

EXECUTIVE SUMMARY

1.0 Introduction

Gwalior Agriculture Company Limited (GACL) and was set up as a 100% subsidiary of the Gwalior Sugar Company Limited (GSCL) in 1946. The company is primarily into Agriculture and land Development. Large tracts of lands were acquired from the erstwhile Scindia Government by the Industrialist, late Sir JP Srivastava to set up a Sugar Plant in Dabra in the 1940s. Subsequently the lands acquired by GSCL, were transferred to its 100% subsidiary GACL in 1946. The company has received an encouraging letter from the Minister of State for Food Processing Industries, Government of India, for its proposed Cargo and a Mega Agri Food Processing Park to be set up in a separate SEZ.

The Gwalior Agriculture Co. Ltd. proposes to set up a Merchant Aerodrome “Dabra Aviation & Logistics Centre” for Cargo Operations at Dabra which is approximately 52 kms aerial distance South of Gwalior Air base. No passenger scheduled airline operations will be carried out but only cargo planes for export purposes.

1.1. Site Location

The proposed aerodrome is located in Badon Kala (Dist. Datia), and Lohgarh (Dist. Gwalior). The geographical location of the project site is longitude 78° 19'06.7” E and latitude 25° 49'41.7” N. It is a barren scrubland/ ravines, with no significant overhead obstacles and no major habitation. It is at an altitude of approx. 240 m above the mean sea level. The proposed site has two rivers namely the Sindh and the Nohn, which form natural boundaries around the land.

| | | |
|-------------------------|---|--|
| Nearest Airport | : | Gwalior, M.P (approx. 52 kms aerial distance). |
| Nearest Railway Station | : | Dabra (Dist. Gwalior) |
| Nearest Town / Village | : | Town Dabra |
| Nearest Highway | : | NH 75 (Gwalior - Jhansi) |

1.2. Justification for Selection of Site

Selection of Gwalior as its location of new Merchant airport has been made after extensively studying the market potential in and around various areas and other parts of the Country. M/s Gwalior Agriculture Co. Ltd. has taken several precautions in selecting the site, in consultation with the experts in the respective field. The study has revealed that many industries will be coming up. The

Company owns majority of land nearby to the proposed site and intends to set up a multiproduct SEZ. Presently there are five operational airports in Madhya Pradesh out of which only Indore Airport has the capability of handling international cargo but there is no Cargo Hub in and around Gwalior for transportation of Industrial, Agricultural and other Food cargo. The location of the site is virtually at the crossroads of N-S and E-W rail freights corridors coming up in the country. The Delhi – Mumbai Freight corridor is also proposed to pass through Gwalior within 100 Km of the proposed site. Thus, the proposed site is strategically located and suitable for the cargo hub.

1.3. Project Description

The total area of the proposed aerodrome is 26,07,482 Sq. M. (644.30 acres) and the total built up area is 16,500 Sq. M. The details of the proposed project are provided below :

| Area Details | |
|--|--|
| Total Area of Aerodrome | 26,07,482 m ² (644.30 acres) |
| Cargo Building Area | 13,500 m ² |
| - Perishable Cargo Area | 4,500 m ² |
| - Non Perishable Cargo Area | 9,000 m ² |
| Airside Paved Area | 2,75,815 m ² |
| - Apron | 95,065 m ² |
| - Runway Strip | 1,38,060 m ² |
| - Taxiway | 21,345 m ² |
| Forwarder Offices | 3,000 m ² |
| Total Built up area | 16,500 m ² |
| Runway | |
| Orientation | 06/24 |
| Dimensions | 3000 m x 45 m |
| Apron | |
| Dimensions | 475m x 240m |
| Approach Road | |
| | The connectivity to Dabra city with 45 m wide proposed road (a 4 lane bituminous road) |
| Type of Aircraft and Operation Expected | |
| Type of Aircraft | Cargo Planes of B737, A310/A300, B767-200, B747-200 |
| No. of operations per day | 10-12 operations per day |
| Total Project Cost | |
| | Rs. 250 crores (approx.) |
| Electrical Facilities | |
| | 33 KVA which is to be supplied by Madhya Pradesh State Electricity Board. |
| Total Power Demand | |
| | 1200 KVA |

