Maharashtra Tourism Development Corporation,
The Republic of India

Assistance to the Formulation of the Management Plan for Visitor Centres under the Ajanta Ellora Conservation and Tourism Development Project (II) in India

FINAL REPORT

August 2010

JAPAN INTERNATIONAL COOPERATION AGENCY

ORIENTAL CONSULTANTS CO., LTD.

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PREFACE

Japan International Cooperation Agency (JICA) conducted the Study on the Assistance to the Formulation of the Management Plan for Visitor Centres under the Ajanta Ellora Conservation and Tourism Development Project (II) in the Republic of India, and organized a study team headed by Mr. Yuuichi FUKUOKA of Oriental Consultants Co., Ltd. from March 2010 to August 2010.

The study team held a series of discussions with the officials concerned of the Government of India, and conducted several field investigations. As a result of further studies in Japan, the present report was finalized.

I hope that this report will contribute to the project and to the enhancement of friendly relations between our two countries.

Finally, I wish to express my sincere appreciation to the officials concerned of the Government of the Republic of India for their close cooperation extended to the study team.

August 2010

Shinichi YAMANAKA
Chief Representative,
JICA India Office
Japan International Cooperation Agency

SUMMARY

SUMMARY

1. General

This Summary is based on the main report which covers the findings and Operations and Management plans prepared by the JICA Study Team. In an effort to spread the information on the Ajanta and Ellora sites to a wider audience, the Executive Summary bring together essential information which is scattered in the main report and puts it into seven sections: General, Ajanta, Ellora, Institutional Organization, Schedule/Time-bound Action Plan, Financial Considerations, and The Way Forward.

1.1. Background of the Project

1.1.1. Ajanta Ellora conservation and tourism development Project

The visitor centres constructed at Ajanta and Ellora are being implemented by the Maharashtra Tourism Development Corporation (MTDC) the "State Tourism Development Master Plan" with the aim of conserving the cultural heritage and its surrounding environment, and to promote comprehensive tourism development including infrastructure, thereby contributing to regional development.

Since the preparation of a management plan was not included in the scope of work for the Yen Loan Project, JICA has provided Technical Assistance to MTDC to perform this Study to formulate a comprehensive management plan for the visitor centres. This management plan aims to address many problems related to the sites such as visitor flow planning, integrating the visitor centres with the archaeological sites, etc.

1.1.2. Background of Ajanta & Ellora visitor centres

The Ajanta and Ellora Caves are UNESCO World Heritage Sites located in the Aurangabad district in the state of Maharashtra, located approximately 400 km east-northeast of Mumbai. They are often referred to as Ajanta-Ellora like a single archaeological site; however, the Ellora Caves (latter stages of the 5^{th}-10^{th} century) are some 30 km. west of Aurangabad city, while the Ajanta Caves (first stage 1^{st} century, latter stage 2^{nd} century, 5^{th} - 6^{th} century) are located approximately 120 km north of Aurangabad city. Both are situated a one-day trip from Aurangabad. Reaching the sites was a formidable challenge for tourists until paved access roads were constructed by the Yen Loan Project.

It would be physically very tiring to visit both sites in a day, because of numerous steps and slopes in both heritage sites. Due to this, it is increasingly common to spend two days with an overnight in Aurangabad; one day for Ajanta and another day for

Ellora and other tourism sites near Aurangabad such as Grishneshwar Hindu Temple, Daulatabad Fort and Bibi-Ka-Maqbara Mausoleum.

The Ajanta Visitor Centre (AVC) and Ellora Visitor Centre (EVC) are tourism facilities being constructed near the respective archaeological sites. In addition to exhibition and interpretation spaces, both facilities have restaurants, shops, and space for events. The visitor centres have tourist amenities/facilities, and a site museum is one of their many functions.

There is a lack of leisure facilities in Aurangabad District, and it is pointed out that the lack of leisure facilities results in the increase of local visitors in the caves and they could be diverted to the visitor centres if they have suitable attractions for them.

1.2. Foundation for Management Planning

1.2.1. Major problems for management planning to address

Although there are many problems at the sites, certain problem areas if not solved will eat away at sustainability of the visitor centres. These we consider to be major problems. The major problems for the existing Visitor Centres are high operating cost, low revenues and long visitor timelines. Each topic is described below.

a. High visitor centre operating cost

- Facilities have large floor areas and exhibition space.
- MTDC Visitor Centre equipment is expensive to run.

b. Low visitor centre revenue

- Number of visitors to Visitor Centres is low compared to other World Heritage Sites.
- Visitor flow of site allows avoiding the Visitor Centres. EVC is located 10 minutes in the opposite direct to the caves. AVC is next to the parking lot but not on the route to the caves.
- ASI is collecting Entrance Fee but not collecting or distributing a portion for MTDC since the monuments and the Visitor Centres are not integrated at one site.

c. Long visitor timelines

- The timelines for visiting the sites are lengthy and tiring, even if the order of site itinerary varies.

Table 1-1 Timelines for visiting the heritage sites

Event	Ajanta	Ellora
From Aurangabad to Site Parking	2 hr.	1 hr
Visit to View Point omitted	-	
Visit to Grishneshwar Hindu Temple	-	1 hr
Possible wait for Shuttle bus	15 min	-
Shuttle bus ride to Site	10 min	-
Visit to extensive ASI monument sites	2-3 hr	2-3 hr
Possible wait for Shuttle bus	15 min	-
Shuttle bus ride to VC	10 min	-
Shopping	20 min	-
Minimum Tour MTDC Visitor Centre	1 hr	1 hr
From Site Parking to Aurangabad	2 hr.	1 hr.
TOTAL	8 hr	6 hr

Source: JICA Study Team

- Hindu Temple visit for locals competes with visit to the monument sites.

1.2.2. Vision for integrated visitor-centred experience

Collaboration among ASI and the State Government with MTDC is the most important factor to revise the current flow of visitors to the sites and the system of ticketing including the entrance fee for the heritage site and visitor centre, bus ride, amenity fee and parking fee.

Both ASI and the travel trade referred to the necessity of introducing measures to limit the visitor numbers to some specific caves with paintings due to their fragility and to improve visitor experience. According to a professional tour guide, many of the domestic visitors come to the site for picnicking and are not serious visitors, but enter into the painted caves simply because they are open.

The Study Team considers that the introduction of a new tariff system that charges extra fees for the entry into the fragile caves would be an easier and more effective way to control the visitor numbers then partial close-off or reservation system for specific caves. The new tariff system, however, should display high quality photos to make an alternative available in the new visitor centres.

In this way, stakeholders with different backgrounds and interests can be linked in such a manner that their interests are not mutually contradictory, thereby creating a mechanism of sustainable tourism site management. In view of these aspects, the following contents may be assumed for the site management plan.

1.2.3. Entrance fee

The entrance tariff is an important revenue source for the visitor centres. ASI entrance fee to the caves of Rs.250 ($5.6) for foreign visitors is still inexpensive, if it is compared with other World Heritage sites in the world, where $10 is a typical amount and it can be set for a similar amount for admission fee of the visitor centre including ASI entrance fee.

Although, the admission fee to national monuments for Indians has to be nominal because of their public status and interests, ASI is planning to increase the entrance tariff all over India from Rs. 10 to Rs. 50.

1.2.4. Ticketing system

Introduction of a single (integrated) ticket system is regarded by many as one of the most critical issues closely related to the visitor management. Since there is a lack of confidence among the concerned institutions, proposing a transparent system to distribute the revenue from ticket sales to respective institutions would be an important mechanism to be realized.

All visitors to the caves must converge into a single mode of travel from a certain point at the visitor centre right after the point where the Ajanta/ Ellora cave road passes by the visitor centre – by some form of a green 'eco-bus'. This means that every legitimate visitor to the cave must use this mode (shuttle bus).

For visitors travelling to the caves through tour operators other than MTDC or its franchisees, or on their own, this is the place where a comprehensive admission fee is taken covering: (a) two-way fare for the eco-bus between the visitor centre and the heritage site, (b) parking fees for transport, (c) entrance fees for the caves, (d) entrance fees for the visitor centre and (e) maintenance cess for the amenity area. This should alleviate the issue that vendors working in the amenity area feeling disadvantaged because of a privilege barrier imposed on people accessing their services/goods.

In case of end-to-end tours being conducted by operators other than MTDC, they can have an arrangement with MTDC to cover the unified cost of the comprehensive admission-fee and their operating cost + profit. This would mean that such operator pays a monthly pro-rata portion of revenue to MTDC, and MTDC shares another pro-rata of its receipts with ASI.

It is recommended to charge extra fees to enter into fragile painted caves in Ajanta to protect the invaluable monument. Replica caves and exhibits that are planned for Ajanta Visitor Centre can be a good excuse and compensation for the additional fees.

Conversely, introduction of additional charge is recommended to promote the use of the Ajanta Visitor Centre.

As an excuse for increased ticket price, as well as to promote private businesses in the VCs and their neighbourhood, it is recommended that the new ticket system should allow re-entry to the caves. With this arrangement, visitors will be able to spend the hottest time of the day in the air-conditioned VCs to have lunch and to enjoy shopping, and revisit the caves in the late afternoon when temperature cools down.

1.3. Marketing Strategy

Since the trip to Ajanta Ellora sites is as long as is the tour of the caves themselves, the visitor centres have a strategic role to play in adding comfort to visitors and providing detailed historical and academic information about the caves to peek visitor interest. The information about the comfort, functions and services that visitor centres provide needs to be added to promotional brochures and tourism websites. It needs to be attractively presented so that the visitor centres are attractions that are part of the Ajanta-Ellora tourism packaging so they can add value in attracting specific market segments to major tour packages in India.

1.3.1. Current tourism marketing limitations of Ajanta and Ellora

- The isolated location of Ajanta and Ellora Caves in the tourism network has been limiting its potential for growth, especially that of foreign visitors who tend to tour in India.
- Ajanta and Ellora is not a “must-see” destination like Taj Mahal and Varanasi. It is sold for special interest tourism of Buddhism rather than for general interest package tours.
- Ajanta and Ellora would not be pilgrimage destinations because they were not involved in the life of Buddha. Moreover, pilgrimage is a niche market in Japan and other East Asian countries; therefore promoting Ajanta and Ellora like a Buddhist pilgrimage site is irrelevant.
- However, the concept of World Heritage Corridor is important for Ajanta and Ellora because it has potential to be a new tour route that connects Ajanta and Ellora with other tourism sites like Sanchi, Mandu and Nasik. In this context, Maharashtra Tourism should strengthen the relationship with Madhya Pradesh State to promote visitor flow between the two states.

1.3.2. Domestic visitors

Domestic visitors that constitute more than 90% of the total visitor arrivals contain a large number of people from nearby large cities including Aurangabad and Mumbai.

There are a large number of students (30% of local visitor arrivals) who come to visit the caves for educational purposes. According to tour guides, there is a large portion of visitors who come to the caves for recreation and to have fun with their friends and family members due to the nominal entrance fee of Rs.10. The sites have greenery and are actually used as parks for number of visitors.

a. New Activities for Domestic visitors (including foreigners living in Aurangabad)

- Picnic and recreation
- Shopping and restaurant
- Museum
- Events and festivals
- Seminar and conference

1.3.3. Foreign visitors

For the foreign visitors, efforts should be made to attract package tours from Europe and Americas. One of the reasons for a small number of package tours from Europe and Americas would be an isolated location of the caves from established tour routes because they generally "tour" in India. Therefore tour routes that include the caves should be identified and promoted rather than promoting Ajanta and Ellora independently.

a. New Activities for Foreign visitors

- General interest package tours from Europe and Americas
- Pilgrims and general interest tourists from countries in Southeast Asia such as Thailand, Malaysia, and Singapore.
- It is noted that the concept of the World Heritage Corridor is noteworthy taking into account the improving road conditions in India, and also the strengthening of the linkage between Ajanta/Ellora and Mandu and other World Heritage Sites in Madhya Pradesh is strongly recommended.

2. Ajanta Visitor Centre (AVC) Summary

1.1. Background

The Ajanta Caves (first stage 1st century, latter stage 2nd century, 5th - 6th century) are UNESCO World Heritage Sites approximately 120 km north of Aurangabad city. One-way travel time between Aurangabad and Ajanta Caves is 2 hours.

AJANTA SITE MAP

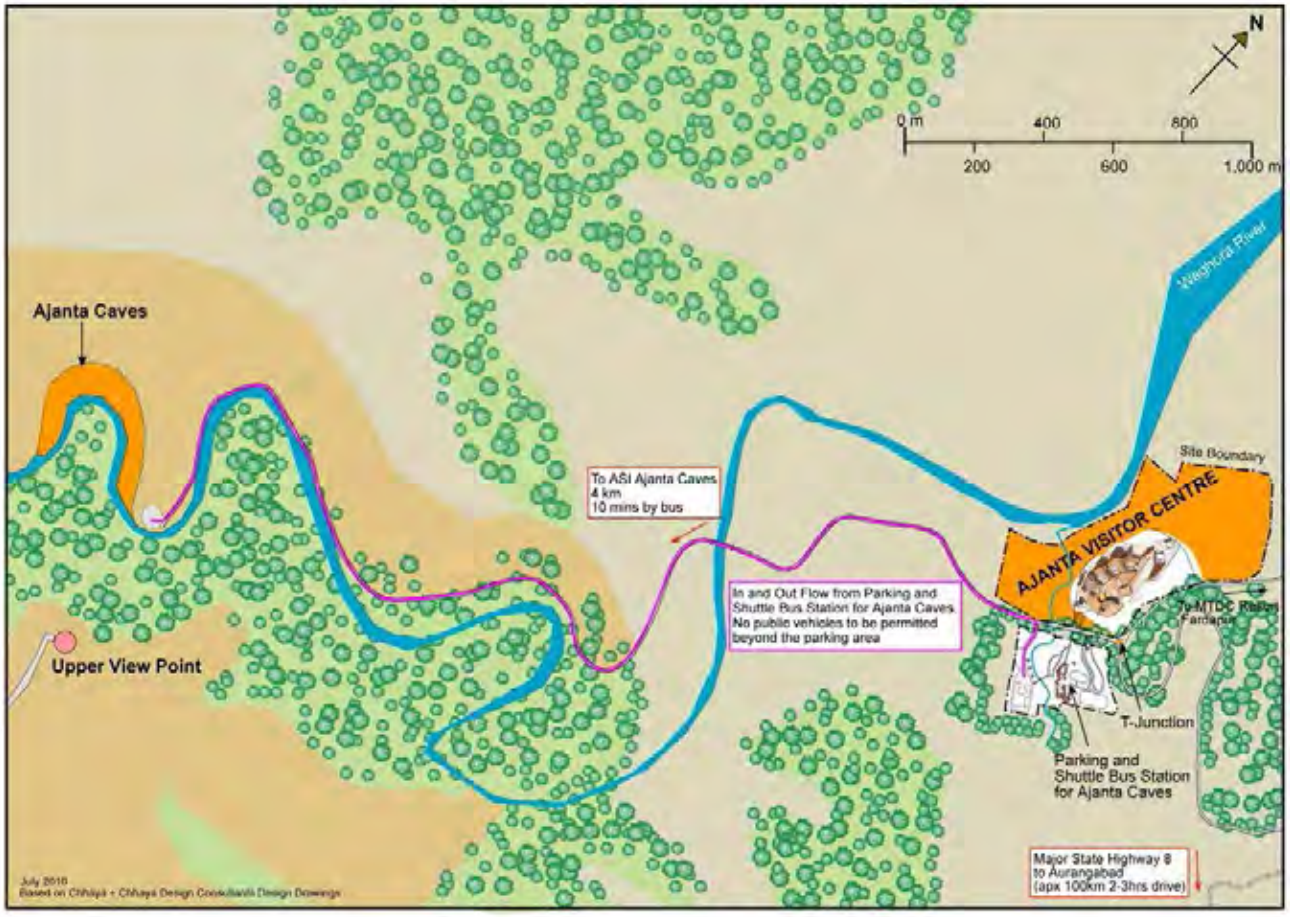

Figure2-1 Ajanta detail map

Source: JICA Study Team

2.1.1. AVC mission

Since Ajanta caves are famous for the cave paintings illustrate the story of Buddhism and stunning figures of sculpture to decorate the walls, the caves were cut out of rock by merely hammer and chisel and built as secluded retreats of the Buddhist monks who preached and performed religious rites in the temples and monasteries, the

Ajanta visitor centre should continuously act as the centre for learning of the Buddhism culture as it was in ancient times.

Therefore, the aspects of education and interpretation of caves and arts in conjunction with Buddhism culture should be prioritized as a core function in its operations, especially to children. Performing arts such as dance and music should be developed with the inspiration from the caves, sculptures and paintings to move education into edutainment; hence appeal to the senses will provide effective learning and enlightening experience that overcomes any language barrier.

The missions of the visitor centre are as follows:

- **Tourism facility**: To provide touristic information and functions, and for MICE.
- **Interpretation facility**: To provide interpretation and orientation for the caves.
- **Edutainment facility**: To provide learning experience for children and students through AV, hands-on, handicraft making, excursions and entertainment by performers and artists.

MTDC confirmed that the visitor centres should integrate all of these aspects in order to maximize the effects of the overall Project. Plans for operations in all three areas are still to be formulated.

2.1.2. AVC facilities

A summary of the Ajanta Visitor Centre facilities is presented in Table 2-1.

Table 2-1 Summary of Ajanta Visitor Centre facilities

	Ajanta Visitor Centre
Land Area	323,695 m^2
Floor area	20,442 m^2 (including covered corridor)
Exhibition space:	6,697 m^2(including auditorium)
Functions	Visitor Centre, Exhibition Room (Permanent & Temporary), Restaurants, Museum Shop, Hall, Toilets, Amphitheatre

Source: MTDC

AVC has a dome (27 m) at the entrance hall that glows when illuminated at night like a large lantern. The spiral shape of the building layout parallels the horseshoe shape of natural cave formation in the ravine.

Although the scale of the building is quite large, one third of the total floor area is occupied by the replica of four caves with paintings, namely, No. 1, 2, 16 and 17, for

visitors to realistically (1:1 scale) experience the caves. The caves are considered to be fragile and the replicas provide a way to reduce visitor numbers to them.

AVC has only 8 shops, probably in consideration for the existing Shopping Plaza. There are three types of restaurants in AVC: cafeteria, restaurant and student eating place. An experienced tour guide pointed out that the lack of good restaurants in Ajanta is a reason for his visitor reluctance to stay longer in the sites because they need to go back to Aurangabad to have lunch or dinner at a reasonably clean restaurant. In this sense, inviting good restaurants has a strategic importance for the visitor centres.

2.1.3. Visitor arrivals to the caves

The number of visitor arrivals to the Ajanta Caves was 319,427 in 2008. The percentage of foreigners visiting Ajanta Caves was 9.2% in 2008, which means that the visitors to the caves are predominantly domestic. Although in 2008 some decrease of foreign visitor numbers occurred due to the world economic crisis and the terrorist attacks in Mumbai, the statistics show a favourable trend of visitor arrivals, in particular, that of foreigners to the World Heritage sites.

Entry fees to the caves are Rs. 10 for domestic and Rs. 250 for foreign visitors.

Although the percentage of foreign visitors is 9.2% for Ajanta, the income from foreign visitors constitutes 71.7% for Ajanta under the current tariff system. The total amount of income from ticket sales was Rs.10.2 million for Ajanta.

2.2. AVC Visitor Management Optimization

2.2.1. Flow line problems

Because the Ajanta visitor centre has parking for only 40 cars and 4 large buses, it can be assumed that the original design intent was to utilize the current parking facilities developed under Phase-I adjacent to the visitor centre. However, this will create confusion to the visitors since the shuttle bus pick-up and drop-off point does not exist at the visitor centre yet and people have to walk 8 minutes or be shuttled from the visitor centre to the shuttle bus parking area.

Another visitor flow problem exists in relation to the existing shopping plaza constructed under the Phase 1 project, since the shopping plaza is not situated in the flow line between the visitor centre and the caves.

In terms of time, it takes at least a couple of hours to navigate the cave sites because of their uniqueness, significance and extensiveness on hilly locations.

The location of Ajanta visitor centre is far away from the caves (4 km bus drive) and it is not a pleasant distance to walk in the hot climate.

It is very important to integrate the visitor flow plan to the visitor centre with the visitor flow to the caves, otherwise the visitor centre will be underutilized and not provide the amenities that they could offer to visitors.

In addition, there are bottlenecks to the flow line created at three ticketing locations:

- Amenity ticket check line before going to the shuttle bus waiting area
- Shuttle bus ticket line to the heritage site
- Entry ticket line to the heritage site at ASI office

2.2.2. Integrating 2-sites (Ajanta cave & visitor centre) for 1-visit

For the purpose of integrating the cave site on a visitor-centred basis, it is recommended to have different schedules for the two seasons in Ajanta: Fair weather months (November till March) visiting the caves in the afternoon, and harsh weather months (April till October) visiting the caves in the morning. The two time line schedules for Ajanta are compared in the figure below.

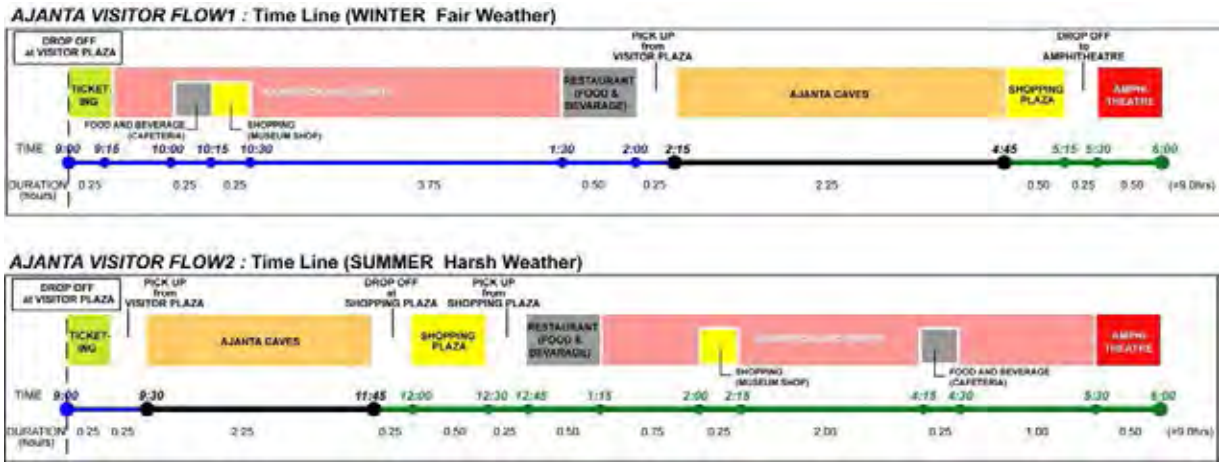

Figure 2-2 Timeline Comparisons

Source: JICA Study Team

2.3. Ajanta Site Protection

Ajanta cave is experiencing rapid growth in visitors. Nearly 298,810 visitors in 2001 and is growing with each year at the rate of 9.5% for foreign visitors. The connectivity with Aurangabad and major surrounding places is becoming more efficient with and

the popularity of caves with its paintings is growing worldwide to attract visitors. Protections for the caves and paintings are few.

- Humidity has increased by uncontrolled numbers of visitors which leads to fungus growth, attracting insects and eventually bats.
- Huge number of visitors enter each wall painting cave at a time. This is deteriorating the paintings and restoration is becoming necessary.
- The impact of negative tourism activity needs to be decreased and inadequate security encourages vandalism and theft.
- The quality of visitor experience needs to be enhanced. Current visitors flow degrades the experience with delays, crowding, disorientation and confusion.

The Ajanta Caves site, cannot comfortably overcome the shortfalls of the existing conditions. In the near term, the protection to cave paintings and the visitors experience can be improved as follows:

- A pollution free green zone between AVC and Ajanta Caves.
- All public vehicles stop at the visitor centre parking lot, however, allowing ASI staff to freely enter to the site. Thus the efficiency of conservation of caves and preservation of paintings increases significantly.
- Introduction of Green buses from the visitor centre to avoid traffic congestion for visit to Ajanta Caves.
- Ajanta Visitor Centre, with multimedia interactive exhibitions, to provide educational interactive introduction and enhance the interest and understanding of visitors, prior to their visit to the caves.
- All public amenities to be included in Ajanta Visitor Centre, to facilitate decreased time spent at the Caves.
- More controlled number of visitors to the caves at one time to reduce pressure from population to the painted walls and improve safety in the site.
- Introduction of professional and trained staff for visitor management who will work and manage visitors without any restrictions between the ASI site and MTDC site.

A more comprehensive management plan to assess and plan for resource use is recommended.

2.4. AVC Commercial Facilities

2.4.1. AVC restaurants

There are three types of restaurants in AVC: cafeteria, restaurant, and student restaurants. Cafeteria and Restaurant have air conditioning, and Student Restaurant is situated outside with roof as shown in the photographs below.

Cafeteria is located with the best view followed by the Restaurant. Student restaurant is very simple space used for student lunch or snacks with drinks from Student restaurant.

Available space and seats for restaurants in AVC are as follows:

Table 2-2 Restaurant facilities in AVC

	Floor area (m2)	No of seats
Cafeteria	283	60
Restaurant	340	96
Student Restaurant	263	80
Sub-total	886	236

Source: CCDC

2.4.2. AVC shops

The number of available shops in AVC is only eight (8) and total floor area is 142 m^2, while approximately 70 small shops are operating at the existing Ajanta Shopping Plaza and it is assumed those shops will remain as they are. Therefore conflicts with the existing shops at the shopping plaza may not be a problem in terms of relocation.

To avoid the competition with the existing shops, higher-end products sales with a thematic relation with the Ajanta caves should be considered for AVC shops. It is also important to create new products with the coordination of local craftsmen and artists.

2.4.3. AVC parking

Although the available parking space in AVC is very limited (40 cars and 4 buses), Phase-I project has already established a large parking space on the other side of AVC (240 cars: Rs. 15/car, 16 buses: Rs. 25/bus and 200 two wheelers: Rs. 5/two wheeler), so the combined parking capacity of AVC is quite large.

2.5. AVC Tentative Staffing Plan

Number of staff for the Ajanta visitor centre was planned as follows:

Table 2-3 Tentative organisation of visitor centre (Ajanta)

Line Staff			Service Staff	Total
Dept Head	Section Chief	Section Staff		
6	7	15	52	80

Source: JICA Study Team

2.6. AVC Financial Plan

Based on the assumptions for base case scenario outlined in the main report, annual cashflows for Ajanta are as follows:

2.6.1. Base case (Ajanta)

Ten (10) year cashflow based on the base-case scenario for Ajanta visitor centre is calculated as shown below.

Table-2-4 Ten (10) year cashflow (Ajanta base Case)

(Unit: Rs. Lakh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue Estimates	159.5	163.4	167.0	170.8	174.7	178.8	181.5	184.2	187.1	190.0
Expenditure total	461.4	482.8	505.7	529.7	554.9	581.4	609.2	638.4	669.0	701.2
MTDC activities net cashflow	-301.9	-319.4	-338.6	-358.9	-380.2	-402.6	-427.7	-454.2	-482.0	-511.3
Daily visitor to visitor centre	413	415	418	421	424	427	429	430	431	433

Source: JICA Study Team

Ajanta 10 year base case shows deficit of approximately 302 lakhs in 2011. The deficits will increase thereafter since revenues increase less than costs. Visitors are assumed to increase 0.3%/year and 5% per year for local and foreigners respectively and cost escalation is 5%/year.

In 2011, the total revenue will be 159.5 lakhs. Approximately 50% will come from admission and the remainder are the revenues from the rents and revenue share of restaurant, shopping mall and parking activities by private companies.

While the rents or revenue share is expected to be about 50% of the revenue in the base case, they are less certain than admission revenue. The amount of rents and revenue share are decided through bids from private companies and the bids will be affected by various factors. If appropriate bidders are not invited, the price of offer of rents or profit share will remain low since competitions does not exist.

Also, if business environment to bidders is depressed or bidders expect their future business will be depressed, then the price of rent may remain low and the deficit may be bigger than the base case.

The total expenditure is 461.4 lakhs and personnel expenses and maintenance cost is 336 lakhs, or 73% of the overall expenditure.

Among the personnel cost, exhibition & education cost is the largest. This is because higher cost of personnel for exhibition & education is allocated considering it is the most important function to attract visitors and only private sector personnel with such experience can accomplish the task in consultation with ASI.

2.6.2. Optimistic case

Comparing to the base-case, an optimistic case is also calculated for the visitor centre and the following assumptions are made with details discussed in the main report:

- Higher growth rate of visitors
- More people from the caves
- Higher tariff
- Higher rents and shared revenue

Table-2-5 Comparison of Average Daily visitors to AVC, optimistic vs base case

	Optimistic Case		Base case	
	Local	Foreigner	Local	Foreigner
Yr 2008 (Cave visitor number is adjusted)	279	28	279	28
Yr 2011	380	33	380	33
Yr 2014 and after	1,841	158	383	38

Source: JICA Study Team

Based on the above assumptions, the optimistic 10-year cashflow scenario for Ajanta visitor centre is calculated as shown below.

Table-2-6 Ten (10) year cashflow (Ajanta optimistic case)

(Unit: Rs. Lakh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue Estimates	245.4	378.0	510.9	643.8	648.6	653.5	658.5	663.7	669.1	674.6
Expenditure total	461.4	482.8	505.7	529.7	554.9	581.4	609.2	638.4	669.0	701.2
MTDC activities net cashflow	-216.0	-104.7	5.2	114.1	93.7	72.1	49.4	25.4	0.1	-26.6
Daily visitor to visitor center	413	941	1470	1999	1999	1999	1999	1999	1999	1999

Source: JICA Study Team

The calculation shows that the visitor centre is profitable in the optimistic case primarily due to the larger revenue increase by increased visitor numbers toward the 4th year comparing to the base case scenario.

As was seen in the optimistic case, Ajanta visitor centre has cash deficiency. Ajanta visitor centre, during initial years, deficits are due to the low visitors; then according to the growth of visitors they make profit; then later because costs escalate while visitor number stay flat; in the last years they make losses.

In the optimistic case since higher tariffs than current caves are estimated, no escalation is considered. (Rents and income shares considers 3% per year). Therefore, if tariffs can be raised in later years, then there will be no deficits with Ajanta visitor centre.

The following shows the Optimistic cashflow for Ajanta visitor centre with 3% tariff escalation.

Table-2-7 Ten (10) year cashflow (Ajanta optimistic case with 3%/yr tariff escalation)

(Unit: Rs. Lakh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue Estimates	245.4	384.9	532.6	688.8	709.5	730.8	752.7	775.3	798.5	822.5
Expenditure total	461.4	482.8	505.7	529.7	554.9	581.4	609.2	638.4	669.0	701.2
MTDC activities net cashflow	-216.0	-97.9	26.9	159.1	154.6	149.4	143.5	136.9	129.5	121.3
Daily visitor to visitor centre	413	941	1470	1999	1999	1999	1999	1999	1999	1999

Source: JICA Study Team

As shown in 10 year cashflow in optimistic case for Ajanta will recover from deficits from 2013 as the number of visitors grows. The profit will decrease as revenue remains the same and the cost increases due to escalation.

In optimistic case, there is no escalation in tariff during 10 years is considered as tariffs are increased from the current level at the cave. However, if tariff escalation is considered in future, deficits will be eliminated.

3. Ellora Visitor Centre (EVC) Summary

3.1. Background

The Ellora Caves (latter stages of the 5th-10th century) are UNESCO World Heritage Sites located some 30 km west of Aurangabad city. One-way travel time between Aurangabad and Ellora Caves is slightly less than 1 hour.

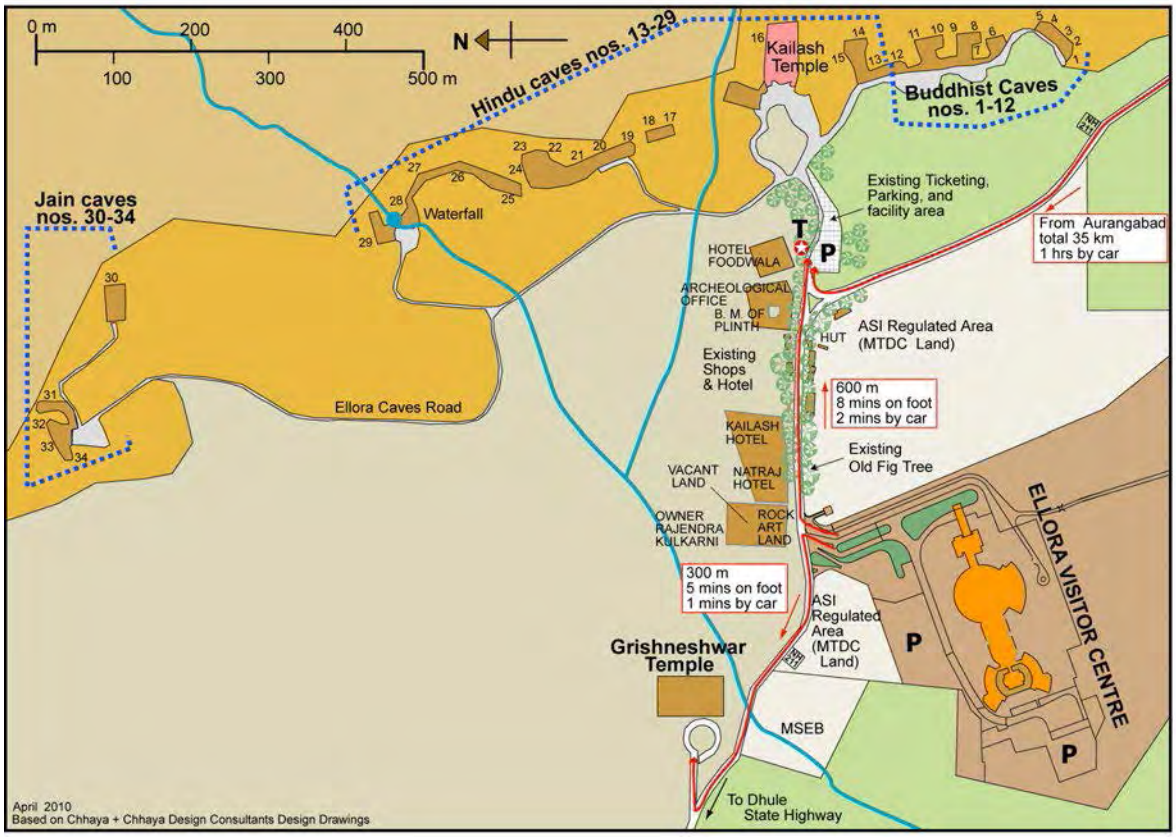

Figure3-1 Ellora site map

Source: JICA Study Team

3.1.1. EVC mission

The uniqueness of Ellora caves is represented by three faiths of Hinduism, Buddhism and Jainism in unison. The great and endurance by craftsmanship of Kailash Temple has become one of the greatest architectural wonders with the entire composition chiselled out from the world's largest monolith.

Due to its adjacent location from the downtown of Aurangabad, the Ellora visitor centre could offer various attractions since the majority of visitors to the area including the visitors to Grishneshwar Temple are locals from the region; however educational and

interpretative aspects should be kept as a core function of the centre including exhibiting of performing arts in a night venue.

The missions of the visitor centre are as follows:

- **Tourism facility**: To provide touristic information and functions, and for MICE.
- **Interpretation facility**: To provide interpretation and orientation for the caves.
- **Edutainment facility:** To provide learning experience for children and students through AV, hands-on, handicraft making, excursions and entertainment by performers and artists.

MTDC confirmed that the visitor centres should integrate all of these aspects in order to maximize the effects of the overall Project. Plans for operations in all three areas are still to be formulated.

3.1.2. EVC facilities

A summary of the Ellora Visitor Centre facilities is presented in Table-1

Table-3-1 Summary of Ellora Visitor Centre facilities

	Ellora Visitor Centre
Land Area	210,000 m^2
Floor area	11,806.69 m^2 (including covered corridor)
Exhibition space:	1,909 m^2 (including auditorium)
Functions	Visitor Centre, Exhibition Room (Permanent & Temporary), Restaurants, Museum Shop、Seminar Room, Toilets, Amphitheatre

Source: MTDC

EVC has a 1:10 scale replica of Kailash Temple to show its layout. There are 60 shops in the complex.

3.1.3. Visitor arrivals to the caves

The number of visitor arrivals to the Ellora Caves was 592,661 in 2008. The percentage of foreigners visiting Ellora Caves was 3.1% in 2008, which means that the visitors to the caves are predominantly domestic. Although in 2008 some decrease of foreign visitor numbers occurred due to the world economic crisis and the terrorist attacks in Mumbai, the statistics show a favourable trend of visitor arrivals, in particular, that of foreigners to the World Heritage sites.

One of the reasons for a larger domestic visitor volume to Ellora is said to be the presence of Grishneshwar Hindu Temple in the same village. The temple is very important in Hindu religious terms and many of the domestic visitors to Ellora combine their pilgrimage with the visit to the archaeological site. It is noted from a tourism

viewpoint that the temple is open to non-Hindus and has good potential to attract foreigners to observe Hindu religious activities. Further, the Ellora Visitor Centre is located midway between the temple and the caves; therefore a flow line with the temple needs to be considered to plan visitor management in Ellora because many of the visitors to Ellora also visit the temple.

Entry fees to the caves are Rs. 10 for domestic and Rs. 250 for foreign visitors.

Percentage of foreign visitors is 3.1% for Ellora, but the income from foreign visitors constitutes 44.3% for Ellora under the current tariff system. The total amount of income from ticket sales was Rs. 10.3 million for Ellora.

3.2. EVC Visitor Management Optimization Flow line problems

The flow line to the heritage site of Ellora caves and that to EVC is divided by National Road 211, and this is a problem for integrating management of flow lines, without which the visitor centres will be underutilized. Unlike Ajanta, all passengers arriving to Ellora by vehicles need to get off at the roadside near ASI's ticket booth to purchase ticket before entering the parking for visitors.

The entry ticket used to be sold at the entrance to the Kailash Temple, and visiting other cave temples used to be free of charge. The change of the ticket booth location enabled ASI to charge entry fee to all the visitors who visit any of the caves in Ellora. This modification, however, resulted in hindering smooth visitor flow into the archaeological site.

