

DRAFT EIA REPORT

FOR DEVELOPMENT OF GREENFIELD 'JEWAR INTERNATIONAL AIRPORT' PHASE I & II, GAUTAM BUDDH NAGAR DISTRICT, UTTAR PRADESH

**JEWAR INTERNATIONAL AIRPORT PROJECT,
CATEGORY-A
ENGLISH EXECUTIVE SUMMARY**



**October
2018**

**PROJECT PROPONENT
DIRECTORATE OF CIVIL AVIATION, GOVT. OF UTTAR PRADESH
ENVIRONMENT CONSULTANT
GREENCINDIA CONSULTING PRIVATE LIMITED**

EXECUTIVE SUMMARY

This Chapter discusses in brief the summary of findings of EIA report and present all chapters in concise manner for overall understanding of the environment scenario of the project area. Project Background

THE PROJECT

The Government of Uttar Pradesh has envisaged development of a green field airport at Jewar, Uttar Pradesh. Development of an airport is one of the key enablers for the development of an industrial region (including urban centres) and is also expected to create a significant multiplier impact in the economy. International Civil Aviation Organization (ICAO) estimates the output and employment multipliers of aviation as 3.25 and 6.10 respectively. This implies that every 100 INR spent on air transport contributes to 325 INR worth of benefits, and every 100 direct jobs in air transport result in 610 jobs in the economy as a whole.

The airport development project was first conceptualized in 2004 and a techno-economic feasibility report (TEFR) was prepared by L&T Ramboll Consulting Engineers which was subsequently revised in 2008. Now the mandate for the development of the green field airport at Jewar has been given to Yamuna Expressway Industrial Development Authority (YEIDA). YEIDA has appointed a consortium led by PricewaterhouseCoopers Private Limited for revision of the TEFR. EIDA has been appointed as a nodal agency by Government of Uttar Pradesh to execute the land acquisition process and other activities pertaining to airport development on behalf of Directorate of Civil Aviation, Government of Uttar Pradesh. The present report is for Phase I & II only i.e. for the specified traffic (30 MPPA) and cargo tonnage (1 MTPA).

MoEF&CC has made prior environmental clearance (EC) for Airport projects mandatory through its notification issued on 14th September 2006 and as amended on 1st December 2009. During the 31st Meeting of the Expert Appraisal Committee of MoEF&CC for Projects Related to All Ship Breaking Yard Including Ship Breaking Unit, Airports, Common Hazardous Waste Treatment, Storage And Disposal Facilities, Ports and Harbours, Aerial Ropeways, CETPs, Common Municipal Solid Waste Management Facility, Building/Construction Projects, Townships & Area Development Projects held on 29th to 30th May, 2018, the project was considered and TOR was finalised vide letter no. F.No.10-31/2018-IA-III, dated 12th June, 2018. The present report is a Draft EIA Report prepared for the Development of Greenfield 'Jewar International Airport' Phase I & II, Gautam Budh Nagar District, Uttar Pradesh based on the TOR issued and EIA Notification 2006 along with its subsequent amendments. This report will be submitted to UP Pollution Control Board for conducting public hearing.

PROJECT PROPONENT

The project proponent is Directorate of Civil Aviation, Government of Uttar Pradesh. The Directorate of Civil Aviation (DGCA) is the Indian Governmental Regulatory body for civil aviation under the Ministry of Civil

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Aviation. This directorate investigates aviation accidents and incidents. It is headquartered on Sri Aurobindo Marg, opposite Safdarjung Airport, in New Delhi.

DGCA has fourteen Regional Airworthiness Offices (RAO) in Delhi, Mumbai, Chennai, Kolkata, Bangalore, Hyderabad, Thiruvananthapuram, Bhopal, Lucknow, Patna, Bhubaneshwar, Kanpur, Guwahati and Patiala. It also has five Regional Air Safety offices located at Delhi, Mumbai, Chennai, Kolkata and Hyderabad. It has a Regional Research and Development Office located at Bangalore and Gliding Centre at Pune.