| | |
|---|---|
| Transformers | 2 Nos. x 1200 KVA |
| DG Set | 2Nos. (1x1000 KVA and 1x750 KVA) |
| Water Demand & Supply | |
| Source | Sindhu River |
| Total Water Demand | 161 KLD |
| Fresh Water requirement | 34 KLD |
| Capacity of ETP | 15 KLD |
| Treated Water | 11 KLD (used in flushing, horticulture etc.) |
| Parking Facilities | |
| Total Parking Area | 4950 Sq.m |
| Car Parking for MRO facilities | 50 Cars |
| Parking Area for Cargo | 60 Cars 40 Trucks |
| Parking bays in Fire Station | 2 Fire Trucks 2 Ambulances 1 Operations Vehicle |
| Solid Waste | In-situ Solid waste management by the proponent |
| Total Estimated Solid Waste Generation kg/Day | 1038 kg/ day |
| | |

1.4. Environmental Baseline Data

The baseline environmental status was assessed based on primary and secondary data collected through on-site field observations and obtained from agencies such as IMD, Geological Survey of India, State Ground Water Department, Central Ground Water Board, State Pollution Control Board, Census of India and Local Forest Department. The baseline data has been collected for various parameters such as soil, geology, landuse pattern, air quality and socio-economics in the study area, which is 10 km around the proposed project site. The data collection was carried out during the months of March-May 2008. This section deals with the description of the existing environmental setting in the study area.

1.4.1 Land Environment

The land environment primarily consists of physiography, geology & minerals, soil and land use parameters. The project site is situated in Gwalior district. The whole area is uniformly sloping towards the northeast but the mounds and hillocks of otherwise concealed granite are also marked intermittently on the plains. The general level of the study area ranges from about 152 to 335 m above

Mean Sea Level (MSL) along the right and left bank of the Sindhu river. The texture of the soil in the study area was found to be sandy loamy. The results of soil analysis indicate that the soil shows predominance of sand over silt and clay. pH of the soil samples indicates neutral to slightly alkaline conditions.

1.4.2 Water Environment

4 Groundwater samples and 2 surface water samples were analyzed. Total Dissolved Solids (TDS) and Total Hardness in groundwater samples is below desired limit as per IS: 10500 at all 4 locations. Surface water samples on analysis and comparison with CPCB class “C” water showed that BOD is within desired limit and can be used as Drinking water source after conventional treatment and disinfection. Iron concentration in the surface water samples was found 0.6 mg/l, which is within the prescribed limit. All heavy metals were found within the stipulated standard. Heavy metals such as Cadmium, Arsenic, Cyanide, Zinc and Chromium etc. were well below the prescribed limits.

1.4.3 Air Environment

The study area has a sub-tropical climate with hot summers from March to June, the humid monsoon season from July to October and a cool dry winter from November to December. The observed seasonal minimum, maximum and average temperature was 11.5 °C, 45.0°C and 37.8 °C respectively during the study period. During the south-west monsoon season the relative humidity is generally 60% and over. In the rest of the year the air is completely dry. The normal annual average rainfall of Gwalior district is 1000 - 1100 mm. Predominant wind direction is South-westerly. The air quality results show that pollution level is either below the permissible limits or slightly higher at few locations as per CPCB guidelines.

1.4.4 Noise Environment

Noise monitoring was carried out at seven locations. The results of the monitoring program indicated that both the daytime and night time levels of noise were well within the prescribed limits of NAAQS at all the seven locations monitored within the study area.

1.4.5 Ecological Environment

The project area mainly has small bushy growth. No trees have been observed in the project area. There is no suitable habitat for occurrence of ecologically

important fauna in the area. No endangered species have been reported in the study area. The fauna mostly constitute domesticated animals, jackals and rodents. No wildlife sanctuary/ park is located within 10 km. radius of the project area. Among the common bird species observed in the project area are pelicans, pigeons, crows, doves etc. On consultation with the local people in the vicinity of the project area, no migratory birds are observed in the project area.