It is possible but tough for average tourists to see all the caves on foot. Therefore it would be worth considering to introduce local transportation for visitors in Ellora starting from the visitor centre.

Between the Ellora caves and the visitor centre, there is a magnificent tree avenue adorned by the canopy of old fig trees. This should be kept for future visitors to use on the way to the caves from the visitor centre since it provides good shade and a historical atmosphere.

3.2.1. Integrating 2-sites (Ellora caves & visitor centre) for 1-visit

For the purpose of integrating the cave site on a visitor-centred basis, it is recommended to have different schedules for different types of visitors: (1) Domestic (a. Local Visitors and b. Students) as well as (2) Foreign tourists (a. in winter and b. in summer months). Excluding local visitors who have no specific flow, the three resulting timeline schedules for Ellora are compared in the figure below. It shows students

visiting the caves in the afternoon, and foreign tourists visiting at noon in the winter fair weather months and in the morning in summer harsh weather months.

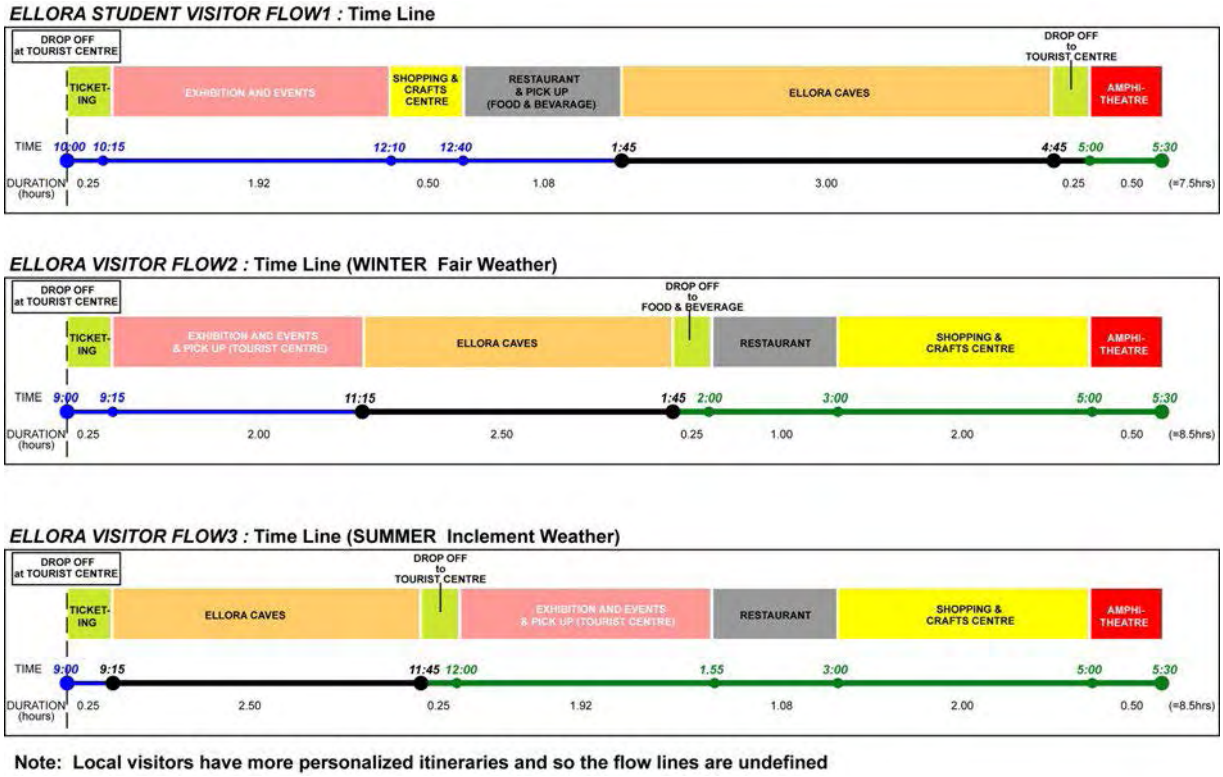

Figure-3-2 Timeline Comparisons

Source: JICA Study Team

3.3. EVC Vehicle Management Optimization

Ellora Caves is experiencing rapid growth in visitors resulting in visitor peaks that in recent years have exceeded site-design capacity. Traffic congestion results from high peaks in visitation on particular days at particular times and is associated with bus excursions that bring Tourists to the site.

The existing parking capacity for vehicle numbers is limited, and the existing circulation planning does not include all vehicle types: namely private vehicle, bus, auto-rickshaw, bicycle, and pedestrian traffic. During peaks in visitation, pedestrian and vehicular congestion occurs at multiple locations. Current traffic congestion degrades the visitor experience with delays, crowding, disorientation and confusion due to insufficient information and directional signage, bus noise, and vehicle exhaust emissions. In addition, current facility layout and operations involve several pedestrian-vehicular conflict points that are potential movement hazard.

The Ellora Caves site cannot comfortably accommodate current volumes of operations without active vehicle management especially during peak season.

The benefits of proposed visitor's flows are as follows:

- Improved signage and directions to sites
- Restricted traffic management strategies and introduction of smaller MTDC vehicles servicing a loop circuit specially for travelling to Jain Caves and stopping all public vehicles beyond parking area.
- Reconfiguration of flow of visitors
- Congestion reduced at the present Parking lot / Shopping area is eased.
- All public and private vehicles parking space is relocated to Ellora Visitor Centre accommodating more vehicles.
- The present parking lot at Ellora Caves can now be more efficiently used only for Shuttle Bus drop off / pick up point with maximum 20-seater Shuttle Buses recommended.

A 20-minute round-trip circuit route promises a comfortable site visit for tourists.

3.4. EVC Commercial Facilities

3.4.1. EVC restaurants

There are two similar restaurants (Restaurant-1 and Restaurant-2) at Ellora visitor centre. Each restaurant has inside space with air conditioning, outside covered area and student open platforms. Available space and seats for restaurants in EVC are as follows:

Table-3-2 Restaurant facilities in EVC

	Floor area (m2)	No of seats
Restaurant-1	217	96
Restaurant-2	351	121
Restaurant (below pergola)	338	120
Student (covered area)	134	40
Student (open area)	228	96
Total	1,268	473

Source: CCDC

3.4.2. EVC shops

The number of available shop spaces in EVC is sixty (60) and total floor area of 916 m^2. The issue of relocation and competition of the existing shops may exist.

Extensive ancillary space is provided for: (1) shopping mall area with more than 2,000 m^2 including covered corridors and amenities with 60 shops, and (2) craft centre area with 482 m^2 including central plaza, activity platform with 4 shops (floor area: 234 m^2). On the access road before the Ellora cave site, there are approximately 15- 20 small shops in operation, which is less than the available shop space at the Ellora visitor centre.

Because of the large number of small shops available for EVC, it is difficult to focus on only thematic products as in the case of AVC. EVC shops should introduce and sell diversified items available in Aurangabad district.

EVC craft centre, which is larger than the module of 60 shops and adjacent to central plaza, can be utilized as a demonstration and display space for artisans and craftsmen in rotation. Visitors can also experience making some handicrafts and art works.

3.4.3. EVC parking

The available parking space of EVC is large enough for a while (142 cars, 18 ST buses, 9 tourist buses, 34 auto rickshaw, 40 taxis, 199 motorcycles and 14 shuttle buses). The opportunity for private companies in terms of size of business is larger due to the fact that the existing parking lot at Ellora cave (Rs. 15/car, Rs. 20/bus, Rs. 5/two wheeler and Rs. 2/bicycle) will be relocated to the EVC parking, private companies might be interested in the operation of EVC parking.

For the privatization of parking, it should be noted that the funds for shuttle bus from Ellora Visitor Centre to the cave should also be provided by private company.

3.5. EVC Tentative Staffing Plan

Number of staff for the Ellora visitor centre was planned as follows:

Table-3-3 Tentative organisation of visitor centre (Ellora)

Line Staff			Service Staff	Total
Dept Head	Section Chief	Section Staff		
6	7	14	48	75

Source: JICA Study Team

3.6. EVC Financial Plan

Based on the assumptions for base case scenario outlined in the main report, annual cashflows for Ellora are as follows:

3.6.1. Base case (Ellora)

Ten (10) year cashflow based on the base-case scenario for Ellora visitor centre is calculated as shown below.

Table-3-4 Ten (10) year cashflow (Ellora Base Case)

(Unit: Rs. Lakh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue Estimates	270.8	280.5	290.5	300.9	311.7	322.9	334.1	345.8	357.9	370.4
Expenditure total	390.4	408.3	427.4	447.5	468.6	490.8	514.1	538.5	564.2	591.1
MTDC activities net cashflow	-119.6	-127.8	-136.9	-146.6	-156.9	-167.9	-179.9	-192.7	-206.3	-220.7
Daily visitor to visitor centre	1,139	1,183	1,228	1,275	1,324	1,374	1,427	1,481	1,537	1,595

Source: JICA Study Team

The deficit in the initial year is approximately 120 lakhs, which is smaller than that of Ajanta base case. Compared with the average daily visitors of 413 persons/day in 2011 with Ajanta base case, it is 1,139 persons/day with Ellora base case. Also, since the floor area of 11,807 m2 with Ellora visitor centre is smaller than that of 20,442 m2 with Ajanta visitor centre, Ellora has smaller costs of facility maintenance and utilities running costs.

The trend of the deficit is same as the Ajanta base case. The deficit will increase in 10 years due to the gap between the increase in visitors and the escalation rate of costs.

In 2011, the total revenue is 270.8 lakhs, and admission revenue is approximately 63%, which is larger than Ajanta bas case, due to more expected visitors to Ellora.

As was discussed with Ajanta base case, revenue of rents and revenue share are less certain and subject to bidding with private company. Since expected revenue from admission is larger, revenues are more certain with Ellora than Ajanta base case.

Expenditure total is 390.4 lakhs and personnel expenses and maintenance cost is 76% of the overall expenditure.

3.6.2. Optimistic case

Comparing to the base-case, an optimistic case is also calculated for the visitor centre and the following assumptions are made with details discussed in the main report:

- Higher growth rate of visitors
- More people from the caves
- Higher tariff
- Higher rents and shared revenue

Table3-5 Comparison of average daily visitors to EVC, optimistic vs base case

	Optimistic Case		Base case	
	Local	Foreigner	Local	Foreigner
Yr 2008 (Cave visitor number is adjusted)	736	24	736	24
Yr 2011	1,112	27	1,112	27
Yr 2014 and after	2.332	57	1,243	31

Source: JICA Study Team

Based on the above assumptions, the optimistic 10-year cashflow scenario for Ellora visitor centre is calculated as shown below.

Table-3-6 Ten (10) year cashflow (Ellora optimistic case)

(Unit: Rs. Lakh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue Estimates	381.0	472.6	564.7	656.8	661.3	666.0	670.8	675.8	680.9	686.2
Expenditure total	390.4	408.3	427.4	447.5	468.6	490.8	514.1	538.5	564.2	591.1
MTDC activities net cashflow	-9.4	64.5	137.3	209.3	192.7	175.2	156.8	137.3	116.8	95.1
Daily visitor to visitor centre	1139	1556	1972	2389	2389	2389	2389	2389	2389	2389

Source: JICA Study Team

The calculation shows that the visitor centre is profitable in the optimistic case primarily due to the larger revenue increase by increased visitor numbers toward the 4th year comparing to the base case scenario.

Ellora visitor centre, during initial years, deficits are due to the low number of visitors; then according to the growth of visitors they make profit. Then later because costs escalate while visitor number stays flat, in the last years they decrease the profit.

In the optimistic case since higher tariffs than current caves are estimated, no escalation is considered. (Rents and income shares considers 3% per year). Therefore, if tariffs can be raised later years, then there will be no decrease in profit with Ellora visitor centre.

The following shows the Optimistic cashflow for Ellora caves with 3% tariff escalation.

Table 3-7 Ten (10) year cashflow (Ellora optimistic case with 3%/yr tariff escalation)

(Unit: Rs. Lakh)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Revenue Estimates	381.0	482.6	590.0	703.4	724.4	746.1	768.4	791.3	815.0	839.4
Expenditure total	390.4	408.3	427.4	447.5	468.6	490.8	514.1	538.5	564.2	591.1
MTDC activities net cashflow	-9.4	74.3	162.6	255.9	255.8	255.3	254.3	252.8	250.8	248.3
Daily visitor to visitor centre	1139	1556	1972	2389	2389	2389	2389	2389	2389	2389

Source: JICA Study Team

Except the initial year, there are no deficits during 10 years in Ellora optimistic case.

4. Institutional Organization

4.1. Establishment of Ajanta & Ellora Heritage and Integrated Development Authority (AEHIDA)

When control is required over a large area, with both private and public land ownership as is the case for Ajanta & Ellora world heritage sites encompassing surrounding areas, a particular pattern of land use needs to be enforced in order to:

- Prevent haphazard or unstructured development
- Focusing on a particular theme or set of themes
- Ensuring long term economic, social and environmental sustainability; in certain cases cultural assets can also be included in their purview – such as the usage of urban design controls to reinforce a visual character brought about by a precedent monument/artefact (the city of Cairo, for example, mandates the usage of white as the standard colour for all its buildings).
- Improving general development in the area

In addition to establish the authority, the Study Team would like to suggest for the sake of sustainable operations and management of the visitor centres, that the following advisory committee to be constituted.

Advisory Committee will provide the Director advice, directions, policies and guidelines for creation of contents & event programmes focused on visitor centres' attractions. Members of this advisory committee will facilitate the decision making process and consist of the following representatives:

- Performing Arts
- Academia
- Handicrafts and Arts
- MTDC and ASI
- Ajanta & Ellora subject experts (who have demonstrated long-term commitment and interest over the last decade or so)
- Business associations/entities having interest in supporting culture & heritage

The name of the Authority should be "Ajanta & Ellora Cultural Heritage and Integrated Development Authority (AEHIDA)" with institutional setup as shown below.

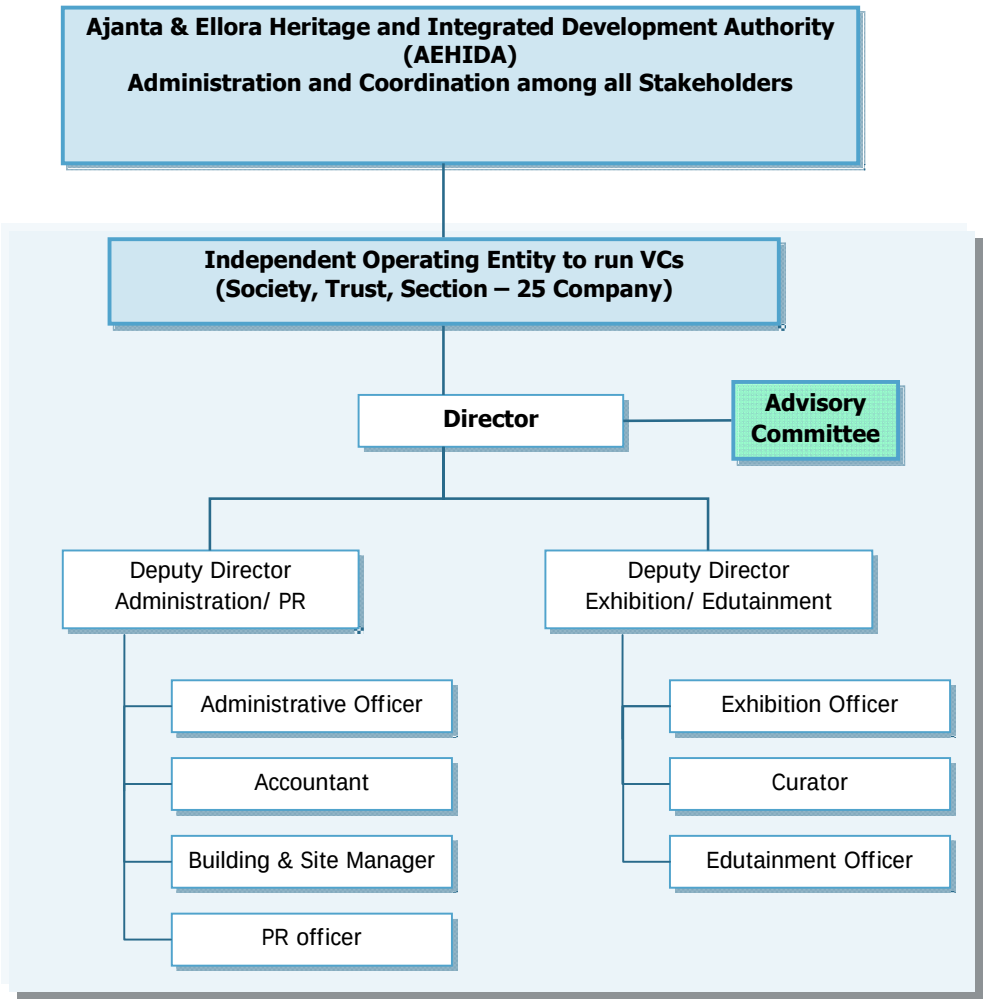

Figure 4-1 Institutional Setup of final stage

Source: JICA Study Team

4.2. Independent entity to be considered

In India, line department museums receive an annual operation allocation from the budget of the governing organization. Earned revenues are not retained by the museums but go to a national treasury, not benefitting the museum directly. For this reason, there is little incentive to improve the delivery and quality of services.

Decision making is restricted and policies concerning administration fees, opening hours, operational programmes and pay-scale of personnel are set by the governing body. Memberships, sponsorships, donations and fundraising opportunities are limited.

In order for the visitor centres to overcome the above issues, the institutional set-up of the visitor centres should aim to attain functional sustainability.

In this regard, the institutional framework is an important influencing element in determining organisation design and needs to be addressed and determined include:

- Whether Visitor Centre is to be a sub-unit within MTDC entity or as a separate entity.
- Whether Visitor Centre is to be managed and controlled by a "for-profit" entity or by a "non-profit" entity

In the case of the visitor centres, it is recommended to be managed by a not-for-profit entity to (a) enable appropriate platform to receive grants and to hold a corpus, (b) provide tax incentive to donors, including private donors, (c) enable dedicated governance structure, (d) co-opt multiple stakeholders, both public and private, (e) enable staff pay-scales and operations of the visitor centre relatively independent of MTDC/parent sponsors and etc.

In case of the Visitor Centres being run as not-for-profit entity, there are three ways of registration of independent entity available in India.

- Trust
- Society
- Section-25 Company

Where there are assets and properties involved, especially in terms of lands, valuable objects and buildings, a trust is usually established.

The final decision on the type of non profit entity would be based upon specific preferences and circumstances of the MTDC/government sponsor in addition to the objective of the visitor centre. The Study Team recommends that in case non profit entity mode is decided by MTDC/government sponsors, then the process may be initiated to examine the specifics of each option including consultations with their legal experts.

In case a Society is chosen for the operation of visitor centres, a Society needs a minimum of seven managing committee members. The Board of Management is in the form of a governing body or council or a managing or executive committee.

The procedure varies from state to state. However generally the application should be submitted together with various documents, but a declaration by the members of the managing committee that the funds of the society will be used only for the purpose of furthering the aims and objects of the society is mandatory.

Unlike the trust deed, the memorandum of association and rules and regulations need not be executed on stamp paper.

5. Schedule/Time-bound Action Plan

5.1. Work Schedule for soft and grand openings

Although the opening schedules of Ellora and Ajanta visitor centres are slightly different due to the completion of their construction works, it is much more efficient that establishment of an external organization and preparatory works for visitor centres should be done for both Ellora and Ajanta together.

The figure below shows a general procedure up to the soft opening of the visitor centres and necessary actions to be taken in the schedule when the completion of civil works at AVC is set to zero (0).

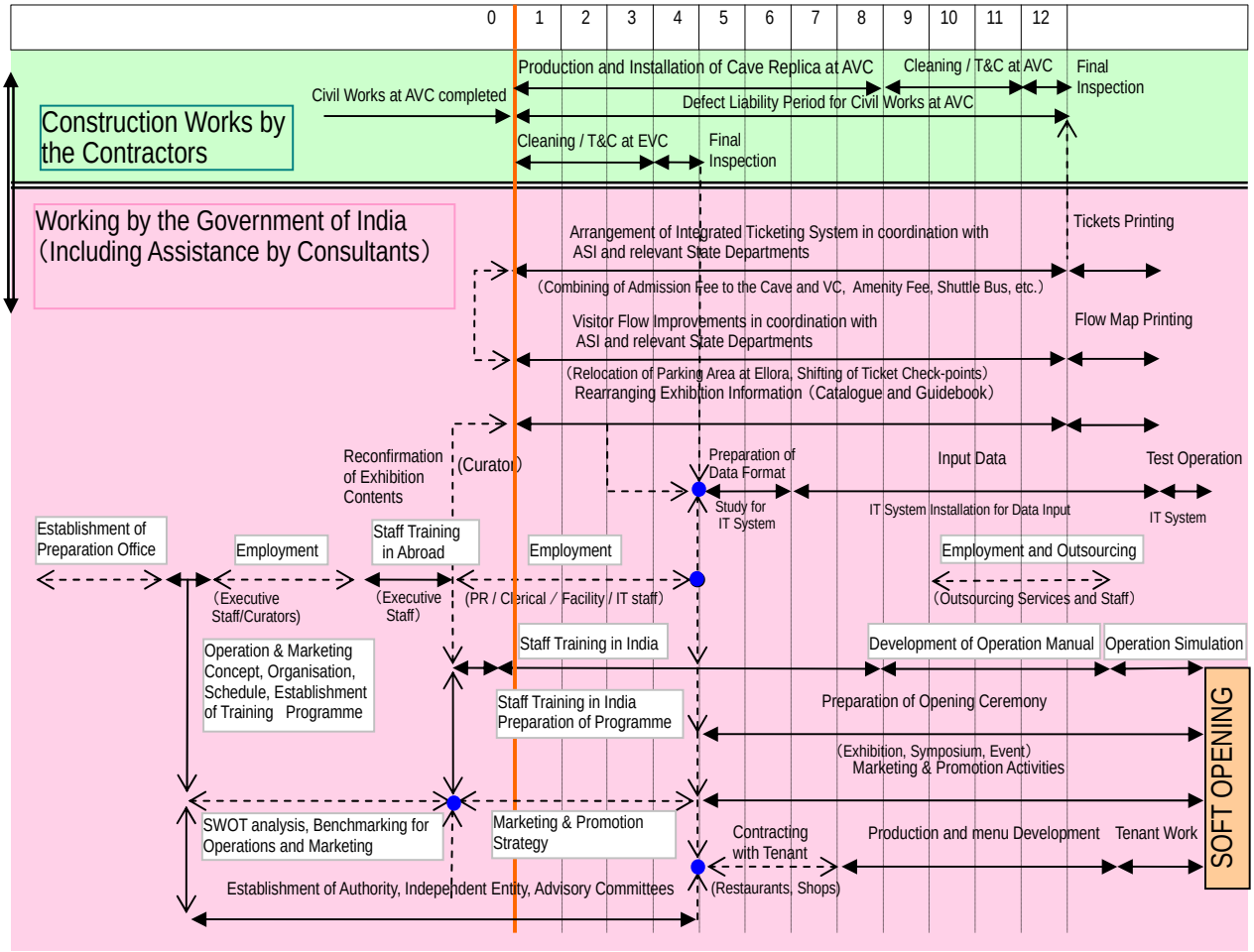

Figure 5-1 Schedule for the Soft Opening

Source: JICA Study Team

Although it was originally assumed that the opening of the Ellora and Ajanta visitor centres was March 2010 and the end of 2010 respectively, the Study Team found that the construction will be delayed beyond these target dates.

For Ajanta visitor centre, most of the civil works have already been completed; however major exhibition works for cave replica have not commenced yet and it will take at least another 8 months to complete (i.e. around March 2011).

For Ellora visitor centre, most of the civil works have already been completed and minor outstanding works and installation of exhibition items needs to be done. According to MTDC, the Ellora visitor centre will be completed in October 2010.

The preparatory works that are necessary as for pre-opening activities include staffing and training of the visitor centres, establishing internal and external organizations set-up and marketing activities. This all requires more than one year before the soft opening, so they should be worked on in addition and in parallel to the completion of the construction activities, and before the handover of the site.

6. Financial Considerations

6.1. Financial Sustainability

It should be noted both Ajanta and Ellora visitor centres are constructed for the capacity of larger visitor numbers than current expected to the visitor centres. Therefore, it is inevitable to have deficits initially.

Below, important items for the financial sustainability are discussed.

While personnel cost is fixed cost and utility cost is variable cost, both are considered here as fixed because of the following reasons:

- Fixed cost of personnel and maintenance cost is more than 70% of the total expenditure.
- Electricity, which is about 50% of the total utility cost, required regardless of the number of the visitors, although there will be slight increase in a crowded situation for A/C.

Therefore, revenue is the item which will most impact cashflows of the visitor centres.

Revenue consists of: (1) admission revenue, and (2) revenue from rents/revenue share. Admission revenue is calculated tariff and the number of visitors, therefore once tariff is decided, the number of visitors is the major factor with admission revenue.

Revenues of rent or revenue share account for 40-50% of the total revenue with Ajanta and Ellora base cases. As was discussed previously, revenue from rents and revenue share are very much subject to bidding of private company, and expected revenues are very uncertain.

As seen in the optimistic case, as the number of visitors grows, Ajanta and Ellora will have profits or can sustain their operation without financial supports.

Therefore, the most important item for the cashflow is the number of visitors to the visitor centres.

In order to increase the visitors, it is important to hire competent personnel to be in charge of marketing, attractive exhibits and education to improve the visitor centres cashflow. Programmes involving contents development are keys to attract people and concerned personnel with adequate experience should be in place.

6.2. Sources for Additional Revenue

Amount and source of revenue is evaluated in the sections on Ajanta and Ellora respectively. Here we summarise three types of options for sources of additional revenue to accrue for the visitor centres depending upon the intensity of further capital investments and prepared expenditures.

(1) Option 1 - Regular Visitor Centre Activities

The spaces for the additional activities are already allocated and it is only necessary for arrangement of programmes and coordination with artists and performers specifically related to the world heritage sites and histories:

- Special performance shows and classes
- Special arts events and classes
- Special education and research seminars
- Special film and poetry events

Dance and music performance combined with dinner would be appreciated by both locals and foreign tourists. Other than this, VCs can provide venues for exhibitions, conference and other events, and the planning of a chain of activities would be important to ensure the sustainability to operate VCs. An organisation tasked to manage, and events plan in VCs needs to be established. Interviews with local people have revealed that they would even go to VCs without visiting the caves, if there are good restaurants and shops, beautiful lawns dotted with shady trees, museum and other leisure facilities that meet their needs and preference.

Other value-added activities can be pursued but need additional cost in terms of supporting facilities including in adjacent areas/special promotion, etc. Some activities would themselves have additional cost implications, regulatory implications, organisation implications, and etc.; hence these can be considered more effectively after initial core activity has become consolidated and achieves critical mass.

- Retreat (Ajanta)
- Buddhist Education & Research Centre (Ajanta)
- Exhibition grounds for permissible business events (Ellora. Ajanta can also be explored)
- Conventions & Club (with defined permissible activities)

(2) Option 2 - CSR and corporate sponsorships

Corporate sponsors can contribute to create a Corpus in addition to government contributions.

- Interest on corpus can be used towards offsetting O&M costs.

Corporate sponsors can provide financing in return for logo/naming facility/appropriate branding. Some options are as follows:

- Designated spaces: e.g. exhibition hall, auditorium, amphitheatre, landscaped/ garden areas.
- Designated artefacts/replicas; exhibiting objects.
- Sponsorship of specific additional/value added activities.

Museum, art and culture and world heritage can potentially attract a wide range of models including basic philanthropic models and CSR or Corporate Social Responsibility efforts.

(3) Option 3 – Adjoining land development

Land development of adjoining area/designated area for permissible tourism purposes which may be considered in the long-run (after 8-10 years); if this option is taken up, it is as follows:

- PPP model integrating the above with support to visitor centre O&M cost/revenue deficit of O&M.

Membership fee: “Friends of Ajanta & Ellora”: targeting both domestic and international individuals as well as institutions.

7. The Way Forward

7.1. Incomplete Assumptions

The goal of this report is to formulate a Management Plan for the Ajanta-Ellora Visitor Centres. The chapters in this report have addressed the main areas of the sites based on the foundation of a new institutional setup for MTDC. The relationship of chapters is shown below as falling into 5 areas: Foundation for Management Planning, Foundation for Organization, Management of VC, Management of External Activities and PPP.

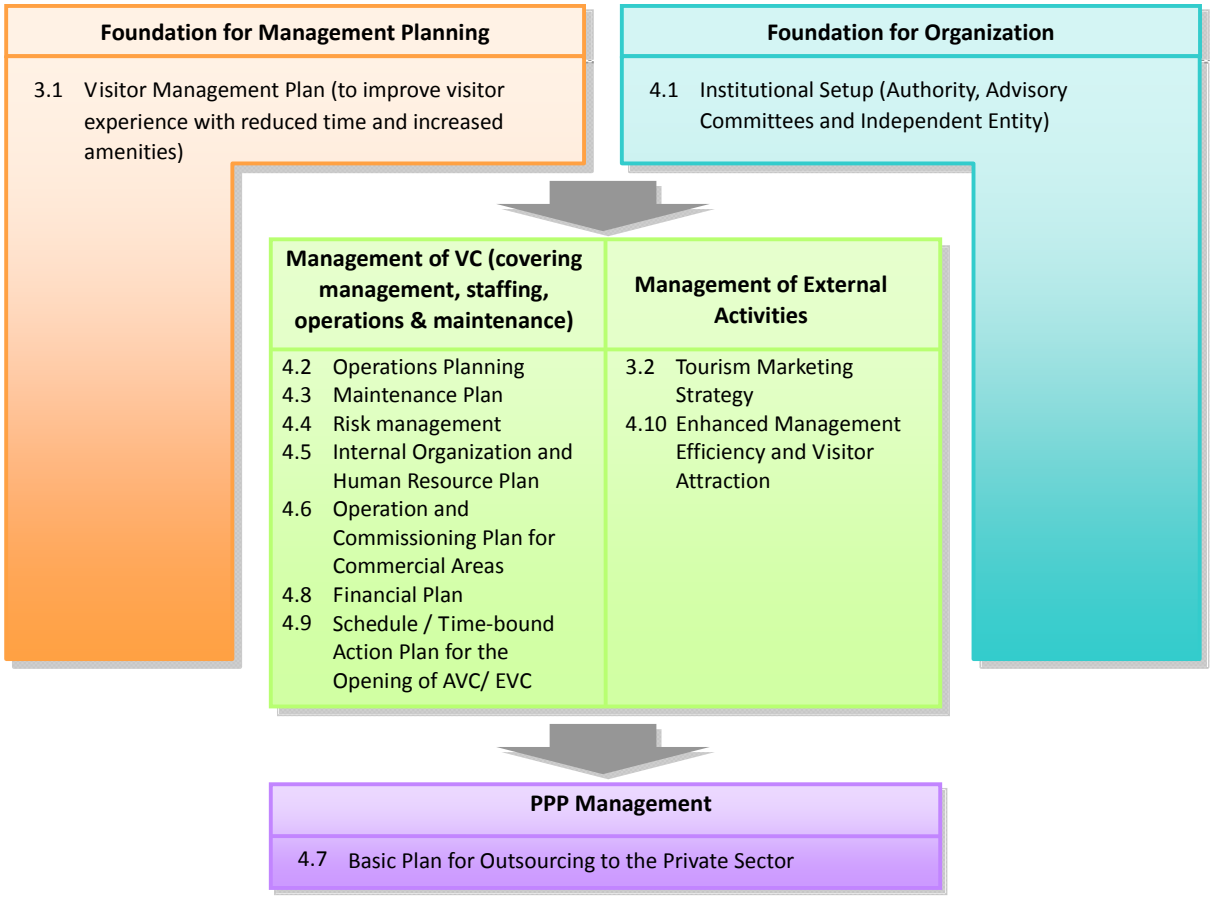

Figure 7-1 Flow of preparatory activities in terms of FR Chapters

Source: JICA Study Team

As regards organizational issues, particularly in preparing Sections 4.1 "Institutional Set-up" and 4.7 "Basic Plan for Outsourcing to the Private sector," the following assumptions were made:

- That it would eventually create the Ajanta & Ellora Heritage and Integrated Development Authority to sustain the mission and policy of the visitor centres as

well as to manage and conserve the World Heritage sites from inadequate developments and activities.

- That it would create an independent entity as a Society rather than a Trust or Section-25 company in order to obtain financial flexibility, advantage in taxation and to achieve accountability in operations and administrations of the visitor centres.
- That the entity would fully design and plan the role for private sector participation by tender as a kind of Public-Private Participation (PPP). Such design work is the necessary basis for tendering.

However, in submitting Draft Final Report, subsequent discussions with MTDC have suggested that providing MTDC a management plan is not enough and are not practical for MTDC to follow up and initiating the process of realizing the management plan due to the limitations within MTDC: namely those of staff and budget.

7.2. Negative Risks of Near-term PPP Tender

To move forward in spite of its limitations, MTDC has proposed to tender and sublet the operations management of the visitor centres to private sector entities in the near-term. However the following negative risks are envisaged that make this very impractical.

- Jeopardising the original concept of the establishing the visitor centres as a supplementary to Ajanta-Ellora World Heritage sites.
- Although the PPP arrangement of the visitor centres is quite attractive to private sector entities due to no large capital investment required such as planning, design development and construction of facilities and infrastructure, near-term tendering could lead to entice project developers experienced in “hard” or physical infrastructure such as roads, airports, commercial complexes, to dominate the control of Visitor Centres. However, this project is not a typical “hard” infrastructure project. There is need for complex coordination, consensus building, stakeholder coordination from an institution perspective and not entirely from infrastructure development/control/management perspective (e.g. between MTDC, MoT, State Government, ASI, business communities having CSR interests for heritage promotion, etc.).
- The responsiveness of CSR support could be negatively impacted. There is scope for institution development in a manner and providing mechanism for involving business communities from a CSR and culture / heritage preservation perspective. But this needs careful nurturing and a planned approach for obtaining the true potential of possible involvement.

- Public concerns about the objectives and benefits of the project could arise if tendering fails to get responses as have been experienced in projects even after qualifying firms and entities. An assessment of several PPP and other procurement projects leads to a conclusion that projects need to be properly planned and developed to ensure the most optimal responses and protection of public interest in context. A near-term tendering situation could lead to situation of the image of the project becoming adversely impacted (also called as Reputation & Branding risks).
- Working with the private sector requires the existence of full design and detailed specifications of the facilities and performance requirements as part of the tender for private sector entities to bid on. Without a proper PPP tendering (such as performance requirements, monitoring and evaluation mechanism and penalty and reward arrangements), it is difficult to maintain an expected level of performance quality and sustain the original concept of the visitor centres (i.e. world class standard of operations and attractions with visitor friendly, conservation friendly and pollution fee for the world heritage sites).
- Lasting long-term impact requires not just physical investment but institutional support which cannot be achieved by near-term tendering. What is required is performance that will harmonise with the requirements of institutional development support.

In conclusion, we do not recommend PPP tendering in the near term.

7.3. Necessity of Greater Role for MOT

MTDC faces constraints in planning and ensuring collaboration with ASI, including single ticketing plan, content development, and other activities; similarly MTDC faces constraints in catalysing with the state government for creation of regulatory framework of a statutory development authority. However, MOT is in a position to facilitate these critical enablers of tourism development and support for the Visitor Centres. MOT also has the strong capability of projecting (branding & promoting) Ajanta & Ellora internationally and provides a pan-India image.

In addition, because close coordination is necessary with not only MTDC and the Maharashtra State Government, but also with ASI and Cultural Department, it would seem that MOT's needs to take the leading role in all aspects from technical to financial as soon as possible.

There are also advantages for MOT to continue to participate, support and assist the State Government/MTDC during the initial critical phase (covering soft opening and grand opening) for the development of the Visitor Centres to meet their true potential.

If the state government/MTDC level constraints are very severe, perhaps direct, and longer period of MOT commitment and support need to be envisaged.

7.4. Organisational Structures

In the long run, permanent bodies are needed to run the sites: namely Authority, Advisory Committees and Independent Entity. However, since the institutional setup of these bodies takes a long time, we recommend that a temporary entity be set up to oversee the development work for the sites and visitor centres. The duties and design of the temporary entity is discussed in the next section. The proposed overall organization is shown below.

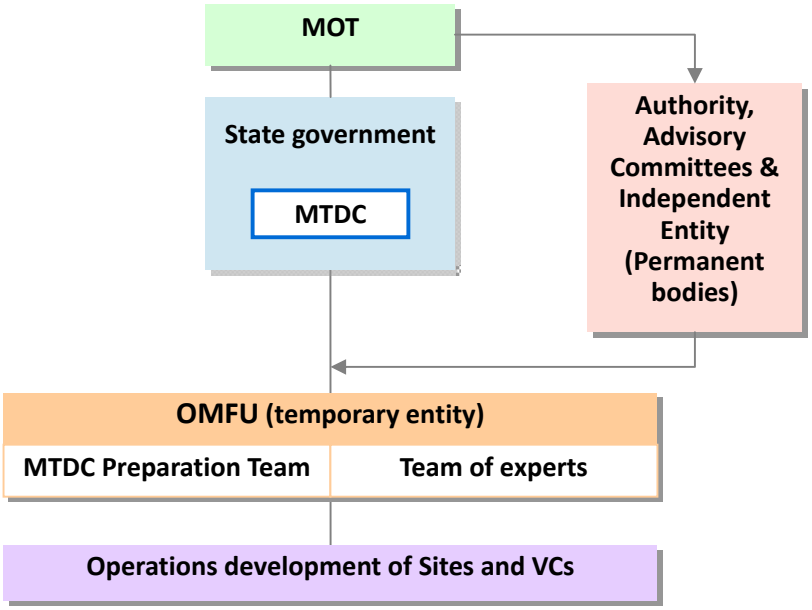

Figure 7-2 Organization of temporary and permanent entities in relation to operations development

Source: JICA Study Team

7.5. Operations Management Facilitation Unit (OMFU)

Instead of the MTDC Preparation Office previously proposed in Section 4.1.1 to assume day-to-day preparatory activities toward opening, the JICA Study Team now recommends an Operations Management Facilitation Unit (OMFU).