PROJECT LOCATION:

Spread over an area of 1,334 ha, the proposed site for the airport is located at latitude 28°10'09.87"N and longitude of 77°38'20.41"E, north of Jewar Village, in Gautam Buddha Nagar District of Uttar Pradesh. The Yamuna Expressway is located at about 700 meters from the project site. The site is about 70 km from IGI Airport. The description of the project site is given in **Table E.1**.

Table E- 1: Details of Site Location

Parameters	Description			
Villages	:	Dayanatpur, Ranhera, Banwaribas, Kishorepur, Rohi, Parohi, Kureb		
Tehsil	:	Jewar		
District	:	Gautam Budh Nagar		
Co-ordinates	:	Points	Latitude	Longitude
		A	28°11'06.70"N	77°34'30.04"E
		B	28°11'07.64"N	77°35'54.48"E
		C	28°10'30.77"N	77°38'29.81"E
		D	28°10'09.87"N	77°38'20.41"E
		E	28°09'52.22"N	77°38'27.71"E
		F	28°09'22.70"N	77°38'16.13"E
		G	28°09'53.23"N	77°35'36.02"E
	H	28°10'05.62"N	77°34'42.85"E	
Access Road	:	Main access to the airport shall be provided from the proposed 100 m wide Service Road planned parallel to the existing Yamuna Express Way	-	-
District Headquarter	:	Greater Noida	33 km	NNW
Nearest City/ Town	:	Greater Noida	33 km	NNW
Nearest Railway Station	:	Sikandarpur Railway Station	16 km	NE
Nearest Airport	:	IGI Airport Delhi	61 km	NW

Source: TEFR Airport at Jewar

The airport will be designed to cater to a mixed fleet consisting of ATR, Boeing 737, Boeing 747, Boeing 777 and Airbus 380. The project highlights are given in **Table E.2**.

Table E- 2: Project Highlights

Item	Parameters	
Area of development	1334 Ha	
Proposed Built-up area (m ²)	Facility	Built-up area (m ²)

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Item	Parameters	
	1 st Terminal Building	90,000
	Cargo terminal building	70,000
	2 nd Terminal Building	90,000
	Fire Station	5,000
	Power sub-station	3,500
	Navigation Aid Building	2,000
	ATC	3,000
	Administrative Block	12,000
Major Features		
Phase I		Phase II
• Runway 4150 x 60 for Code 'F'		• Runway 3,900 x 60 for Code 'F'
• Parallel End to End Taxiway		• Parallel End to End Taxiway for the 2 nd Runway
• Terminal Building for peak 2750 Pax. Capacity		• Apron expansion for 27 additional bays (2 Code E and 25 Code C) with flexibility to accommodate 5Code E aircraft.
• Fire Station (Category 9)		• Terminal Building for peak of additional 2,750 Pax. Capacity
• Air Traffic Control Building		• Up-gradation of Fire Station to Category 10 and two substations for the second runway.
• Isolation Bay		• Expansion of Cargo Terminal Building (20,000 m ²)
• Cargo Terminal Building (50,000 m ²)		• E & M Facilities
• Property Boundary Wall		
• Energy Building		
• E & M Facilities		

Source: TEFR Airport at Jewar

Land Requirement: The land utilization at present consists of settlements and agricultural area. The land also consists of government and collector office land. Existing Settlements and structures falling within the airport area shall be resettled before any demolition work. Land acquisition & R&R will be undertaken by the collectors office/ State Govt as per the provisions of per Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act (RFCTLARR) 2013 and RFCTLARR (UP) Rules 2016.

Water Requirement: The daily consumption of water during operation phase will be about 17267.5 KLD of which 3040.8 KLD will be fresh water requirement. The water for the project during operation and construction phase will be drawn from Jewar distributary and Kasna STP located at Greater Noida .