1.4.6 Socio-Economic Environment

Demographic profile of the study area is studied through secondary data. The census data of 2001 has been analyzed and few indicators of social status are presented below:

Demographic Status of the Study Area

| S.No. | Description | Data |
|-------|-------------------------------|---------|
| 1. | Total Population | 396,317 |
| 2. | Male Population (%) | 54.54% |
| 3. | Female Population (%) | 46.22% |
| 4. | Sex Ratio (Female/ 1000 male) | 847 |
| 5. | Literacy rate (%) | 34.91% |

1.5. Environmental Impacts Assessment

The impacts both positive and negative on following environmental components have been assessed:

1.5.1 Impacts on Land Environment

The proposed aerodrome will occupy about 644.30 acres of land which is owned by M/s Gwalior Agriculture Company Limited. No land acquisition and displacement of people is involved. No social issues are required to be addressed, as there is no rehabilitation and resettlement. The impact on soil quality is induced/ short term in nature, and can be avoided by applying good construction practices to reduce the impact, if any, on soils to a great extent. Adequate measures need to be worked out for minimizing the loss of soils, by way of storage of topsoil and then again laying it back after the completion of the construction period.

1.5.2 Impacts on Water Environment

Water during the construction will be received through tankers and during operation phase, water will be received from Sindh river. The sewage generated during the construction phase will be disposed off in septic tanks. During the operation phase the sewage will be treated in the Sewage Treatment Plant (STP) and treated wastewater will be used for flushing and horticulture purposes. There will be no disposal of any untreated wastewater on land, hence no noticeable impact is anticipated on water quality during project operation.

1.5.3 Impacts on Air Environment

During the construction phase, impacts on ambient air would mainly be due to dust emissions and movement of vehicles. However these impacts would be short-term in nature and limited to the construction period. Impacts on ambient air during operation phase would be due to emissions from DG set stacks which will be very negligible and would be nullified by provision of scrubber and acoustic enclosure. It can be concluded that the impact on ambient air quality due to proposed activities will be minimum. The project will not contribute to any significant concentration of pollutants in the ambient air.

1.5.4 Impacts on Noise Environment

The source of noise during the construction phase will be construction equipment, vehicles for transportation of raw materials and operation of DG sets. The noise level would be high during the construction phase but it would be limited only for specific period of construction. During the operation phase, the source of noise will be operation of DG sets during power failure. It is to mention here that adequate safety measures would be taken by installing DG sets at the basement with acoustic enclosure to keep the noise level within limits. The noise level at the project boundary is estimated to be within the specified limits with the implementation of the mitigation measures proposed. It follows that noise levels will not be adversely impacted by proposed operation.

1.5.5 Impacts on Biological Environment

There may be some minimal damage to flora during the site preparation activities in the construction phase, however the same will be compensated by green belt development during the operation phase. There are no rare and endangered species reported in the project area. No impact on bio-diversity is expected because of the proposed project implementations.

1.5.6 Impacts on Socio-Economic Environment

The proposed project will provide employment to nearly 100 workers during the construction phase. During the operation phase, about 200 persons would be employed and will be engaged in maintenance and operational activities. Thus a significant benefit to the Socio-economic environment is likely to be created. No adverse impact is expected on sanitation and community health.

1.5.7 Checklist of Impacts

Checklist is the list of environmental parameters or impact indicators which are encouraged to be considered when summarizing the potential impacts. A typical checklist identifying the anticipated environmental impacts due to the project activities are shown below:

Checklists of Impacts

| S. No. | -ve impact | No impact | +ve impact | Short term | Long term |
|---|------------|-----------|------------|------------|-----------|
| A. Impact on land Environment | | | | | |
| i) Change on land use pattern | | | | | |
| ii) Impact on soil quality or erosion | | | | | |
| iii) risk due to earthquake | | | | | |
| iv) Borrow areas | | | | | |
| v) Dust generation | | | | | |
| B. Water Environment | | | | | |
| i) impact on water resources | | | | | |
| ii) impact on water quality during construction | | | | | |
| iii) impact on water quality during operation | | | | | |
| C. Air Environment | | | | | |
| i) during construction | | | | | |
| ii) during operation | | | | | |
| D. Impact on biological environment | | | | | |
| i) impact on biodiversity | | | | | |
| E. Socio-Economic Impact | | | | | |
| F. Impact on human use Values | | | | | |
| i) loss of historical n cultural monuments | | | | | |
| ii) impact on aesthetics | | | | | |
| G. Positive Impacts | | | | | |
| i) Employment opportunities | | | | | |
| ii)Improvement in Aesthetics | | | | | |

1.6. Environmental Management Plan

This chapter spells out the set of measures to be undertaken during project construction and operation to reduce or mitigate or bring down the adverse environmental impacts to acceptable levels based on the proposed Environmental Management Plan has been prepared and discussed in subsequent sections

