

**Airports Authority of India
Rajiv Gandhi Bhavan,
New Delhi**

**Pre-feasibility report for setting up of Greenfield Airport near
village Mauja-Murti, Post-Vihirgaon, Taluka – Rajura, District
Chandrapur, Maharashtra.**

INTRODUCTION:

In the past, upon request of MADC, AAI had surveyed the existing airport at Chandrapur to explore the possibility of its expansion but it has been observed that the present airport is not suitable for further extension due to industrialization and non-availability of land.

MADC vide letter no: MADC/Chandrapur/39/1041 dated 21.11.2017 had requested AAI to undertake a Pre-feasibility study for setting up a Greenfield airport near Mauja-Murti and Vihirgaon, District Chandrapur, Maharashtra.

Accordingly, the team of following officials has visited the proposed site on 03.01.2018 for the purpose of pre-feasibility site inspection:

From Airports Authority of India (AAI)

1. Sh. T.K. Gupta, DGM (CNS-P)
2. Sh. Sudesh Sharma, DGM(ATM-FPD)
3. Sh. Sujoy Dey, DGM (Arch)
4. Sh. Neeraj Kumar Gupta, SM (BD)

From MADC

1. Sh. V.S. Mulekar, Sr. Airport Director, Nagpur Airport, MIHAN
2. Sh. Mukund Pathak, Ex. Engineer

From District Administration

1. Sh. Ravindra Holi, Tehasildhar, Rajura
2. Sh. Mukesh Tangle, Deputy Engineer, PWD

Chandrapur district is one of the eleven districts of Vidarbha region of Maharashtra. The district headquarter is located at Chandrapur Town. For administrative convenience, the district is divided in 15 talukas viz. Chandrapur, Warora, Chimur, Nagbhid, Bramapuri, Sawli, Sindewahi, Bhadravati, Mul, Pobhurna, Ballarpur, Korpana, Rajura, Gondpipri and Jivati.

The city of Chandrapur has ancient temples of the goddess kalikankalini, a form of the goddess Mahakali, and of anchareshwar, a form of the god Shiva. The city was founded by Gond King Khandakya Ballal Shah in the 13th century and is situated at the confluence of the Irai and Zarpat rivers.

ABOUT THE DISTRICT ECONOMY, INDUSTRY & TOURISM POTENTIAL:

ECONOMY:

Agriculture and industries are the largest parts of the state's economy. Major industries include chemical products, electrical and non- electrical machinery, textiles. Petroleum and allied products.

Physical features and land use pattern of the district indicate that agriculture is the main activity in the district.

INDUSTRY:

The region is very rich in mineral wealth such as coal and limestone. Due to its large number of coal mines, the city is also known as Black Gold city. Many cement factories are also located in this region.

About 6000 small, medium and large scale industries are located at Chandrapur district. Chandrapur has large deposits of coal and lime stone. The mammoth coal mines around the city also contribute to the heavy industrialization of the city. Western Coalfields Limited (WCL), a subsidiary of Coal India, has many mines here. Chandrapur Super Thermal Power Station by Maharashtra State Power Generation Company Limited is its biggest pit head thermal power station.

The city houses various cement factories in its vicinity. They are Manikgarh Cement, a division of Century Textile and Industries, part of the BK Birla group of companies, Ultra Tech Cement (formerly L&T Cement), a division of Grasim Industries, part of the Aditya Birla Group; Chandrapur Cement Works, a division of Associated Cement Companies, part of Holcim Group; and Maratha Cement Works, part of Ambuja Cements Limited.

The district also boasts of having Ballarpur Industries Limited, the largest manufacturer and exporter of paper in India.

Other major industries include a Chandrapur ferro alloy plant (formerly Maharashtra Elektros melt Ltd), a ferro-manganese plant, and a silico-manganese plant of Steel Authority of India Limited. Chandrapur's ferro alloy plant is the largest manganese-based ferro alloy producer in the country.

TOURISM POTENTIAL:

Tourism in Chandrapur district is a relaxing experience. There are many places located here where one can go in to soak in the atmosphere and to relax in the calm and beauty of the place. One of the most famous tourist attractions located in the district is the Tadoba-Andhari Tiger Reserve. The city of Chandrapur has ancient temples of the goddess Mahakali and of Anchareshwar, a form of the god Shiva.

Anandvan Ashram, Warora

Warora town has come into prominence due to location of the "Anandvan Ashram". Well known Social worker and Maharashtra Bhushan Shri Baba Amte whose services and efforts for the rehabilitation and care of leprosy patients have earned him worldwide recognition. Foreign tourists in large numbers often visit Anandvan Ashram.