Power Requirement and Supply: Power requirement for the 1st Phase is 30 MVA and Phase-2 is 70 MVA. The same will be met from the State Authority or private company. 6 DG sets of 2MVA capacity each will serve as back-up during power failure.

BASELINE ENVIRONMENT

For baseline data collection, an area covering 10 km radius from the proposed project site boundary as the centre has been considered as the Study Area. Baseline data for environmental attributes like ambient air,

meteorology, water, water use, hydrology, land use, soil, geology, noise, socio-economic status, ecology and biodiversity etc. was collected. The study was conducted during the period March to May, 2018.

Topography

The terrain is almost flat with an elevation of 200 meters above mean sea level (AMSL), which is about 30 meters above the bed level of the Yamuna River. The site is also away from the flood prone areas of Yamuna River. No hills or high grounds are visible in and around the site.

Seismicity

The study area is located in the Jewar region falls under Zone IV signifying high damage risk zone. The two faults namely Moradabad fault and Mahendragarh-Dehradun fault passing through the region accentuate the earthquake risk of the area.

Land-use

In the study area, agricultural land constitutes about 91% followed by built-up area of about 5%. The rest is primarily open scrub land and water bodies constituting 2.66% and 0.9% respectively. Waste land, industrial area, forest areas and sandy areas contribute 0.19%, 0.17%, 0.13% and 0.55% of the study area respectively. In the project site, around 94% of the project site is occupied by agricultural land. Built-up area covers 38.6% of the site while open scrub land covers 31.27% of the site.

Soil Quality

Assessment of soil quality is an important aspect with reference to tree plantations, percolation of water, ground water impact etc. The soil quality of the study area has been assessed by collecting samples from 6 different locations.

The pH value of the soil samples varied from 7.48 to 7.96 in the study area. The pH indicates slightly to moderately alkaline characteristics. The electrical conductivity of the collected soil samples varied from 488 $\mu\text{S/cm}$ to 510 $\mu\text{S/cm}$. The contents of nitrogen, potassium and phosphorous shows that they are sufficient for healthy growth of vegetations. It can be concluded that the soil quality in terms of fertility is quite high, which is why majority of the study area is covered by agricultural land.

Area Drainage

The study area is mainly drained by Yamuna River flowing from North to South at a distance of about 3km from the project site. As the study area is almost plain with a contour difference of only about 20meters, there are almost no natural water-bodies flowing across the area. The area otherwise is criss-crossed by numbers of irrigation canals and drainage channels. The project site is occupied by a network of drains and canals. Pathwaya Nala, running north-south at east end needs diversion for the development of airport. One major distributaries; Bajauta, on the western side close to the south-west corner of the land would be

retained. Two canals, Karoli minor and Kishorpur minor canals, which are serving the area inside the project site, shall be buried.

Surface Water Quality

For assessing the surface water quality, sampling was done for 5 locations. The surface water quality of the area was found to meet the Criteria D as defined by CPCB and is suitable for propagation of wildlife & fisheries. The BOD levels recorded in these samples varied from 5mg/l to 12 mg/l.

Ground Water Quality

For ground water quality also, 5 locations were selected. The pH value ranged from 7.55 to 7.66 in the collected water samples, which do not exceed the recommended limit (6.5-8.5) of BIS. The maximum chloride concentration was found to be within the permissible limit. The maximum total hardness in groundwater was found to be 388 mg/l to 405 mg/l. The maximum level of calcium occurred in Ranhera Village (86.4mg/l) and the minimum value occurred in Rohi (76.8mg/l). Magnesium in groundwater samples found to be well below the acceptable limit defined by BIS. Overall the ground water baseline data meets the requirements of IS 10500:2012 and is within the permissible limit.