OMFU can serve as an ideal bridge between existing project management of visitor centres within/by MTDC as government referred agency and until the operations of visitor centres are established as working institutions.

The Visitor Centres are planned to be of international standards and are the first of their kind in India. In going forward, brand build up of the Visitor Centres needs dedicated effort and continuous tactical planning cum implementation so that it will be reflected in the tourist experience and services provided, making targeted and professional approaches to attract business interests and participation through CSR and other avenues, balancing the interests of key stakeholders, etc.

The one possible concern is that the support and structure to support the Visitor Centres may be put on par with several other regular projects that are demanding attention from the authorities. If the objective of authorities is to promote Ajanta & Ellora to occupy a brand position on par with the brand occupied by the Taj Mahal today, special effort and coordinated support is needed especially/or at least in the build up to soft opening and grand opening phases.

In this context, OMFU would be a critical enabler for operations of the Visitor Centres in a planned and time-bound manner with an integrated facilitative support concept towards this end.

OMFU would combine personnel who will be employees of the new centres and are thus permanent/dedicated stakeholders together with specialist experts to support them in the needed areas. This is intended to be a practical and perhaps innovative approach given the circumstances, requirements, and an opportunity for realizing a higher potential of the Visitor Centres in the Indian context.

In the context of MTDC facing constraints in setting up a fully staffed Preparatory office in-house within MTDC focused exclusively on development activities towards the Visitor Centre, the following work structure is proposed to provide daily support to facilitate the preparatory activities leading to the soft opening of the Visitor Centres.

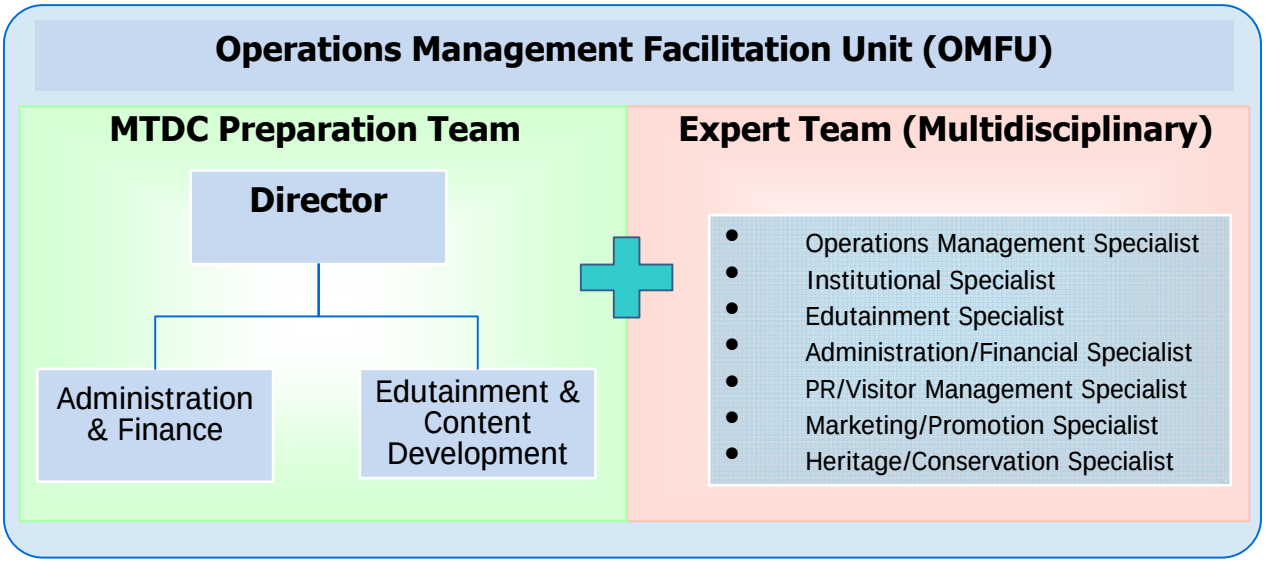

Figure 7-3 Operations Management Facilitation Unit (OMFU) as MTDC Preparation Office

Source: JICA Study Team

(1) MTDC Preparation Team (refer to shaded box in green)

Minimum of three positions are to be recruited as a core group: namely Director, Administration & Finance Head, and Edutainment & Content Development Head.

- These three positions are proposed to be funded by the Government based on appropriate budgetary allocation.
- They need not be from the government sector, and can be retained as consultants in the build up to the Visitor Centres. Eventually, they would be transferred to the entity operating and managing the Visitor Centres.

(2) Expert Team (refer to shaded box in pink)

This consists of specialist expert/consultant team that would support MTDC Preparation Office in a wide range of activities including development of marketing & promotional strategies, monitoring, MIS, follow up among multiple stakeholders including MoT, State Tourism, MTDC at Mumbai, Delhi as well as Aurangabad, ASI etc. Expert Team will also support the Government appointed team of MTDC Preparation Office in their work regarding coordination activities with various authorities concerned, institutional set-up, PPP structure development, staffing and training, outsourcing and tender procedure etc. All these will be undertaken in a facilitative role.

The necessity of Expert Team rests on the following:

- The need to create capacity and follow through on the Visitor Centres Management Plan. Also, the present situation wherein MTDC may not have personnel or otherwise face constraint that such personnel may have multiple tasks other than visitor centres.
- Diversified specialist skill sets needed in an integrated manner.
- Pay-scale limitations of the government fee scale, especially with respect to the specialist skill sets required.
- Budgetary constraints of the state & central governments. In this regard, scope or possibility of funded support may also be considered if required.

Expert Team will perform its roles initially on behalf of MTDC by providing specialist assistance to MTDC Preparation Office personnel who will be trained through OJT in this manner. Expert Team will be disbanded eventually after soft opening and operations achieve critical mass and momentum. They are to help provide programme management services to enable / support the major initiatives needed in this context.

MTDC Preparation Office will be eventually transferred into the Visitor Centres / entity operating and managing the Visitor Centres.

MTDC represented by the Managing Director, Executive Engineer having responsibility for the Visitor Centre will undertake to review progress on a fortnightly or monthly basis.

The whole project preparatory office/OMFU is envisaged to operate out of Mumbai (or Aurangabad or Delhi if necessary), during the period till handover of the Visitor Centres from contractor/vendors and acceptance by MTDC. This will enable the OMFU to support activities and tasks in this regard.

The project preparatory office/OMFU is envisaged to shift to Aurangabad in the subsequent period till conclusion of its mission with transfer of MTDC Preparation Office and disbandment of Expert Team.

Without the OMFU approach, the near-term PPP tender approach cannot address the core issues for soft opening or grand opening or further consolidation of the visitor centres and promote its intrinsic sustainability.

This approach is advisable to adopt, given the immense prestige and expectations of the project and given the confirmations that this project is being given the required attention and support from the local, state, and central government levels as a special priority project.

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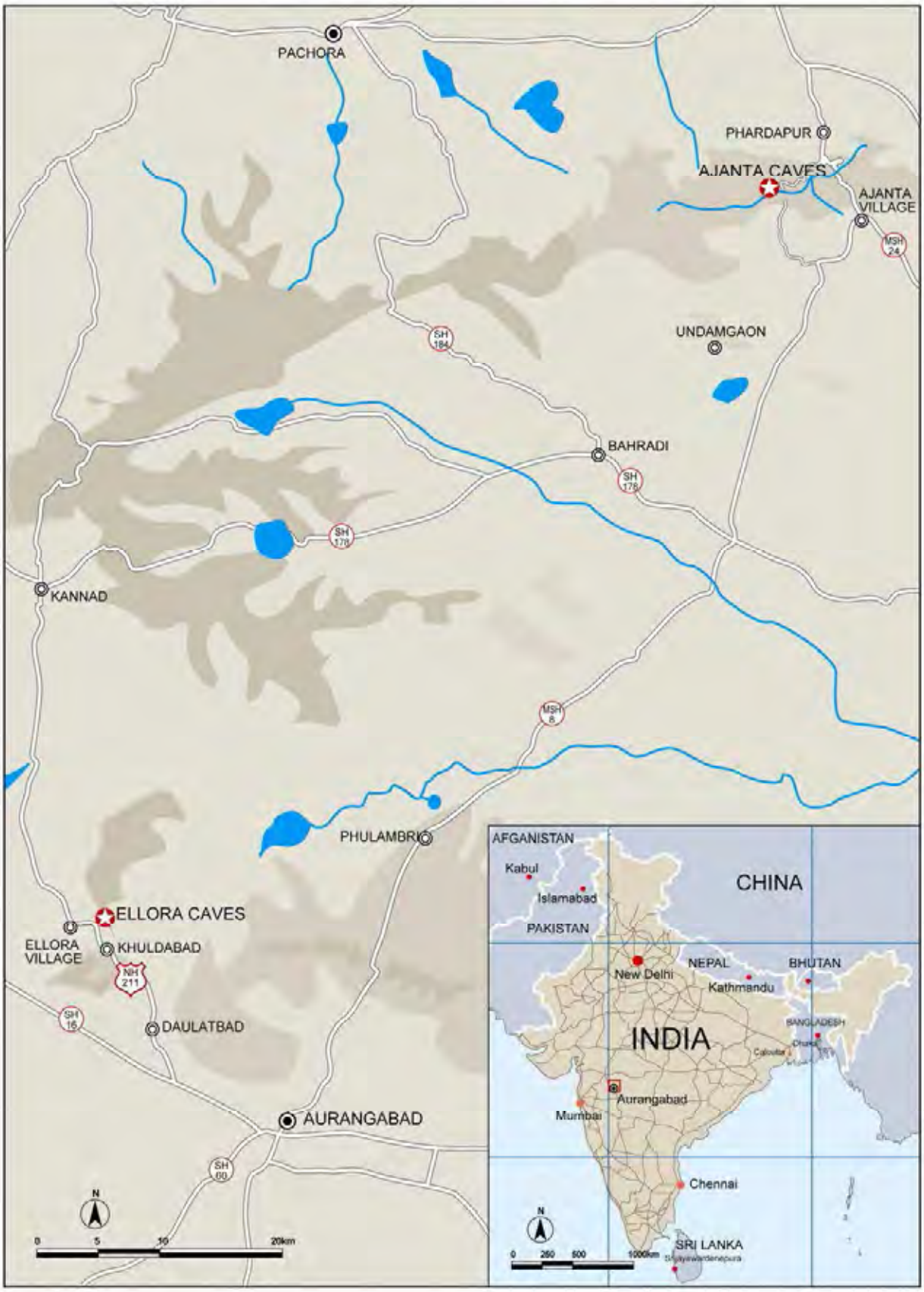

Figure 1 Location map of the project areas

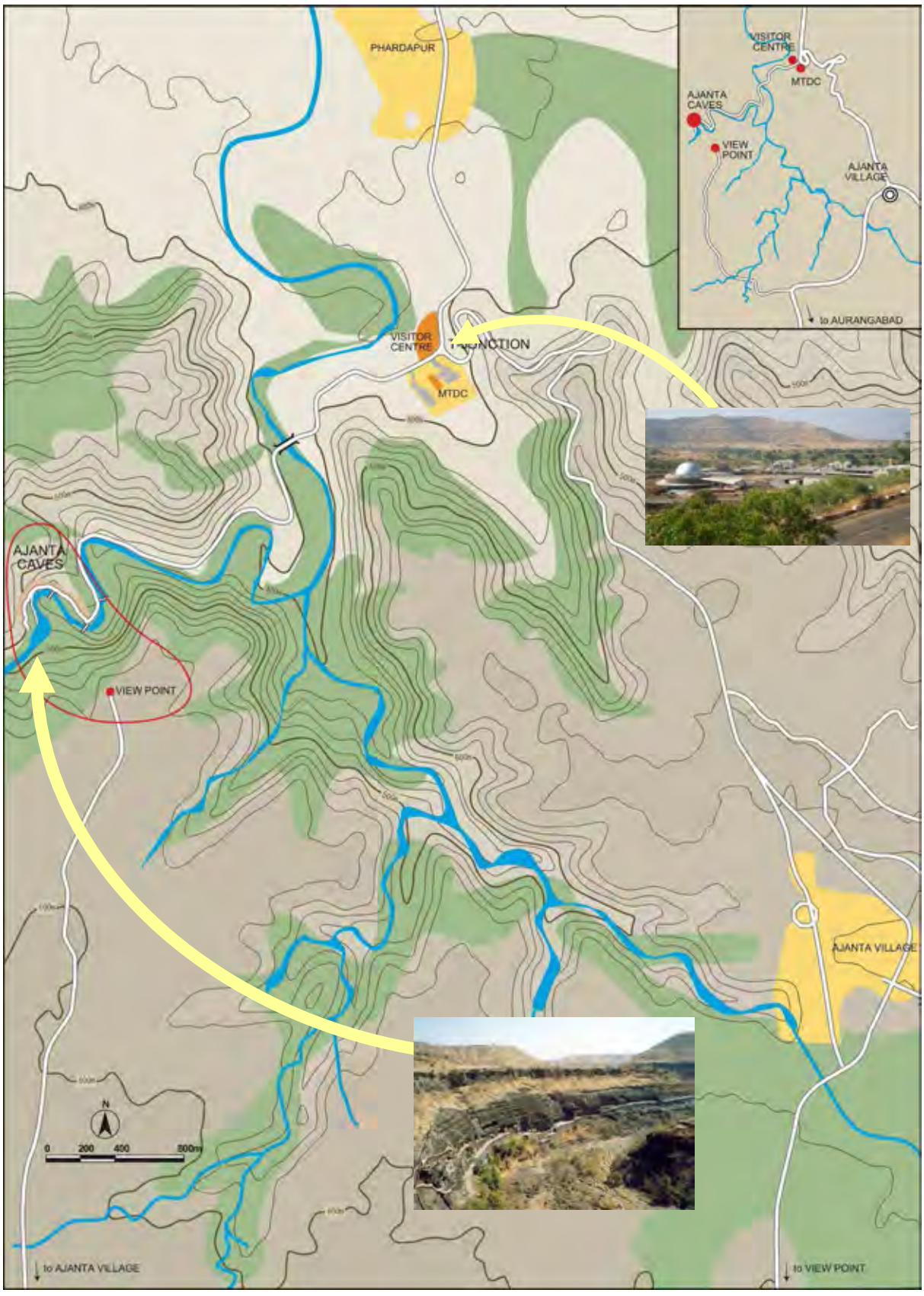

Figure 2 **Location map of the project areas (Ajanta)**

Figure 3 **Location map of the project areas (Ellora)**

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Abbreviations

AAI	Airport Authority of India
AEDP	Ajanta – Ellora Conservation and Tourism Development Project
ASI	Archaeological Survey of India
AVC	Ajanta Visitor Centre
BSNL	Bharat Sanchar Nigam Ltd.
DFR	Draft Final Report
DTCA	Department of Tourism and Cultural Affairs
EVC	Ellora Visitor Centre
FD	Forest Department
FDM	Forest Department of Maharashtra
FR	Final Report
IDFC	Infrastructure Development Finance Company Limited
IGNFAC	Indra Gandhi National Fine Arts Centre
IGRMS	Indira Gandhi Rashtriya Manav Sangrahalaya
IHM	Institute of Hotel Management
ILF & S	Infrastructure Leasing & Finance Services Limited
INTACH	Indian National Trust for Art and Cultural Heritage
IR	Inception Report
ITR	Interim Report
JICA	Japan International Cooperation Agency
MAHA	MAHA Vitaran, Maharashtra State Electricity Distribution Co., Ltd.
M & E	Mechanical and Electrical
MJP	Maharashtra Jeevan Pradhikaran (formerly Maharashtra Water Supply & Sewerage Board)
MOT	Ministry of Tourism
MPD	Maharashtra Police Department
MSED	Maharashtra State Electricity Distribution Co., Ltd.
MSRTC	Maharashtra State Road Transport Corporation
MTDC	Maharashtra Tourism Development Corporation
O & M	Operation and Maintenance
OMFU	Operations Management Facilitation Unit
OJT	On the Job Training
PMC	Project Management Consultant
PMU	Project Management Unit
PPP	Public-Private Partnership
PWD	Public Works Department, Government of Maharashtra
ST Bus	State Transport Bus
SPV	Special Purpose Vehicle
UPTDC	Uttar Pradesh Tourism Development Corporation

1. Background of the Study

1.1. Background of the Project

1.1.1. Ajanta-Ellora conservation and tourism development project

Maharashtra is the second most populous state, the third largest state by area. It is known to be one of the richest states in India, but there is large disparity of income within the state.

The Maharashtra State Government prepared the "State Tourism Development Master Plan" with the aim of conserving the cultural heritage and its surrounding environment, and to promote comprehensive tourism development including infrastructure, thereby contributing to regional development. For the implementation of the master plan, the Government of India requested to the Government of Japan for financial assistance.

The agreement to provide Yen Loans for the "Ajanta-Ellora Conservation and Tourism Development Project" was concluded in 1992 and Phase I was initiated in March 1993. Phase I was successfully completed in 2002, and another loan agreement was concluded in March 2003 for Phase II. Phase II is now nearing completion toward the loan closing in July 2011.

A summary of the major elements in the Ajanta-Ellora Conservation and Tourism Development Project is shown in Table 1-1.

Table 1-1 Major components of the Ajanta Ellora Conservation and Tourism Development Project

Phase	Major Components
Phase I (1993 – 2002) Loan Amount: 3.745 million Yen	Monument/heritage conservation (ASI) Improvement of roads (PWD) Improvement of Aurangabad Airport (AAI) Afforestation (FD) Water supply and sewerage system (MJP) Electricity supply (MSEB) Visitor management system (MTDC) Tourism promotion (MTDC)
Phase II (2004-2010) Loan Amount: 7.331 million Yen	Monument/heritage conservation (ASI) Aurangabad Airport terminal building (AAI) Afforestation（FDM） Improvement of roads（PWD） Water supply and sewerage system（MJP） Tourism development（MTDC）:Ajanta & Ellora Visitor Centres, Lonar development, media and PR、web-site and reservation system、human resources development

Source: MTDC

The Ministry of Tourism is the executing agency of the Ajanta Ellora Conservation and Tourism Development Project, which is being implemented by diverse agencies including those of the central government such as ASI, AAI, MTDC and other state government institutions, etc. The visitor centres constructed at Ajanta and Ellora are being implemented by the Maharashtra Tourism Development Corporation (MTDC). Construction of the Ellora Visitor Centre facilities and its exhibits were largely completed as of January 2010. Facility construction at Ajanta is

also complete, but as the work order for its exhibits has been delayed, its completion is expected towards the end of 2010.

A major problem, however, is that the preparation of its management plan is not included in the scope of work for the Yen Loan Project and there is a growing concern that it would not be ready by the time the visitor centres are to be opened. This management plan covers critical topics such as institutional arrangement, staffing, budgeting, operation and maintenance, operation policy of commercial areas for shopping, eating and drinking. Moreover, visitor flow planning, integrating the visitor centres with the archaeological sites, still remains an issue to be coped with.

In addition, although visitor numbers to the World Heritage Sites are large, both visitor centres are constructed in remote and rural areas, and their locations deviate from the current line of visitor flow to the archaeological sites. Therefore, it is feared that their scale may not balance with the number of visitors once they open up for business.

Other issues to be addressed are as follows:

- MTDC does not have experiences in operation and management of visitor centres with exhibition and edutainment functions.
- Although exhibits will focus on cultural heritage, ASI is not involved in the operation of visitor centres, and the facilities are not registered under the Museum Law. This would indicate that the source of information for exhibitions is limited, and may affect sustainable operation of the visitor centres.
- Existing employment system lacks in flexibility for rewarding those who achieve good results, and makes it difficult for the visitor centres to recruit competent personnel and improve their services quality.
- Many of the visitors may not be interested in seeing the replica models of cave temples, which are supposed to be the main attraction of the visitor centres, since the real temples are located nearby.
- Due to long travel time to get to the archaeological sites, many of the visitors may not have sufficient time to spare for the visitor centres.
- Due to the large scale of the visitor centres, expenses to operate, manage and maintain the facilities such as water, electricity, and fuel are high.
- Involvement of local government bodies is insufficient despite the fact that the Project is intended for regional development, and that the involvement of local communities is a prerequisite for heritage conservation. Moreover, collaboration with the “soft” components of the Yen Loan Project such as human resource development, afforestation and micro finance needs further considerations.
- Interpretation provided by continuously playing audio-visual and IT equipment tends to become boring relatively easily. To avoid this requires higher levels of skills.

In this context, JICA has provided Technical Assistance to MTDC to perform this Study to formulate a comprehensive management plan for the visitor centres, based on a thorough study of the facilities, similar facility development, and taking into account the possibility of outsourcing their operations.

1.2. Visitor Centres

1.2.1. Visitor centre characteristics

In response to the growth of globalization and international tourism, new institutions are being created and old ones are being redefined. One such a new institution is the Visitor Centre or Interpretation Centre which is attached to a tourism site (cultural, historical or natural) and which provides visitors with experiences and information on the significance and meaning of the site to which it is attached.

Visitor Centres are part of the world museum trend to move away from simple storage and display to meaningful interpretation and interactive experience. In fact, the Visitor Centre lies on a continuum between Tourist Information Centre (TIC) and Museum as shown in the following table.

Table 1-2 Characteristics of visitor centre

	Tourist Information Centre (TIC)	Visitor Centre (VC) or Interpretation Centre	Museum (also Heritage Centre)
Definition	Centres providing: Information on the area's attractions, lodgings, maps, and other items relevant to tourists.	Centres providing: Information (such as trail maps and facilities, etc.) and coordinates permits and guided tours. In-depth educational exhibits and artefact displays (for example, about natural or cultural history) for communicating the significance and meaning of the site, to educate and raise awareness. Media used include, audiovisual display, graphic panel, film, replica, etc.	A museum is a building or institution which houses a collection of artefacts. Museums collect and care for objects of scientific, artistic, or historical importance and make them available for public viewing through exhibits that may be permanent or temporary.
Location	At ports of entry, transport centres, hotels and restaurants	At places of interest connected to cultural, historical or natural sites	Large ones in major cities, local ones in towns and even countryside sites
Purpose	Portal of tourist information	Communication, education, information dissemination. To aid and stimulate the discovery process. Edutainment.	Buildings for collections of artefacts
Entrance	Free	Entrance fee, Event fee	Entrance fee
Finance	Government budget, sale of books & pamphlets	Government budget, possibly PPP operation, handicraft shops	Government budget, museum shops

Source: JICA Study Team

At Ajanta & Ellora the Visitor Centres have adequate physical space that includes models, graphic panels, maps, audiovisual displays, auditoriums, restaurants and souvenir shops. What

is not fully developed are the operational or soft elements that have the potential to add significantly to the growth of tourism by enhancing visitor experience.

To lay the groundwork for reaching the full potential of the sites, this project is engaging in studies to optimize the circulation and flow of visitors from parking, through information transfer, edutainment, cave visit, restaurants, souvenir shops and return to vehicles. It will also specify detailed appropriate training for staff for performing their normal services as well as directing people to information sources. It will also cover staff training to manage all aspects of the facility, hold events & lectures, prepare pamphlets, and arrange ancillary services such as guiding and children's nursery. Non-core jobs as conservation and research are services usually done by specialized, external entities. And lastly it will offer plans covering organization and staffing, and financial sustainability.

1.2.2. Uniqueness of Ajanta & Ellora visitor centres

As shown in Figures 1, 2 & 3, the Ajanta and Ellora Caves are UNESCO World Heritage Sites located in the Aurangabad district in the state of Maharashtra, located approximately 400 km east-northeast of Mumbai. They are often referred to as Ajanta-Ellora like a single archaeological site, but the Ellora Caves (latter stages of the 5^{th}-10^{th} century) are some 30 km. west of Aurangabad city, while the Ajanta Caves (first stage 1^{st} century, latter stage 2^{nd} century, 5^{th} - 6^{th} century) are located approximately 120 km north of Aurangabad city. The two archaeological sites differ in time and location, and so are registered separately by UNESCO as two World Heritage Sites. But both are situated in rural areas and remote from large cities. Reaching the sites had been a formidable challenge for tourists until paved access roads were constructed by this Yen Loan Project. Each archaeological site is a one-day trip from Aurangabad.

The Ajanta Visitor Centre (AVC) and Ellora Visitor Centre (EVC) are tourism facilities being constructed near the entrance gates to the respective archaeological sites. A summary of the facilities is presented in Table 1-3.

Table 1-3 Summary of Ajanta & Ellora Visitor Centres

	Ajanta Visitor Centre	Ellora Visitor Centre
Land Area	323,695 m^2	210,000 m^2
Floor area	20,442 m^2 (including covered corridor)	11,806.69 m^2 (including covered corridor)
Exhibition space:	6,697 m^2(including auditorium)	1,909 m^2 (including auditorium)
Functions	Visitor Centre, Exhibition Room (Permanent & Temporary), Restaurant, Museum Shop, Hall, Toilet, Amphitheatre	Visitor Centre, Exhibition Room (Permanent & Temporary), Restaurant, Museum Shop、Seminar Room, Toilet, Amphitheatre

Source: MTDC

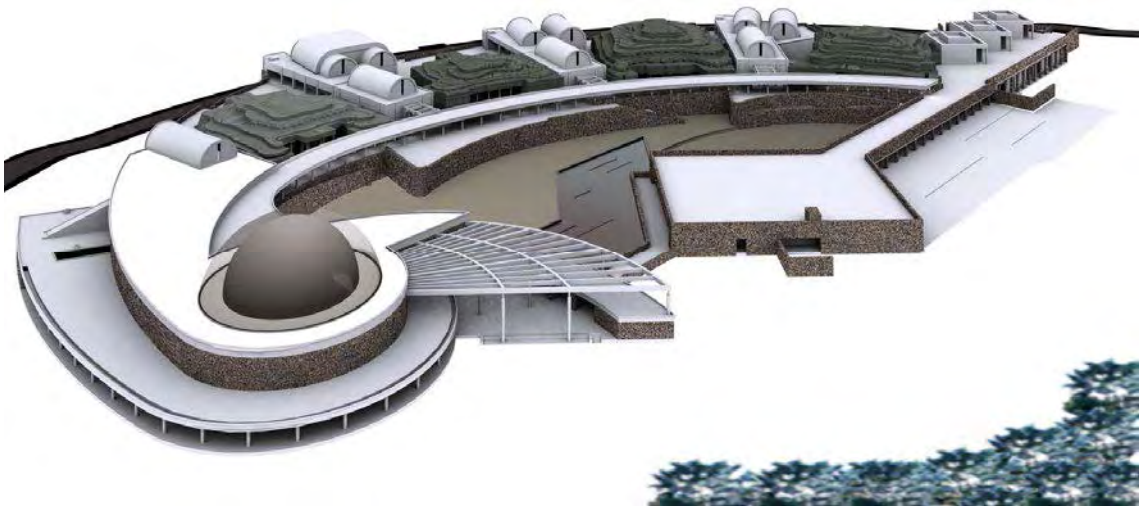


Figure 1-1 Design Bird's eye view of the Ajanta Visitor Centre

Source: MTDC

Figure 1-2 Design Bird's eye view of the Ellora Visitor Centre

Source: MTDC

In addition to exhibition and interpretation spaces, both facilities have restaurants, shops, and space for events, and come equipped with more functions than those in the site museums. The visitor centres have tourist amenities/facilities, and the site museum is one of their many functions.

1.3. Outline of the Study

1.3.1. Objectives of the study

The objectives of the Study are to facilitate a smooth opening of the Ajanta and Ellora Visitor Centres (AVC and EVC) with an appropriate management structure, operation system, staff and budget with an emphasis on maintenance of facilities and equipment in a technically and financially sustainable manner.

1.3.2. Study areas

The Study Areas are:

- Ajanta and Ellora Caves, Visitor Centres and their surrounding areas in the Aurangabad District,
- Mumbai where MTDC's headquarters is located, and
- Delhi where MOT's and ASI's headquarters are located.

1.3.3. Scope of works for the study

The Study was implemented in accordance with the Implementation Framework agreed upon between JICA and MOT/MTDC in December 2009, and the scope of works for the Study and the demarcation of responsibilities between the Indian and Japanese sides were based on the framework.

1.3.4. Expected outputs of the study

Expected outputs of the Study are the following three items:

- A management plan for Ajanta Visitor Centre (AVC) and Ellora Visitor Centre (EVC),
- An action plan for the opening of the visitor centres with a detailed work schedule, and
- Recommendations to enhance the attractiveness of the visitor centres to promote visitor arrivals.

1.4. Approaches of the Study

Considering the above-mentioned background, the approach of the Study is as follows:

- Maximising the effects of the overall project
- Cooperating with relevant agencies
  - Significance of cooperation with ASI
  - Coordination with other relevant institutions
- Securing financial and technical self-sustainability

- Securing technical self-sustainability
- Securing financial self-sufficiency and financial / institutional flexibility

1.4.1. Maximising the effects of the overall project

This Study should be implemented as part of the Yen Loan Project. The Project consists of a wide range of components, including heritage conservation, airport, roads, water supply, electricity, afforestation and human resource development, as already described in Table 1-1. Consideration is essential so that all such components combined would create the maximum efficacy.

As the Project advocates the promotion of regional development through the conservation of monuments and surrounding environments and infrastructure development, a regional development perspective is also important in preparing the management plan for the two visitor centres. Maintaining close liaison with the Project Management Consultant (PMC) and Project Management Unit (PMU) is considered indispensable for the smooth implementation.

The two visitor centres can be referred to as multipurpose facilities, with shops, restaurants and space for events. They are more or less "Japanese roadside stations (Michi-no-eki)" rather than museums. Since the facilities are in large-scale, they have versatile potential on one hand, but there is a risk, on the other, of not being able to cover the costs for operation, management and maintenance, including water supply, electricity and fuel expenses. Therefore, making concrete recommendations to utilise commercial space in the complexes as a source of revenue would be an important issue for the management plan.

1.4.2. Find out practical organization structure and staffing schedule

It is important to set the service level and target segments of visitor centres in a practical manner, otherwise MTDC will face difficulty in technical and financial sustainability.

In this regard, the Study Team visited various people in hospitality and tourism businesses to facilitate understanding of management know-how practiced in India.

The Study Team also investigated some hospitality management training institutions and interacted with them to examine possibility of collaboration areas with them and to exchange ideas. However, the visitor centres possesses other functions rather than hospitality management: namely museum management.

The Study Team visited some institutions educating museology, curatorship, handicraft and products development and cultural affairs, which are also important to technically sustain and enhance the attractiveness of the visitor centres.

1.4.3. Cooperating with relevant agencies

Cooperation with relevant agencies is a key issue to strengthen institutional capacity. This is because the success or failure depends largely on the success or failure in establishing cooperation with relevant agencies. Therefore, how cooperation can be achieved in an ideal

manner has to be studied and pursued. It will become possible to set the directions for organisation planning and staff scheduling when possible cooperation partners have been identified. Therefore, seeking cooperation possibilities has the highest priority in the Study in order to elaborate on a management plan.

(1) Significance of cooperation with ASI

ASI has an important function as a source of academic and historical information for the exhibitions and public relations activities by the visitor centres. Self-sustainability of the visitor centres after their opening will depend largely on the activities of ASI, such as heritage conservation and restoration, research, record retention, hosting of special exhibitions, educational activities, events and international conventions, and publishing ventures.

On the other hand, the visitor centres do not only compensate visitors during maintenance or closure of the caves administered by ASI, and mitigate congestion in the sites, but also have the potential to control visitor flow by providing the visitors with information, amenities, and a certain leeway, such as drifts, delay tactics, and transition function. The visitor centres can also play an important role by displaying easy-to-see mural painting replicas, or giving interpretation on the historical backgrounds, or providing venues for ASI to present their research results.

In this context, cooperation between ASI and MTDC will result in a complementary relationship, create synergy effects, which are thus indispensable for sustainable development of the Project. The Study will seek, propose and realise cooperation between ASI and MTDC.

(2) Coordination with other relevant institutions

The visitor centres are not only related to the Ajanta and Ellora Caves, but also positioned as tourist facilities of the state of Maharashtra. Ellora Ajanta Aurangabad Festival has been held every year in December by Aurangabad Festival Committee with cooperation from the Maharashtra State Tourism, MTDC, local government bodies, universities and the private sector, in which renowned musicians and dancers are invited to present traditional entertainment. The visitor centres, equipped with an amphitheatre and conference halls, would be an ideal venue to host such events. The visitor centres also have space for local people to open shops to sell local handicrafts, and thus promote regional development. Coordination with the sponsor of the festival and local people is important to promote the use of the visitor centres.

As a large number of Indian school children visit the Ajanta and Ellora Caves, the visitor centres equipped with audio-visual equipments will be ideal places to provide interpretation about the historical backgrounds of the heritages sites. Cooperation with the Ministry of Education to develop educational programs may be worth consideration.

On the other hand, there are institutions other than ASI, which can provide academic information and graphical data like the archives concerning Ajanta and Ellora Caves. The Indira Gandhi National Fine Arts Centre possesses related literature, and universities, colleges,

institutions, etc. could strengthen their respective functions by coordinating with the visitor centres. Coordination with them will also be investigated.

Equipped with the potential to serve as base facilities for the internationally renowned Ajanta and Ellora World Heritage sites, rather than simple exhibition facilities located at a tourist attraction, it is no exaggeration to say that coordination is the key to success or failure of the two visitor centres.

1.4.4. Securing financial and technical self-sustainability

Even if staffs are employed and the visitor centres are opened, sustainable operation and management will require a great amount of preparation and effort. The scale of both visitor centres will be quite vast, having gross floor space of 10,000m^2 and as, in addition to illumination, exhibition equipment such as audio-visual and IT equipment, air conditioning equipment, etc. will be installed, expenses for their operation, management and maintenance will also be large. Therefore, autonomous management by the visitor centres, inclusive of operation and maintenance both financially and technically will be an indispensable challenge in order to achieve the goal of the Project as a whole.

(1) Securing technical self-sustainability

One-way travel time between Aurangabad and Ajanta Caves and Ellora Caves are 2 hours and 1 hour, respectively, and if one were to visit both sites in a day, travel time alone would be 6 hours. If two hours were to be spent at Ajanta and Ellora and time for lunch taken on the road in between, total time required would be more than 11 hours altogether. In other words, a tourist who joins such package tour would only have time enough to use the comfort station and probably have a cup of coffee at best. Therefore, recommended itinerary for Ajanta and Ellora is to visit both sites in two days. To cater to the two-day itinerary, visitor centres have to be planned to have functions and services that would be attractive enough to persuade visitors and tour operators to spend a whole day at each site.

For the visitor centres to continue to be attractive for visitors, the Study will propose measures to secure technical self-sustainability by clarifying the required functions and technical capacity of the visitor centres.

(2) Securing financial self-sufficiency and financial / institutional flexibility

Financial assistance may have to be provided to secure financial self-sustainability. The main source of income of both sites is the entry fee, but such income is delivered to state coffers through ASI, and thereafter apportioned to ASI as a heritage conservation and administrative budget and does not become a source of revenue to operate and manage the visitor centres. In consequence, circumstances require the visitor centres to independently establish with a source of revenue and a suitable business model.

On the other hand, it is difficult to provide incentives for high performance under the rigid government wage system; such incentives system might specially be required to attract best possible talent for non urban setting such as in the Ajanta Ellora areas; especially if we want

them to play active role in creating the favourable visitor experience. Therefore, it is desirable that the visitor centres become an organisation, in which a self-supporting accounting system is applicable. For this cause, it is proposed that the Study will adjust visitor centre functions and investigate phased strengthening of institutional capacity and private partnership for each zone or sector.

2. Findings of the Study

Based on the 1st Works in India from 21st March to 17th April 2010, the 2nd Works in India from 16th May to 10th June 2010 and the 3rd Works in India from 4th July to 17th July 2010, the Study Team identified findings on various aspects in the current situation of the project through interviews and discussions with authorities concerned and relevant institutions, and from the results of the analysis of documents obtained from stakeholders.

2.1. Facilities and Sites

In analyzing the current state of facility/equipment/exhibition plans, the Study Team conducted an on-site simulation, assuming conditions in which the visitor centre is actually operated and maintained and used by visitors. The simulation covered different timeframes before opening, after opening, and after closing when there are no visitors.

Especially for security, it was necessary to conduct study and analysis which fully considered cases, where many visitors are circulating in the visitor centre and where visitors rapidly increase or decrease, to extract operational and managerial issues through the simulation. For safety reasons, the following conditions required particular attention:

- Bottleneck in the flow line (peak hours, emergency evacuation)
- Places where the service flow line crosses with the visitor flow line
- Places where children or the elderly may stumble or fall
- Blind corners in terms of safety and security
- Places where fingers and arms may be pinched

The elements leading to creation of attractiveness or improvement in comfort at the visitor centres was also confirmed and included in the list above.

2.1.1. Basic design findings

The Study Team found that no proper feasibility study was covering revenue and operating cost cash flows for each visitor centre except that an overall feasibility study was made for the AEDP that included the visitor centres. This is a major problem for the sites since financial support from the government is not anticipated and even construction of the Visitor Centres had been stopped due to a lack of government funding.

The scale of the buildings and capacity of services were formulated based on the year 2010 projections of visitor inflow to the Caves obtained from MTDC. In order to avoid over investment due to large seasonal fluctuation of the visitor inflow, the percentage of visitors to go to the centres was calculated based on those who visit the Caves at the peak hours on the average peak days in the high season, and 50% of facility development framework for the seasonal fluctuation was considered. The assumptions and calculations for each visitor centre are shown below.

Table 2-1 Assumptions and calculations for the visitor centres

AVC Assumptions and Calculation Steps	Number of People (Ratio)
Projected average visitors inflow on peak days in high season	6,006
Ratio of the peak hours on peak days in high season	(66.7%)
No. of peak hours visitors (lunch hours from 12:00 to 15:30)	4,006
Ratio for the facility development frameworks (consideration of fluctuation)	(50.0%)
Design No. of visitors for the facility development framework	2,003
EVC Assumptions and Calculation Steps	Number of People (Ratio)
Projected average visitors inflow on peak days in high season	9,051
Ratio of the peak hours on peak days in high season	(66.0%)
No. of peak hours visitors (lunch hours from 12:00 to 15:30)	5,974
Ratio for the facility development frameworks (consideration of fluctuation)	(40.0%)
Design No. of visitors for the facility development framework	2,389

Source: Main Report, Tourist Complex & Theme Park, AEDP (Jan 2002)

Although some considerations were given to avoid over investment, the above assumptions still reflect somewhat "overdesigned physical outcomes" compared to the actual visitor numbers in 2010. This should be taken into account in estimating technical functionality and financial sustainability of the visitor centres.

