Quadrant II

Notes

Programme : Bachelor of Arts/Science (Second Year)

Subject : Geography

Semester : III

Paper Code : GPSEC 1

Paper Title : Geospatial Technologies in Geography

Unit 1 : Introduction and concepts

Module Name : Types of Aerial Photography

Module Number : 07

Name of the presenter: Mr.Ashwini Ashish

Aerial Photography –Meaning

- The science of obtaining photographs from air using various platforms, mostly aircrafts for studying the surface of the earth.
- It is one of the most common, versatile and economical forms of remote sensing.

USES OF AERIAL PHOTOGRAPHS

Aerial photographs are used in topographical mapping and interpretation. These two different uses have led to the development of photogrammetry and photo/image interpretation as two independent but related sciences. Photogrammetry: It refers to the science and technology of making reliable measurements from aerial photographs. The principles used in photogrammetry facilitate precise measurements related to the length,

breadth and height from such photographs. Hence, they are used as the data source for creating and updating topographic maps.

TYPES OF AERIAL PHOTOGRAPHS

The aerial photographs are classified on the basis of the position of the camera axis, scale, angular extent of coverage and the film used. The types of the aerial photographs based on the position of optical axis and the scale are given below :

a. **Types of Aerial Photographs Based on the Position of the Cameral Axis:** On the basis of the position of the camera axis, aerial photographs are classified into the following types :

   (i) Vertical photographs (ii) Low oblique photographs (iii) High oblique photographs

(i) **Vertical Photographs:** While taking aerial photographs, two distinct axes are formed from the camera lens centre, one towards the ground plane and the other towards the photo plane. The perpendicular dropped from the camera lens centre to the ground plane is termed as the vertical axis, whereas the plumb line drawn from the lens centre to the photo plane is known as the photographic/optical axis. When the photo plane is kept parallel to the ground plane, the two axes also coincide with each other. The photograph so obtained is known as vertical aerial photograph . However, it is normally very difficult to achieve perfect parallelism between the two planes due to the fact that the aircraft flies over the curved surface of the earth. The photographic axis, therefore, deviates from the vertical axis. If such a deviation is within the range of plus or minus 3o , the near-vertical aerial photographs are obtained. Any photography with an unintentional deviation of more than 3o in the optical axis from the vertical axis is known as a tilted photograph.

(ii) **Low Oblique**: An aerial photograph taken with an intentional deviation of 15° to 30° in the camera axis from the vertical axis is referred to as the low oblique. This kind of photograph is often used in reconnaissance surveys.

(iii) **High Oblique:** The high oblique are photographs obtained when the camera axis is intentionally inclined about 60° from the vertical axis . Such photography is useful in reconnaissance surveys.

(iv) **Convergent Photography**: It is a sequential pair of low oblique in which the optical axes converse towards one another. in this kind of photography both the photographs cover the same area but from different locations

(v) **Trimetrogon**: This is an assemblage of three photographs taken at the same time, one vertical and two high obliques, in a direction at right angel to the line of flight. The obliques taken at an angel of 600 from the vertical, sidelap the vertical photography producing composites from horizon to horizon.

(b) **Types of Aerial Photographs Based on Scale:** The aerial photographs may also be classified on the basis of the scale of photograph into three types.

(i) **Large Scale Photographs**: When the scale of an aerial photograph is 1 : 15,000 and larger, the photography is classified as large-scale photograph

(ii) **Medium Scale Photographs**: The aerial photographs with a scale ranging between 1 : 15,000 and 1 : 30,000 are usually treated as medium scale photographs

(iii) **Small Scale Photographs:** The photographs with the scale being smaller than 1 : 30,000, are referred to as small scale photographs

---