Meteorological Data

The climate of the region is a monsoon-influenced humid subtropical climate bordering a hot semi-arid climate with high variation between summer and winter in terms of both temperature and rainfall. The area's version of a humid subtropical climate is noticeably different from many other cities with this climate classification in that it features long and very hot summers, relatively dry and mild winters, a monsoonal period, and dust storms. Summers are long, extending from early April to October, with the monsoon season occurring in the middle of the summer. Winter starts in November and peaks in January.

The on-site data recorded during the study period shows that the temperature varied from 47°C (maximum) in May to 15°C (minimum) in March. No rainfall was recorded during the period. The maximum humidity was about 80% while the minimum was 45%. The predominant wind direction was North-west followed by West.

Air Environment

Eleven Ambient Air Quality locations has been selected for the study. Criteria used for designing the network were principally governed by the wind rose pattern for pre monsoon season and the accessibility of the selected sites.

The samples were analysed and the 98th percentile, average, maximum and minimum values have been computed from the observed analysed/raw data for all the AAQ monitoring stations. The summary of these results for PM₁₀, PM_{2.5}, SO₂, NO₂, CO and HC for each location representing pre-monsoon (2018) are presented in **Table E.3**.

Table 0-3: Consolidated Values of AAQ (98th percentile)

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Location Code	Location Name	Units in $\mu\text{g}/\text{m}^3$				Unit in mg/m^3
		PM ₁₀	PM _{2.5}	SO ₂	NO ₂	CO
AAQ1	Rohi Village	287.6	155.7	22.0	31.5	0.8
AAQ2	Nagla Chetar Village	284.6	156.2	23.6	35.5	0.9
AAQ3	Nagla Hukamsingh Village	292.5	158.1	22.5	33.5	0.9
AAQ4	Diyanatpur Village	285.1	147.3	23.5	35.0	0.9
AAQ5	Mendra Village	287.6	157.1	23.6	36.0	0.9
AAQ6	Nangla Chandan Village	282.5	151.2	24.0	41.1	1.0
AAQ7	Muhibalpuram Village	293.2	149.6	24.0	41.5	0.9
AAQ8	Dastampur Village	288.1	151.0	22.5	41.0	1.0
AAQ9	Thora Village	289.1	166.6	24.0	42.5	1.0
AAQ10	Khwajapur Village	283.9	160.2	23.5	43.1	0.9
AAQ11	Jafrabad Village	282.2	162.3	24.0	42.5	0.9
National Ambient Air Quality Standards						
Industrial, residential, rural & other areas		100	60	80	80	02
Ecologically Sensitive Area (Notified by Central government)		100	60	80	80	02

Source: Gazette of India Notification, dated 18th Nov, 2009

* Annual Arithmetic Means of minimum 104 measurements in a year at a particular site taken twice a week 24 hourly at uniform intervals, ** 24 hourly or 8 hourly or 1 hourly monitored values, as applicable shall be complied with 98% of the time in a year. 2% of the time they may exceed the limits but not on two consecutive days of monitoring, *** For CO 8 hourly standard is being considered

Noise Environment

Sound Pressure Level was recorded in 12 locations at an interval of 60 minutes during the day and night time to compute the day equivalent, night equivalent and day-night equivalent level. The noise level was monitored once during the study period at each monitoring location. The noise level is recorded in dB(A). The important parameters measured are Leq, Lday, and Lnight.

The maximum noise level (Leq) in day time was observed at Solra Village (52.96dB(A)) and minimum Leq in day time was observed 51.59 dB(A) at Jawah village. The Leq values during night time varied from 42.53 dB(A) to 43.45 dB(A). Overall the ambient noise level in the monitored locations were found to be within the permissible limits stipulated for residential, commercial and industrial areas.

Ecology

Based on the results of primary survey and the Forest Working Plan, it was found that Babool and Arjun are the dominant species in the sampling site. Paddy is the most grown crop in the area. The nearest forest is Karauli Khadar Protected Forest at a distance of 3.8km. Among the faunal category, Scheduled I fauna such as saras and pea fowl were found.