1.6.1 Air Quality Management

- Suitable control measures will be adopted as part of the dust control plan including water spraying, movement of materials in covered trucks, etc.
- Construction activities (especially the heavy construction activities) will be limited to daytime to avoid higher impacts during the nighttime.
- Low Sulphur Diesel (LSD) DG sets will only be used as emergency power backup and stack height will be maintained as per CPCB guidelines
- Single engine taxing and reduced taxing would be effective in reducing emissions of HC and CO from aircrafts.
- Adequate parking and traffic movement space will be provided to avoid traffic jams to and minimize emissions from vehicles

1.6.2 Management for Noise Pollution

- A funnel has been designed at the edge of the runway to minimize the noise when the aircraft takes off
- Switching off combustion engines when not in use
- DG sets of Silent type will only be used with Acoustic enclosures.
- Adequate treatment provided to the foundation of the DG sets (as part of the building design) for reduction of vibrations.
- DG sets, Motors etc. would be properly serviced and maintained to minimize noise.
- Adequate parking and traffic movement space will be provided to avoid traffic jams and minimize noise from vehicular movement.
- Green belt will be developed around the project site to act as a noise attenuation barrier.

1.6.3 Water Management

- Reduction in water demand through good construction practices.
- Use of construction equipment requiring minimum water for cooling and operation for optimum effectiveness.
- On-site sanitation facility will be provided for construction workers.

- Domestic sewage and other wastewater will be treated in the ETP on-site so that it can be reused for flushing, HVAC Chillers, horticulture etc.
- Storm water from the paved areas will be routed to the rainwater harvesting structures for ground water recharge.
- Diesel for DG sets to be stored in double walled underground tank with a secondary containment and shall be equipped with a leak detector to prevent any potential soil and groundwater contamination
- Periodical water quality monitoring will be carried out as per CPCB norms.

1.6.4 Land/ Soil Management

- Proposed solid waste management system for waste collection, segregation and proper disposal to follow the environmental norms.
- Domestic sewage and other wastewater will be treated in the ETP on-site (up to tertiary treatment) so that it can be recycled/ reused for flushing, HVAC Chiller and greenbelt development, etc.
- The used oil from DG sets to be disposed of through authorized recyclers/re-refiners.
- Green belt development around the area minimizes the impact on soil characteristics like its texture, chemistry & even soil erosion in the area.

1.6.5 Vehicle Parking and Traffic Management

Adequate provision will be kept for car/vehicles parking at the proposed project. Beside this, wider internal road of proposed project will also provide space for off street parking. A 45 m wide 4 lane approach road is proposed

1.6.6 Green Belt Development

The green belt will be designed to control SPM, gaseous pollutants, noise, surface run off and soil erosion etc.

Green belt around the periphery will be developed in phase manner. In addition, extensive plantation will be undertaken in and around the project area. The plantation of the grass will be done immediately after leveling to keep the top soil in position of shrubs and trees will be taken up after ascertaining adequate growth and coverage of reclaimed area with the grass. The plantation of trees is proposed at a spacing of 2m X2m. Due to green belt development and afforestation, the area will be converted into a green area and it will improve the local environment.

1.6.6 Fire Fighting/ Management

The fire protection systems shall be based on the requirements of national Building Code and TAC. Essentially they relate to provision of Hydrant, Sprinkler and fire Alarm Systems. The following are the systems to be provided for the building: Fire hydrant Systems, Fire Detection & Alarm system, Sprinkler System.

1.7 Environmental Management System

For the effective implementation of the EMP, an Environmental Management System (EMS) will be established at the proposed project. The EMS will include the following:

1. An Environmental Management cell
2. Environmental Monitoring Program
3. Personnel Training
4. Regular Environmental Audits and Corrective Action
5. Documentation – Standard operating procedures Environmental Management Plans and other records.

1.8 Conclusion

All possible environment aspects have been adequately assessed and necessary control measures have been formulated to meet statutory requirements. Thus implementing this project will not have any appreciable negative impacts. The development of the proposed Cargo Hub for transportation of Industrial, Agricultural and other Food cargo will create a greater and affordable opportunity for the growth of industry, business and tertiary sector like IT/ITES in and around Gwalior. Further, in view of creation of job opportunities during merchant airport operation, the project will have positive impact on the economy of the area, the state, the nation and the Company.