

## SUSTAINABLE TOURISM DEVELOPMENT PLAN OF AGRA – AN ATTEMPT TO TACKLE THE PULSAR EFFECT DURING THE TAJ FESTIVAL

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### **The context:**

Taj Mahal is one of the most visited buildings in the world, competing with the Pyramids in Egypt, the Vatican in Rome and the Eiffel tower in Paris. Taj Mahal is located in Agra city; it is one of the cities of the state Uttar Pradesh, Northern State of India. Taj Mahal is white marble mausoleum, built by king Shahjahan in 17<sup>th</sup> century A.D. in the memory of his wife, Mumtaz Mahal. In and around Agra apart from Taj Mahal there are three more world heritage sites.

Looking back at the history of the town King of Afgan dynasty Sikardar Lodi had his capital in Agra. During the period of Mughal King Akbar Agra grew the heights. Akbar built the Agra Fort (1565) and Fatehpur Sikri (1569). After Akbar his son Jahangir became King of Mughal Empire. During the period of Akbar's grandson Shahjahan the architecture had reached its peak with Taj Mahal.

### **The Evolution of the Structure of the City of Taj:**

The structure of Agra city has been changing over the years. During the Mughal period, the city had a definite simple structure. Gradually Agra becomes an important center for trade and commerce and household industries. During Mughal period it had a population of 2 lakh. All economic activities developed in the north and northwest side of the city and it encircled by the residential area. The city developed and extended on the both sides of River Yamuna. During the British regime it remained the headquarter. In this period the city grew towards south and southwest direction of Mughal city as cantonment, offices, residential areas, The development during the British period gave a definite shape to the Mughal city and restricted

the expansion within the central part, with the result the major of the residential development took place within limited area causing the increase in residential density as well as encroachment upon the residential area from inside and outside. Some residential development also took place along the roads leading to different regional centers, namely Bharat pur, Fatahpur Sikri, between main city and Lahamandi, Shahganj suburbs. The construction of bridge on river Yamuna encourages the residential and commercial development in Trans Yamuna area. Some residential and commercial development took place near Taj.

After independence, Agra receives a large number of refugees and migrations from rural to urban. During this period people settle in the central part and it becomes more congested. The new residential development took place in Shahganj, Lohamandi, Dayalbagh, and Swamibagh. Today the city is growing in western direction following the Delhi Agra corridor in a linear pattern and it has market as core of the city.

### **The present Scenario:**

The Geographical are of The Agra city is approximately 140 sq Km. the urban area of Agra is divided into

- 1) Municipal Corporation,
- 2) Agra Cantonment Area,
- 3) Dayal Bagh and Swamibagh.

The Municipal area is divided into 25 wards. Agra Master Plan 1971-2001 has divided the plan period into two zones Zone I, Zone II. The table below is showing the proposed land uses in Master Plan.

SlNo	Landuse	Zone –I Existing At Maste Plan Preparation Stage	Zone II Proposed		
			Planning Unit I	Planning Unit I	Planning Unit I
2	Residential	1148	3740	400	763.6
3	Industrial	229.6	399	392.4	150
4	Central Function	344.4	548.8	56.8	160.8
5	Roads & Railways	172.4	147.2	182.4	-
6	National Park	373.1	280	56	48
7	Monuments	-	-	184	216
8	Parks & Open Space	-	144	13.2	16
9	Govt. Offices	172.4	-	-	-
10	Commerce	114.6	-	-	-
11	Vacant Lnad	200.9	-	-	-
12	Developed Area	2870	5295	1284.8	1354.4

#### Socio – Economic Scenario:

The City has total population of about 11.5 lakh in 2001 census. In 1991 census it had population of 9.43 lakh. According to 1991 census the literacy rate in the city was 49.45%. Male participation in literacy is 56.8% and female 40.48%. The sex ration is 846 female per 1000 male. There is total 2.89 lakh male worker and 30 thousand female workers. About 43% of the total population are living in the Slum. There are 182 identified slums in Agra. These slums are in very bad condition, lack of basic civic amenities.

Regarding the economic activity of the city Agra is a big market for the sandstone and Marble of Rajasthan. It has crafts especially stone carving, toy making, Zari making, Shade making. There are 6463 small-scale units in the city. The economy of the city is mainly depending on Industry, Tourism and trade & Commerce.