Socio-economic Scenario

There are 141 villages within the study area out of which 7 are falling within the project site. The total population as per 2011 census was found to be 3,60,776 while the projected population (2018) is 3,97,804. The gender ratio of the area was found to be 870, which is much lower than the state and national average. The average household size was found to be about 6. The scheduled caste population in the study area was found to be 23.9% of the total population and the Scheduled Tribe population was almost negligible at

0.1%. The literacy rate of the area was also low and stood at 58.7% as per 2011 census data. There has been a shift in the occupational pattern in the area. Cultivators have reduced in the area. Consequently, there has been an increase in the workers in the 'other' category, which indicates people are moving to tertiary sector.

ENVIRONMENT IMPACT ASSESSMENT

Air Environment

The emission sources during operation phase can be divided into three categories:

- Aircraft emissions;
- DG set emission; and
- Vehicle traffic sources.

Aircraft produces the similar types of emissions as automobiles. Aircraft jet engines, like many other vehicle engines, produce carbon dioxide (CO₂), water vapour (H₂O), nitrogen dioxide (NO₂), carbon monoxide (CO), sulphur dioxide (SO₂), unburned or partially combusted hydrocarbons (also known as volatile organic compounds (VOCs)), particulates, and other trace compounds. A small subset of the VOCs and particulates are considered hazardous air pollutants (HAPs).

The area of maximum predicted GLC is located within the area of the project site surrounding the airstrip. It can be further observed from the model that the concentrations rapidly decrease with increasing distance. At the boundary of the project site, the incremental concentration of all the pollutants is considerably low and within the NAAQ standard.

Mitigation Measures

- All vehicles and equipments in use will be maintained for effective combustion to reduce carbon particles and CO emission. Vehicles entering the airport will be restricted by emission controlled certification and efficient engine conditions.
- The aircrafts will follow international emission standards and hence nothing extra will be done other than reducing its idle run and standard landing and take-off practices.
- All the transport corridors leading to airport and the existing Yamuna Expressway, the proposed service roads shall have sufficient carrying capacity for the proposed project to absorb the increase in traffic.
- Ground vehicles at the airport will be maintained and will have a "Pollution Under Control" certificate.
- Air quality will be maintained by using low Sulphur fuel, paving all roads at the airport, reducing idling time and control on emissions.
- Present day battery/electrically charged vehicles would be used by airport operators for ground service equipment and cargo.
- Development of maximum permissible level of greenery and landscaping at the airport will be helpful in improving ambient air quality.

- Monitoring of ambient air quality/source emissions will be carried out as per monitoring plan

Noise Environment

The major source of noise generation during pre-construction stage is noise generated from the vehicles. However, the frequency of vehicles is very low. Therefore, no impact on noise level is expected due to pre-construction activities of the proposed project.

The major noise generating source during the construction phase is vehicular traffic, various equipments/ HEMMs (Heavy Earth Moving Machineries) etc. During construction, these equipments will generate noise ranging between 75-85 dB (A). The areas close to the site are likely to be affected.

The Federal Aviation Agency's (FAA) has determined that the cumulative noise energy exposure of individuals to noise resulting from aviation activities must be established in terms of day-night average sound level (DNL) in decibels (dB). The 65 DNL is the Federal significance threshold for aircraft noise exposure. As such, the maximum predicted noise levels due to aircrafts movement at the proposed airport are drawn for LDN 65, 55 and 50 dB(A) respectively. As per the modelling, it is observed that at boundary, LDN of only 50 dBA will be reached with 65 dBA LDN within the runway. Thus there will be minimum impact of noise outside the airport boundary.

