

1.5 AIRPORT SITE SELECTION

The selection of a suitable site for an airport depends upon the class of airport under consideration. However if such factors as required for the selection of the largest facility are considered the development of the airport by stages will be made easier and economical.

The factors listed below are for the selection of a suitable site for a major airport installation:

- 1.Regional plan
- 2.Airport use
- 3.Proximity to other airport
- 4.Ground accessibility
- 5.Topography
- 6.Obstructions
- 7.Visibility
- 8.Wind
- 9.Noise nuisance
- 10.Grading , drainage and soil characteristics
- 11.Future development
- 12.Availability of utilities from town
- 13.Economic consideration

Regional plan:

The site selected should fit well into the regional plan there by forming it an integral part of the national network of airport.

Airport use:

The selection of site depends upon the use of an airport. Whether for civilian or for military operations. However during the emergency civilian airports are taken over by the defense. There fore the airport site selected should be such that it provides natural protection to the area from air roads. This consideration is of prime importance for the airfields to be located in combat zones. If the site provides thick bushes.

Proximity to other airport:

The site should be selected at a considerable distance from the existing airports so that the aircraft landing in one airport does not interfere with the movement of aircraft at other airport. The required separation between the airports mainly depends upon the volume of air traffic.

Ground accessibility:

The site should be so selected that it is readily accessible to the users. The airline passenger is more concerned with his door to door time rather than the actual time in air travel. The time to reach the airport is therefore an important consideration especially for short haul operations.

Topography:

This includes natural features like ground contours trees streams etc. A raised ground a hill top is usually considered to be an ideal site for an airport.

Obstructions:

When aircraft is landing or taking off it loses or gains altitude very slowly as compared to the forward speed. For this reason long clearance areas are provided on either side of runway known as approach areas over which the aircraft can safely gain or loose altitude.

Visibility:

Poor visibility lowers the traffic capacity of the airport. The site selected should therefore be free from visibility reducing conditions such as fog smoke and haze. Fog generally settles in the area where wind blows minimum in a valley.

Wind:

Runway is so oriented that landing and take off is done by heading into the wind should be collected over a minimum period of about five years.

Noise nuisance:

The extent of noise nuisance depends upon the climb out path of aircraft type of engine propulsion and the gross weight of aircraft. The problem becomes more acute with jet engine aircrafts. Therefore the site should be so selected that the landing and take off paths of the aircrafts pass over the land which is free from residential or industrial developments.

Grading, drainage and soil characteristics:

Grading and drainage play an important role in the construction and maintenance of airport which in turn influences the site selection. The original ground profile of a site together with any grading operations determines the shape of an airport area and the general pattern of the drainage system. The possibility of floods at the valley sites should be investigated. Sites with high water tables which may require costly subsoil drainage should be avoided.

Future development:

Considering that the air traffic volume will continue to increase in future more member of runways may have to be provided for an increased traffic.