#### Infrastructure:

**Road:** Regarding the physical infrastructure of the city, the total road length is 142 km. Out of which only 75% is two lanes. Near about all the streets and roads are narrow, and it hinder the smooth flow of traffic, creating more

health hazard due to vehicular pollution. The existing road network is inadequate for both intercity as well as intracity traffic movement. The vehicles are highly varied in character. At the same time at least 10 types of vehicles run on the road. The nation traffics area also passing in the across the city, it increase the traffic volume and traffic gum as a resultant of the increase the air pollution. Electricity: Per day electricity deficiency is about 250MVA and the inadequate transmission infrastructure is leading to power breakdown. Agra faces regular severe power breakdown ranging from 4 to 6 hours per day. This has resulted in a large number of Diesel Generators sets coming up in the city creates a considerable amount of air pollution.

**Water Supply:** The source of water supply is Yamuna River. It is said that 40% of total water supply losses during transmission. The every day shortage of water supply is 50mld. The water supply is for only 12 hours in morning. The water quality is low for most of the part it is having high coliform count due to breakage in the pipes. Iron content in water is exceptionally high & residual Chlorine and TDS are considerably high in some localities.

**Sewerage:** About 30% of the city area is covered by sewerage network but due to

enormous increase in population most of the area are not served by sewerage system. The total sewerage generation of the city is 128.6 mld. There is no sewerage treatment plant. The sewerage is found flowing along the roads into open drain.

### **The Status of Environment:**

**Air Quality:** The total air pollution in Agra from domestic sources, D.G sets, industrial sources, Petha units and vehicular sources are 51t/day.. SPM from industrial and domestic sources is an important parameter as carbon content of the emission can have harmful effect of Taj Mahal. The silicon content of SPM creates abrasion on surface of Marble. In general the air quality is poor with SO<sub>2</sub>, NO<sub>x</sub> and SPM content in the air is above permissible limit.

**Water Quality:** Water quality in Yamuna River is very low due to industrial and sewerage discharge. About 24 drains are directly discharging effluents and sewage in Yamuna. The BOD and COD level is very high. This year all the fishes in Yamuna near Agra died due to the facts that DO in water becomes nil.

**Solid waste:** The solid waste management in the city is very. Per day uncollected solid waste is 450 tones. The situation is worst in the area of Petha industry.

### **Tourism:**

Agra is a place of Mughal history and dotted with number of monuments. It has Taj Mahal, Fatehpur Sikri, Agra Fort, Bharat pur Bird sanctuary. Other than these there are Akbar Tomb at Sikandara (in proximity to Agra) and Imtab – Ud- Dauld's Tomb in Agra are proposed to be world heritage site. On an average per day Taj Mahal attracts 8,000 to 10,000 tourists, among this 54% are international and 46% are national tourists. The tourists' seasons

are mainly from October to March. The international tourists are mainly from the countries like USA, UK, Germany, France, Italy and Japan. Duration of stay is crucial for middle income of tourists. From the point of publicity and the tourist awareness most of the common tourists visit Taj mahal Only 50 % of the tourists visit Fatahpu Sikri. Other monuments like Akbar Tomb, Imtab – Ud- Dauld's receives few visitors. Due to the lack of accommodation facilities most of the tourists go back the same day. No organize tourists circuit has developed to increase the no of day stay of the tourists. As per the department of tourism of Agra in 1998city had 3500 rooms in different hotels. Only 12% international tourists and 6% of the national tourists can effort these luxury hotels for over night accommodation. It is recognized that the hotel industry is not doing as well as it should because the average tourist does not stay for long enough in Agra. For making the stay of the visitors longer other spots should be promoted to the tourists to increase the attraction besides Taj mahal. In 1998 2.1 million people visited Taj Mahal Where as Imtab – Ud- Dauld's and Akbar tomb received only 39,000 visitors. There is no pedestrian circuit to take tourist along the riverfront. Directional sign are few and refer to Taj Mahal, Sikandra, Fatehpur Sikri. It is estimated that visiting Taj Mahal alone can take maximum 2 hours and fours hours combined Akbar Tomb. The visitation can be increased to twelve hours if other riverfront monuments are visited. In additional a visit to Fatehpur Sikri takes four hours and Sikandra three hours. The total duration of visitation can stretched to two - three days.