Mitigation Measures

- The most effective method of mitigating noise sources - other than cessation of the source activity or use of source controls would include installation of sound barriers or also called noise barrier or sound wall or sound berm or acoustical barrier. Mostly sound barriers are exterior structure designed to protect sensitive land uses from noise pollution.
- Identification of structures and population vulnerable to noise level increase and remedial measures such as soundproofing will be adopted.
- Tree corridor and sound barrier at the airport boundary in containing noise level.
- Battery operated service vehicles within the airport.
- Insistence of International code on noise level during take-off and taxing by the Aircraft operators.
- Noise level contouring and identification of areas in the take-off and landing sections.
- Discussion with people concerned over the runway operation and noise level reduction and execution of mandatory activities of DGCA and ICAO.
- Based on noise assessment and monitoring, an implementation plan for noise abatement if required may be established
- As per Occupational Safety and Health Administration (OSHA) Standards, the maximum allowable noise level for the workers is 90 dB (a) for 8 hours exposure a day, therefore, adequate protective measures in the form of ear muffs / ear plugs will be provided to the airport staff, who will be working in high noise area during operation phase.

Traffic Density

The access to the airport will be through Yamuna Expressway only. It has been calculated that the road has enough capacity to cater to the incremental traffic due to the operation of the airport. However the following measures will be taken for better management of traffic.

Mitigation Measures

- All vehicles will be parked in designated parking area only;
- Optimize use of roads at any particular time by planning vehicle movements;
- Road crossings to be used will be well marked and signaled.
- Informatory and warning signage will be retro reflective type provided, clearly visible in the night.
- Marshals will be deployed to guide the vehicles and stop vehicles to avoid traffic jam.

Drainage

The site is criss-crossed by a number of canals and drainage channels which shall be diverted/buried after taking permission from Irrigation Department. PathwayaNala, running north-south at east end needs diversion for the development of airport. One major distributaries; Bajauta, on the western side close to the south-west corner of the land would be retained. Two canals, known as Karoli minor and Kishorpur minor, shall be buried.

It will be ensured that there will be no impact of the airport on the downstream users of the canals. While planning for the diversion, it will be ensured that the volumetric capacity of the present structures are taken into consideration. The internal drainage plan of the airport will be designed taking into consideration the volume of water from the upstream catchment area outside the site. The drainage channels coming from outside the site will be integrated with the internal drainage system of the airport.

Water Environment

The estimated water requirement during operation phase is 17267.5 KLD. The water for the project during operation and construction phase will be drawn from Jewar distributary and Kasna STP located at Greater Noida. In case of shortfall of water, ground water will be sourced after taking permission from statutory authorities.

As the proposed Airport will have fuel storage area, fuel leakage and spillage from refuelling and storage may take place. These can either leach into ground water or can contaminate storm water run-off which can pollute nearby water sources.

Mitigation Measures

- Proper oil & grease interceptors will be installed at wastewater outlet.
- STP would be installed on the project site. The wastewater will be treated in the proposed STP using MBBR technology.

- Rainwater harvesting shall be carried out to recharge ground water.

Ecology

There may be chances of bird strike in the operational airport endangering aircraft safety. Artificial lighting and glare can affect birds' orientation if the birds rely on lighting, or absence of lighting for navigation. Light attracts insect prey which, in turn, attracts bats and birds and their predators.

Mitigation Measures:

- Proper landscaping, waste management measures, use of noise and flare guns may help to keep bird population at bay.
- Social forestry to compensate for loss of trees and to create more habitats and minimize disturbance by diversion of land non-forest purposes in nearby villages.
- Mitigating the loss of mature trees as a result of height restrictions by substituting small trees and shrubs and hedge thickening.
- Plants for greenbelt development shall be selected from CPCB's guidelines and also contain endemic trees.
- Proper landscaping shall be done in the airport to increase greenery.
- Conservation Plan for Saras and pea fowl (both schedule I fauna) will be implemented

Impact on Socio-economic Status

There will be increase in employment opportunities with impetus for skilled jobs both from the project along with secondary and tertiary sector services/ businesses.

Aggregative there shall be positive impact on socio-economic environment due to development of infrastructure in the area, growth of secondary and tertiary sector businesses and subsequent enhancement in the standards of living of the local populace.