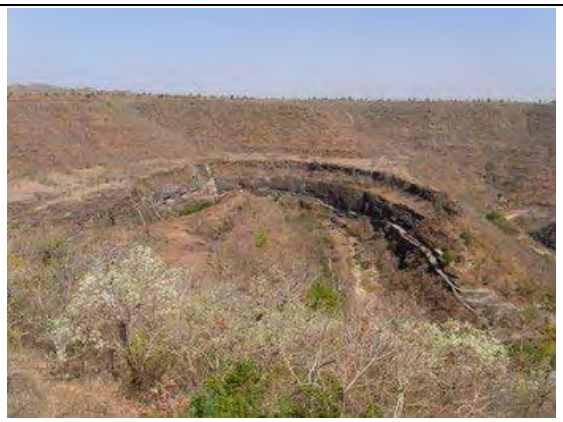
The land acquisition for both sites has already been done and is owned by MTDC. There are no restrictions for the commercial use of the lands. However, the process of acquisition of the lands left some unpleasant feelings among the previous landowners and therefore requires some incentives and positive actions through activities and functions of the visitor centres.

(1) Ajanta visitor centre (AVC)

Both buildings were designed in a way to blend with the surrounding environment especially to the Caves so they are inviting, accessible and environmentally friendly. The major materials used for the buildings are local stones, concrete (exposed) and wood. Both buildings were designed to be approximately 4 m below the ground level.

The ground condition of AVC is very rocky and hard and therefore it was financially and technically difficult to go down deeper, although the architect wanted to do so during the original design.

The dome (27 m) at the entrance hall of AVC had a conceptual design image reminiscent of the shape of a pagoda and it glows when illuminated at night like a large lantern lit in the night. The spiral shape of the building layout parallels the horseshoe shape of natural cave formation in the ravine

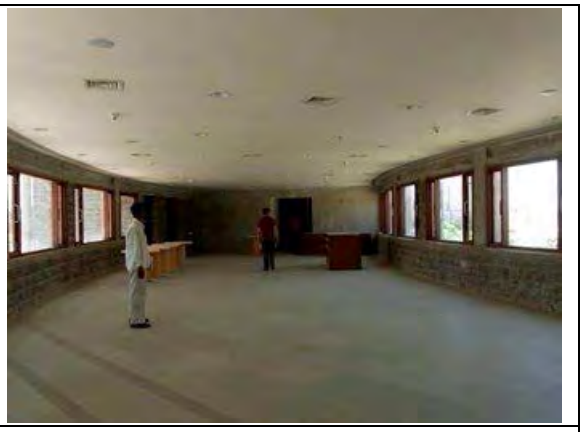
	
Dome shape of AVC entrance hall	Horseshoe shape of caves
	
Auditorium	Restaurant

Although the scale of the building is quite large, one third of the total floor area is occupied by the replica of four caves with paintings, namely, No. 1, 2, 16 and 17 which are considered to be fragile and need measures to reduce visitor numbers.

(2) Ellora visitor centre (EVC)

EVC also follows a similar concept, but the soil condition was opposite to the one in Ajanta (Black cotton soil: essentially laterite soil) and therefore the structure design considered this aspect in the building foundation.

The difference between AVC and EVC designs is the methodology of exhibition. AVC dedicates a large space for cave replica (1:1 scale) for visitors to realistically experience the caves, while EVC displays 1:10 scale replica of Kailash Temple to show its layout. AVC has only 7 shops, which is probably a consideration for the existing Shopping Plaza, while EVC has 60 shops in the complex.

	
Shops	Restaurant
	
Exhibition hall	Replica of Kailash Temple

2.1.2. Facility services and utility designs

The facility services design for both visitor centres including electrical and mechanical works also considered the local climatic conditions (scorching heat, dry in the winter and humid in the summer). Both facilities have long open corridors with natural ventilation and light to save energy consumption. Some exhibition halls, administration rooms and offices have skylights to take advantage of natural light within the facility.

(1) Outline of the M&E installation for AVC

a. Electrical installation

Incoming power from MSED (Maharashtra State Electricity Distribution Co., Ltd) is 11 [kV] two (2) Express Overhead Lines (exclusively for AVC) and isolated from the existing distribution lines to Ajanta Caves.

Since there is neither branch-off nor connection to the other buildings on the way to AVC, stable power supply to AVC can be expected.

Power supply capacity of MSED's Primary Sub-station is 33/11 [kV] is 2 [MVA] (= 2,000 [kVA]) and has adequate capacity to supply AVC.

The Sub-Station at the AVC premises is an outdoor open type (11 kV/415-240V), and two (2) number of oil-immersed self-cooling transformers (power capacity: 750 [kVA]) were installed. HT incoming cables were terminated and connected to the transformers, but not energized yet.

Emergency Generator-sets have been installed inside the indoor generator room having a capacity of one (1) 415/240V 750 [kVA] and one (1) 250 [kVA]. Total connected load of electrical installation was designed as (full load capacity) for the Summer and Rainy Seasons is 885 [kW], and 597 [kW] for the Winter Season.

Taking into account the demand factor, the maximum power demand during the Summer and Rainy Season when the AVC building is fully operating is assumed to be 414 [kW] and 183 [kW] for Winter Season respectively.

Therefore, the above one of two 750 [kVA] transformers is considered as a Stand-by.

b. Telecommunication installation

A MDP (Main Distribution Frame) which is able to accommodate 70 incoming telephone lines has been installed. BSNL's (Bharat Sanchar Nigam Ltd.) has 300 pairs.

Main Telephone cables have been installed to Fardapur which is approx. 2 km away from AVC. Ten lines have been connected and in use at the Ajanta Pick up point. There are no problems regarding supply of the telephone lines to AVC, however there have been no request to connect telephone lines by AVC so far.

c. HVAC installation

Water cooled reciprocating chillers have been installed which include two (2) 135 [RT] working chillers and one (1) Stand-by with the same capacity as the working chillers. There are three (3) chillers in AC Plant Room.

The Centralized Cooling System have been exclusively equipped with three (3) units each of Chilled water pump 11.3 [kW], Condenser water pump 9.3 [kW] and Cooling tower 5.5 [kW].

A Make-up Water Tank has also been installed to the cooling towers since city water supply in not stable.

Quality of the city water is considered quite "Hard" therefore, a Water Softener Equipment (Water Softener System) has been installed with chemical dosing pump.

The design intent for the selection of "Water-cooled Chiller" system for AVC needs to be discussed.

Each area (zone) and room has a total of nine (9) AHU-Air Handling Units and three (3) FCU-Fan Coil Units.

There are total ten (10) air supply fans for each Cave, AC Plant Room, and a total of thirty-nine (39) exhaust fans for Kitchen, AC Plant Room and Toilets.

d. Fire fighting system

Two (2) Fire Water Tanks with 50 m3 capacity have been constructed. The system includes:

One (1) 240 [LPM] x 70 [m] Head x 7.5 [kW] Jockey Pump, one (1) 2,400 [LPM] x70 [m] Head x 55 [kW], Main Pump and Stand-by Pump with same capacity as the Main Pump.

Jockey Pump monitors the water pressure inside the fire pipe work to the indoor and outdoor fire hydrant and start automatically when the water pressure drop down below 6.5 [kg/cm2] and stops automatically when the water pressure reaches 7.5 [kg/cm2].

When the Fire Hydrant valve is opened and water discharge is started, the water pressure inside the fire pipeline drops down.

As soon as the water pressure drops to 6.0 [kg/cm2] the Main Pump starts automatically and the Stand-by Pump starts automatically when the water pressure continues to fall to 5.0 [kg/cm2] and back up water supply for the Fire Fighting system is activated.

In addition, Main Pump and Stand-by Pumps do not stop automatically and the only possible way to stop them is manually.

e. Plumbing works

Two (2) Fire Water Tanks of 50 m3 respectively have been constructed which consist of the following:

250 [LPM] x25 [m] Head x 3.7 [kW] Water Pump, Two (2) pump sets --- Two (2) pumps in one set with automatic alternating operation function.

300 [mmφ] Water Main with its pressure of 2 [kg/cm2] has been laid up to Ajanta View Point by MJP (Maharashtra Jeevan Pradhikaran, Works Division Aurangabad) but have not reached AVC yet.

AVC is now receiving water by Tank Lorry.

(2) Outline of the M&E Installation for EVC

a. Electrical installation

Incoming power from MSED (Maharashtra State Electricity Distribution Co., Ltd) is 11 [kV] one (1) Express Underground Line (exclusively for EVC).

Since there is neither branch-off nor connection to the other buildings on the way to EVC, stable power supply to EVC can be expected.

Power supply capacity of MSED's Primary Sub-station is 33/11 [kV] is 1.3 [MVA] (= 1,300 [kVA]) and it has enough capacity to supply EVC.

The Sub-Station in at EVC premises is an outdoor open type oil-immersed self-cooling transformers and two (2) 11kV/415-240V, 630 [kVA].

HT incoming power cables were terminated and connected to the transformers but not energized yet.

Two (2) 415/240V 230 [kVA] Emergency Generator-sets have been installed in the indoor generator room. Total connected load of electrical installation with (full load capacity) of the Summer and Rainy Season is 609 [kW], and 412 [kW] for Winter Season.

Taking into account the demand factor, the maximum power demand during the Summer and Rainy Season when the EVC building is fully operating is assumed to be 265 [kW], and 111 [kW] for Winter Season. Therefore, one of two 630 [kVA] transformers is considered as a Stand-by.

b. Telecommunication installation

A MDP (Main Distribution Panel) which is able to accommodate 70 incoming telephone lines has been installed.

BSNL's (Bharat Sanchar Nigam Ltd.) 500 pairs. Main Telephone cable has been laid up to EVC Pick up point.

There are no problems on supply of the telephone lines to EVC, however no request for the connection of telephone lines by AVC have been made so far.

c. HVAC installation

Water cooled reciprocating chillers have been installed. Two (2) 70 [RT] working chillers and one (1) Stand-by with the same capacity as the working chillers. There are total three (3) chillers in the AC Plant Room.

Chilled water pump with 15 [kW] power, Condenser water pump 9.3 [kW] and Cooling tower 1.5 [kW] ---three (3) units each have been installed for the Centralized Cooling System exclusively.

A Make-up Water Tank has also have been installed to make up water to the cooling towers since city water supply is not stable.

Quality of the city water is quite "Hard" therefore, a Water Softener Equipment (Water Softener System) has installed with chemical dosing pump.

The design intent of the selection of "Water-cooled Chillers" for this AVC is unknown.

Each area (zone) and room has a total of eight (8) AHUs-Air Handling Units and four (4) FCUs-Fan Coil Units.

There are several air supply fans for each Caves, AC Plant Room, and exhaust fans for Kitchen, AC Plant Room and Toilets, however, the exact numbers of these fans installed is unknown.

d. Fire fighting system

Two (2) Fire Water Tanks of 45m3 capacity respectively have been constructed.

One (1) 240 [LPM] x70 [m] Head x 7.5 [kW] Jockey Pump, one (1) 2,400 [LPM] x70 [m] Head x 55 [kW] Main Pump and Stand-by Pump with same capacity as the Main Pump have been installed.

Jockey Pump monitors the water pressure inside the fire pipeline connected to the indoor and outdoor fire hydrant and start automatically when the water pressure drops down below 6.5 [kg/cm2] and stops automatically when the water pressure reaches to 7.5 [kg/cm2].

When the Fire Hydrant valve is opened and water discharge is started, the water pressure inside the fire pipeline drops down.

As soon as the water pressure drops to 6.0 [kg/cm2] the Main Pump starts automatically and the Stand-by Pump starts automatically if the water pressure continues to fall to 5.0 [kg/cm2] and back up water supply for the Fire Fighting system.

In addition, Main Pump and Stand-by Pumps do not stop automatically. Only possible way to stop them is Manual.

e. Plumbing works

Two (2) Fire Water Tanks of 45m3 capacity respectively have been constructed including 250 [LPM] x25 [m] Head x 3.7 [kW] Water Pump , two (2) pump sets --- Two (2) pumps in one set with automatic alternating operation function.

200 [mmφ] Water Main with its pressure of 1.6 [kg/cm2] has been laid up to 100 m away from EVC by MJP (Maharashtra Jeevan Pradhikaran, Works Division Aurangabad) but have not reached EVC yet.

EVC is therefore receiving water by Tank Lorry.

2.2. Visitor Circulation Flow

(1) Travel time to the sites

One-way travel time between Aurangabad and Ajanta Caves is 2 hours and between Aurangabad and Ellora Caves slightly less than 1 hour by Toyota Innova. Hence, it would be physically very tiring and is not recommended to visit both sites in a day, because of numerous steps and slopes in both heritage sites. Due to this, it is increasingly common to spend two

days with an overnight in Aurangabad; one day for Ajanta and another day for Ellora and other tourism sites near Aurangabad such as Grishneshwar Hindu Temple, Daulatabad Fort and Bibi-Ka-Maqbara Mausoleum. In any case, since both sites are large, tools allowing visitors to plan what to see within their allotted timeframe need to be developed for visitors' convenience.

(2) Flow line constraints in Ajanta

Currently there are many flow constraints for visitors to both caves, which prevent full use of the facilities. This is extremely problematical since it adds visitor unfriendliness to sites which are already time-consuming and hot to visit.

In Ajanta, there are bottlenecks to the flow line created at four ticketing locations:

- Parking ticket and Amenity ticket line to the parking lot
- Amenity ticket check line before going to the bus waiting area
- Bus ticket line to the heritage site (4 km bus drive)
- Entry ticket line to the heritage site

Signboard for parking and amenity

Ticketing booth for parking and amenity

Amenity ticket check point

Shuttle Bus Ticketing Office at Ajanta

Ticketing Officer at Ajanta

Other than the above-mentioned route into the Ajanta Caves, there is another access route from Upper View Point. This is a historical approach route when a British officer rediscovered the Ajanta Caves during the hunt of tigers in 1815. Access road to the Upper View Point, which deviates from the State Road No.8, was paved as a component of the Phase I Project. From the Upper View Point, a trail leads to the Lower View Point and down to the Ajanta Caves. The walk takes only 20 minutes. There is a gate where ASI checks the ticket, and visitors who came from the Upper View Point are instructed to purchase ticket at the ticket booth, which is located at the official entrance where most of the visitors use, because tickets are not sold at the gate for the view points.

The alternative approach route is not for everybody but for nature lovers and those who wants to experience the original approach to the caves. This alternative route may be historically important and refreshing for those who are well fit, but it complicates the visitor flow. Visitors who arrived from Upper View Point have to walk additional 10-15 minutes to purchase ticket and then go back the same way to go to see all the caves. It is also noted that visitors who take this route does not pay for the amenity fee.

Some members of the Study Team who came down by walking from the Upper Viewing Point through the Lower Viewing Point successfully avoided paying amenity ticket and arrived at the ASI ticketing booth 30-45 minutes earlier than other members who came to the same place by car by way of Ajanta T-Point, the Shopping Plaza and an irritating bus ride.

Upper Viewing Spot

Lower Viewing Spot

Although there are two gates to the Ajanta heritage site, only one is for entry (near the ASI Ticket Booth) and both were used for exit.

It takes at least a couple of hours to navigate the sites because of their uniqueness, significance and extensiveness on hilly locations.

The location of the Ajanta visitor centre is far away from the caves (4 km) and it is not a pleasant distance to walk in the hot climate.

Because the Ajanta visitor centre has parking for only 40 cars and 4 large buses, it can be assumed that the original design intent was to utilize the current parking facilities developed under Phase-I adjacent to the visitor centre. However, this will create confusion to the visitors

since the shuttle bus pick-up and drop-off point does not exist at the visitor centre and people have to walk 8 minutes or be shuttled from the visitor centre to the shuttle bus parking area.

Another visitor flow problem exists in relation to the existing shopping plaza, since the shopping plaza is not situated in the flow line between the visitor centre and the caves.

It is very important to integrate the visitor flow plan to the visitor centres with the visitor flow to the caves, otherwise the visitor centres will be underutilized and not provide the amenities that they have to visitors. However, the Study Team could not obtain a visitor management plan from ASI even in a draft form (ASI's Visitor Management Plan will be finalized in August 2010).

It is a problem to develop a unified flow management plan for the entire site, which includes the flow line to the heritage site in addition to the visitor management within the visitor centre. Hence, it is important to study and analyze not only the location of AVC in relation to the gate to the cave, ticket booth for admission to the cave, ASI management office, existing restaurants, and shuttle bus stops, but also to evaluate the layout plan of the visitor centre and its complex. A lot of design work needs to be done in this area.

(3) Flow line constraints in Ellora

The flow line to the heritage site of Ellora caves and that to EVC is divided by National Road 211, and this is a problem for integrating management of flow lines, without which the visitor centres will be underutilized. Unlike Ajanta, all passengers arriving to Ellora by vehicles need to get off at the roadside near ASI's ticket booth to purchase ticket before entering the parking for visitors.

Entry ticket used to be sold at the entrance to the Kailash Temple, and visiting other cave temples used to be free of charge. The change of the ticket booth location enabled ASI to charge entry fee to all the visitors who visit any of the caves in Ellora. This modification, however, resulted in hindering smooth visitor flow into the archaeological site. The location of ticket booth may have to be revised in this context.

EVC from Kailash Temple

Ticketing Window at Ellora Caves

It is possible but tough for average tourists to see all the caves on foot. Therefore it would be worth considering to introduce local transportation for visitors in Ellora starting from the visitor centre.

Between the Ellora caves and the visitor centre there is a magnificent tree avenue adorned by the canopy of old fig trees. This should be kept for future visitors to use on the way to the caves from the visitor centre since it provides good shade and a historical atmosphere.

Tree avenue to the Ellora caves from EVC

Old fig tree

Street hawkers keep chasing after foreign visitors and this disrupts the ambiance of the historical site.

The flow line in the EVC building is twofold: entry from the restaurant side at the back, due to the location of the parking space, and entry from the front, where the tourist information centre is located. This is a problem because it requires extra control of visitor flow lines. Local Indians, who drive themselves, have to walk from their parking spot, which is located in the middle of both entries, after dropping off their family at the entrance. This presents a third flow line to control.

Private parking on the right

Toward the entrance of EVC

In order not to waste time prior to visit the actual caves, the majority of visitors wish to go immediately after the orientation; however under the current concept, the shuttle bus departs from the back of the building where visitors have to go through the chain of shops between the exhibition hall and the restaurant complex. The problem is separating the flow lines

between the incoming visitors before visiting the caves to receive interpretation and orientation at the front part of the complex, and outgoing visitors after visiting the caves to refresh and relax in the restaurant and buy some gifts and souvenirs at the back part of the complex before going back to their hotels and homes.

A comprehensive and integrated plan showing AEDP Phase (I) and Phase (II) components including the heritage sites, the existing ancillary facilities, shops, parking spaces and access road is necessary for planning visitor management and the flow line of visitors. As a first step, an Indian consultant is preparing a topographic map and land use plan encompassing the entire site of Ajanta caves and AVC including 270 ha of plot of land owned by MTDC for future development.

(4) Integrated ticket

Both MTDC and ASI agree on the necessity of introducing an integrated ticket at each site that includes the entry fee to the caves, transportation to the caves, and fees for the visitor centre that is currently charged as “amenity fee” in Ajanta. To engender confidence between the two parties, MTDC needs to develop transparent capability to deliver the correct amount of entrance fees, especially to ASI. The problem is part of a larger one: namely that of integrating facilities operations of both MTDC and ASI.

The following site and detailed maps are showing the visitor flow lines from Aurangabad to the heritage sites in relation to the location of visitor centres.

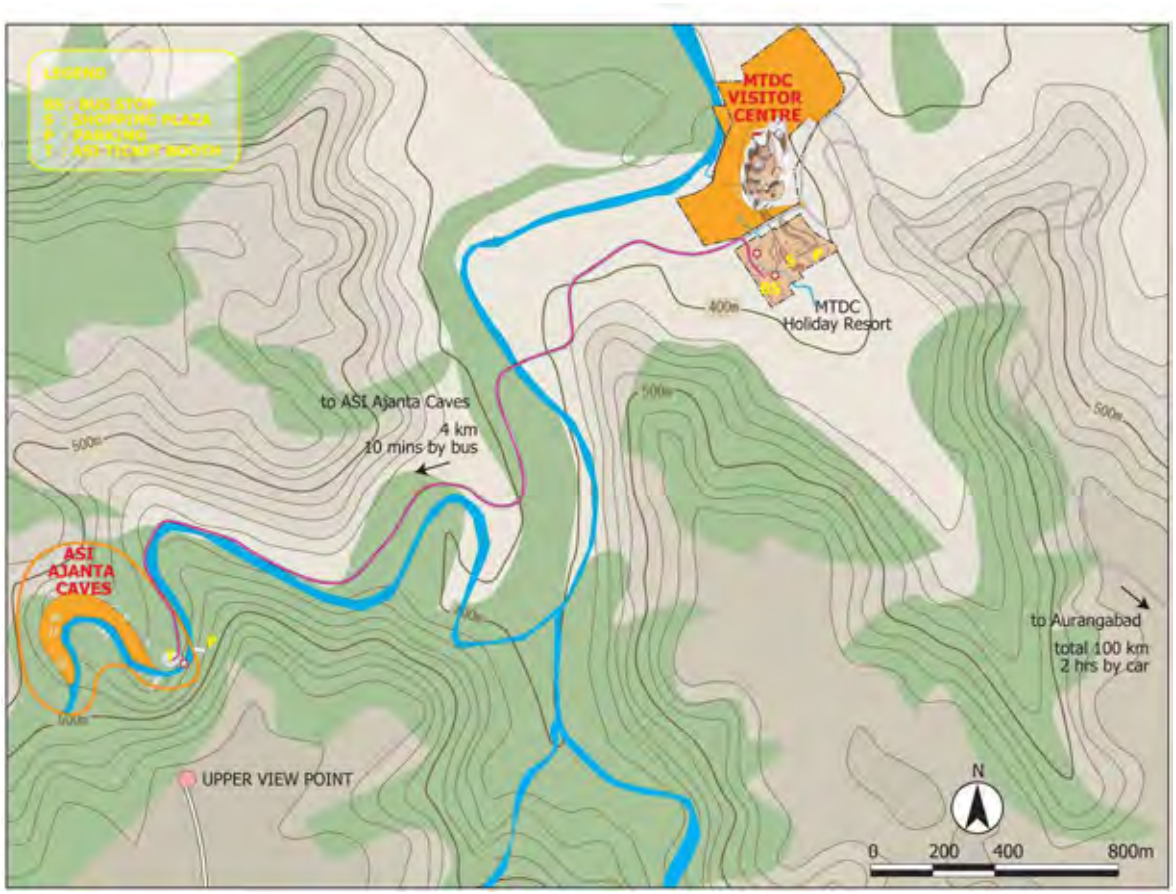


Figure 2-1 Ajanta site map

Source: JICA Study Team

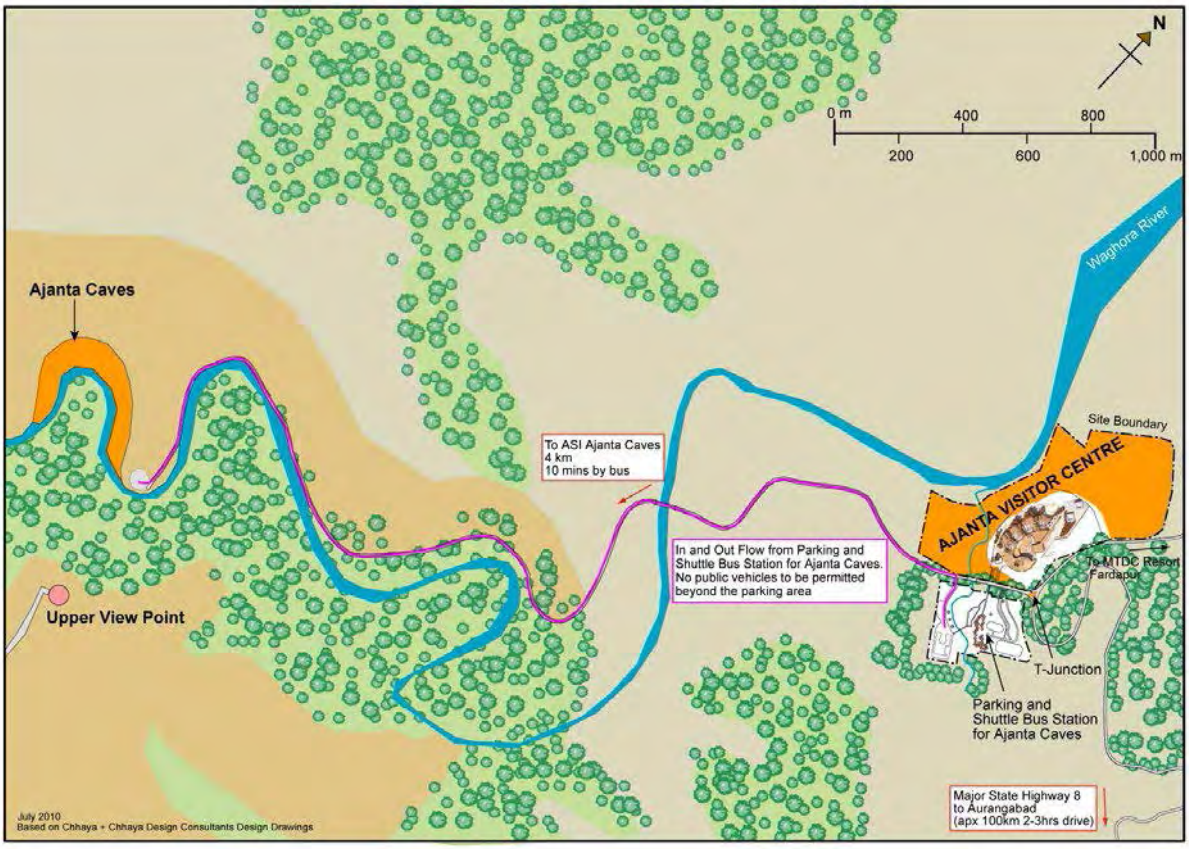


Figure 2-2 Ajanta detail map

Source: JICA Study Team

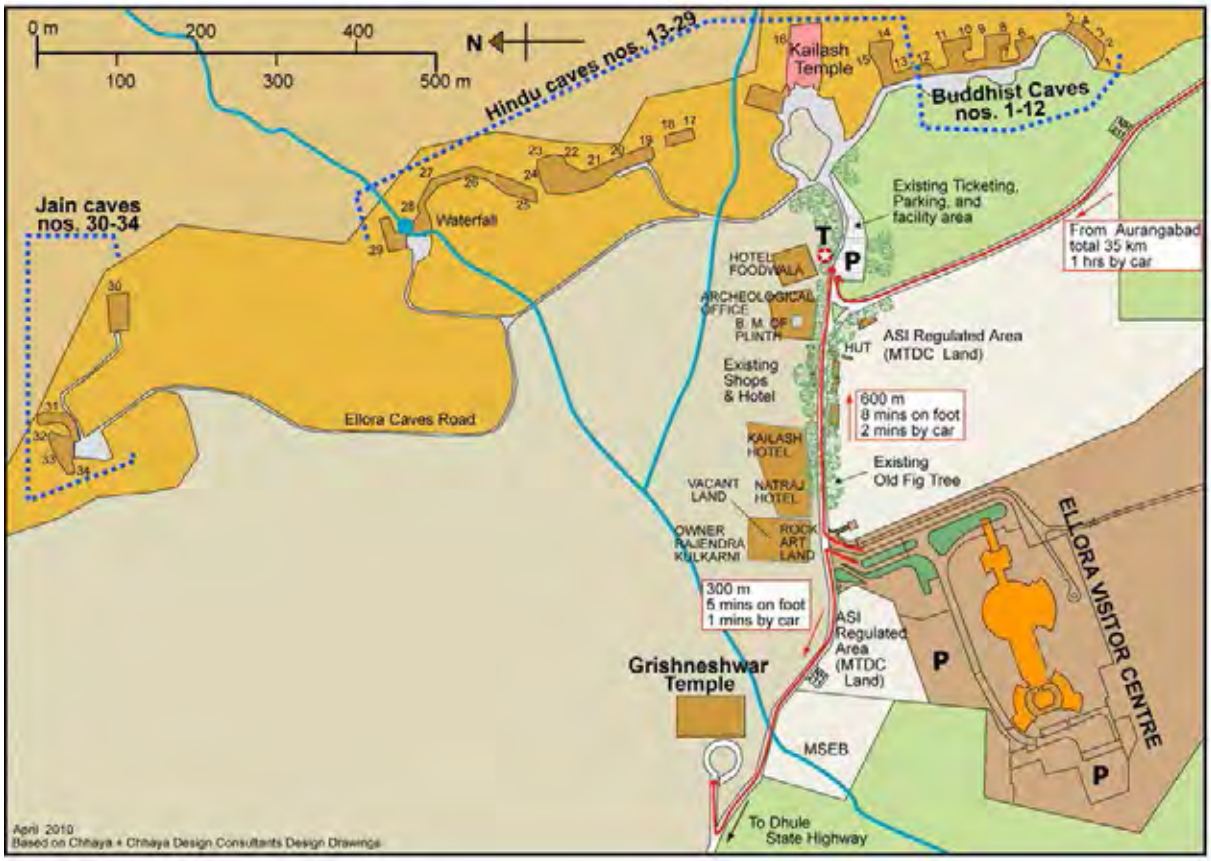


Figure 2-3 Ellora site map

Source: JICA Study Team

2.3. MTDC's Basic Policy on the Management Plans

The Study Team expects to set a direction for formulation of the management plan based on the plan to solve the fundamental operational issues at the sites and the ideas and policy of MTDC.

The Study Team reconfirmed that MTDC understands the positioning of visitor centres within the context of MTDC's limited financial and technical capabilities, but at the same time MTDC has a challenging vision in a much larger context of the comprehensive tourism opportunity in Aurangabad district as a whole. The plan to materialize this larger goal requires solving site issues so the sites are effective at attracting different market segments of visitors.

The Study Team realized that there are many potential tourism sites in and around Aurangabad such as (Bibi-ka-maqbara, Aurangabad Caves, Daulatabad Fort, Lonar Crater and Grishneshwar Hindu Temples). Sufi cultural traditions in Sulibhanjan – Khuldabad near Ellora is chosen as a site of Rural Tourism Project implemented by MOT with assistance from UNDP. Himoroo weaving is renowned all over India, and the area abounds in music, dance, and artisan traditions that have potential to be supplementary tourist attractions.

Although the Ajanta – Ellora caves were promoted in Europe, US and Japan, a relatively small number of foreign tourists visit the caves only during the winter time when the temperature is relatively mild. It is noted that foreign visitors, in particular, tour groups are predominantly from Japan and East Asia. Europeans who often dominate tourism scenes in India are relatively rare and they are mostly independent tourists. It is understandable that MTDC wants to promote the tourism in Aurangabad using the visitor centres as a nucleus for development.

To set a direction for formulation of the management plan, the Study Team confirmed with MTDC the mission and expectations of visitor centres as follows:

- **Tourism facility**: To provide touristic information and functions, and for MICE.
- **Interpretation facility**: To provide interpretation and orientation for the caves.
- **Edutainment facility**: To provide learning experience for children and students through AV, hands-on, handicraft making, excursions and entertainment by performers and artists.

MTDC confirmed that the visitor centres should integrate all of these aspects in order to maximize the effects of the overall Project but plans for operations in all three areas have not been fully formulated yet.

MOT explained that either the Managing Director of MTDC or the Principal Secretary of Department of Tourism and Cultural Affairs, the State Government of Maharashtra, will be the signatory of concession agreement from the public sector.

2.4. Institutional Capacity of MTDC

In this section, we begin to analyze the institutional capacity of MTDC to manage both visitor centres by reviewing MTDC's organisation, finance, human resources, ability to manage similar facilities, and experience in commissioning to the private parties.

The following are the major viewpoints and indexes covered below in the analysis of the current institutional capacity of MTDC:

- Human resources having professional knowledge for exhibitions/cultural asset tours/events/educational activities and programs
- Human resources having professional knowledge in equipment maintenance and management including audio-visual equipment
- MTDC financial capacity
- Financial data of facilities owned by MTDC
- Management analysis method in hotels, restaurants and visitor centres owned by MTDC
- Confirmation of the contents of contract documents in the case of outsourcing by MTDC
- MTDC's great strength is that it has a clear legal mandate to develop and promote tourism facilities and operations. Further MTDC has presence in key tourism locations in Maharashtra.

MTDC, however, faces some key constraints. Officials are aware of such constraints and several measures for institutional strengthening have been initiated. These could take a few years to fall in place. In this context, the following areas are assessed in the context of implication for the proposed Visitor Centres.

- Business model for MTDC operated hotels & facilities
- Corporate HQ Management (monitoring) system for optimum usage of facilities
- Present human resource management policies (for operations)
- Inferences from capacity assessment for visitor centre project

2.4.1. Business model for MTDC operated hotels & facilities

Among many state tourism development corporations in India, many of which still stick to the outdated state-run tourism model, MTDC is exceptional and one of the most advanced tourism development corporations. Presently MTDC primarily operates and undertakes its mandate with their own staff but it is now seriously considering to lease out their properties, mainly hotels and restaurants, to the private sector. In this context, MTDC intends a thorough review of its organisation structure and business model. This is also mandated in the Tourism policy of 2006.

In line with other progressive states, it is envisaged that MTDC will move in the direction of enabling and creating facilities including hotel and resort facilities rather than operating them. This implies a greater orientation towards PPP and outsourcing models to optimise both use and return on assets.

Even in regard to the above expected enhanced orientation towards PPP and outsourcing, this may be easier/more practical in new and emerging projects rather than existing projects and facilities that are already in operation.

2.4.2. Corporate HQ monitoring system for optimum usage of facilities

The occupancy, cost, revenue, profit, and various physical and financial parameters are continuously being monitored by HQ for assessment and improvement. The computerisation of these activities into an integrated MIS is in process and expected to be complete within the next 1-2 years. In this context, the shift in focus of corporate HQ from information gathering to analysis and decision-making will be strengthened.

A parallel activity in MTDC is introduction of budgetary system that is focussed on evaluation and outcome based budgeting. (The emphasis is intended shift from merely spending funds to the actual utility and outcomes of the funds spent.)

2.4.3. Present human resource management policies for operations (incentives and marketplace orientation for HR performance)

In regard to operations of hotels, resorts and facilities, under present MTDC guidelines there are limited incentives or pay differentiation measures for better performance.

In the context of commercial operations or where competition is with similar commercial operations, this would create an overall institutional constraint. While no quantitative private sector comparator assessment has been made, but as inferences from officials and professionals in the field, it may be surmised that these constraints also impact quality and cost optimisation for O&M.

From performance motivation system, there is limited orientation of target-setting based on performance of comparable private sector properties and benchmarking on a dynamic (rapid response) basis.

This aspect is also related to the whole complex schema of HR issues including rigidities in job descriptions/conventions and limited flexibility in deployment/redeployment of staff.

2.4.4. Inferences from capacity assessment for visitor centre project

The visitor centre complex has constraints for being supported and developed within the traditional/established institutional framework and corporate body of MTDC including within its existing organisation structure, HR compensation and performance management policies or based entirely on in-house technical resources.

In this regard, we can take advantage of the factor that MTDC itself is in broad transition in these areas and align the visitor centre project accordingly with the emerging direction of MTDC policies that provide greater flexibility.

However, MTDC will have to evolve a new model for ensuring optimum operation and management of the visitor centre complex, including close collaboration with other agencies.

2.4.5. Human resources

The main functions of MTDC are public relations for tourist resources in the state, management of directly owned hotels, and licensing and approval of tourist concerns. Therefore, MTDC does not have people having professional knowledge of exhibits, education or events, nor people for the maintenance of large-scale equipment.

The largest hotel MTDC owns is Mahabaleshwar hotel with approximately 120 rooms. Assuming 50% of room utilization and 2 person per room, total visitors per year are calculated 43,800 (120 rooms x 2 visitors/room x 365 days/year x 50%)

Ajanta and Ellora visitor centres are designed for more than 1 million people each. The largest size of the hotel MTDC currently manages receives in the range of 40,000 visitors, which is 4% of each visitor centre.

As they have to deal with large-scale equipment incorporating exhibition and convention functions with the visitor centres, MTDC feels that it is difficult to directly manage and maintain them based on the current knowledge and skill level of their staff. The current staffing situation and their educational background of MTDC's are shown in the following table.

Table 2-2 MTDC's personnel number and their education background

Educational Background	Executives	3rd Class Employers*	4th Class Employers**	Total	Ratio
Master	7	3	0	10	2.7%
Bachelor	12	37	0	49	13.3%
Others	23	78	5	106	28.7%
No statement		16	188	204	55.3%
Total	42	135	193	369	100%
	2 positions are empty	1 position is empty			

* 3rd Class Employers: Including Senior Clerk, Resort Manager, Assistant Manager, Driver, Telephone Operator, Clerk, Electrician, Cook, and so on.

** 4th Class Employers: Including Assistant Cook, Waiter, Laborer, Guard, Cleaner, Sweeper, Room boy, Helper, Gardener, and so on.

Source: MTDC

2.4.6. MTDC's financial capacity

The revenue of MTDC including operating tax and grant-in-aid in 2005 was Rs. 17.9 crores against Rs.14.4 crores of expenditures as shown below.

The total revenue of the government of Maharashtra in revised estimates 2009-2010 is Rs. 88,498 crores (covering Government of Maharashtra, Medium term fiscal policy, Fiscal policy strategy statement and Disclosures for Maharashtra 2010-2011)

Although the years of comparison are different, the size of MTDC income is about 0.02% of the income of Maharashtra State.