The main mode of transportation within Agra is Automobile, very few conducted bus tours area there. The hotel are in Taj Ganj is highly congested and it is surrounded by slum areas. Near Taj Mahal there is no proper eating-place,

existing eating-places are very dirty. The survey says that the tourists are mainly dissatisfied with lack of eating facility, public convenience, information center and congestion on the roads. In addition to this the abundance of hawkers, peddlers, photographers provide a major nuisance and are frequently crests a primary reason for dissatisfaction with the tourist experiences. Agra has no quality for long stay.

### **Taj Festival:**

lit is basically a art and cultural fair which takes place in Taj mahal during the full moon in the month of January/February. During this festival Taja Mahal receives per day 10 times more of its regular inflow of tourists. Per day tourist inflow is about 80,000 to 1 lakh. The duration of the festival is 15 days. As the city's infrastructure is far from satisfying the civic amenities. The city becomes suffocated with tourist population. The city has a regular deficit in terms of its infrastructure support. The additional demand for infrastructure during the festival makes the life stand still.

The **issues** related to the deficiency of infrastructure during Taj Festival are as follows:

1. As there is no organized tourist transport system the tourists used to reach Taj Mahal by individual hired vehicle, the no of vehicle on the road increased by 5 times and the traffic jam is a usual phenomena.
2. The tourist area of Taj Mahal and Agra Fort are surrounded by congested are.
3. Taj Ganj is highly congested and badly maintained.
4. The no of middle level hotel is less, the tourists prefers to go back. On the same day.
5. National traffics also pass through the city, it accelerates traffic jam.

6. The access to monuments especially in Taj Mahal its northern, Southern portion are very poor,
7. There is no special road for VIP, so whenever the VIP goes other vehicle get stop. It chokes the traffic flow.
8. There is no proper access road from railway station to monuments. The existing road condition is very poor.
9. The roads are very narrow.
10. There is no tourist information center.
11. No pedestrian path and direction sign to the monuments.
12. Lack of adequate parking facility.
13. There is no proper eating facility near the monuments, only the hawkers are selling food.
14. The tourism information system is very poorly developed. 80% of the tourist don't know about the existence of other monuments, therefore, the duration of stay is short.
15. During the festival per day electricity need increased 4 folds, the city needed more than 2000 MVA more electricity supply, to cater this problem DG sets are frequently used and this accelerate the air pollution levels.
16. The city has regular supplied treated water deficiency of 50 lpcd. In the time of Taj Festival it increases up to 450 lpcd, the time bound water supply also creates problem
17. The sewerage generation also increases during the festival, as there is no organized sewer system it flow on the roads, street.
18. Solid waste generation of the city increased up to 6500t/d only 10000t/d collection takes place.

### **Proposal towards the solution:**

1. Restrict the through traffic passing through the city and make a by pass so that the through traffic can pass the city without entering into it.

2. Keep grading the tourist corridor near the monument zones and Taj Ganj and surrounding area for different types of vehicle.
3. Introduction of pedestrian circuit along the tourist corridor.
4. Introduction of new hotel are in the southern part of Taj Mahal and northern part of the city
5. Categorization of the Roads according to its loads and characteristics of vehicle and direction of flow.
6. Improvement of the existing road condition.
7. Introduction of the Taj entrance nature walk. Weir and walk way, pedestrian bridge and circuit way for 4 km.
8. Improvement of the entrance of Taj Mahal in the northern and southern part.
9. Proper parking facility for vehicle outside the Taj entrance nature walk.
10. Development of visitors center, research center near Mehtab Bag & Cultural heritage central & visitor center, emporium information center near Taj Mahal.
11. Upgradation and publicity of the areas around monuments for bringing it to the common people knowledge like Rambagh, Vhinika Roza, Itmad – Ud – Daula
12. Introduction of basic civic amenities like – toilets, dustbins and benches.
13. Introduction of cafeteria of tradition facilities in and around the monuments.
14. Improvement of existing sewerage system and bringing more are under sewerage service. Constructions of sewerage treatment plant.
15. Regular collection of solid waste and construction of disposal site.
16. Introduction of organized tourist circuit so that no. of day stay will increase. Bringing up more medium level hotel keeping in the view of the mass tourists.
17. Upgradation of existing roads.
18. Introduction of a new water supply station in addition to the existing.
19. Repair of the existing water supply pipe.
20. Power supply from surrounding states like Rajanathan, Hariyana and Uttar Pradesh.