Baba. Tea served by the Sansthan canteen need not be in plastic cups. It was also suggested that Sansthan could put up a notice that the offerings brought in the plastic bags will not be accepted in the temple.

- Mr. Sanjay Bankar, Manager, Shri Shaneishwar Sansthan, Shani Shingnapur discussed about the problem of large amount of oil present in the flowers and garlands offered to the deity.
- Dr. Asha Pendse of the Saibaba Sansthan Hospital said that Sansthan Hospital has its own incinerator for handling their bio-medical waste. The modalities of involving the private hospitals and clinics to send their waste to the Sansthan hospital could be worked out.
- It was also suggested that environmental awareness drives be conducted in the Shirdi town. The pilgrims visiting the town can also be involved in cleanliness drives like 'Karseva' across the town and tree plantation drives.
- The idea of creating an Environment Cell at Nagar Parishad for looking into all such matters was also mooted. The cell would have members from the Nagar Parishad, MPCB, Shri Saibaba Sansthan, Shri Shani Shingnapur temple, Shingnapur Grampanchayat, and Police Department, RTO etc.
- M/s. WSAPL shall have extensive discussions with all concerned including Local, Taluka and District level offices and authorities and shall consider the proposals/plans which are already prepared, such as Regional Plan, water supply and sanitation, Road widening, Sew erage etc. by concerned department.
- The meeting concluded with remarks by Dr. S. B. Katoley, Technical advisor, MPCB. On behalf of Member Secretary, he assured full co-operation from MPCB in carrying out the study and taking it ahead. He also mentioned that based on the outcome of the studies further actions on deciding the priorities of the emerging short term and long term projects and the support to these projects can be considered and MPCB will act as a facilitator in respect of those projects. The temple authorities and the members present also assured full co-operation in terms of providing secondary data to the Project Consultant team and further implementation of the project.
- The Consultant expressed their sincere thanks to the Sansthan authorities for making arrangements for the meeting and also sought co-operation from all the participants for the success of the project.

"Integrated Environmental Improvement Program: Shirdi and Shani Shinganapur" MoM dtd. 03/12/04 at Shirdi

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