Table 2-3 MTDC 2005 income statement

(Rs. Crore)

Income	1. Operating Income	(1) Holiday Resort	6.5
		(2) Hotel & Restaurant	2.1
	2. Lease/Rent		2.6
	3. Other Activity Income		1.0
	4. Interests, Misc		3.4
	5. Grant in Aid		2.3
	Total		17.9
Expenditure	1. Operating Expense	(1) Holiday Resort	3.8
		(2) Hotel & Restaurant	1.9
		(3) Reservation & Booking Office	0.7
		(4) Regional Office Expense	1.3
	2. Administrative Expense		4.0
	3. Grant in Aid		2.7
	Total		14.4
Profit before Int. Depreciation & Tax			3.5

Source: MTDC

(1) Financial data of MTDC facility (Aurangabad Region)

The performance of MTDC owned hotels and restaurants in Aurangabad region, based on actual data, is analyzed below.

MTDC owns and operates 3 hotels and 3 restaurants, and leases 3 hotels and 1 restaurant to private companies for operation.

Facilities owned and operated by MTDC

Table 2-4 Hotels 46 rooms

No.	Name	No. of Rooms	No. of Employees	Rate (Rp/room)
1	Holiday Resort, Fardapur	29	6	679
2	Ajanta T Junction Guest House	5	3	1,100
3	Holiday Resort, Lonar	12	3	967

Source: MTDC

Table 2-5 Restaurants 225 seats

No.	Name	No. of Seats	No. of Employees	Spending/seat (Rp/seat)
1	Ellora Restaurant	60	5	200
2	Ajanta Restaurant	120	8	200
3	Vihara Restaurant, Fardapur	45	3	200

Source: MTDC

Facility owned by MTDC and leased for operation

Hotel

- Holiday Resort Aurangabad
- Wayside Amenity Centre, Sillord,
- Holiday resort, Kahiayakunji, Fardapur

Restaurant

- Tarangan Restaurant, Lonar

Financial data of the leased facilities is not available. Based on the review of MTDC lease contract of hotels and restaurants, performance and financial information are not required by MTDC to the lessee. The following are the financial results of MTDC's own facilities.

Table 2-6 Financials of hotels owned and operated by MTDC

No.	Name	Financial (lakh)				
		2008				
		Income	Expenditure Total	Salary	Others	Profit (Loss)
1	Holiday Resort, Fardapur	34.2	26.9	11.2	15.8	7.2
2	Ajanta T Junction Guest House	4.2	2.0	0.5	1.5	2.2
3	Holiday Resort, Lonar	8.8	8.3	3.6	4.7	0.5

Source: MTDC

Table 2-7 Financials of restaurants owned and operated by MTDC

No.	Name	Financial (lakh)				
		2008				
		Income	Expenditure Total	Salary	Others	Profit (Loss)
1	Ellora Restaurant	13.8	15.4	6.1	9.3	-1.5
2	Ajanta restaurant	31.8	29.5	8.0	21.5	2.3

Source: MTDC

(2) MTDC's management

As indicated, in Aurangabad region, some facilities make profit and others make loss. While MTDC review financial results and may take actions, for example, an action to sell a facility, we feel that objective management activities are not carried out.

Management activities should include: 1) Setting up goals, 2) monitoring actual performance, and 3) taking corrective action on problems (problems are the difference between goal and actual). This is called the Plan-Do-Check-Action (PDCA) cycle.

MTDC management activity seems only to monitor the results of actual performance without comparison with the original target. Therefore, in case a facility is making profit, MTDC may not find the problem that the facility is making less profit than it should make.

Using financials of hotels and restaurants in Aurangabad region, financials using the elements of the PDCA cycle are shown below.

Table 2-8 Financials using the elements of the PDCA Cycle

No.	Name	Financial (lakhs)					Annual Expected Revenue (lakh)	Utilization (%)
		2008						
		Income	Expenditure Total	Salary	Others	Profit (Loss)		2008
1	Holiday Resort, Fardapur	34.2	26.9	11.2	15.8	7.2	59.1	57.8 %
2	Ajanta T Junction Guest House	4.2	2.0	0.5	1.5	2.2	16.5	25.5 %
3	Holiday Resort, Lonar	8.8	8.3	3.6	4.7	0.5	34.8	25.3 %

Annual expected revenue is calculated based on the number of rooms, and tariff for each facility. Utilization is the ratio of actual income to Annual expected revenue. If utilization is low, there may be a problem with attracting visitors.

As shown in the above table, while all the hotels in region make profit, occupancy rate of two hotels is very low and the reason should be analyzed, and corrective actions should be taken as necessary. The important thing is to set up targets and compare actual performance with the targets for possible corrective actions.

2.5. Outsourcing of Management and Operations

Public and private sector partnership in India is more advanced than in Japan in certain sectors such as road and infrastructure developments; the legal system concerning coordination with the private sector is also developing. The Study Team also found some examples of operations and management of museums in Mumbai. The museums making a proper profit to cover their own recurrent costs include: Chhatrapati Shivaji Maharaj Vastu Sangrahalaya (Prince of Wales) Museum and Dr. Bhau Daji Lad (Victoria & Albert) Museum. The systems they employ to be self sufficient need to be identified to use as guidelines for MTDC to do the same and achieve financial sustainability.

There are examples of MTDC outsourcing operations and management of small scale visitor centres, hotels, restaurants, etc. owned by MTDC. Whilst making use of such know-how accumulated through past experience, an appropriate outsourcing of management and operations will be sought through this Study provided the design of the operations is fully made, which is not the case yet.

2.6. Cooperation among relevant organisations

Linkage with related organisations in addition to linkage of their sites is indispensable in order to raise the quality of service of both visitor centres. From this viewpoint, the Study Team analyzed the possibility of linkage with related organisations and will make suggestions based on the results, in order to study measures to build better links with related organisations.

2.6.1. Cooperation with ASI (Archaeological Survey of India)

Particularly, MTDC's cooperative relationship with Archaeological Survey of India (ASI) is an important objective that will influence the future of the Project. The Study Team found that there are some agreements already made with ASI in regard to the management of the visitor centre by providing space for ASI in both visitor centres. ASI also showed interest to have an on-site laboratory in each visitor centre in order to quickly examine and test materials related to the conservation of monuments.

MTDC has already requested ASI and State Road Authority to consider and adopt a single ticketing system in Ajanta. MTDC also requested ASI to allow extending opening hours for Ajanta caves from sunrise to sunset which has already been adopted at Ellora caves.

The Study Team found that ASI does not object to adopt the single ticketing system as long as the accounting issues for ticketing are solved by all the stakeholders concerned.

Creation of a unique business model is mandatory to attract private sector firms. In parallel to interpretation function, cultural and educational activities should be held in the visitor centres. In order to do so, cooperation among relevant organizations is necessary, in particular with ASI.

The Study Team found that ASI is not only researching, conserving and excavating archaeological sites and objects and monitoring structure and conditions of caves, but also

holding seminars, lectures for university students, public awareness workshops, essay contests with school children and organizing world heritage week and day in regard to heritage conservation and culture. Visitor Centres have abundant spaces for showing new findings and holding these ASI activities.

After thorough discussions with ASI Superintendent of Aurangabad, it was revealed that ASI possesses vast knowledge of the history of the caves, Buddhism and the cultural importance of monuments. ASI also has very interesting ideas to attract visitors. Thus, it is vital for MTDC to collaborate with ASI in order to sustain the operations of the Visitor Centres in the long run.

(1) Objectives of the ASI Survey

The ASI, under the Ministry of Culture, is the premier organization for the archaeological researches and protection of the cultural heritage of the nation. Maintenance of ancient monuments and archaeological sites and remains of national importance is the prime concern of the ASI. Besides it regulate all archaeological activities in the country as per the provisions of the Ancient Monuments and Archaeological Sites and Remains Act, 1958. It also regulates Antiquities and Art Treasure Act, 1972.

The study areas, Ajanta and Ellora sites, involve the ancient monuments and archaeological sites and remains protected by ASI. In addition ASI has much experience of museum management in India, and especially some of ASI's museums are near heritage sites like this study areas. Therefore the way of cooperation with ASI and knowledge and skills should be studied. The objectives of this survey on ASI are:

- To ensure that the proposed management plan is harmonious with the monument conservation programmes of ASI.
- To take note of references to knowledge and information for managing museums in India.
- To draw up the mutually compatible flow of visitors between the Visitor Centre and caves with ASI, and their consultant.

(2) Organizational structure of ASI

The ASI is a large organization with an organized work force at the base and the Director General at the apex. ASI's major activities inter-alia are as follows:

- Conducting archaeological explorations and excavations.
- Maintenance, conservation and preservation of protected monuments and archaeological sites and remains of national importance.
- Chemical preservation of monuments and antiquarian remains.
- Architectural survey of monuments.
- Epigraphical and numismatic studies.
- Setting up and re-organization of Site Museums.

- Training in Archaeology.
- Bringing out archaeological publications.
- Archaeological expeditions outside India.
- Horticulture operation in and around ancient monuments and sites.
- Implementation and regulation of - The Ancient Monuments and Archaeological Sites and Remains Act, 1958.
- The Antiquities and Art Treasures Act, 1972, etc.

There are archaeologists, conservators, epigraphist, architects and scientists in ASI for conducting archaeological research projects through its Circles, Museums, Excavation Branches, Prehistory Branch, Epigraphy Branches, Science Branch, Horticulture Branch, Building Survey Project, Temple Survey Projects and Underwater Archaeology Wing.

The Circle is the one of the departments of ASI that serves for the maintenance of ancient monuments and archaeological sites and remains of national importance. ASI divides the entire country into 24 Circles for the maintenance of ancient monuments and archaeological sites and remains of national importance. There are 2 Circles in Maharashtra state: Mumbai Circle and Aurangabad Circle. The Aurangabad Circle covers whole Maharashtra state except Mumbai area and it is divided into 9 sub-circles. It has 168 monuments to protect all over the Circle and a science branch near office in Aurangabad city area.

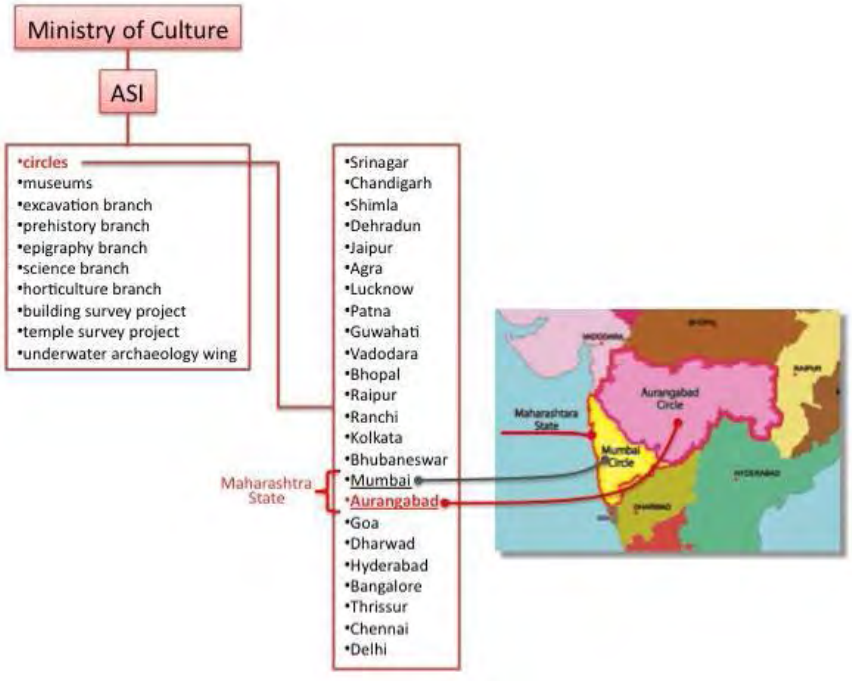


Figure 2-4 Organization structure of ASI

Source: ASI web; http://asi.nic.in/asi_aboutus_organization_circle.asp

Figure 2-5 ASI Circles in India

Source: ASI web; http://asi.nic.in/asi_aboutus_organization_circle.asp

(3) Activities of ASI circles

The Circles carry out archaeological fieldwork, research activities and implement the various provisions of the Ancient Monuments and Archaeological Sites and Remains Act （AMASR Act）, 1958 and Antiquities and Art Treasures Act 1972. This includes the following:

- Carrying out village-to-village survey of antiquarian remains; exploration of archaeological sites, documentation of loose sculptures.
- Excavation of archaeological sites.
- Conservation and day-to-day maintenance of protected monuments.
- Providing basic amenities at the monuments for tourists.
- Issuing of NOC for any sort of construction, additions and alterations to existing structures or new constructions coming under 100 m to 300 m (regulated area) from the protected monuments.
- Issuing permission for filming, photography and cultural programmes at the protected monuments.
- Organising public awareness programmes on various occasions like Word Heritage Day (April 18), World Heritage Week (November 17-25), Museum Day (May 18) and other important occasions.

- Registration of antiquities and issuing non-antiquity certificates.
- Interaction with various universities and research institutions.

(4) ASI activities in the Ajanta and Ellora sites

Particularly at the Ajanta and Ellora sites, Aurangabad Circle conducts Item 3. Conservation and day-to-day maintenance of protected monuments, Item 4. Providing basic amenities at the monuments for tourists, Item 7.Organising public awareness programmes on various occasions like Word Heritage Day (April 18), World Heritage Week (November 17-25), Museum Day (May 18) and other important occasions as well as others.

Details are described below.

Conservation and day-to-day maintenance of protected monuments

- Security: Security guards who belonging to ASI check tickets and at the same time visitors have to go through a metal detector.
- Cleaning: Dustbins are installed and Sweepers are in the caves.
- Monitoring: Many scales are set on rocks for measuring movement of gaps of cracks on rocks.
- Control of the number of visitors: ASI regulates that 40 or fewer persons can enter the caves particularly with murals within 20 minutes at a time. Therefore a janitor stands to count the number of entrants to each cave particularly with murals.
- Elimination of bats and beehives: For bats, ASI sets the net at the entrance of caves but not all caves. For beehives, ASI eliminates them on closing day.

	
Security gate	Monitoring to measure movement of crack

Providing basic amenities at the monuments for tourists;

- Drinking water, toilet: There are some water spots and toilets.
- Souvenir shop: Only in Ajanta, there is a small souvenir shop.

•

	
Drinking water spot	Showcase in the souvenir shop

(5) Findings on the Ajanta and Ellora sites

Unless the two sites (monuments and visitor centres) are integrated into a single functioning system, problems will continue to plague both. However, cooperation between ASI and MTDC can create synergy by each offering of opportunities to overcome constraints as shown in Table 2-9.

In the study, some constraints were found at Ajanta, Ellora sites (VCs and caves) on both VCs and ASI in association with VCs and ASI, but also at the same time some opportunities were found. For instance, they can exchange knowledge so that they would reduce their constraints: VCs offers training programme of hospitality and ASI's staff can get a better attitude for tourism. On the other hand ASI offers information of the newest research outcomes for exhibition in VCs, and VCs can get materials for self-sustainable exhibition. In addition, ASI can interpret research outcomes and it has activities for promotion.

And as there is huge space, VCs can control the number of visitors at the caves especially with murals for conservation. For instance, in the auditorium, showing movies of interpretation of caves, activities by ASI and as well as others and safety precautions on the sites serve multiple purposes: safety for visitors, conservation for ASI and increase of visitors at VCs.

Thus tourism and conservation at the Ajanta, Ellora sites are compatible and create synergistic effects.

Table 2-9 Constraints and opportunities at Ajanta and Ellora sites

	Constraints
MTDC's VCs	• Exhibition plan does not assimilate ASI's opinion. It could be self-sustainable exhibition by ASI's research outcomes. • Planning of VCs and Visitor flow (ticketing) do not assimilate ASI's opinion. It is necessary to cooperate with ASI because visitors should think of a heritage park as a single entity including all caves and VCs. • Admission fee is paid to the national treasury through ASI, therefore it is not used for maintenance and operation cost for VCs.
ASI	• ASI does not have an on-site laboratory or meeting room. Therefore to some extent ASI can not conduct to survey and have meetings efficiently and effectively. • ASI lacks an opportunity to explain its research outcomes and activities at the site. This is partly because it does not have an on-site museum. • ASI's security staff and a souvenir shops lack hospitality attitude. Hospitality is very important to get repeaters for being self-sustainable tourism destination. • World heritage sites are regulated on setting new structures even for safety. But there is no first-aid station on the site.

	Opportunities
MTDC's VCs	• VCs can rent out spaces for various purposes. VCs has huge spaces containing ASI's laboratory, meeting rooms, Auditoriums and Amphitheatre. • VCs can contribute training programmes. VCs plans to employ tourism experts and conduct training programmes in the VCs before opening.
ASI	• ASI can widely tell about its research outcomes and hold activities on the site. ASI has vast knowledge, information and high resolution photographs on the caves, history and religion. Also, VCs have huge exhibition areas. • ASI can hold various educational activities. Because ASI has experience of seminars and workshops at caves. Also, VCs have auditoriums and orientation spaces.

Source: JICA Study Team

If the opportunities are conducted with the way of complementing the MTDC and ASI relationship the constraints might have possibility to be resolved.

For instance, MTDC offers training program on hospitality and ASI's staffs can participate and get better attitude towards tourism. On the other hand, ASI offers information on the newest research outcomes and materials for self-sustainable exhibition. In addition, ASI can provide other services such as interpret and analyzed research outcomes and can provide assistance for product promotion. And the VCs have huge available space that can be used for promotional material displays such as billboards and murals for conservation. The auditorium, for instance can be used to show movies regarding interpretation of caves, milestone of conservation efforts of ASI and other presentation materials that can promote safety precaution in the sites for visitors. In this way, conservation efforts of ASI will be enhanced while increasing visitors in VCs.

In addition, One immediate effort that MTDC and ASI may need to consider is to set up a new working group that will: 1) review the constraints and opportunities observed in these sites; 2)

come up with comprehensive exhibition materials package that serve the purpose and vision of MTDC and ASI.

2.6.2. Cooperation with other tourism stakeholders

(1) Aurangabad Festival Committee

There is no section for tourism at local government levels. However, Aurangabad has experiences of successfully hosting the Ellora Ajanta Aurangabad Festivals. The festival has been organized by Aurangabad Festival Committee, under which stakeholders with different backgrounds have collaborated. They include, although members change year-by-year, MTDC, Aurangabad Hotel and Restaurant Association, Tourism Promoters Guild, Chamber of Marathwada Industries and Agriculture, and INTACH.

This is a good example of MTDC's capability to collaborate with local government bodies and other tourism stakeholders. It also shows that local government bodies and local people are also interested in participating in tourism. Although the committee is organised specifically for the festival, a similar organisation may be created to promote the decentralisation of tourism administration.

(2) Tourism Promoters Guild

Tourism Promoters Guild is an organisation consisting of members from universities, the travel trade and others. Compared with the Hotel and Restaurant Association, it covers a wider range of people; therefore it is regarded to be more open and participatory organisation compared with the former. The characteristics of the organisation have good affinity with that of the visitor centres, functions of which include not only restaurants and shops but also museum and venues for cultural activities. The organisation is reported to be not very active at present but the visitor centres have a potential to revitalise it.

(3) Shop owners associations

There are many small shops near the entrance to the caves both in Ajanta and Ellora. They have an association at each site to protect their business because they have been relocated, or afraid of being relocated for conservation purpose from favourable locations near the caves.

In Ajanta, shop owners have been complaining of MTDC's amenity fee of Rs.7 that is charged to both domestic and foreign visitors at the entrance of the parking before they reach the Shopping Plaza, where their shops and restaurants are located. They are not complaining of the fee itself but the location it is charged; the current location to collect the fee limits the number of people who come to the Shopping Plaza. Besides, many of the shop owners feel that they have been almost forcibly relocated from the original location near the entrance gate of the Ajanta Caves. MTDC's land acquisition process in Ajanta is also criticised by some locals.

In Ellora, small shops and restaurants line up along the National Road section between the visitor centre and ASI's gate into the archaeological site. They are also afraid of being

relocated from their current location like in Ajanta, and the Study Team was explained that the shop owners' association was established to protect their business from such conduct.

For both locations, the opening of the visitor centres may affect their business negatively, because it introduces new competitors. The visitor centres, however, could bring more potential customers if they provide additional attractions for visitors and locals, and are used for venues for events and festivals. The management plan for the visitor centres should be designed taking this aspect into account. Fortunately, visitor statistics show an increasing trend for both domestic and foreign visitor numbers. Interviews with the travel trade in Aurangabad also revealed that spending two days for Ajanta and Ellora is increasingly popular thanks to the promotion activities by MOT, MTDC and local tour operators to increase awareness about the abundance of tourist attractions in the area, which means that time spent at each site could be extended if the visitor centres provide services and facilities that cater to the needs of the visitors.

(4) Mécénat (corporate patronage of art and culture)

Mécénat is a French word that means corporate activities to support art and cultures. In India, it is often referred to as CSR or Corporate Social Responsibility. It is a corporate activity to provide patronage to art and culture thereby contributing to the society where they operate, as well as disseminating a favourable corporate image. Due to India's booming economy, mécénat is becoming widely recognised among corporate representatives, and supporting conservation and cultural activities related to World Heritage sites should attract their attention.

Despite its appearance, Aurangabad is an industrial city thanks largely to the industrial estates developed by Maharashtra Industrial Development Corporation (MIDC) and its efforts to invite world renowned corporations since 1960s. Table 2-10 shows a list of major corporations that operate in Aurangabad.

Table 2-10 List of major corporations in Aurangabad

Bajaj Auto	Greaves Cotton	Seminis Seeds
Baxter	Johnson & Johnson	Siemens
Colgate-Palmolive	Kenstar	Škoda Auto
Endress+Hauser	Lombardini India	Sterlite Optical Technologies
Forbes Gokak Ltd	Mahyco Seeds / Monsanto	Videocon
Franke	MAN Diesel	Wockhardt
Goodyear		

Source: JICA Study Team

They may not be stakeholders of tourism development but many of them are potential patrons for art and cultural activities related to the visitor centres.

2.7. Revenue and Expenditure Sources

The Study Team found it quite difficult to obtain any financial and accounting information from various organizations as official evidences, except those of tariffs for water supply, electricity and telephone lines.

Verbal information has been obtained for salary scales for engineers as well as maintenance staff and staff working in hospitality industry as general information.

It is important to determine the demarcation of costs for promotion activities before the opening of the visitor centres; this should be clarified with MOT and MTDC. Insofar as revenue projections of the Visitor Centres (both at Ajanta & Ellora) are concerned, it would be broadly classified into two streams:

- Capital receipts: usually by way of one-time or recurring grants which may be received from the State Government, Central Government or as donations from other domestic (National) or International sources, or from the lease and/or sale of assets.
- Revenue receipts: usually by way of fees/ visitor charges from services offered by the facilities, including rentals.

Expenditure, on the other hand, would broadly be comprised of:

- Capital expenditure: Used to create assets for operations – much of this has already been incurred by the MTDC in creating the physical built forms of the visitor centres.
- Revenue expenditure: Expenses on various aspects of operations, viz. Establishment (salaries & overheads), operating costs (energy, water, maintenance, telecommunications, conveyance), procured services (security, exhibition/ event management etc.), miscellaneous recurring expenditure (consumables, contingencies, depreciation & sinking funds)

The difference between the two would be classified as revenue surplus or deficit. With the progress of time, certain factors would change or alter, till such time as the entire set of assets is deemed expendable, and the investment made over such time is deemed to have served its economic purpose. The sum total of such costs incurred over the duration of time (i.e. till such investment deemed to have served its economic purpose), is known as life-cycle cost. Typically, life-cycle duration is taken as 20 years.

Estimates of revenue receipts can be had from:

- Other MTDC-owned establishments offering analogous services (as proposed in the Visitor Centres).
- Similar facilities currently operating in the Ajanta & Ellora cave sites and its area of influence (e.g. areas which work as resting/ stopover points en route), which also offer competing variants of identical or analogous services as to what has been proposed in the Visitor Centres.

2.7.1. Cash flows

Activities catering to visitors with these purposes may be developed into revenue streams by way of:

- Hospitality & leisure activities
- Commissioned research facilities with captive clientele

The revenue streams for these activities are being worked out separately.

We collected the following information for revenue and expenditure items for visitor centre cash flow.

- Ajanta and Ellora caves and other museum tariffs
- MTDC payscale
- Non-skilled personnel cost for MTDC hotels and museums
- Additional capital expenditure unit cost for restaurant
- Utility unit cost for electricity, telephone, water

For MTDC to receive subsidy from the state or central government, it should coincide the budget request timing, which is according to a fiscal year beginning April. Based on the discussions with various stakeholders and investigation made in Aurangabad, Mumbai and Delhi, the Study Team drafted the following list of assumed items for both revenues and expenditures for visitor centres:

(1) Assumed revenue sources

- Admission fee
- Lease/rentals (shop, restaurant, cafeteria, craft centre, auditorium, amphitheatre, exhibition hall and conference hall)
- Shuttle bus services
- Education activities
- Museum products (publications, posters, DVD, posters, handicrafts and souvenirs)
- Parking spaces

(2) Assumed operating and maintenance costs

- Recurrent costs for electricity, water, ITC, waste disposal and gas and fuel
- Personnel costs (including accommodation and transportation)
- PR and publication costs
- Maintenance costs for equipment and facility
- Planning and administration costs

An experienced tour guide pointed out that the lack of good restaurants, in particular, in Ajanta is a reason for his customers' reluctance to stay longer in the sites because they need

to go back to Aurangabad to have lunch in a reasonably clean restaurant. In this sense, inviting good restaurants has a strategic importance for the visitor centres.

Introduction of a re-entry system to the caves would encourage visitors to stay longer at the visitor centres since it allows serious visitors to come back to the visitor centres to have lunch and miss the hottest time of the day in the visitor centres. It is also noted that the re-entry system would give good rationale for the price increase.

The Study team conducted interviews with stakeholders with different backgrounds about possible amount of entrance fees to the historical monuments and upcoming visitor centres.

Most of the interviewees first referred to the possibility of increasing foreign visitors' entrance fees, but they gradually shifted their focus on various possibilities for getting additional revenues from domestic visitors as discussion continues, and many agreed on the necessity to increase domestic visitors' entry fee, which is Rs.10 at present, from the viewpoint of enhancing visitors' experience in the caves saying that many of the local visitors come to the caves for picnicking rather than for observing the caves for their historical value.

There is a lack of leisure facilities in Aurangabad District, and it is pointed out that the lack of leisure facilities results in the increase of local visitors in the caves and they could be diverted to the visitor centres if they have proper attractions for them.

The Study Team considers that the entrance fee for domestic visitors, which is Rs.10 at both sites is too small considering India's improved economic situation and growth trend of disposable income. The entrance fee for the foreigners, which is Rs.250 at both sites, is still inexpensive if it is compared with other world heritage sites, which is around $10 on average. For both types of visitors, a reason should be given to rationalise the increase of entrance fees. New attractions and services in the visitor centres could be planned as a rationale for the price increase.

2.8. Similar Cases in India

The Study Team visited various museums, restaurant, shops and institutions in New Delhi, Mumbai and Aurangabad, obtained some information of examples of managing facilities for tourists, and visited some tourism facilities to evaluate the level of services and how they are contracting out the various services.

Further to the study of similar cases, the Study Team also discussed with relevant institutions and candidate organisations the feasibility of contracting out or to have possible collaboration which could clarify any problems to be solved in-house.

There are major differences in delivery of services and level of facilities between the high-end hotels and restaurants in Mumbai and public and MTDC owned facilities in Aurangabad. The employment of capable and trained staff is the key for the functionality of the visitor centres; however the payment rate of personnel and incentives will also determine the attractiveness of their positions. If the project intends to employ young local people in the vicinity of the sites

and Aurangabad, a proper training programme should be developed and implemented and assisted by hospitality management schools in Mumbai and Aurangabad.

2.8.1. Kuoni Academy, Mumbai

Kuoni Academy is basically a privately owned Swiss company by vocational institute with 2,000 staff which offers intern certificate, hands-on knowledge, and provision for internship. It has partnership with VFS-Visa Facilitation Service (having 358 global Back-offices) which trains consulate students from south-east Asia and other parts of the world focused on low income, mid-class, generally poor people. Enterprise model include franchises with privately owned organizations in 5 centres controlled by Kuoni centres in Delhi, Bombay, Hyderabad, Chennai, Bangalore which directly controls 12 partnerships.

Moreover the academy introduces the franchise system with legal and financial staffs. The most important point is accessibility which affects travel time. If it takes 3 hrs to get to school, students will not have enough time to study. The KUONI Academy does not compete with University because it is primarily a vocational school. But there are typo-programs, MBA program and 2 years master course in collaboration with universities in UK and Switzerland.

Kuoni Academy has 21 centres in all over India and Maharashtra state total 5 centres, 3 at Mumbai, 1 at Pune and 1 at Nagpur, primarily a vocational school. There are also short programs, 4 months, 6 months and 1 year with ticketing system. Under the programs, student studies for 2-4 hours and then student can go to higher education or internship to match their situation. Because the KUONI Academy is oriented more towards job training then promoting internship, example such as for McDonalds Restaurants, Thomas Cook as well as others.

Higher education programs involve partnership with private companies as IMF, UK; Rome, Italy; also Malaysia. Vocational training is generally (3rd) term internship is in the foreign country of origin.

Vocational schools provides one year internship certificates, UG-under graduate, Post graduate, Bachelor of Business Management, MBA-Master Business Administration generally for low, mid-class income people. Higher vocational education involves partnerships with private organization for enterprise training as McDonalds Restaurants, Italian and United Kingdom for travel knowledge as Hogd, Robinson Group.

The KUONI Academy teaches foreign languages, majorly French and German, and recently opened a class for Japanese and Chinese.

Kuoni Academy is self sustained, fee based, private, corporate planning, franchise fee/royalty, advertise proposals in-house, do search and have legal staff. The Academy trains owner management every 3 months as a rule.

Kuoni has 50/50 partnership with Government of Malaysia in regard to education/ empowerment for travel industry, operational travel management, teach hospitality, and teach

foreign language such as French/German. Chinese and Japanese language is in the works considered.

Kuoni is a 5/6 year franchise company with catchment area near their academy. It has a scientific catchment using GPS system. Primary research is costly therefore they have to be right from the beginning to foster to upper, middle, lower class students with access time balance of (1.5 - 2) hours.

AV room of Kuoni Academy

Regional Head-West and Students of Kuoni Academy: one student was speaking in Japanese and another student came from Aurangabad.

Bedroom of Kuoni Academy for training

PC room of Kuoni Academy

2.8.2. Institute of Hotel Management (IHM), Aurangabad

Institute of Hotel Management was created by Dr. Rafiq Zakaria through his funding and the Taj hotel group. The institute is located adjacent to the Taj Hotel in Aurangabad and students are having on-the-job training at the hotel. IHM was founded about 15 years ago. Taj is considered an economic hotel in Ajanta area, but decided not to go forward. They found people who want to return to Aurangabad. There are no comparable school for hospitality in India. Students (Indian origin) come from all over the world. Students from Aurangabad area number about 10%.

They also have association with University of Huddersfield, UK for academic program.

The program is are scheduled for 4 years where120 weeks will be spent which include 36 weeks of on-the-job training experience at hotels, etc. (operation, project, senior level assistance should have experience with on-the-job practice for 12 weeks each). There are 2 courses, one is in business operations and the other is restaurant.

Types of Hotel Management Courses offered include Professorship, Culinary, and Hotel Management. Tuition fee is (Rs. 16 lakhs) for 4 years. The accommodations to the hotels number 225 men. Approximate ratio of male / female grads is 50/50.

Total students number is about 700 and to 44 teachers. Man to woman ratio is 1:1. Total of 180 students are accepted out of 1000 applications. The tuition cost for food and lodging is presently Rs. 1,600,000 (Rs. 16 lakhs).

Course restrictions are that foreign nationals may not apply unless there is a mix of nationalities that apply and Indian origin acceptable. The ratio of 1 in 5 are selected after passing the national entrance exam. Presently there are 46 Teachers and the ratio is 1 to15 students. International degree/certification is awarded after graduation by the University at Yorkshire, England.

Hospitality job is not considered attractive, thus many graduates work for non-hospitality companies. For example, Louis Vuitton pays 5 times more for their position than a hotel. Marks & Spencers, UK department store chain, is another example which pay more.

Presently, the top 5 grads are girls. Hospitality grads mainly go into houses, retail, management, real estate management, tourist management, etc. Grads generally have a (100-150%) chance of acquiring jobs depending on the graduate institute.

Management grads have 100-150% chance to get jobs depended on work/study level with guaranteed skill in IT and/or Management of choice.

Hospitality service teaches students how to observe and entrust service with inclusion or exclusion of service. Students are thought to pay special attention to behaviour pattern of guests whether or not to pay attention to guests which depend on their actions. The school philosophy is to learn to observe guest whether one should be left alone or needs assistance for whatever reasons.

Educating management models teach one to run own operation and outsource later as the needs arise, guarantee on return investment, and restaurant management.

Revenue in regard to “Operations/Investments” on restaurants shall have a “Bench mark” of 30% for material costs and to place 20% back into business for growth.

The aim is to provide world class archives by upgrading IT and capacity to modernize electronic data to achieve simultaneous translations, modern digital equipment to upgrade capacity in every way.

The present cost ratios for doing business are 1:2-Aurangabad, 1:3-Bombay, 1:4-Ajanta, 1:5 New Delhi.

Radial development analyzed shows great potential in Aurangabad's suburban development within the 100 Km radial area which show it will take less time to reach the city centre in the radial development future study.

Local shopping trends tend to energize the younger generation to promote "Livelihood" and sales competition between locals. Urgency is to direct customers to government "authorized stores". Most importantly, the main goal should be to implement and promote top attractions towards getting "Value for the Money".

Challenging future planning is the key. Most importantly, studies show that "Buddhism" is a big draw in India. Future planning should include the thought to promote locals/foreigners for future theme attractions. The main intentions may be directed towards Sri Lankan people to promote "value for money" which is important for attracting the tourism movement in Aurangabad.

Lower demographic staff are generally local people where it may be harder to sell to them since they won't simply buy anything. Ajanta needs big time activities but have better position due to being advertised exclusively, most importantly, to focus on the travellers such as to Ellora, where visitors go because it is easily reached and advertised.

Interaction: Japan side suggested "workshops" classes should be incorporated to interact with students and Japanese instructors should be on campus to facilitate students to understand tourism methods in Japan by utilizing power point presentations or other possible means.

One big aim is to get students involved. The Principal has visions to involve students on visionary work for tourism. Young students have great vision and ideas of the future. Brilliant ideas come from students in regards to conceptual ideas as proven from design projects given recently such as "Hotels for 2030". Brilliant visionary designs were emphasized in their designs for hotels using modern technology, IT, holographic companions, glass walls as screen, retractable partitions, etc. Also, fashion shows to emphasize local fashion design capabilities inspired by international design styles using local/international fabrics. There are no limits on architectural design, fabric or stone jewellery design.

2.8.3. Dr. Babasaheb Ambedkar Marathwada University Museum, Aurangabad

The University participates in (archaeology) excavation and collects artefacts found. The University received a grant in 1973 from government commission to explore Indian culture. Department of History was formed to explore Indian culture (archaeology). The university has artefacts ranging from 200BC-280BC.

"Museology" was formed one year post graduate diploma/degree to receive a "curator" certificate which is approved by the city government. Funds are from private industry and grant from Culture of Ministry.

The curator post graduate program begun two years ago. Six staff members are presently active at the university as translators of manuscripts (3,000 works are collected to date. Archives have 26,000 items collected as manuscripts, photographs, artefacts. School children visit with families or by themselves and the museum curator will directly introduce them to exhibits and educate them. Indian culture has great interest to European visitors as well who want to learn about Indian culture.

Museological course has started this year. After graduation, it is impossible to get curatorship degree but only diploma certification.

There is a special course presently offered which does site research of the Ajanta caves and documents findings for record and history of the caves.

2.8.4. State Archaeological Museum, Aurangabad

The study team visited the State Archaeology Museum since it has been used for Ellora Festival. The museum has an area for the people gathering such as the festival. As a museum, their exhibition and research capability seems very limited due to the lack of people

Concerning the Ajanta-Ellora festival, the festival was held at this museum 3 or 4 times but not always held as a rule. It is conducted by the commissioner with collaboration with the Tourism Department. There were 10,000 people at the festival continued for 3 or 4 days.

There are 12 to 13 monuments in Aurangabad protected by the State Government. The Department of Archaeology and Museum (State Government) is executing 2 projects for ancient monuments, a garden outside of Khuldabad village and a fortress built by Shahaji.

There are 13 museums in Maharashtra and 2 museums in Aurangabad area. One is this State Archaeology Museum and the other is in Paithal.

The small Laboratory of the State Archaeology is in Pahur where there is a large museum.

Revenue from the entrance fee which comes to approximately (Rs. 3,000 per month) goes to the Tourism Department and the museum is allocated from state side. Concerning the maintenance budget cost last year it was Rs. 21,500 (2.15 lakhs).

The Museum is officially closed on Mondays and was agreed to internationally. Museum opening hours during week is from 10:00 hrs. – 17:30 hrs.

It is difficult to employ technical staffs, especially “museology” staffs because the State Government does not allow technical staff posts at this position. The museum has requested the State Government to incorporate the post to facilitate operations.

The museum offers official lectures when the students are scheduled to visit. It is not presently allowed by the government officially, however, the museum requests the State Government to permit it unofficially

In collaboration with ASI, just ASI helps the state Archaeology. They do not exchange person as well as others.

Employee number the following; One Director (seat in Mumbai), One Assistant Director, One Assistant Curator, One Clerk, three Cleaning staff, two Security (for the museum and office during the night)

Entrance fees are Adult (Rs. 3), Child (below 12 years old) Rs. 1.

The price is the same for Indian and foreigner but generally there are a few foreigners which account for 10% of visitors.

2.8.5. Institute of Hotel Management, Catering Technology & Applied Nutrition, Mumbai

The Institute of Hotel Management, Catering Technology & Applied Nutrition was set up in 1954, and a Registered Society financed and administered by Government of India, Ministry of Tourism and has a Board of Governors consisting of eminent persons from the Government, industry, academic and management fields.