Ballalpur Fort

Situated in Chandrapur district of Maharashtra, all the three forts (Ballalpur, Chandrapur and Manikgarh Forts) are of tribal origin.

Ballalpur, now known for its coal mines and paper mills, is 16 kms south-east of Chandrapur, the district headquarters, Ballalpur was the capital of the Good king Khandakya Ballalshah during 1437-62 AD.

Bhadravati Jain Temple

This temple in the town is very popular with the Jain community. It has very beautiful sculptures. This temple is located as Bhadravati village, 32 km from Chandrapur town on Central Railways.

Chandrapur Fort

Situated in Chandrapur district of Maharashtra, all the three forts (Ballalpur, Chandrapur and Manikgarh Forts) are of tribal origin.

The credit for establishing Chandrapur also goes to Khandakya Ballalshah. When the capital was shifted from Ballalpur to Chandrapur, the Ballal kings built here an extensive land fort with high walls and bastions. The fort had at its four cardinal points four impressive gates.

Ghora Jhari Lake

This lake is situated in Nagbhir tehsil. It is 6 km away from the main Nagpur - Chandrapur highway, 106 kms from Chandrapur town and 97 kms from Nagpur. The capacity of the reservoir is 45 cusecs of water.

Junona Lake

This spot is 15 km away from the town of Chandrapur. Here, there are well developed facilities for boating, and there are also restaurants and parks located here.

Mahakali Mandir

Mahakali Mandir in Chandrapur is an icon for Chandrapur. It is symbolic to Chandrapur City and it has prominent place in the heart of people of Chandrapur. Devotes visit Mahakali Mandir every day but Tuesdays are special days to visit Mahakali mandir. There is a small Ganesha temple and Hannuman temple inside the Mahakali Mandir premises.

Manikgarh Fort

Situated in Chandrapur district of Maharashtra, all the three forts (Ballalpur, Chandrapur and Manikgarh Forts) are of tribal origin. Manikgarh, made famous by a newly established cement factory nearby, is about 35 km south-west of Chandrapur. Built by tribal Naga kings in the 9th century, the Manigarh hill fort stands at the height of 507 metres above sea-level. It was strongly fortified with walls and bastions.

Tadoba Andhari Tiger Reserve

Tadoba-Andhari Tiger Reserve is a tiger reserve in Chandrapur District, Maharashtra, India. It includes Tadoba National Park and Andhari Wildlife Sanctuary. Maharashtra's oldest National Park created in 1955, the Tadoba Andhari Tiger Reserve. It is also one of India's 28 Project Tiger Reserve. The National Park is 623 sq km in area, consisting of two forested rectangles of the Tadoba and Andhari range.

Vijasan Hills

There are several temples here which are very attractive. The atmosphere here is very serene and calm and one can come here to soak in the religious significance of the place as well as to relax in the serenity of the environment.

(1) **NEAREST RAIL, ROAD & AIR TRANSPORT CENTERS AS PER TABLE MENTIONED BELOW:**

Name & Distance of the proposed site to Nearest city centre	Nearest Railway station	Name of Operational Airport and Approx. aerial distance
40 km south of Chandrapur Town	Chandrapur Railway Station	Nagpur Airport - 86 Nautical Miles (NM) Amravati Airport- 117 NM Gondia Airport- 118 NM Raipur Airport- 154 NM

Inspection of Site:-

Site details are as follows:

The Site Boundaries are marked in the enclosed sketch at Annexure-1. Co-ordinates of the boundaries are given below:

- A. 19.725917° N & 79.476494° E
- B. 19.715784° N & 79.477793° E
- C. 19.706007° N & 79.473058° E
- D. 19.699462° N & 79.469223° E
- E. 19.689707° N & 79.464639° E
- F. 19.690299° N & 79.454217° E
- G. 19.695678° N & 79.449579° E
- H. 19.701474° N & 79.444982° E
- I. 19.709733° N & 79.444886° E
- J. 19.717318° N & 79.444092° E
- K. 19.727193° N & 79.451565° E
- L. 19.728768° N & 79.458604° E

AAI, vide letter dated 22.12.2017 had requested MADC to provide Survey of India Map, Revenue Map of the site as well as wind rose diagram, meteorological data of last ten years. During the site inspection also AAI requested accompanying MADC and State officials to provide the same. Subsequently, MADC sent Survey of India Map, Revenue Map of the site along with Temperature Data for Year 2008 to 2014 and Wind Rose for Year 2002 to 2006. The same has been used while preparing this report.