ENVIRONMENT MONITORING PLAN

To ensure the effective implementation of the mitigation measures and environmental management plan during construction and operation phases of proposed Development of Jewar Airport, it is essential that an effective Environmental Monitoring Plan be designed and followed during construction and operation phases.

Suitable mitigation measures will be taken in case monitored parameters are exceeding the stipulated limits. The Environment Monitoring Cost during Construction Phase is estimated to be Rs. 18,36,000 and during Operation Phase is Rs. 30,60,000. The monitoring activities will include meteorological data collection at the airport, Compilation of the emission inventory for aircraft sources, Continuous noise level monitoring by online integrated noise meters within airport premises.

RISK ASSESSMENT & DISASTER MANAGEMENT PLAN

Risk analysis deals with the identification and quantification of risks of the airport equipment/ facilities and personnel who may get exposed to accidents resulting from the hazards at the proposed airport.

In the sections below, the identification of various hazards, probable risks during the construction and operation of the airport, maximum credible accident analysis and consequence analysis are addressed either qualitatively or quantitatively. Based on the risk assessment of various hazards, Disaster Management Plan has been formulated.

Hazard Identification

Identification of causes and types of hazards is the primary task for planning for risk assessment. Hazard can happen because of the nature of fuels/chemicals handled and also the nature of process involved. Some hazards are listed below:

- Descent and Landing Hazard
- Human Error
- Weather Error
- Mechanical Failure and
- Other hazards

PROJECT BENEFITS

The project will bring out following benefits by;

- Benefits to the economy & government due to construction of airport
- Employment opportunities
- Easy access to the fastest way of transportation will reduce the travel time of travel and will reduce the load on the already near saturated IGI Airport

ENVIRONMENT MANAGEMENT PLAN

A separate environment management cell comprising of a team of experienced and qualified personnel reporting to a very senior level executive preferably an environmental engineer is proposed. She/he will be assisted by qualified and trained staffs. The team will comprise of environmental and safety specialists. Some of the enhancement measures to be adopted are given below.

Rainwater Harvesting: A rainwater harvesting system comprises of various stages - transporting rainwater through pipes or drains, filtration, and storage in tanks for reuse or recharging the ground water. Rain water harvesting is proposed for the Jewar Airport through two sources, viz Roof Top and Surface Run-off. The roof-top water will be conveyed through pipelines and collected in underground tanks. The surface run-off will be collected in ponds and recycled.

Solid Waste Management: Commercial waste will be collected using twin bin waste collection system; green bins for bio-degradable wastes and blue bins for non-biodegradable wastes. The horticulture and street sweeping waste will be converted to manure for the landscaping area, and only the Municipal Solid Waste will be transported to the nearby municipality landfill site after segregation. Organic Waste Converters will be provided for biodegradable waste. Inert and recyclable waste will be sent to nearest MSW facility.

CER: As per MoEF&CC's OM dated 1st May, 2018, Greenfield projects of capital cost more than INR 1,000 crores need to spend maximum 0.5% of their project cost for Corporate Environmental Responsibility.

CER activity proposed for Jewar Airport:

For Jewar Airport, a maximum amount of 0.5% of capital investment cost shall be spent for implementation of Corporate Environmental Responsibility (CER). During the process of consultation with local populace, it was observed that following CER activity will be beneficial to the community -

- **Municipal Solid Waste Management:** In the course of Focused Group Discussions (FGDs) with the affected population, the lack of a proper solid waste disposal system was brought up. The local population usually dump their garbage at the edge of their village boundaries, into 'pokhars' (small ponds), or sites that they term as johad. The waste management system can be developed by engaging the community members.
- **Health Facilities:** The need for primary health care centers and one good hospital was also raised in the course of the FGDs. Most of the population has to travel to Jewar Nagar Palika for medical attention. Activities such as setting up of a Health Centre, strengthening of existing PHCs and sub-centres in the area by providing additional infrastructures, and organizing health camps will be planned.