The Institute has the largest facilities of its kind in the country, is well equipped and has fully furnished laboratories and classrooms. They have 6 Kitchens, 4 Bakery Laboratories, 1 Front Office Laboratory, 2 Housekeeping & Laundry Laboratories, 2 Training Restaurants, 1 Auditorium, 1 Audio-Visual Room, 14 Classrooms and Gymnasium, 24 hrs Internet Facility. Students can have on-the-job training to become familiar with the actual business practice.

This institute has 2 full-time courses, and 1 part time course. The degree courses affiliated with the national council for hotel management catering technology & IGNOU have 2 courses available.

One certification is M.Sc. in Hospitality Administration, which takes two years. This Programme is a judicious blend of intensive classroom contact and distance learning. The other course certified is B.Sc. in Hospitality and Hotel Administration. Students have to pay INR 8,300 tuition fee for the courses.

The Bachelor of Science programme in Hospitality and Hotel Administration is offered jointly by the National Council for Hotel Management and the Indira Gandhi National Open University. The 3-year programme familiarise students with all the required skills, knowledge and attitude to efficiently discharge supervisory responsibilities in the Hospitality sector. The programme also involves in-depth laboratory work for students to acquire required knowledge and skill standards, in the operational areas of Food Production, Food and Beverage Service, Front Office Operation and Housekeeping. The programme focus on substantial management inputs in areas of Sales and Marketing, Financial Management, Human Resource Management, Hotel and Catering, Law, Property Management, Entrepreneurship Development, Computers with special focus on Tourism Studies.

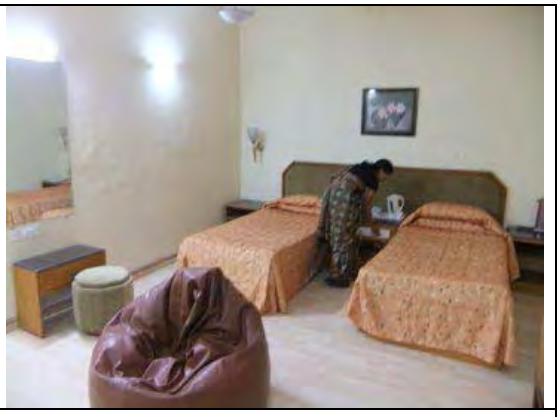
Courses Affiliated to the National Council for Hotel Management and Catering Technology have 5 courses offered. They have A. Post Graduate Diploma course in Accommodation Operations & Management, one and half year, B. Post Graduate Diploma Course in Dietetics and Hospital Food Service, one year, C. Certificate course in Hotel & Catering Management (BI-Annual), 21 weeks full time, twice a year (June / July & Nov. / Dec.), D. Craftsmanship Course in Food Production & Patisserie, One & half year, E. Craftsmanship Course in Food & Beverage Service, 24 weeks (half year full time, twice a year in June and December).

The part time courses and other courses include; a. Craftsmanship course in cookery, b. Craftsmanship course in Bakery, c. Craftsmanship course in Bartending, each 3 months, twice a year (July / Jan.) 2-5 p.m. , d. Craftsmanship Course in Accommodation (Housekeeping) Services, 3 months, full time, e. Khansama Course in Hotel Operations, 6 months duration, 6 months training (June / Dec.), f. Certificate Courses in Basic / Advanced French Language, evening courses 5.30 p.m. to 7.30 p.m., 3 months, g. Certificate course for Airlines Cabin Crew positions, 24 weeks, Mon. - Fri, 9 a.m. to 15 p.m.. Students have to pay INR 2,500 tuition for the said course items (a – c) above.

The student ratio (male / female) is 80/20. The jobs in Hotel and Tourism are not attractive to students, thus many graduates do not work for them. When graduates get jobs on tourism industry, the pay is INR 15 - 20,000 per month, at first. IT companies pay more than 2 times.

They have Training Hotel, IHM Mumbai, Hospitality Management Applied Training Centre (HMATC). IHM Mumbai has the distinction of opening the first training hotel in the country. A long cherished, distant dream became a reality when Hospitality Management Applied Training Centre (HMATC) was commissioned on 1st of December 1998. The HMATC is the Training Hotel of IHM, Mumbai and is designed to provide the 3-Star rated accommodation facility with high quality of service. The HMATC has 41 luxurious rooms, a 30 seat restaurant, a conference room, and a mini-conference room. The facility is available only for registered guests and walk-in guests are not permitted.

Kitchen of HMATC for training



Executive Deluxe Room of HMATC

2.8.6. Chhatrapati Shivaji Maharaj Vastu Sangrahalava Museum, Mumbai

The museum follows guidelines set-forth by the state government regarding exhibitions and activities. The museum is an autonomous body managed by the board of trustees and the museum is a private organization. The State and Central Governments will only release their funds for specific development projects and have continued the present system since 2004.

Total museum land area is 65,000m^2 and information on total floor area of the building was not available. There is museum related course and art conservation course affiliated with the Mumbai University having two year course diploma and this is the only available course in Maharashtra.

Total expenditure is INR 40,000,000 (4 crores), where 70-75% of it is salaries for staff, 20% is electricity, O/M cost and administration expenses, 10% is operational cost for educational activities, seminars, workshops as well as others. Revenue is composed of 65% admission fee, 30% rental income of gallery spaces and auditorium. The sales of publications such as guide books are expected to be INR 22,000-25,000/annum.

Concerning donations, the museum is a member of the "Museum Society of Bombay" getting sponsorship and utilization of donated money has to be accountable to all donors in order to demonstrate the proper utilization of funds. Recently, the museum is publishing news letters and collaborating on planned exhibitions with external institutions.

The museum does not currently pay tax. Under regulation, if they generate some profits, they can accumulate this and will be able to use them during the next 5 years.

There are total of 170 staff, where 150 are permanent staff and 20 staff is on part-time contract basis. 150 permanent staff is composed of 4 senior managers which include Director and Assistant Directors, 8 curators, 13 office and administration staff, around 70 gallery staff include young ladies, gallery attendee, watchmen and gardeners, 55 contract staff is outsourced including 40 security staff and15 housekeeping staff. The working system for security staff only adopts a shift style so the museum is secured for 24 hrs.

Although the museum is an autonomous body, the museum needs to follow the State Government policy for the job security of employees. Therefore, they are extending employment period for those who had become retirement age by adopting outsourcing especially for housekeeping and gardener staff

The change of entrance fee can be altered by the board of trustees and the museum is only required to intimate the State Government for their change according to the guidelines of the State Government.

The security is also very important for the museum to strengthen their safety and the museum therefore started outsourcing these staff to facilitate their present system.

The number of visitors annually totals 700,000 (7 lakhs)/annum including foreign visitors. The foreigners number 42,000/annum. The entrance fee for students is IDR 15 and the same price for Indians and foreigners alike, because many foreign students are presently visiting the museum. The foreign visitors (up to12 year old) will be charged IDR 300 and Indian visitors (12 years old) will be charged IDR 25.

The museum is presently facing a parking problem and this may affect the potential visitor attendance. There are no parking spaces for large buses and private cars, but they are able to park in front of the museum.

There is small café at the museum, but now a new one is in planning along with the renovation plan that was approved by the central government grant, for the Ministry of Culture.

2.8.7. Dr. Bhau Daji Lad Museum

The museum has put a trust system that is composed of the Bombay Municipal Corporation (BMC) and the Jamnalal Bajaj Foundation since 2003. The funds from Bajaj Foundation were used for the restoration of the museum building and around 2000 objects. The land, building and all objects belong to BMC.

The original amount of the trustee fund is around INR 200,000,000 (20 crores). The museum was subsidized by the BMC from 2003 to 2009. Recently the museum became financially independent from the BMC.

There are 6 people from the BMC, 3 people from the Bajaj and 10 people from INTACH and other museums, and the Mayer is the chairperson on the board of trustees (BOT).

Staffs working in the museum are from various sectors, of private sector or semi-private sector. The museum is outsourcing private consultants who are mainly young people for planning exhibition, education and event. Workers for maintenance are outsourced as well.

Museum staff managed/supervised by Trust Management has provided their expertise from the private sector such as exhibition staff chosen from educated young graduates trained in their staff requirement. Incentives have been developed to attract young graduates in wanting to work for the government organization. Financial problem solving was the function of the Trust's research administration.

There are 10-12 administration people including secretary assistants, officers and as well as others and 23 gallery staffs including 10 gallery attendants. Security staffs for the building and garden are from the municipal and security cameras are not presently in place, however, metal detectors are in use, and will need to be up-graded.

The annual number of visitors is 200,000 (2 lakhs) in each last 2 year. There are 500-600 visitors everyday and 3,000 visitors per day on Saturday and Sunday. There are many family visitors in the museum because of a zoo next to the museum. The museum focuses on education.

The maintenance cost and running cost for the museum shop is borne by the trust. The museum shop sells around INR 90,000 per year. The museum does not have a café.

There are demands of usage of the museum from filming firms, but the trust deed prohibits it.

2.8.8. National Museum

The Study Team visited the National Museum in New Delhi to understand the operational and managerial aspects from ASI. The National Museum also houses the National Museum Institute of History of Art, Conservation and Museology within the building and provides a three year diploma course.

The admission fee is INR 300, but includes free audio guide to all visitors. The available languages are in English, French, German, Japanese and Hindi languages.

Front façade of the National Museum

All belongings are to be stored in this cloakroom before entering into the Museum.

2.9. Analysis of Tourism Market to Ajanta Ellora Aurangabad

2.9.1. Overview of visitor arrivals to the caves

Table 2-11 shows that the number of visitor arrivals to the Ajanta Caves was 319,427 and 592,661 for the Ellora Caves in 2008. The percentage of foreigners visiting Ajanta and Ellora Caves was 9.2% and 3.1% respectively in 2008, which means that the visitors to the caves are predominantly domestic. Although in 2008 some decrease of foreign visitor numbers due to the world economic crisis and the terrorist attacks in Mumbai, the table shows a favourable trend of visitor arrivals, in particular, that of foreigners to the World Heritage sites.

Table 2-11 Number of visitor arrivals to the Ajanta and Ellora caves

	Ajanta				Ellora			
	Domestic	Foreign	%	Total	Domestic	Foreign	%	Total
2001	283,281	15,529	5.2%	298,810	442,329	10,460	2.3%	452,789
2002	269,959	17,639	6.1%	287,598	383,214	10,627	2.7%	393,841
2003	289,130	23,139	7.4%	312,269	432,762	13,727	3.1%	446,489
2004	271,681	28,642	9.5%	300,323	377,909	15,977	4.1%	393,886
2005	263,943	28,700	9.8%	292,643	311,168	14,833	4.5%	326,001
2006	272,556	33,188	10.9%	305,744	325,083	14,444	4.3%	339,527
2007	314,354	33,802	9.7%	348,156	505,848	19,201	3.7%	525,049
2008	290,062	29,365	9.2%	319,427	574,370	18,291	3.1%	592,661
AGR*	0.3%	9.5%		1.0%	3.8%	8.3%		3.9%

Note: * Annualised Growth Rate

Source: India Tourism Statistics 2008, MOT, MTDC, ASI

One of the reasons for a larger domestic visitor volume to Ellora is said to be the presence of Grishneshwar Temple in the same village. The temple is very important from Hindu religious terms and many of the domestic visitors to Ellora combine their pilgrimage with the visit to the archaeological site. It is noted from a tourism viewpoint that the temple is open to non-Hindus and has good potential to attract foreigners to observe Hindu religious activities. Further, the Ellora Visitor Centre is located midway between the temple and the caves; therefore a flow line with the temple needs to be considered to plan visitor management in Ellora because many of the visitors to Ellora also visit the temple.

Entry fees to the both caves are Rs.10 for domestic and Rs.250 for foreign visitors. Figure 2-6 shows the composition of domestic and foreign visitors in terms of visitor arrivals and income from ticket sales calculated from the above-mentioned tariff system.

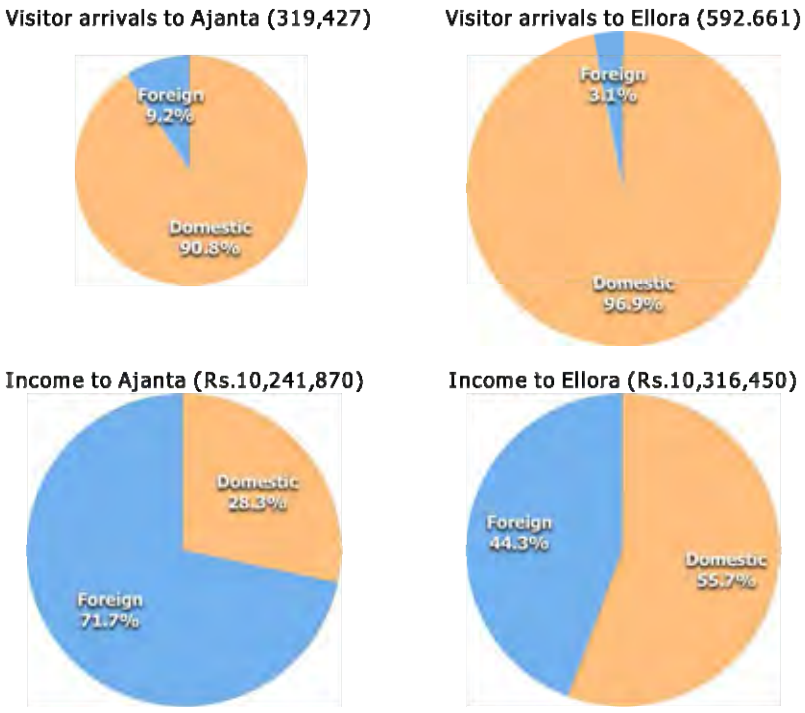


Figure 2-6 Composition of domestic and foreign visitors (2008)

Source: India Tourism Statistics 2008, MOT, MTDC, ASI

Although the percentage of foreign visitors is 9.2% for Ajanta and 3.1% for Ellora, the income from foreign visitors constitutes 71.7% for Ajanta and 44.3% for Ellora under the current tariff system. Although the visitor number to Ellora is greater than that of Ajanta by 85.5% in 2008, the total amounts of income from ticket sales are almost identical at the two sites; Rs.10.2 million for Ajanta and Rs.10.3 million for Ellora.

It is noted that the ASI's statistics of visitor arrivals to the protected monuments do not always mean tourism. For example, Bibi-ka-Maqbara in Aurangabad received 983,867 visitors in 2008, which is almost twice as much as that of Ellora. Daulatabad Fort located between Aurangabad and Ellora received 447,943 visitors, which is larger than that of Ajanta. The popularity of Bibi-Ka-Maqbara probably comes from its location close to the urban centre of Aurangabad. Since there is no big park or green space in Aurangabad, the famous mausoleum surrounded by a beautiful garden is probably used as a park by locals due to its convenient location and the nominal entrance fee of Rs.10.

2.9.2. Visitor arrivals to historical monuments

Table 2-12 is presented to provide an overall view of the visitor arrivals to the historical monuments in India. The data comes from ASI's protected monuments where they issue ticket for entry. There are 27 World Heritage Sites in India, out of which ASI manages 15 sites. The table lists the top 47 sites including 15 World Heritage Sites according to total visitor arrivals, out of ASI's 118 ticketed monuments. ASI's 118 ticketed monuments received a total of 31,465,367 in 2008, and foreigners constituted 8.5% (2,679,763) of the total visitor arrivals.

Table 2-12 Number of visitor arrivals to ASI's ticketed monuments (2008)

	Name of Monuments	ASI Circle	Visitors total	Foreign visitors	%
1	**Taj Mahal**	Agra	3,225,843	591,560	18.3%
2	**Qutab Minar**	Delhi	2,398,877	277,453	11.6%
3	**Red Fort**	Delhi	2,330,315	153,551	6.6%
4	**Agra Fort**	Agra	1,675,507	385,697	23.0%
5	**Sun Temple, Konark**	Bhubaneswar	1,480,149	9,067	0.6%
6	Charminar, Hyderabad	Hyderabad	1,413,473	12049	0.9%
7	Golconda Fort, Golkonda	Hyderabad	1,259,659	18,021	1.4%
8	Bibi-ka-Maqbara	Aurangabad	983,867	14,818	1.5%
9	Gol-Gumbaz, Bijapur	Dharwad	841,949	3,257	0.4%
10	Daria Daulat Bagh, Srirangapatnam	Bangalore	731,472	23,989	3.3%
11	**Ellora Caves**	Aurangabad	592,661	18,291	3.1%
12	Purana Quila	Delhi	586,931	9,644	1.6%
13	Nalanda Excavated Site	Patna	532,673	30,436	5.7%
14	**Group of Monuments, Hampi**	Bangalore	512,158	30,036	5.9%
15	Museum Murshidabad	Jaipur	496,638	303	0.1%
16	**Fatehpur Sikri**	Agra	483,725	191,242	39.5%
17	**Humayun's Tomb**	Delhi	483,310	223,076	46.2%
18	Daulatabad Fort	Aurangabad	447,943	7,980	1.8%
19	Raigad Fort	Mumbai	414,442	190	0.0%
20	Akbar's Tomb	Agra	334,305	40,801	12.2%
21	Chittaurgarh Fort	Jaipur	334,298	20,585	6.2%
22	Shaniwarwada, Pune	Mumbai	329,932	6,152	1.9%
23	**Ajanta Caves**	Aurangabad	319,427	29,365	9.2%
24	Mattancherry Palace Museum Kochi	Thrissur	319,263	90,201	28.3%
25	Caves at Badami	Dharwad	309,580	7,389	2.4%
26	Caves, Temples & Inscription, Junnar	Mumbai	302,793	68	0.0%
27	Udaigiri & Kandagiri Caves	Bhubaneswar	291,526	2,725	0.9%
28	**Western Group of Temples, Khajuraho**	Bhopal	290,527	89,174	30.7%
29	**Group of Monuments, Mamallapuram**	Chennai	277,683	36,163	13.0%
30	Kooch Bihar Palace	Jaipur	272,212	63	0.0%
31	Vihal Temple, Venkatatapuram	Bangalore	272,205	12,153	4.5%
32	Jantar Mantar	Delhi	269,598	9,746	3.6%
33	Ahom Raja's Palace	Guwahati	266,649	88	0.0%
34	**Elephanta Caves**	Mumbai	256,966	16,924	6.6%
35	Zanana Enclosure, Kamalapur	Bangalore	239,953	17,883	7.5%
36	Samath Excavated Site	Patna	238,874	84,243	35.3%
37	**Group of Temples at Pattadakal**	Dharwad	224,309	5,925	2.6%
38	Gwalior Fort	Bhopal	213,672	16,452	7.7%
39	Rani-ki-Vav, Patan	Vadodra	213,230	2,152	1.0%
40	Chitradurga Fort, Chitradurga	Bangalore	210,635	474	0.2%
41	Rani Roopmati Pavillion, Mandu	Bhopal	206,067	2,382	1.2%
42	Royal Complex, Mandu	Bhopal	198,821	2,999	1.5%
43	Durga Temple Complex, Aihole	Dharwad	189,732	5,529	2.9%
44	Sun Temple Modhera	Vadodra	185,969	2,452	1.3%
45	Bekal Fort Pallikkare	Thrissur	173,894	341	0.2%
46	Rajgiri & Krishnagiri Fort, Gingee	Chennai	162,231	3,207	2.0%
47	**Buddhist Monuments, Sanchi**	Bhopal	151,936	12,333	8.1%
	118 ASI sites total		31,465,367	2,679,763	8.5%

Note: World Heritage Sites are shown with **bold** letters.

Source: India Tourism Statistics 2008, Ministry of Tourism

Taj Mahal in Agra tops the list with the total visitor arrivals of 3.23 million, which is an amazing figure compared with other world heritage sites in the world. It is followed by Qutab Minar (2.4 million) and Red Fort (2.3 million) in Delhi, and Agra Fort (1.7 million). All these sites are World Heritage Sites and located along the Golden Triangle of Delhi – Agra – Jaipur, which is regarded by the travel trade as the first time visitor's destination in India. Compared with the top four sites, Konark Sun Temple (1.5 million) in Bhubaneswar, Orissa, Charminar (1.4 million) and Golkonda Fort (1.3 million) in Hyderabad, Bibi-Ka-Maqbara (1.0 million) in Aurangabad, Gol-Gumbaz (0.8 million) and Daria Daulat Bagh (0.7 million) in Karnataka are characterised by a fact that visitors are predominantly domestic.

Ellora Caves occupies the 11th place, and Ajanta Caves the 23rd in terms of visitor number. They may be receiving large numbers of visitors from the international standard, but the numbers are not so conspicuous from the Indian standard.

Percentage of foreign visitors to the 15 World Heritage Sites are generally higher than the overall average of 8.5% thanks to worldwide publicity. However, shares of foreigners are noticeably low even in the World Heritage Sites such as Konark Sun Temple (0.6%), Pattadakkal (2.6%) and Ellora (3.1%). Ajanta (9.6%) is only marginally higher than the national average. By contrast, shares of foreigners in the monuments along the Golden Triangle such as Taj Mahal (18.3%), Qutub Minar (11.6%), Agra Fort (23.0%), Fatehpur Sikri (39.5%) and Humayun's Tomb (46.2) are much higher than the rest of the monuments. The table shows that foreign visitors still concentrate in the Golden Triangle in the northern India, and that driving foreign visitors out of the Golden Triangle to other parts of India like Ajanta and Ellora is still an important theme of tourism development in India.

It is also noted that ASI does not manage all the tourism resources in India. Temples serving for religious purposes, privately owned historical properties, townscapes, and nature areas are examples of tourism resources that are not managed by ASI. Therefore Table 2-12 covers only partial aspect of tourism in India. As an example, there is no Cultural World Heritage Site in Rajasthan and Kerala, both of which are well known to be successful in tourism development. Therefore, to get an overall picture of tourism in India, other information sources need to be researched to supplement ASI-based information. The following sections will supplement the information from ASI with tourism statistics and information from tour operators.

2.9.3. Tourism in India

As shown in Figure 2-7, India enjoyed double-digit growth for consecutive five years from 2003 to 2007. In 2008, India received 5.28 million international visitors but the growth rate was slightly curved due to the global economic downturn and Mumbai Terrorist Attacks in November. In 2009, MOT's preliminary figure indicates that international visitor arrivals decreased by 3.2% to 5.11 million due to the impact of the terrorist attacks combined with the swine flu. But in relative terms international tourism in India is still going well considering the enormity of impact on tourism from Mumbai Terrorist Attacks, and that the world visitor arrivals grew only 2% in 2008 and decreased by 4% in 2009.

Annualised growth rate of international visitor arrivals to India from 2001 to 2008 is 11.0%, which is exceptionally high. This high growth rate of visitor arrivals is attributed not only to tourism but also to the increase of business travel to India, in particular, software industries. It is noted that the growth rate is much higher than the growth rate of international visitor arrivals to Ajanta and Ellora during the same period, which are "only" 9.5% and 8.3%.

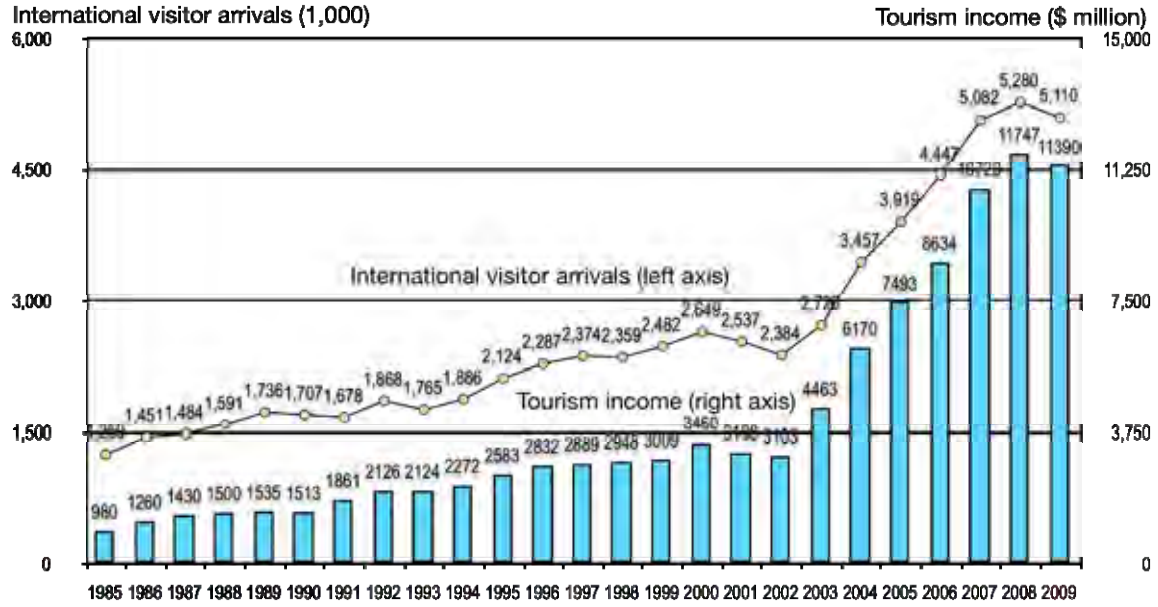


Figure 2-7 International visitor arrivals and tourism income

Source: India Tourism Statistics 2008, Ministry of Tourism

Figure 2-8 shows international arrivals to India by region, and from top 10 countries. It is noted that India receives relatively small numbers of visitors from neighbouring countries as South Asia constitutes only 20% of the visitor arrivals. In many countries, visitor arrivals from neighbouring countries usually account for 60 to 80%. By contrast, Americas and Europe consists 57% of the total visitor arrivals.

Increase of visitor arrivals is the most noticeable from USA, which is closely followed by UK. Growth rates of neighbouring countries like Sri Lanka and Bangladesh are relatively low. Visitor arrivals from Japan were 150,732, which is five times as much as the figure in 1985. Growth rate is not as high as USA and UK but is growing at a steady pace.

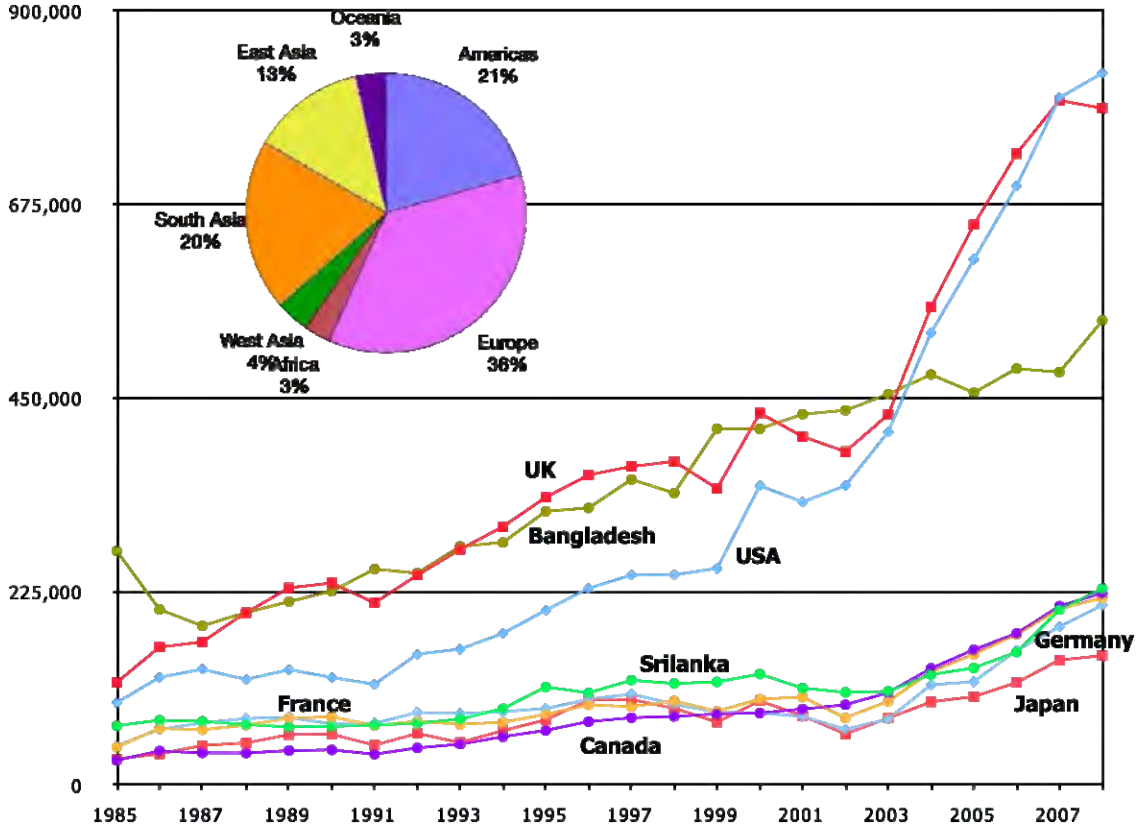


Figure 2-8 International visitor arrivals to India by country and region

Source: India Tourism Statistics 2008, Ministry of Tourism

Ministry of Tourism summarises the visitor arrivals to major tourism sites by state and by domestic and international visitors. According to the statistics, the number of domestic visitors in 2008 was 563 million, which was a 6.9% increase from the previous year, and that international visitors were 1.4 million, a 6.4% increase.

Distribution of hotel rooms is a good indicator of local tourism. Table 2-13 shows the number of hotel rooms by state. Maharashtra State has 19,327 hotel rooms, which is the largest figure in India. The number almost doubled in the four years from 2005 to 2008, and the annualised growth rate is as high as 24.5%. Maharashtra is followed by Tamil Nadu (11,699), Delhi (9,554), Kerala (8,648), Rajasthan (5,206) and Karnataka (4,866). The table shows tourism is less developed in the eastern part of India.

Table 2-13 Number of hotel rooms by state

State/Union Territory	2005	2006	2007	2008	AGR
Andhra Pradesh	6,844	6,475	5,976	7,390	2.6%
Arunachal Pradesh	-	-	10	31	0.0%
Assam	272	272	491	638	32.9%
Bihar	743	375	294	373	-20.5%
Chhattisgarh	44	68	160	160	53.8%
Delhi	6,931	8,565	8,855	9,554	11.3%
Goa	4,497	4,657	4,241	5,364	6.1%
Gujarat	2,871	3,177	3,097	3,984	11.5%
Haryana	1,196	1,295	1,520	2,525	28.3%
Himachal Pradesh	1,162	1,296	852	915	-7.7%
Jammu & Kashmir	408	239	286	239	-16.3%
Jharkhand	145	198	249	278	24.2%
Karnataka	3,475	3,382	4,007	4,866	11.9%
Kerala	7,728	7,463	8,487	8,648	3.8%
Madhya Pradesh	2,019	1,987	1,848	2,025	0.1%
Maharashtra	10,025	16,955	16,318	19,327	24.5%
Manipur	-	-	-	0	0.0%
Meghalaya	50	50	119	119	33.5%
Mizoram	28	28	0	0	-100.0%
Nagaland	-	-	-	0	0.0%
Orissa	512	898	768	876	19.6%
Punjab	1,624	2,201	2,281	2,297	12.3%
Rajasthan	4,123	5,537	5,454	5,206	8.1%
Sikkim	28	56	28	115	60.1%
Tamil Nadu	7,017	7,729	9,976	11,699	18.6%
Tripura	-	-	101	101	0.0%
Uttarakhand	395	359	386	1,010	36.7%
Uttar Pradesh	2,870	3,193	697	3,452	6.3%
West Bengal	2,366	2,960	2,756	2,796	5.7%
Andaman & Nicobar Is.	131	106	151	106	-6.8%
Chandigarh	452	452	603	192	-24.8%
Dadra & Nagar Haveli	124	232	272	272	29.9%
Daman & Diu	42	90	90	140	49.4%
Lakshadweep	30	30	30	30	0.0%
Pondicherry	217	276	359	359	18.3%
India total	67,613	75,502	83,781	95,087	12.0%

Source: India Tourism Statistics 2008, Ministry of Tourism

2.9.4. Tour routes in India

The Study Team conducted interviews with the local travel trade and tourists they encountered during the site survey, and collected tour itineraries in India using internet to supplement tourism statistics and documents relevant to the Study area.

According to the interviews with local tour operators, tourists from East Asia such as Japan and Korea are relatively common in the Study area compared with other tourism sites in India, where European and American tourists tend to dominate. It may be interpreted that the potential of attracting European and American tourists is less achieved. To investigate on this

issue, the Study Team conducted an analysis of tour itineraries collected from tour operators and through internet.

(1) Tour routes analysis in India

The Golden Triangle of Delhi, Agra and Jaipur has been the most popular tour route in India over the decades due to many favourable conditions other than the abundance of World Heritage Sites such as 1) proximity to an international gateway airport, 2) exceptionally good conditions of the roads connecting the three cities, 3) better urban infrastructure that facilitated construction of star category hotels, and 4) presence of business travel market that hedges the risk of tourism investment. As already seen in Table 2-12, international visitors still concentrate in the Golden Triangle.

The National Five Year Plans have been stressing the importance of tourism due to its potential to create employments in rural areas. In this context, efforts have been made to diffuse tourists from the Golden Triangle to more rural areas, diversify tourism, and to create new tourism circuits. The efforts have been partially rewarded as summarised below thanks largely to the improvement of the road network:

Golden Triangle

- Golden Triangle is still the most popular tour routes by car in India, but is increasingly targeted at first-time visitors.
- Ranthambore National Park in Rajasthan is increasingly popular, and an overnight stay in the park is often inserted between Jaipur and Agra and, thus, the Golden Triangle is transforming into the Golden Quadrilateral.

Western extension

- Variations of Rajasthan routes are the second most popular, and are often added to the Golden Triangle like a western extension, rather than being sold as independent Rajasthan itineraries.
- Udaipur is often the southernmost place of Rajasthan itineraries. After arriving at Udaipur by car, most of the tours use flights back to Delhi or to proceed to Mumbai and South India. There are some tours that further proceed to Mumbai via Gujarat, or travel back to Delhi by car.

South India

- Kerala's backwater boat trip is probably the third most popular tour itinerary in India. An itinerary within Kerala is often combined with a Golden Triangle + Rajasthan itinerary, which totals for 14 days.
- Alternatively, Kerala is combined with the Temple Circuit in Tamil Nadu without or with an itinerary in the north.

Eastern extension

- Khajuraho and Varanasi are popular tourism destinations often combined with the Golden Triangle. It is now popular to travel from Agra to Khajuraho by car visiting Gwalior and Orchha on the way. There are tours that use flight or train from Delhi or Agra to Varanasi.
- From Khajuraho, many tours proceed to Varanasi by air or train. It is possible to travel by car from Khajuraho to Varanasi (400km 12hours) and the travel time could be shortened by future road improvement, but it is currently limited to independent tourists.
- Varanasi is the gateway to the Buddhist Circuit in UP and Bihar. It is also a gateway into Nepal due to the flight connection between Kathmandu, but there are tours that start from Varanasi to reach Kathmandu by car visiting Lumbini and Chitwan National Park on the way.

Southern extension

- Agra or Khajuraho is the starting point of the southern extension, which visits historical cities in Madhya Pradesh such as Gwalior, Orchha, Bhopal/Sanchi and Indore/Mandu. Mandu is often the southernmost of place to visit, and most of the tours use flight from Indore to go back to an international airport like Delhi or Mumbai.
- Compared with the western extension of Rajasthan routes and the itinerary in Kerala, the southern extension is not very popular.

Aurangabad/Mumbai

- Aurangabad is mostly visited by flight or train from Mumbai. It is sometimes combined with the Buddhist Circuit in UP and Bihar and sold as Buddhist SIT (special interest tours) rather than as general interest packaged holidays.
- A 14 day suggested itinerary was found that starts from Delhi and visits Jaipur, Agra, Bhopal/Sanchi, Ujjain, Indore/Mandu, Ajanta and Ellora, and ends at Mumbai by car and train.
- Mumbai is often used as a gateway to visit Kerala and other parts of South India. Kerara itineraries often have a Tamil Nadu temple circuit extension and/or a Pattadakal and Hampi extension. Aurangabad is sometime added to Kerala itineraries as a 2 to 3 days extension but tours visiting various places in Maharashtra and nearby states are rare except for luxury train journey of Deccan Odyssey.

Figure 2-9 summarises the tour routes in India. There are more variations of tour routes in India such as those visiting Himalayas and the northeast, but tour itineraries that have relevance to Ajanta and Ellora are only presented.

Figure 2-9 Tour routes in India

Source: JICA Study Team

(2) World Heritage Corridor

World Heritage Corridor is a tourism concept presented by MOT, in particular, MOT's Tokyo Office. Figure 2-10 shows a brochure of World Heritage Corridor that was distributed in Japan several years ago.

Figure 2-10 World Heritage Corridor

Source: MOT Tokyo Office

It was a timely response to the increasing awareness of World Heritage Sites in the world; there are 13 World Heritage Sites along the tour route from Delhi to Mumbai, which should appeal to a number of travel enthusiasts who wants to visit as many World Heritage Sites as possible in their life. The idea itself seems timely and good, but the major constraint to realise the tourism concept when the idea was presented, or even at present, is the lack of transport infrastructure in India.

However, continuous efforts of India's road authorities have been paving the way to realise the tourism concept. In particular, National Highways Development Programme had a big impact to shorten the travel time between tourism destinations and to improve tourism network in India. It is now possible to cover the above travel route by car although there are

some road sections that need to be improved or widened. The concept of World Heritage Corridor is noteworthy in that it aims to diversify tour routes and distribute visitors from the Golden Triangle to other rural areas, and that the concept would benefit Ajanta and Ellora.

(3) Implication for Ajanta and Ellora

From the above observations of tour itineraries in India, following conclusions can be drawn:

- The isolated location of Ajanta and Ellora Caves in the tourism network has been limiting its potential for growth, especially that of foreign visitors who tend to tour in India.
- Ajanta and Ellora is not a "must-see" destination like Taj Mahal and Varanasi. It is sold for special interest tourism of Buddhism rather than for general interest package tours.
- Ajanta and Ellora would not be a pilgrimage destination because they were not involved in the life of Buddha. Moreover, unlike India, pilgrimage is a niche market in Japan and other East Asian countries; therefore promoting Ajanta and Ellora like a Buddhist pilgrimage site is irrelevant.
- The concept of World Heritage Corridor is important for Ajanta and Ellora because it has potential to be a new tour route that connects Ajanta and Ellora with other tourism sites like Sanchi, Mandu and Nasik. In this context, Maharashtra Tourism should strengthen the relationship with Madhya Pradesh State to promote visitor flow between the two states.