As per the site map (copy attached at Annexure-1) provided by MADC & Revenue Deptt., the Total area earmarked by them for the proposed airport is 5293.66 Acres. Out of this the Govt. Land is 1611.73 Acres, Forest Land is 2339.04 Acres, Private Land (Class-1) is 516.83 Acres and Allocated Land Area (Class-2) is 826.06 Acres.

As per the observations made during the site visit and analysis of the Meteorological data provided by MADDC, the technical feasibility of developing a Greenfield Airport at this site has been assessed under two options in this report as follows:

Option-1

(Operation of Q-400 and below type of aircraft)

- The Proposed conceptual Master plan of Greenfield Airport for this Option-1 is attached as Annexure-2(A) and Annexure-2(B) .
- In this option, a Greenfield Airport can be developed for operation of Q-400 and below type of aircraft.
- In this option, a total of approx.720 Acres of land is required and the same can be accommodated within the land already earmarked by MADDC/Revenue Deptt in the site map attached as Annexure-1. Thus no additional land may be required.
- Based on the analysis of Meteorological data as well as the site observations, the best runway orientation/designation which is feasible is 14/32. The runway length of 2050 mtrs. and width of 45 mtrs is required.

Option-2

(Operation of A-320 and below type of aircraft)

- The Proposed conceptual Master plan of Greenfield Airport for this Option-2 is attached as Annexure-3(A) and Annexure-3(B) .
- In this option, a Greenfield Airport can be developed for operation of A-320 and below type of aircraft.
- In this option, a total of approx. 840 Acres of land is required out of which 720 Acres of land falls within the land already earmarked by MADDC/Revenue Deptt. in the site map attached as Annexure-1. However, an additional land of approx.120 Acres shall be required on the south-eastern side of the Proposed site as shown in Annexure-3(A).
- Based on the analysis of Meteorological data as well as the site observations, the best runway orientation/designation which is feasible is 14/32. The runway length of 3000 mtrs and width of 45 mtrs is required.

Other Parameters and Stipulations:

1. Proximity of other operational airports:

There are presently two operational airports located at more than 150km from the proposed aerodrome site.

Nagpur - at distance of 86 NM (North West).

Raipur (Chhattisgarh) – 154 NM (North East).

Existing Chandrapur airstrip located at a distance of 20 NM with Runway orientation of 08/26.

2. Air space analysis:

The proposed site is located outside the control zone of Nagpur and Raipur airports.

The airspace of 25 NM around the proposed site is clear of any restricted or local flying area.

Matter related to CNS/ATC and airspace management will be taken up with AAI when the site will be finalized.

3. Obstacle limitation surface survey (OLS Survey):

Obstacle limitation surface survey(OLS Survey) is required to be carried out mandatorily for establishment of Obstacle limitation surfaces in order to find out existing obstacle penetration and to check the viability of operation.

Unacceptable Identified obstructions like HT/LT electricity lines, masts, chimneys, building structures etc. shall be required to be removed/ trimmed for protection of OLS surfaces and desired performance of CNS facilities/ equipment.

4. Aerodrome Licensing requirement: -

As the proposal is intended for scheduled flight operation by Airline and also for general Aviation flights etc, the airport shall have to obtain aerodrome license for 'public use category from Directorate General of Civil Aviation (DGCA)' it is therefore proposed that the development plan should be submitted to DGCA before execution and prior consent of meet the regulatory compliance thereby facilitating obtaining of aerodrome license. It shall also be desirable to obtain BCAS clearance on the development plan before execution.

Further, any other statutory clearance required from local/central regulatory authorities shall be obtained.

Conclusion

- Development of a Greenfield Airport at the proposed site is technically feasible subject to Regulatory Clearances and OLS survey.
- It is proposed to develop the airport in two phases.
- In the Phase-1, a Greenfield Airport may be developed as per Option-1 i.e for operation of Q-400 and below type of aircraft as a total of approx.720 Acres of land is required and the same falls within the land already earmarked by MADC/Revenue Deptt. Thus no additional land may be required.
- In the Phase-2, Option-2 may be implemented i.e the Airport may be upgraded/expanded for operation of A-320 and below type of aircraft .In this option, a total of approx. 840 Acres of land is required and thus an additional land of approx.120 Acres shall have to be acquired on the south-eastern side of the Proposed site as shown in Annexure-3(A).

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