2.10. Setting Up the Opening Schedule

The targeted open date will be decided based on the progress of construction for both visitor centres and consultation with MTDC.

MTDC originally expected that completion of EVC would be at the end of March 2010 and AVC by the end of December 2010. However, after the site investigations and hearing from the related parties concerned, the construction completion and opening will be delayed to a much later stage for both facilities primarily due to unsolved financial issues between the contractor, MTDC and JICA. The financial aspect is perhaps the most important problem to be solved for both sites.

Setting up of the soft and grand opening schedule will depend upon the construction completion schedule of AEDP (II) and affect the timing of necessary events and actions taken thereto, and thus efforts and countermeasures to solve remaining issues which are delaying the completion should be made to reach agreement soon. Otherwise, the action plan for the opening of the visitor centres with a detailed work schedule will not be materialized on time.

For the purpose of the study, the Study Team confirmed with JICA that the action programmes for the opening of the visitor centres can be made based on the tentative construction completion date as point zero (0).

2.11. Summary of Problems

The findings in Section 2 above identified many problems for the sites. These are summarized below for each item in the Implementation Framework. It is implicitly understood that the Study would address all the outstanding problem areas of the sites.

Table 2-14 Summary of problems

IMPLEMENTATION FRAMEWORK	PROBLEMS / ISSUES
1) SITUATION ANALYSIS REGARDING AVC/EVC AND MTDC	
i) Review of basic physical features, design concept and exhibition plan of AVC/EVC	
	- Visitor unfriendliness of the historical sites: long travel distance to get to the sites, long and strenuous site touring on hills and hot climate. - Visitor unfriendliness of VCs: long distance from historical sites, large facility length and long in-site travel time, bottlenecks causing waiting in line, unclear multiple flow lines. - Under utilization of VCs. - Not having full data describing and illustrating the problems that are required for planning of solutions.
ii) Confirmation of timing of the opening of AVCIEVC based on actual progress in construction and institutional set-up	
	- Even with delayed opening schedule, fully integrated operations plan for the Heritage Sites including finance is not available.
iii) Review of MTDC's basic strategy/plan for the management of AVC/EVC	
	- Not having approved design alternatives for management planning at different times and service levels in the future. - No integrated site utilization plan. - Not integrating planning with MTDCs own internal development plans.
iv) Capacity assessment of MTDC from institutional, financial, and human resource aspects as well as its experience/capacity in management of tourist facilities	
	- MTDC lacks staff capacity to prepare and manage museum features of VCs. It also lacks institutional arrangements to work in an integrated and unified manner with ASI. - Soft elements of Visitor Centres are unfinished and not offering features which can independently draw people to them. - Physical facilities are too expensive to run. - Proven systems for self-sufficiency at other similar institutions in India have not been studies to identify the best practices and lessons learned. - Not establishing enough cooperation and linkage with ASI to integrate historical and VC site operations. - Not linking with other main tourism stakeholders
2) FORMULATION OF MANAGEMENT PLAN OF AVC/EVC AND ACTION PLAN FOR THE OPENING OF THE CENTRES covering critical topics such as institutional arrangement, staffing, budgeting, operation and maintenance, operation policy of commercial areas for shopping, eating and drinking.	
i) Organization plan (mandate, relation with MTDC headquarters, organization structure, line of command, job description of key posts, etc.)	
	- Although exhibits will focus on cultural heritage, ASI is not involved in the operation of visitor centres; thus the limited source of information for exhibitions may affect sustainable operation of the visitor centres. - Not yet defining and establishing supporting relationships with ASI and other institutions in this field.
ii) Human resource plan (job description of each post/staff, staffing plan, recruitment plan, training plan, etc.	
	- Not having and operations design from which to plan adequate numbers and skill levels of staff. - Existing employment system lacks in flexibility for rewarding those who achieve good results, and makes it difficult for the visitor centres to recruit competent personnel and improve their services quality. - MTDC does not have experiences in operation and management of visitor centres with exhibition and edutainment functions.
iii) Financial plan (taking account of required expenditure for operation and maintenance, MTDC's own budget and expected revenue from ticket sales and lease/rent)	
	- There is no practical plan to achieve financial self-sufficiency much less sustainability. - Due to the large scale of the visitor centres, expenses to operate, manage and maintain the facilities such as water, electricity, and fuel are high. Further financial support from the government is not anticipated. - Not fully managing site control. Not defining appropriate service levels and target market segments

	(such as Japan and East Asia) for the VCs with reference to similar experience in India. Not integrating the historical and VC areas financially or to be friendly for visitors. - No integrated ticketing system. - Not having an orientation program that visitors understand is imminently valuable. - Not fully utilizing the AVC cave replicas as a way of reducing visitor pressures on the most fragile Ajanta caves.
v) Maintenance plan and relevant manuals (facility and equipment maintenance, cleaning, repair, security)	
	- Not defining appropriate design capacity or maintenance plan.
vi) Commercial space management plan including outsourcing plan (restaurants, shops and parking space)	
	- Not having concrete recommendations to utilise commercial space in the complexes to generate significant revenue, especially at EVC where shop space is large as well as number of hawkers.
vii) Visitor management plan to accommodate large number of visitors in an effective and visitor-friendly manner within AVC/EVC and in connection with the neighbouring World Heritage Sites managed by Archaeological Survey of India (ASI)	
	- Not having a visitor flow maps and itineraries, and a plan integrating the visitor centres in remote and rural areas with the current line of visitor flow to the archaeological sites. - Many of the visitors may not be interested in seeing the replica models of cave temples, which are supposed to be the main attraction of the visitor centres, since the real temples are located nearby. - Due to long travel time to get to the archaeological sites, many of the visitors may not have sufficient time to spare for the visitor centres.
viii) Recommendation for efficient and sustainable management of AVC/EVC including possible PPP (Public Private Partnership)	
	- Not planning the steps to realize outsourcing of operations in a way that generates revenue from the investment already made in the physical facilities. Not using effective systems and opportunities from similar institutions in the design of operations yet.
ix) Time-bound Action Plan for the opening of AVC/EVC based on the above i) to viii)	
	- Even with opening schedule delay, not having enough time to implement critical remedial actions to solve remaining issues.
3) RECOMMENDATION FOR ENHANCED MANAGEMENT EFFICIENCY AND VISITOR ATTRACTION IN FUTURE	
i) Recommendation for improving the existing exhibition plan to augment tourist attraction	
	- Not having a regional development plan to maximize and integrate the features and facilities of the sites and the region, and also not planning ways for the sites to contribute to regional development. - Not taking advantage of music, dance, and artisan traditions that abound in the area and have potential to be supplementary tourist attractions. - Not exploring having VCs cater to local visitors who want a picnic venue.
ii) Recommendation on enhanced partnership with ASI and local community to augment tourist attraction	
	- Involvement of local communities is insufficient despite the fact that the Project is intended for regional development. - Not mollifying unpleasant feelings among the previous landowners of EVC due to land acquisition technique.

Source: JICA Study Team

3. Foundation for Management Planning

Prior to discuss and implement the Management Plan, there are major problems that have to be solved in order for the visitor centre to be fully functional for various people to visit and researchers and students to use.

In other words, foundation problem solving is a key assumption to proceed with the discussion and development of the management plan and these solutions have to be expedited and ready prior to implementing the management plan, otherwise the proposed plan will always have underlying flaws.

A. Major Problems for Management Planning to Address

Although there are many problems at the sites, certain problem areas if not solved will eat away at sustainability of the visitor centres. These we consider to be major problems. The major problems for the existing Visitor Centres are high operating cost, low revenues and long visitor timelines. Each topic is described below.

(1) High visitor centre operating cost

- Facilities have large floor areas and exhibition space.

Table 3-1 Area, space, and functions of AVC & EVC

	Ajanta Visitor Centre	Ellora Visitor Centre
Land Area	323,695 m^2	210,000 m^2
Floor area	20,442 m^2 (including covered corridor)	11,806.69 m^2 (including covered corridor)
Exhibition space:	6,697 m^2(including auditorium)	1,909 m^2 (including auditorium)
Functions	Visitor Centre, Exhibition Room (Permanent & Temporary), Restaurant, Museum Shop, Hall, Toilet, Amphitheatre	Visitor Centre, Exhibition Room (Permanent & Temporary), Restaurant, Museum Shop、Seminar Room, Toilet, Amphitheatre

Source: MTDC

- MTDC Visitor Centre equipment is expensive to run.

(2) Low visitor centre revenue

- Number of visitors to Visitor Centres is low compared to other World Heritage Sites.
- Visitor flow of site allows avoiding the Visitor Centres. EVC is located 10 minutes in the opposite direct to the caves. AVC is next to the parking lot but not on the route to the caves.
- ASI is collecting Entrance Fee but not collecting or distributing a portion for MTDC since the monuments and the Visitor Centres are not integrated at one site.

(3) Long visitor timelines

- The timelines for visiting the sites are lengthy and tiring, even if the order of site itinerary varies.

Table 3-2 Timelines for visiting the heritage sites

Event	Ajanta	Ellora
From Aurangabad to Site Parking	2 hr.	1 hr
Visit to View Point omitted	-	
Visit to Grishneshwar Hindu Temple	-	1 hr
Possible wait for Shuttle bus	15 min	-
Shuttle bus ride to Site	10 min	-
Visit to extensive ASI monument sites	2-3 hr	2-3 hr
Possible wait for Shuttle bus	15 min	-
Shuttle bus ride to VC	10 min	-
Shopping	20 min	-
Minimum Tour MTDC Visitor Centre	1 hr	1 hr
From Site Parking to Aurangabad	2 hr.	1 hr.
TOTAL	8 hr	6 hr

Source: JICA Study Team

- Hindu Temple visit for locals competes with visit to the monument sites.

B. Effect of Problems

If the findings of a project do not reveal any significant problems, then management planning can proceed normally according to the TOR. If however significant problems are revealed during the Findings, then plans to solve such problems must be addressed by management planning as Ground Works as otherwise the problems will disturb the success of normal management plans. This effect of problems is illustrated in the following Figure.

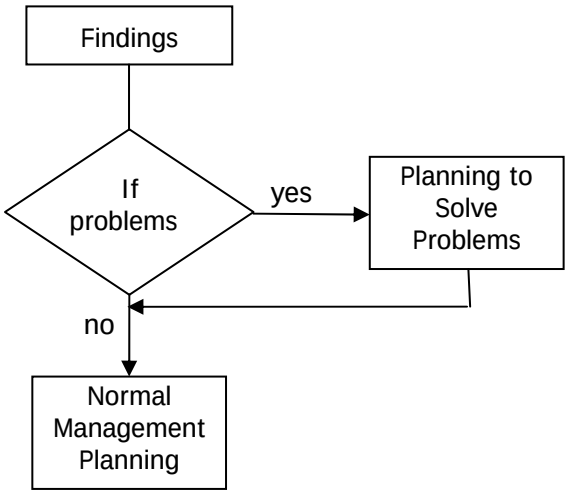


Figure 3-1 Effect of problems

Source: JICA Study Team

C. Priority Management Plan Topics

As stated in Section 2, the sites have significant problems. Specifically three priority topics were taken up with MTDC for discussion and clarification during the 2nd Works in India:

Priority topic 1 : site operations improvement

- Effort to improve the visitor experience and make the sites "visitor friendly" and less time consuming.
- Integration of ticketing and operations for the ASI Heritage site and the MTDC Visitor Centre.
- Setting up of a reasonable fee system which the market can bear.
- Creation of annotated site maps.

Priority topic 2 : revenue improvement

- Increasing the functions of the visitor centres to make them standalone attractions.
- Soliciting tender proposals from a private sector operator after creating tender specifications and documentation to commission the private sector operator. A key element would be for each bidder to submit a full business plan for the facility.

A preliminary table of functions and participants is shown below for discussion.

Table 3-3 VC functions and participants

Visitor Centre Functions		Participants				
		MTDC	ASI	Industry	Community	Institutions
Basic	Tourism	√				√
	Selling	√		√		
Upgraded	Interpretation		√			
	Education		√			√
	Entertainment	√			√	
	Convention	√	√	√		√

Source: JICA Study Team

Priority topic 3 : marketing enhancement

- Determining which market segments are major ones that can be attracted to each of the sites and then developing market campaigns for each of them.

A preliminary table of market segments is shown below for discussion.

Table 3-4 Market segments

Market Segments	
Indians	Students
	Middle/Upper Class
	Others
Foreigners	Asians from Buddhist countries
	Backpackers & others
	From Developed countries

Source: JICA Study Team

3.1. Visitor Management Plan

In order to manage various types of people (different age, private or group, gender, education, income and their origin, as well as differing in their purpose of visit and interest, visiting season, mode of travel and their behavioural patterns), the visitor centres need to solve the existing issues for visitor flow hindering the smooth operation and management of visitors and provide the required tools, materials and measures discussed below.

3.1.1. Ending the two-sites system (ASI & MTDC)

Each of the sites at Ellora and Ajanta is currently set up physically as a two-site system: at one site are the caves which are under the supervision of ASI and at the other is the visitor centre which is under the supervision of MTDC. The two sites are separated from each other by a significant distance as is shown on the Ellora and Ajanta Site maps below. From the visitor's point of view, this is an intolerable situation since it means that the sites are not integrated and that visitors need to understand how best to navigate two sites during one visit.

In order to measure the effectiveness of a tourism site to provide a good visitor experience, it is suggested to use the concept of Tourism Time which is the average time that tourists spend at a site. Time is an important measure for tourism since the more time tourists spend sightseeing at a site, the more money they spend for food, souvenirs, accommodation, etc.

The reverse is also true: if they spend little time at a site and quickly move on, they have little time to spend money on things.

The situation of Ajanta visitor centre is currently falling in this negative case in that the majority of tourism time will be spent on transportation and strenuous walking in the caves.

Basically, tourism consists of phases that provide things before, during and after the peak moment of experiencing the attraction. The sum of these things is considered to be a Value Chain because each is a link that affects the others. In a competitive world, tourism sites which omit links in the chain of things that tourists want will lose out to better organized and managed sites. This unnecessarily reduces their financial success.

Visitor management tries to maximize all phases to get the best economic results (value) from tourism resources (tourism attractions).

An integrated one-site visitor-centred system for each Ellora and Ajanta is the planning goal. Just how it can be accomplished is discussed below and in many chapters of this report under many topics from organization, institutional cooperation to visitor management planning.

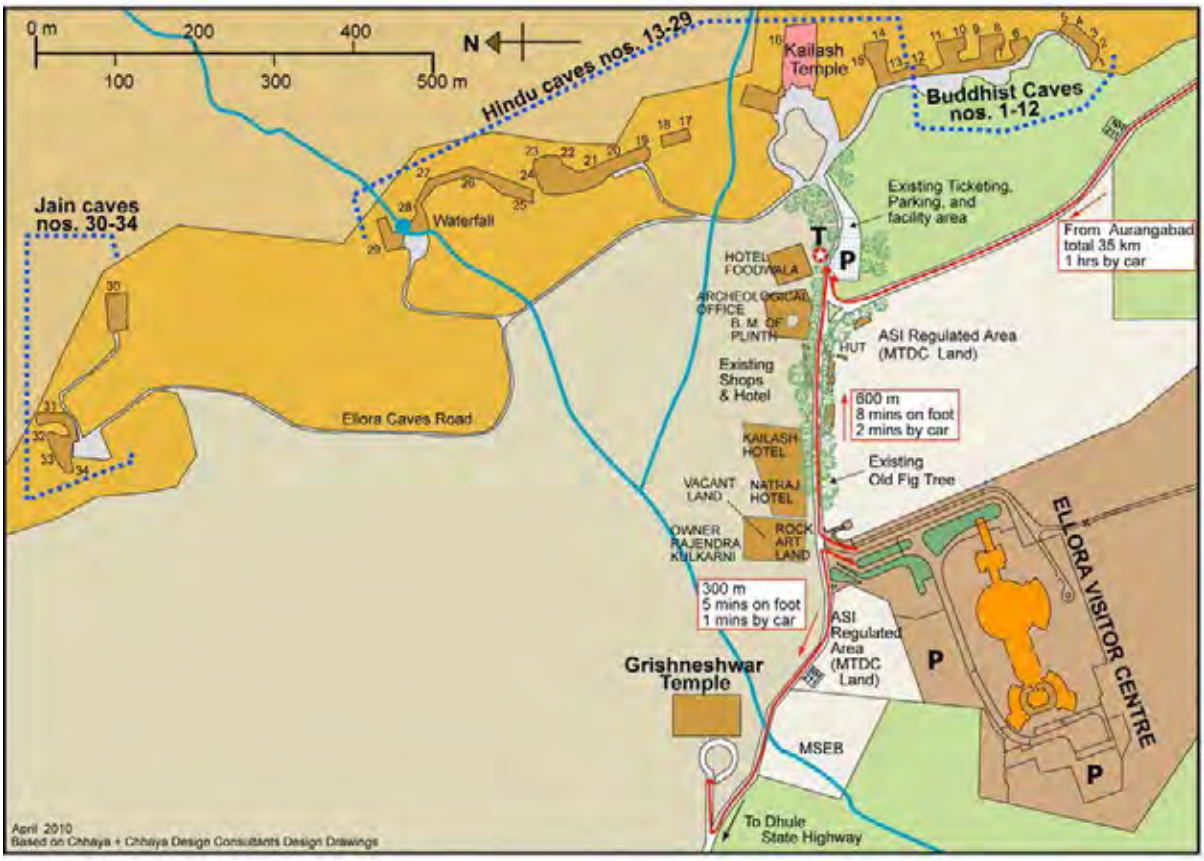


Figure 3-2 Ellora site map

Source: JICA Study Team

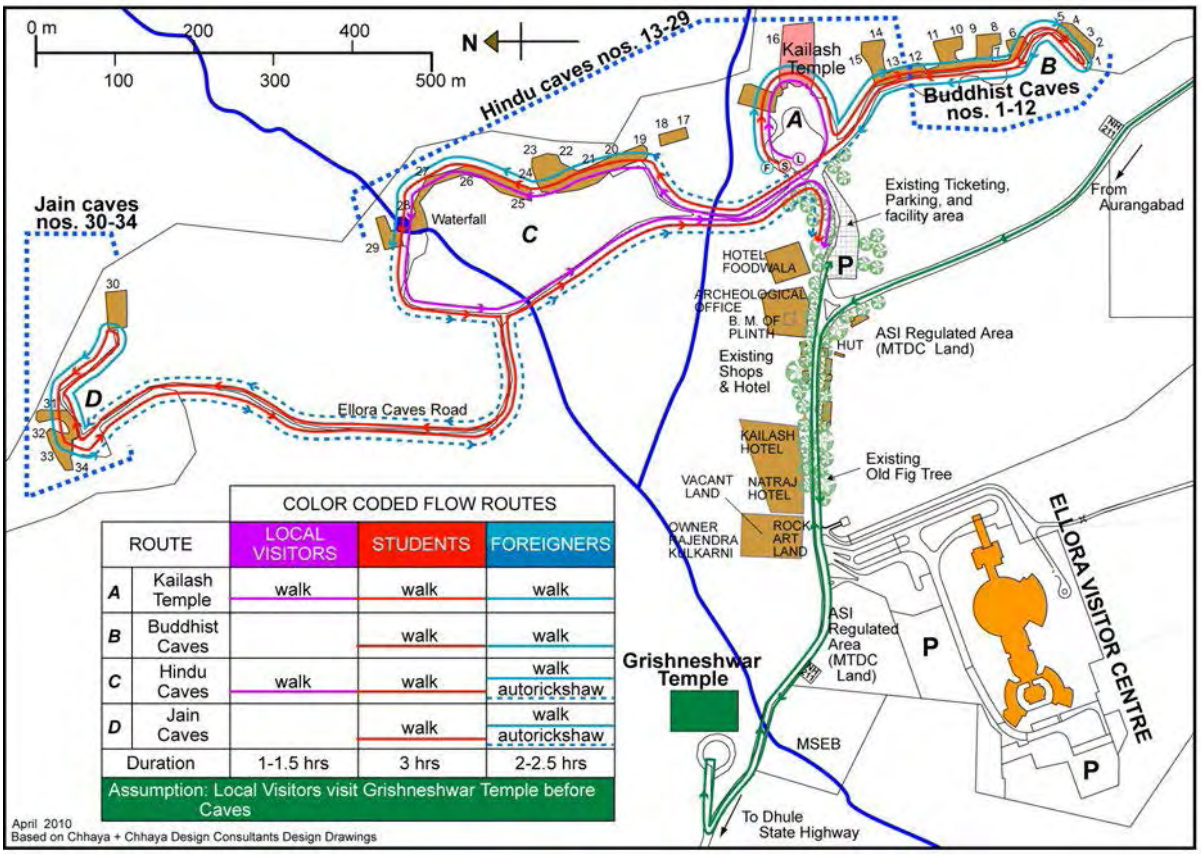


Figure 3-3 Viewing routes by category of visitor

Source: JICA Study Team

3.1.2. Integrating 2-sites (Ellora caves & visitor centre) for 1-visit

A. Ellora visitor flow variations

For the purpose of integrating the cave site on a visitor-centred basis, the flows for at least two categories of tourists need to be considered: Domestic & Foreign. Each flow variation is outlined below.

(1) Domestic tourists (Local Visitors & students)

a. Local visitor

This would include visitors primarily residing in the neighbouring areas.

They have either visited the Caves before or are well acquainted with the Cave site and the Grishneshwar Temple and therefore would be specifically interested in certain religious aspects of the site.

They would visit the site as a day excursion with their families/friends and/or as a site pilgrimage. The Ellora Visitor Centre can be utilized as an initial orientation stop for entertainment, education and relaxation.

For this type of visitor, the time allotted before 10 am can be utilized to visit the Grishneshwar Temple before arriving at the Visitor Centre. Also, since they would be visiting from the neighbouring areas (not necessarily from Aurangabad) some additional time could be allocated for travel.

They can arrive at the Visitor Centre by 10 am and spend time seeing in the Exhibition, Shopping and Crafts Centre. They can then have lunch at the restaurant and be picked up to be taken to the Caves.

Since they are generally unaccompanied by professional guides they could visit the Cave Site after lunch and spend the rest of their time at their own discretion. Hence no specific flow is outlined for them.

b. Students

Flow 1 primarily covers Students visiting the site since they generally arrive in large groups without a professional guide. Hence it would be easier to manage them as a group at one place at a time.

Additional time is allocated prior to the visit to better organize the logistics of such a large group (such as breakfast, travel etc.)

They can arrive at the Visitor Centre by 10 am and spend time in the Exhibition, Shopping and Crafts Centre till lunch time. They can take their meal in the Students' Area and then be picked up to be taken to the Caves.

Since they would have visited the Exhibition prior to their visit to the Caves, it would be beneficial to them since they would understand and comprehend the Cave site.

They can also be allowed to spend more time at the Caves where they could study, sketch etc. at their own discretion.

At 5 pm they must assemble at the Amphitheatre for the Cultural Program, as an option.

General Note:

All Visitors must arrive at the Amphitheatre by 5 pm where a Cultural Program organized every evening. It should be the last stop for the visitors before they leave the site.

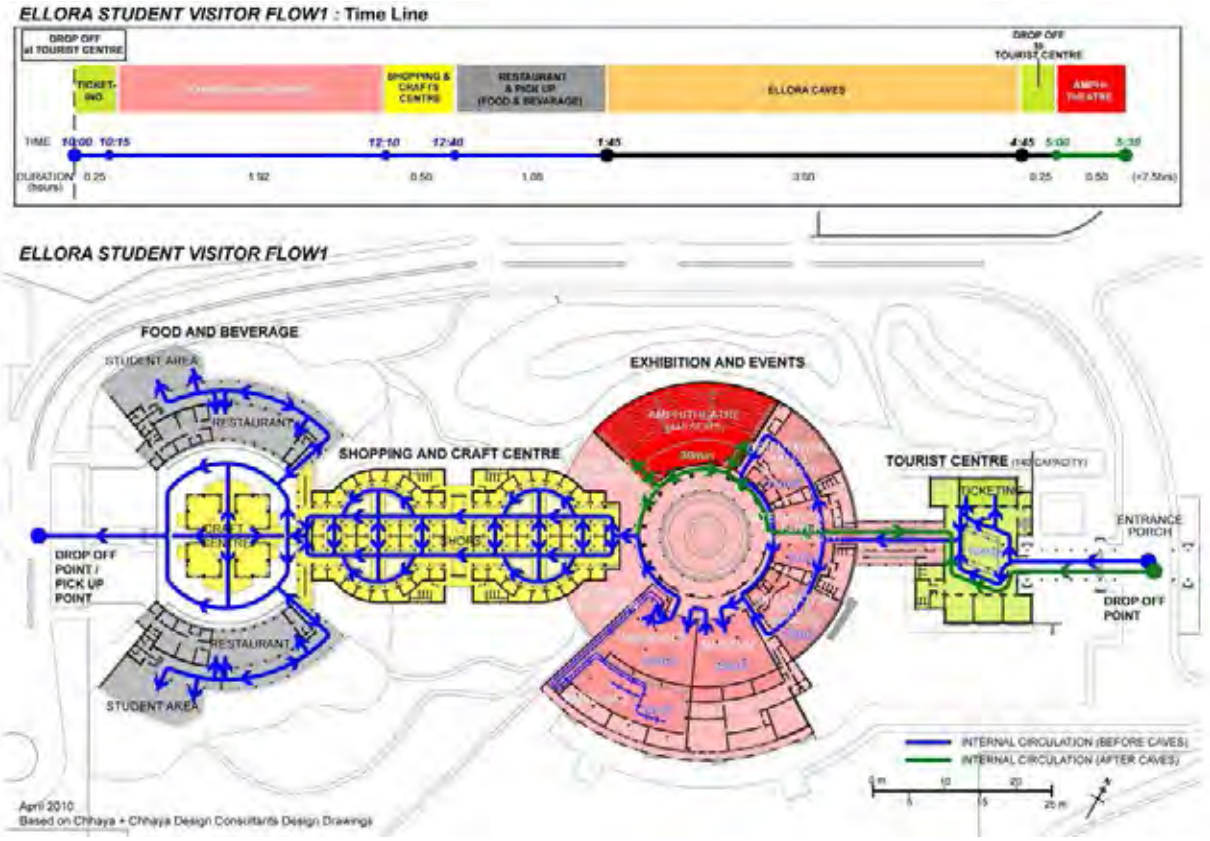


Figure 3-4 Ellora flow 1 (Students)

Source: JICA Study Team

(2) Foreign tourists

The hot climate of India will especially impact foreign tourists. Hence a different schedule is proposed for the winter fair weather months and for the summer inclement weather months. These are described below.

a. Foreigners in winter fair weather months

Flow 2 is recommended during fair weather months at Ellora (November till March) when it is comfortable to be outdoors till the afternoon.

It is also recommended to be guided through the Caves by a professional tour guide so that all important aspects are covered in a stipulated time frame.

They should visit the Ellora Visitor Centre in the morning. They should visit the Orientation Hall and Museums and gather information regarding the Caves.

Hence they will have the advantage of knowing what to see before they visit the Caves.

A scheduled pick up from the Tourist Information will then take them to the Cave site.

Since they would be accompanied by professional guides they can effectively survey all essential points of interest.

Upon their return they will be dropped off at the Food and Beverage end where they can take their meals in the Restaurants.

They can then visit the Crafts Centre and browse through the Shopping Area till evening.

At 5 pm they must assemble at the Amphitheatre for the Cultural Program.

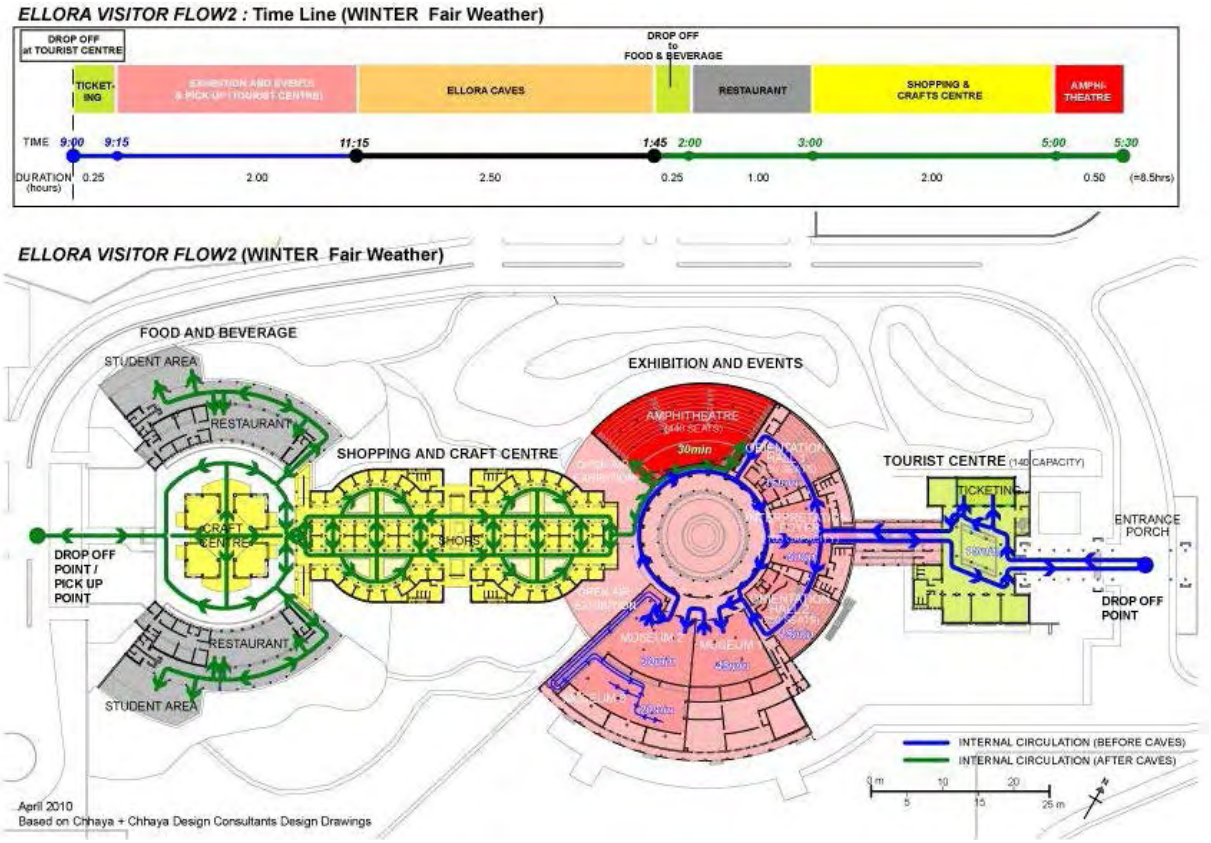


Figure 3-5 Ellora flow 2 (Foreigners – Winter)

Source: JICA Study Team

b. Foreigners in summer inclement weather months (April, May, June and October)

Flow 3 is recommended during harsh weather months at Ellora (April to October) when the Cave Site is mostly accessible during the morning hours. It is also recommended to be guided through the Caves by a professional tour guide so that all important aspects are covered in a stipulated timeframe.

Foreign tourists should arrive at the Tourist Information at the Ellora Visitor Centre and purchase their ticket in the morning. If they are touring with a professional guide then appropriate arrangements can be made.

A scheduled pick up from the Tourist Information will take them to the Cave Site.

Since they would be accompanied by professional guides they can effectively survey all essential points of interest.

Upon their return they will be dropped off at the Tourist Information at the Ellora Visitor Centre. They should then visit the Orientation Hall and Museums to reconfirm what they have seen at the Cave Site.

After orientation they can take their meals in the Restaurants.

They can then visit the Crafts Centre and browse through the Shopping Area till evening on their own.

At 5 pm they must assemble at the Amphitheatre for the Cultural Program.

By this route, the Visitors will be indoors during most of the day and avoid the inclement weather.

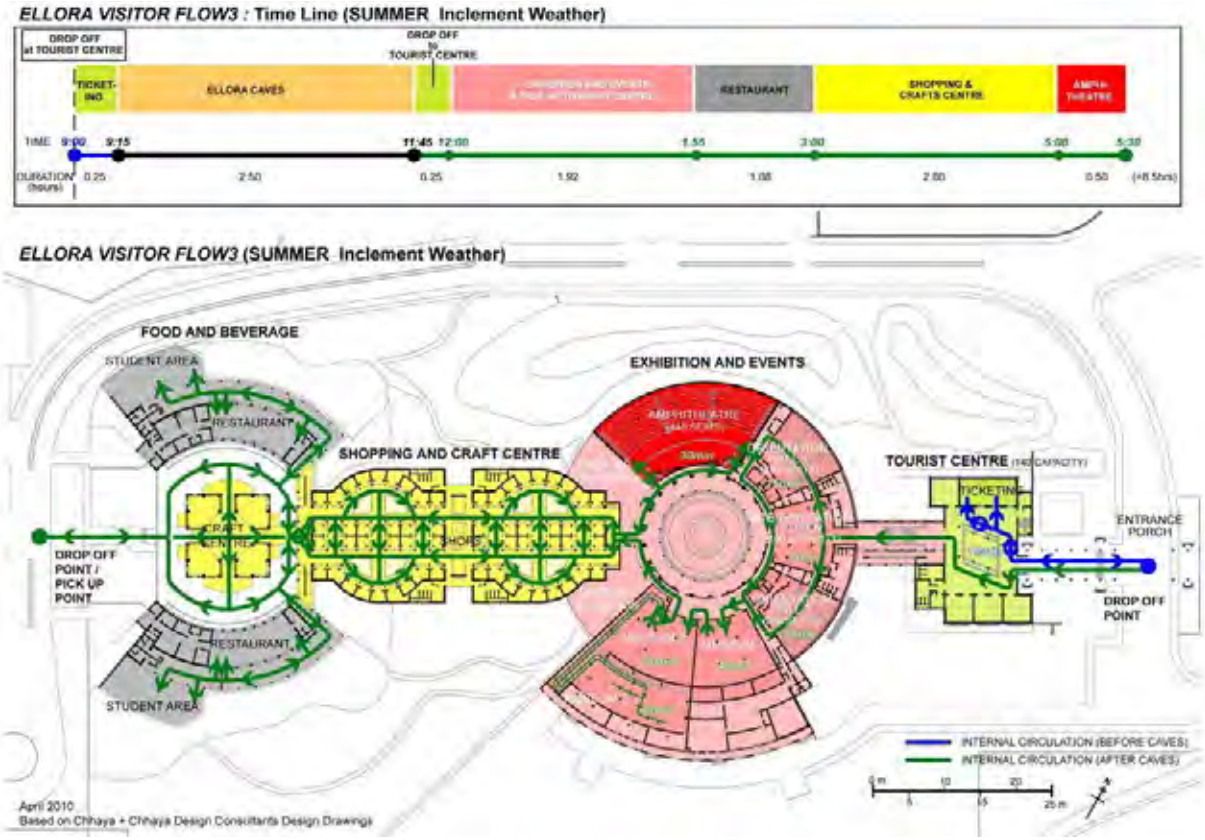


Figure 3-6 Ellora flow 3 (Foreigners – Summer)

Source: JICA Study Team

The three flow line schedules for Ellora mentioned above are compared in the figure below.

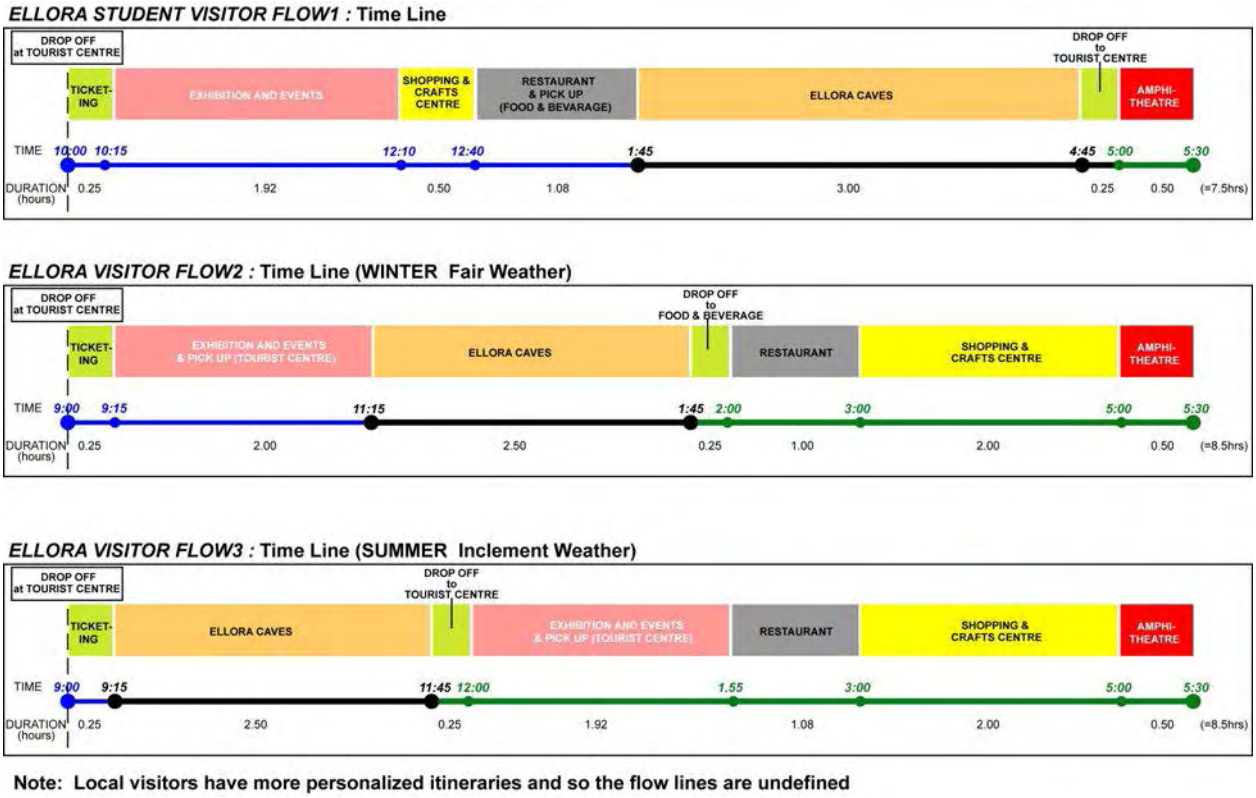


Figure 3-7 Timeline comparisons

Source: JICA Study Team

B. Ellora Traffic Optimization

Ellora Caves is experiencing rapid growth in visitors resulting in visitor peaks that in recent years have exceeded site-design capacity. Traffic congestion results from high peaks in visitation on particular days at particular times and is associated with bus excursions that bring Tourists to the site.

The capacity for vehicle numbers is limited, and the existing circulation planning does not include all vehicle types: namely private vehicle, bus, auto-rickshaw, bicycle, and pedestrian traffic. During peaks in visitation, pedestrian and vehicular congestion occurs at multiple locations. Current traffic congestion degrades the visitor experience with delays, crowding, disorientation and confusion due to insufficient information and directional signage, bus noise, and vehicle exhaust emissions. In addition, current facility design and operations involve several pedestrian-vehicular conflict points that are potential movement hazard.

The Ellora Caves site cannot comfortably accommodate current volumes of operations without active traffic management.

- The benefits of proposed visitor's flows are as follows:
- Improved signage and directions to sites

- Restricted traffic management strategies and introduction of smaller MTDC vehicles servicing a loop circuit specially for travelling to Jain Caves and stopping all public vehicles beyond parking area.
- Reconfiguration of flow of visitors

Each action can incorporate minor, moderate, or major changes that will result in varying degrees of improvement for long term.

- Congestion reduced at the present Parking lot / Shopping area is eased
- All public and private vehicles parking space is allocated to Ellora Visitor Centre accommodating more vehicles
- The present parking lot at Ellora Caves can now be more efficiently used only for Shuttle Bus drop off / pick up point with maximum 20-seater Shuttle Buses are recommended

A 20-minute round-trip circuit route promises a comfortable site visit for tourists.

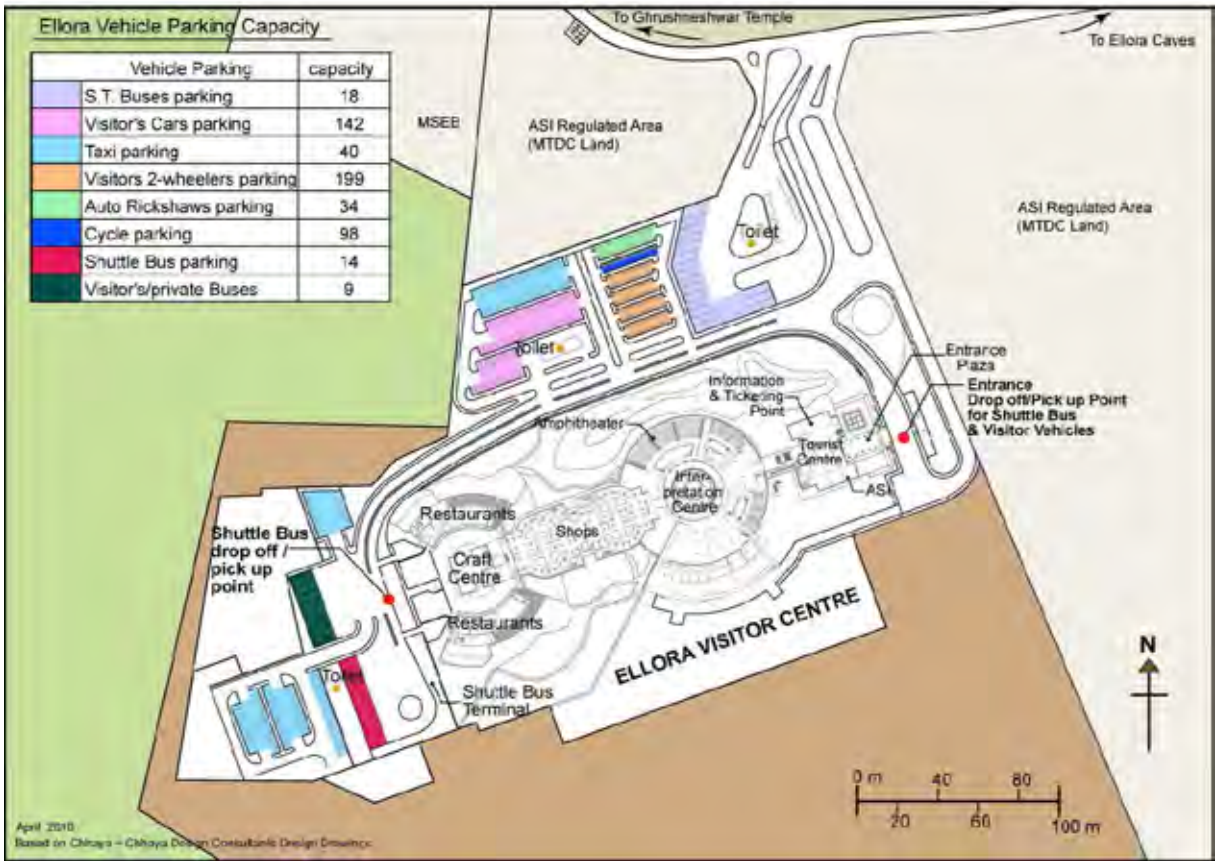


Figure 3-8 Parking layout at visitor centre

Source: JICA Study Team

3.1.3. Integrating 2-sites (Ajanta cave & visitor centre) for 1-visit

A. Ajanta visitor flow variations

For the purpose of integrating the cave site on a visitor-centred basis, the flows for at least two categories of tourists need to be considered: Domestic & Foreign. Each flow variation is outlined below for the two seasons in Ajanta: Fair weather months (November till March) and harsh weather months (April till October).

(1) Ajanta in winter fair weather months (November till March)

a. Foreign and domestic visitors

This would include foreign visitors and local visitors residing in the neighbouring areas who would visit the site as a day excursion with their families/friends and/or as a site pilgrimage. The Ajanta Visitor Centre can be utilized as an initial orientation stop for entertainment, education and relaxation.

In Flow 1, Foreign and Domestic tourists should arrive at the Ajanta Visitor Centre by 9 am and spend time seeing in the Galleries and the Cave Museums, and gather information regarding the Caves. Hence they will have the advantage of knowing what to see before they visit the Caves.

During their tour of the Exhibition Areas, they should also visit the Museum Shop, Cafeteria and Temporary Exhibition Space at their own discretion.

They should reach the Restaurant by 1:30 pm and take their lunch after which, a scheduled pick up at 2:15 pm from the Visitors Plaza will then take them to the Cave site.

It is recommended that this type of visitor be guided through the Caves by a professional tour guide so that all important aspects are covered within a stipulated timeframe.

Upon their return they will be dropped off at the Shopping Plaza to browse through the shops till 5:15 in the evening.

A pick up will then drive them to the Visitor Centre Amphitheatre by 5:30pm for the scheduled Cultural Program.

b. Students

Flow 1 primarily covers Students visiting the site since they generally arrive in large groups without a professional guide. Hence it would be easier to manage them as a group at one place at a time.

Additional time is allocated prior to the visit to better organize the logistics of such a large group (such as breakfast, travel etc.)

They can arrive at the Visitor Centre by 9 am and spend time in the Exhibition Areas, Museum shop and Cafeteria till lunch time. They can take their meal in the Students' Area and then be picked up to be taken to the Caves by 2:15.

Since they would have visited the Exhibition prior to their visit to the Caves, it would be beneficial to them since they would be prepared to understand and comprehend the Cave site.

Upon their return, they will be dropped off at the Shopping Plaza to browse through shops.

A pick up will then drive them to the Visitor Centre Amphitheatre by 5:30 for the scheduled Cultural Program.

General Note:

All Visitors must arrive at the Amphitheatre by 5 pm where a Cultural Program organized every evening. It should be the last stop for the visitors before they leave the site.

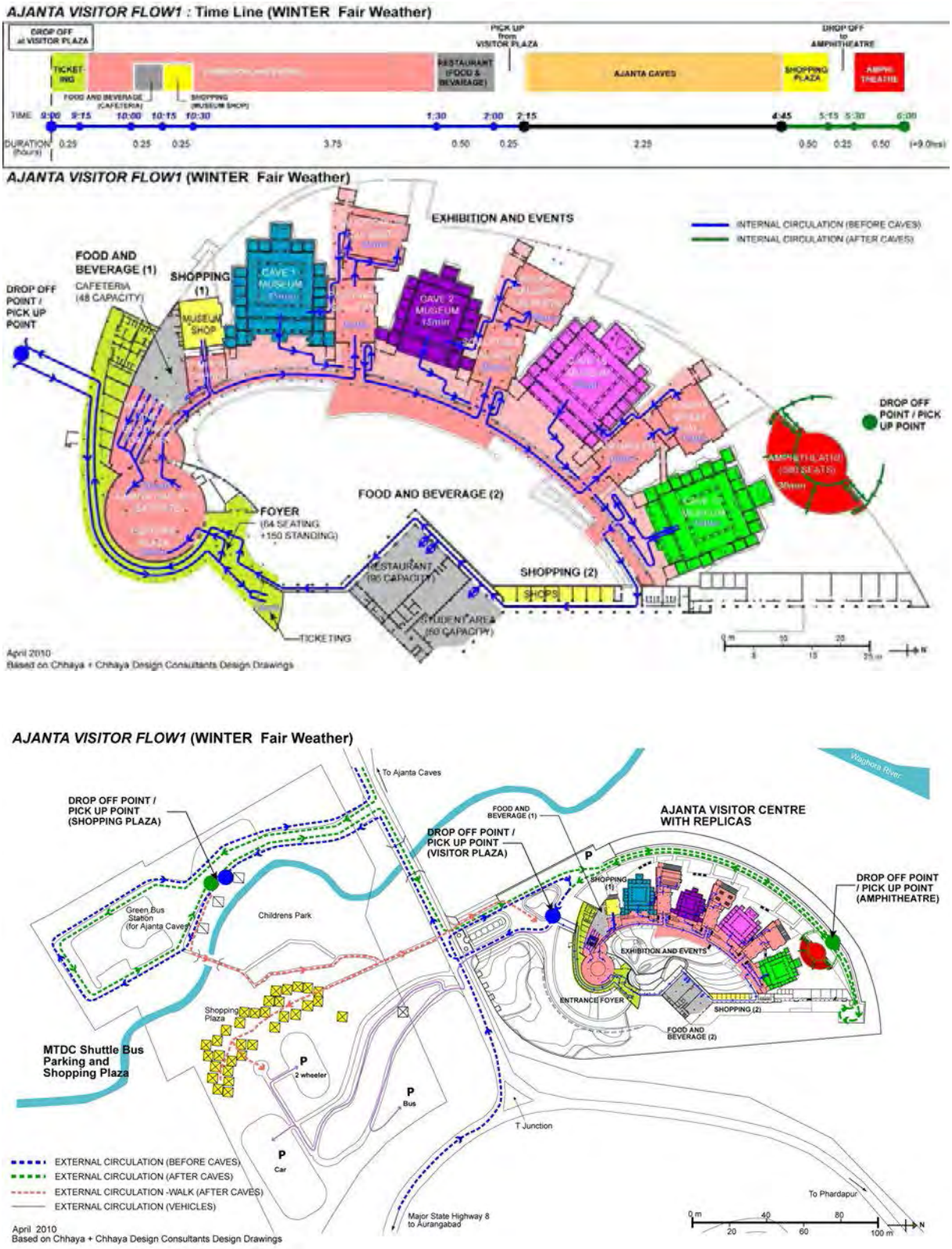


Figure 3-9 Ajanta flow 1 (Winter)

Source: JICA Study Team

(2) Ajanta in summer inclement weather months (April, May, June and October)

The hot climate of India will especially impact foreign tourists. Hence a different schedule is proposed for the winter fair weather months and for the summer inclement weather months. This is described below.

a. Foreigner and domestic tourists in summer inclement weather months

Flow 2 is recommended during harsh weather months at Ajanta (April, May, June and October) when the Cave Site mostly accessible during the morning hours.

Foreign and Domestic tourists should arrive at the Entrance Foyer at the Ajanta Visitor Centre and purchase their ticket in the morning.

If they are not travelling with a professional guide then appropriate arrangements can be made otherwise.

A scheduled pick up from the Visitor Plaza will take them to the Cave Site.

Since they would be accompanied by professional guides they can effectively survey all essential points of interest.

Upon their return they will be dropped off at the Shopping Plaza where they can browse through the shops till lunch time.

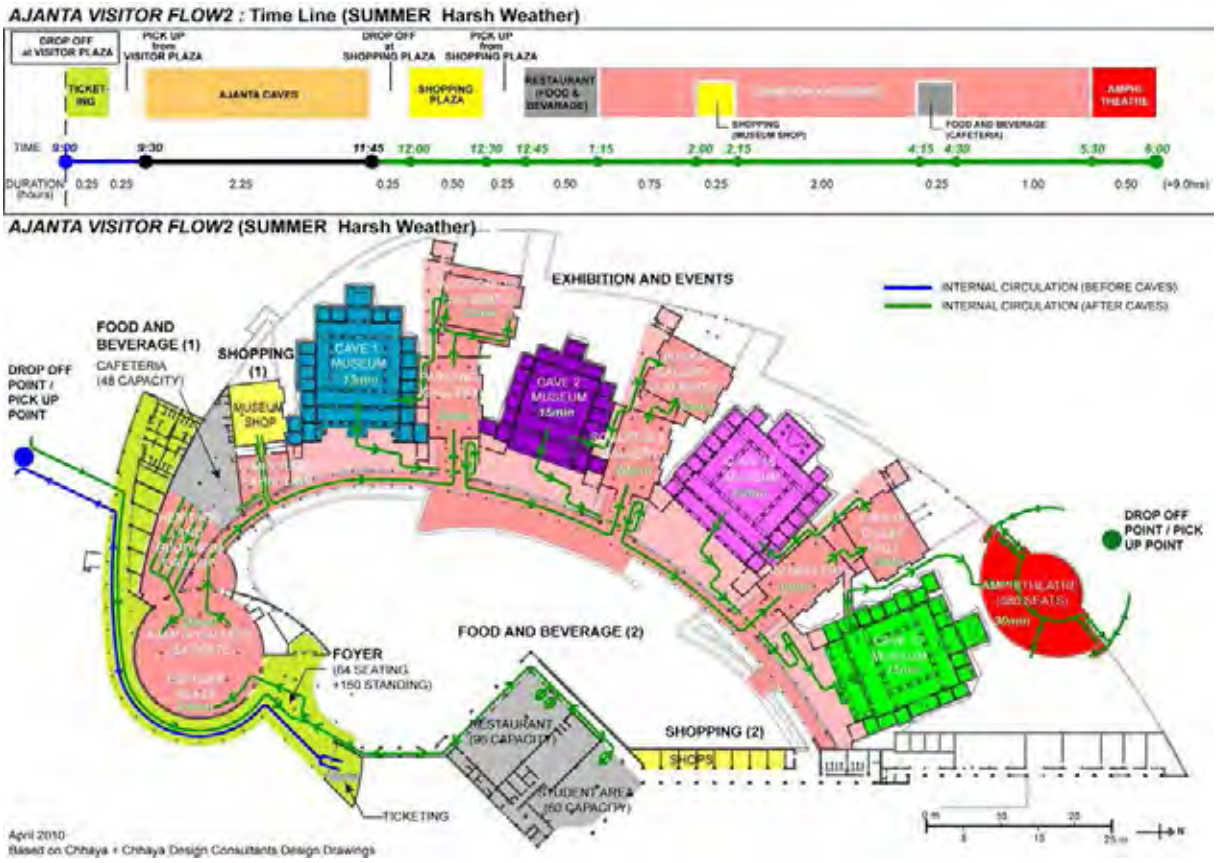
They could then either walk across to the Restaurant at the Visitor Centre or a pick could be arranged accordingly.

They should take their lunch and visit then visit the Galleries and Cave Museums to reconfirm what they have seen at the Cave Site.

During the tour, they can visit the Museum Shop, Cafeteria and the Temporary Exhibition Space at their discretion.

At 5:30 pm they must assemble at the Amphitheatre for the scheduled Cultural Program.

In this route, the Visitors will be indoors during most part of the day and avoid the inclement weather.



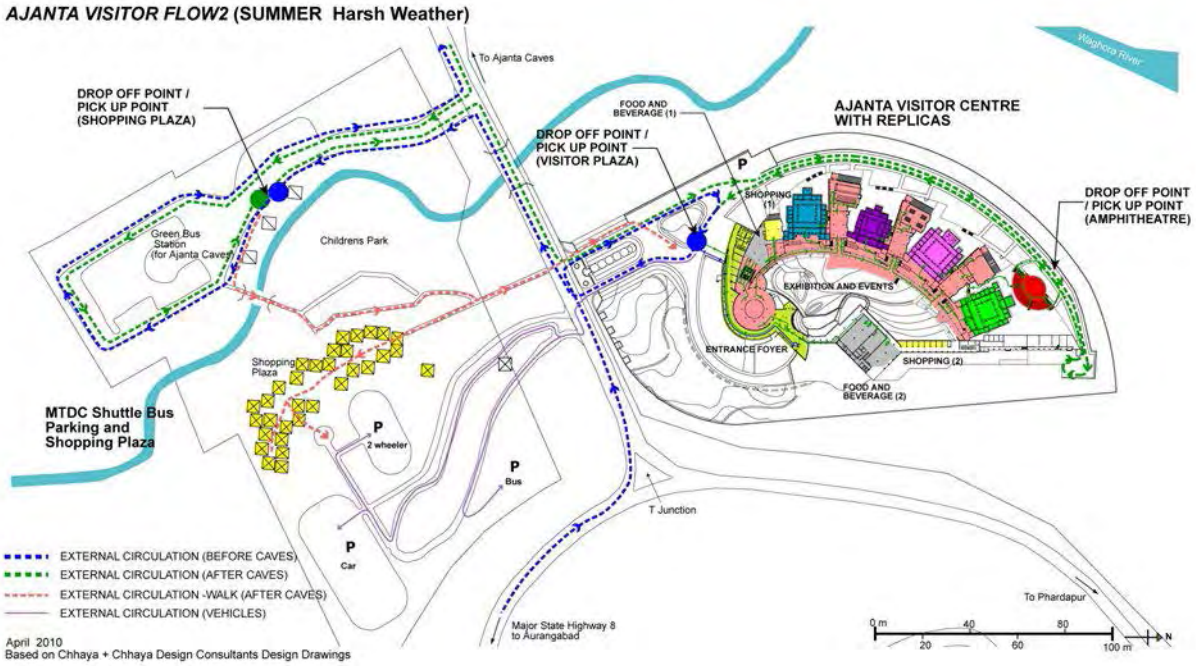


Figure 3-10 Ajanta flow 2 (Summer)

Source: JICA Study Team

The two flow line schedules for Ajanta mentioned above are compared in the figure below.

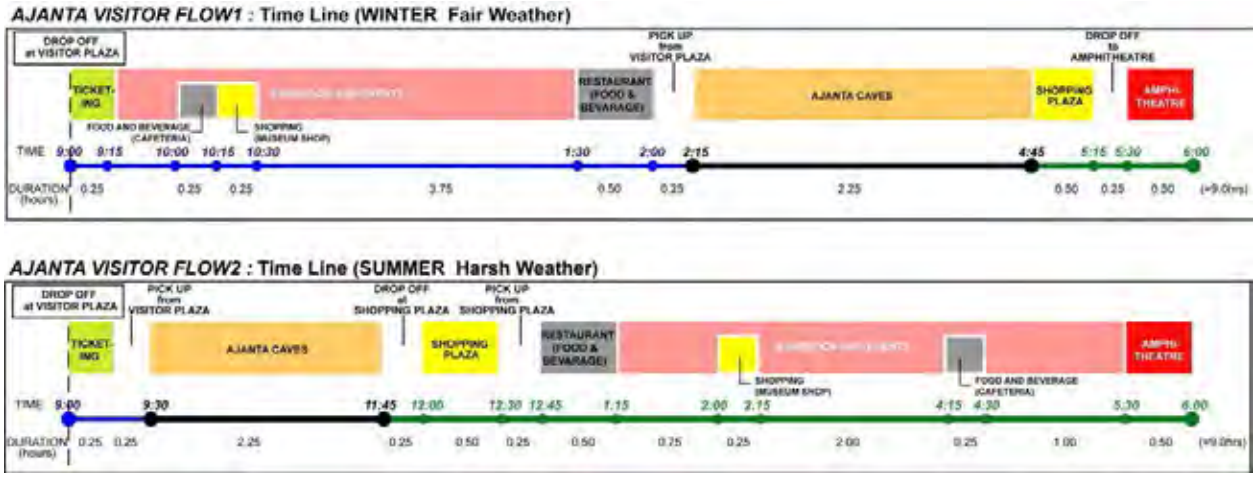


Figure 3-11 Timeline comparisons

Source: JICA Study Team

B. Ajanta traffic optimization

Ajanta cave is also experiencing growth in visitors. Nearly 298,810 visitors in 2001 as per the records and is growing with each year, especially for foreign visitors so that their growth rate is at 9.5%. The connectivity with Aurangabad and major surrounding places is becoming more efficient and the popularity of caves with its paintings is growing worldwide to attract visitors.

Protections for the caves and paintings are extremely difficult. Humidity increased by uncontrolled numbers of visitors which leads to fungus growth, attracting insects and eventually bats.

Huge number of visitors entry to each wall painting cave at a time are especially deteriorating the paintings and restoration is becoming necessary.

The impact of negative tourism activity needs to be decreased and inadequate security encourages vandalism and theft.

The quality of visitor experience needs to be enhanced. Current visitors flow degrades the experience with delays, crowding, disorientation and confusion.

The Ajanta Caves site, cannot comfortably overcome the shortfalls of the existing conditions.

In the near term, the protection to cave paintings and the visitors experience can be improved as follows:

- A pollution free green zone between AVC and Ajanta Caves.
- All public vehicles to stop at the visitor centre parking lot, however, allowing ASI staff to freely enter to the site. Thus the efficiency of conservation of caves and preservation of paintings increases significantly.

- Introduction of Green buses from the visitor centre to avoid the traffic congestion for visit to Ajanta Caves.
- Ajanta Visitor Centre, with multimedia interactive exhibitions, to provide educational interactive introduction and enhance the interest and understanding of visitors, prior to their visit to the caves.
- All public amenities to be included in Ajanta Visitor Centre, to facilitate decreased time spent at the Caves.
- More controlled number of visitors to the caves at one time to reduce pressure from population to the painted walls and improve safety in the site.
- Introduction of professional and trained staff for visitor management who will work and manage visitors without any restrictions between the ASI site and MTDC site.

Each action can incorporate minor, moderate, or major changes that will result in varying degrees of improvement for a long term. A more comprehensive management plan to assess and plan for resource use is recommended.

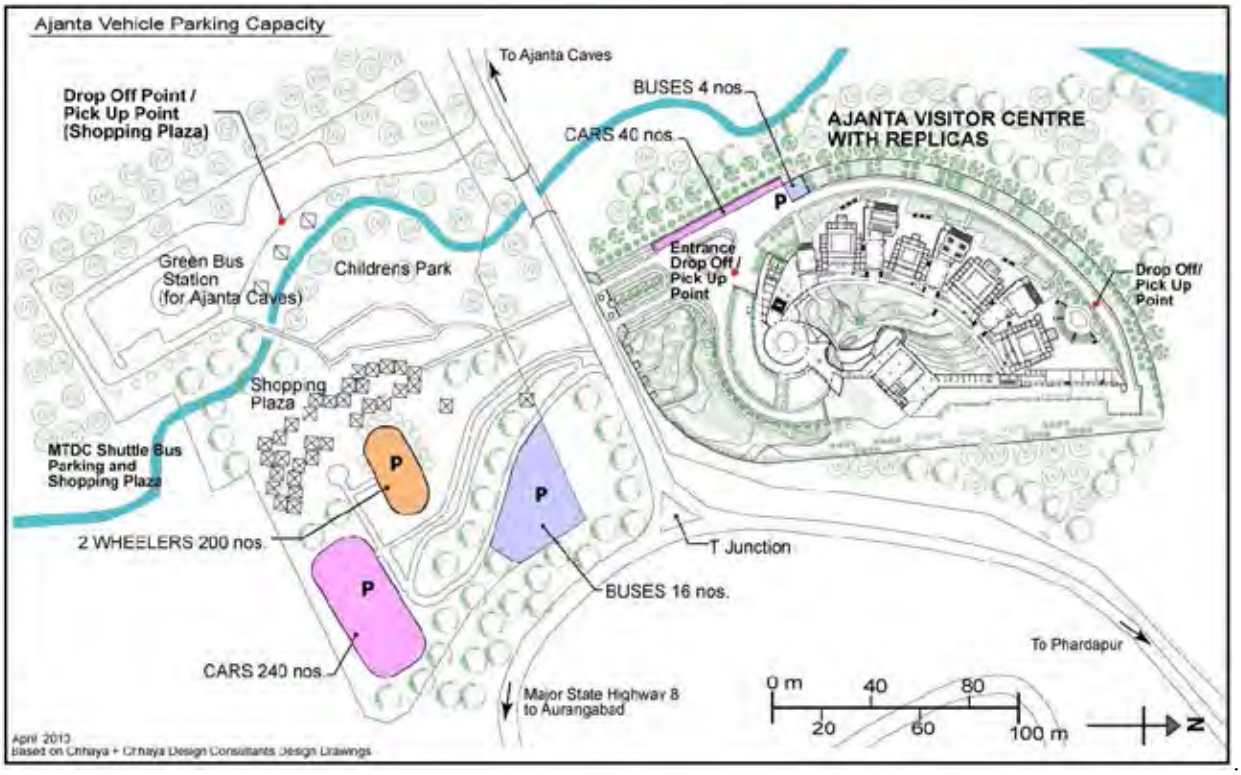


Figure 3-12 Parking layout at visitor centre

Source: JICA Study Team

3.1.4. Vision for integrated visitor-centred experience

It is possible that the visitor centres will reduce visitor bottlenecks to heritage sites and achieve optimal flow of visitors. However, collaboration among ASI and the State Government with MTDC is important to revise the current flow of visitors to the sites and the system of

ticketing including the entrance fee for the heritage site and visitor centre, bus ride, amenity fee and parking fee.

Both ASI and the travel trade referred to the necessity of introducing measures to limit the visitor numbers to some specific caves with paintings due to their fragility and to improve visitor experience. According to a professional tour guide, many of the domestic visitors come to the site for picnicking and are not serious visitors, but enter into the painted caves simply because they are open.

ASI is planning to introduce a reservation system for specific caves, which needs to consider those who coming from the distant places. The Study Team considers that the introduction of a new tariff system that charges extra fees for the entry into the fragile caves would be an easier and more effective way to control the visitor numbers, then partial close-off or reservation system for specific caves. The new tariff system, however, should display high quality photos to make an alternative available in the new visitor centres.

In this way, stakeholders with different backgrounds and interests can be linked in such a manner that their interests are not mutually contradictory, thereby creating a mechanism of sustainable tourism site management. In view of these aspects, the following contents may be assumed for the site management plan.

- Flow plan inside the visitor centre
- Flow plan connecting the visitor centre with the parking lot, historical site, etc.
- Extraction of detailed activities necessary for the visitor centre to contribute to regional development
- Proposal for establishment of a co-management relationship among those parties concerned in the site. Basically people and organizations with different interests (such as tourism business, community development and heritage conservation) form a new entity to coordinate and manage a tourism site.
- Identification of functions which the visitor centres should execute so as to establish a co-management scheme among stakeholders in the site

3.1.5. Cooperation & ticketing

The entrance tariff is an important revenue source for the visitor centres. ASI entrance fee to the caves of Rs. 250 ($5.6) for foreign visitors is still inexpensive, if it is compared with other World Heritage sites in the world, where $10 is a typical amount and it can be set for a similar amount for admission fee of the visitor centre including ASI entrance fee. Besides, taking into account India's favourable economic condition and increasing trend of disposable income, it would be possible to charge more fee to Indian visitors which is currently Rs. 10 only.

However, the admission fee to national monuments for Indians has to be nominal because of their public status and interests.

Comparisons with other World Heritage sites and museums in India and abroad are tabulated below:

Table 3-5 Comparison of admission fees for World Heritage Sites and Museums

(Unit: US$=Rs. 45)

Site	Local	Foreigner	Remarks
Taj Mahal	0.22	16.7	
Ajanta	0.22	5.6	
Ellora	0.22	5.6	
Petra (Jordan)	1.41	46.6	
Great Wall of China		20	
Angkor Wat (Cambodia)		20	
Pyramid (Egypt)		11	
Machu Picchu (Peru)		44	22 for children
Museum	Local	Foreigner	
National Museum (Angkor Wat)	3	12	2 for Camera
Egyptian Archaeological Museum		11	
National Museum (New Delhi)	0.22	6.7	6.6 for camera
Bombay Museum (Mumbai)	0.55	6.7	4.4 for Camera
Dr. Bhau Daji Lad Museum (Mumbai)	0.22	2.2	

Source: JICA Study Team

Almost none of them charge an entry more than Rs. 30/- on an average (single use only) in India. A multiple use (unlimited entries within timeframe of say, 24 hours) should also usually not be more than 3 times the single use pricing, i.e. say, Rs. 90/- per day.

Introduction of a single (integrated) ticket system is regarded by many as one of the most critical issues closely related to the visitor management. Since there is a lack of confidence among the concerned institutions, proposing a transparent system to distribute the revenue from ticket sales to respective institutions would be an important mechanism to be realized.

MTDC, in this regard, is perhaps most well placed by way of mandate and flexibility – it is a Corporation and not an authority, and can assume service functions at the discretion of its Board. Through this, MTDC can:

- Absorb the entrance fees to the caves within the fare of the end-to-end guided tours which may be commenced from Aurangabad, using transport arranged by it.
- Share a pre-specified percentage/ portion of sales with the ASI – this arrangement can be handled through an open – ended contract.

All visitors to the caves must converge into a single mode of travel from a certain point at the visitor centre right after the point where the Ajanta/ Ellora cave road passes by the visitor centre – by some form of a green 'eco-bus'. This means that every legitimate visitor to the cave must use this mode (shuttle bus).

For visitors travelling to the caves through (i) tour operators other than MTDC or its franchisees, (ii) on their own, this is the place where a comprehensive admission fee is taken, covering: (a) two-way fare for the eco-bus, (b) parking fees for transport, (c) entrance fees for the caves, (d) entrance fees for the visitor centre and (e) maintenance cess for the amenity

area. This should alleviate the issue that vendors working in the amenity area feeling disadvantaged because of a privilege barrier imposed on people accessing their services/goods.

In case of end-to-end tours being conducted by operators other than MTDC, they can have an arrangement with MTDC to cover the unified cost of the comprehensive admission-fee and their operating cost + profit. This would mean that such operator pays a monthly pro-rata portion of revenue to MTDC, and MTDC shares another pro-rata of its receipts with ASI.

It is recommended to charge extra fees to enter into fragile painted caves in Ajanta to protect the invaluable monument. Replica caves and exhibits that are planned for Ajanta Visitor Centre can be a good excuse and compensation for the additional fees. Conversely, introduction of additional charge is recommended to promote the use of the Ajanta Visitor Centre.

The ASI Consultant suggested that fragile painted caves should partially and alternatively be closed off from public display and the only way to see this should be the replicas at the AVC. This trick is used globally by every museum for rare and sensitive artefacts, which require special attention. However, whether this should entail an additional fee may need to be assessed on a case-to-case basis. The majority of visitors would expect viewing all the important caves.

As an excuse for increased ticket price, as well as to promote private businesses in the VCs and their neighbourhood, it is recommended that the new ticket system should allow re-entry to the caves. With this arrangement, visitors will be able to spend the hottest time of the day in the air-conditioned VCs to have lunch and to enjoy shopping, and revisit the caves in the late afternoon when temperature cools down.

However, there will always be people who would look for a 'quick-in', 'quick-out'. For them, the increased ticket price will mean lesser value for money – it's like selling them something they may not even need. A better approach may be to keep both options available, and then gradually phase one out depending on patronage. The VC charges can be apportioned into either mode.

3.2. Tourism Marketing Strategy

Since the trip to Ajanta Ellora sites is as long as is the tour of the caves themselves, the visitor centres have a strategic role to play in adding comfort to visitors and providing detailed historical and academic information about the caves to peek visitor interest. The information about the comfort, functions, and services that visitor centres provide needs to be added to promotional brochures and tourism websites. It needs to be attractively presented so that the visitor centres are attractions that are part of the Ajanta-Ellora tourism packaging so they can add value in attracting specific market segments to major tour packages in India.

3.2.1. Packaging the visitor centres as Ellora & Ajanta features

For packaging the features of visitor centres into the marketing and promotion tools of the Ajanta – Ellora world heritage sites, the following aspects should be highlighted:

- Mission of visitor centres
- Themes and storylines of exhibitions
- Functions and available services of visitor centres
- Photos of visitor centres with beautiful scenery and legible access map
- Opening hours and admission fees

In addition to the above, the following tactics are necessary to entice visitors:

- Branding the visitor centres (logo, trade marks, style of font, colour and design, etc.)
- Create mascot or character site specific and unique to visitor centres
- Create catchy phrase or slogan to showcase visitor centres or the heritage sites
- Create theme for restaurants and shops (menu, products and souvenirs with themes)
- Find anecdotal story of the heritage sites

Although the materials and brochures for Ajanta and Ellora Tourism are well done and may have exhausted the available budget of MTDC, they have by no means exhausted creative approaches to marketing.

One less used approach is to show more specific individuals deeply enjoying their Ajanta - Ellora experiences including the visitor centres (carefully chosen individuals to appeal to the target market) since people experiencing pleasure attracts people. This has the benefit of integrating Ajanta – Ellora visitor centres' tourism products via the tourist rather than in terms of categories which are really overwhelming since they cover such a wide range of subjects.

Reducing them to the experience of single individuals makes them much more palatable. This approach has been particularly effectively developed by Japanese television which makes TV shows based on present the diary of one or more narrators in a foreign land experiencing its treasures.

3.2.2. Targeting major market segments

The Tourism Market Strategy targets markets for allocating promotional efforts and funding. It is proposed that at least the following groups be reached:

(1) Regional and local tourists

(2) General tourists to India

(3) People in Buddhist nations

(4) Foreign visitors (known in the tourist trade as "beach tourists" who are interested in some cultural experience to supplement their primary focus of relaxation). In terms of market size this market segment is large whereas the market size of cultural tourists is small. The characteristics of beach-tourist and cultural tourist markets is compared in the Table below and illustrated spatially in the Figure.

Table 3-6 Beach tourists vs. cultural tourists

Item	Beach tourists	Cultural tourists
Origin	Short haul	All over the world
Type of Trip	Stay in one place	Touring
Area of activities	One day trip area	Tourism circuit for 1-2 weeks
Motivation	Rest and relax	Cultural interest
Market size	Large	Small
Price elasticity	High (price affects demand)	Low (price affect demand less)

Source: JICA Study Team

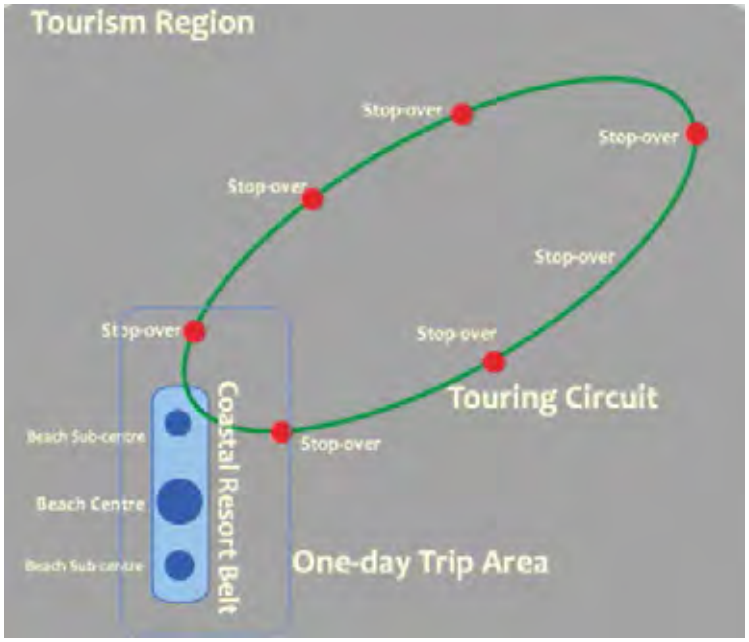


Figure 3-13 Spatial tourism structure

Source: JICA Study Team

(5) Japanese. An Ajanta mural is part of Japanese school history as the roots of Japan's World Heritage Mural in Horyuji Temple. Its publishing has a high profile.

3.2.3. Attracting high-yield visitors

High-yield visitors are those who spend a lot on accommodations, shopping and tours. When such visitors stay is long, they likely spend more in all categories. Therefore, "Nights Spent" is viewed in this regard as a better relative measure of tourism statistics than "arrivals," especially in the analysis in Section of Financial Plan.

Since those visitors stay at high-class accommodations in Mumbai or Aurangabad, their relatively low length of stay would suggest that they are not finding offerings of interest to cause them to stay longer. Since the main offerings in India are numerous, one may suspect that they are not being fully exploited in terms of providing a full tourism experience (ambiance) of sightseeing, dining, shopping and entertainment. Also do more promotion together with hotels where the bulk of tourists stay.

Clearly, there is a potential tourist market in providing additional attractions for such non-tourists who are already in India. This could be a major aim of the AEDP (II) in providing the facility and development of the visitor centres, the Aurangabad airport, the improved road access to Ajanta and Ellora, and the improved electricity and water supply system to Ajanta and Ellora visitor centres. However, casual observation would suggest that Aurangabad is just beginning to enter the realm of providing tourism ambiance rather than just tourism sites.

3.2.4. Inclusion in state and national tourism circuits

It is also recommended that parallel efforts be made to include information about the visitor centres at the sites to existing Indian tourism circuits as follows:

(1) Buddhism Circuit Tours

(2) World Heritage Circuit Tours

(3) Indian Antiquities Tours

(4) Regional Tourism Circuit

(5) General Interest Package covering historic buildings, scenic location, natural parks, etc. Note: Specific Interest Packages are small niche markets, so the returns would probably not justify the expense.