

# *INTRODUCTION TO AERIAL PHOTOGRAPHS : TYPES & USES*

*By:*

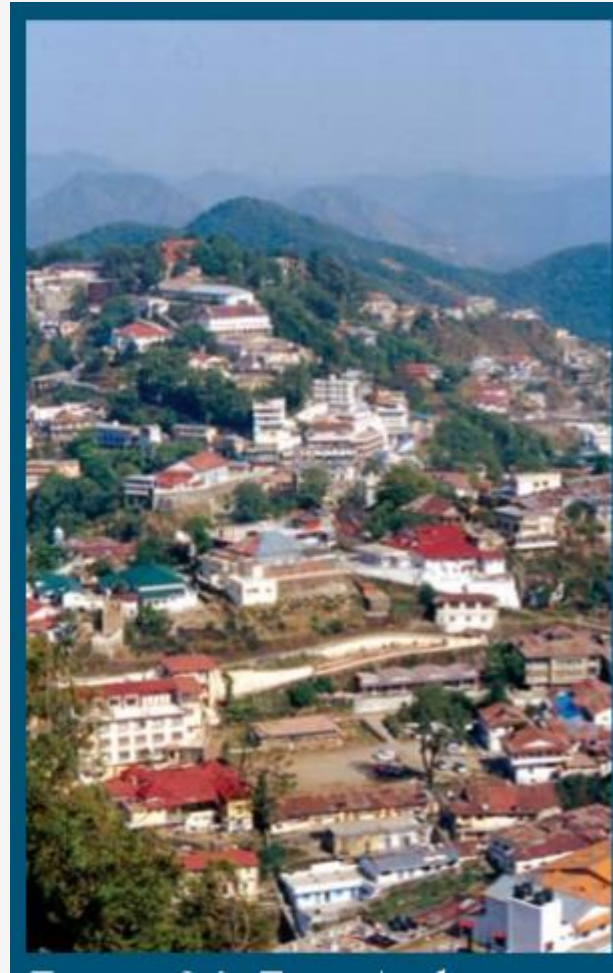
*Ms. Meenakshi Mishra*

*Department of Geography*

*Patna Women's College*

# *Aerial Photographs*

- The photographs taken from an aircraft or helicopter using a precision camera are termed **Aerial Photographs**.
  - Photos taken from the normal camera provides us horizontal perspective i.e. the way the view appears to us.
  - When we have birds eye view of the similar feature, that perspective we get in aerial photograph is termed as **Aerial Perspective**.
- 



Horizontal View



Bird's Eye View

# *Types of Aerial Photographs*

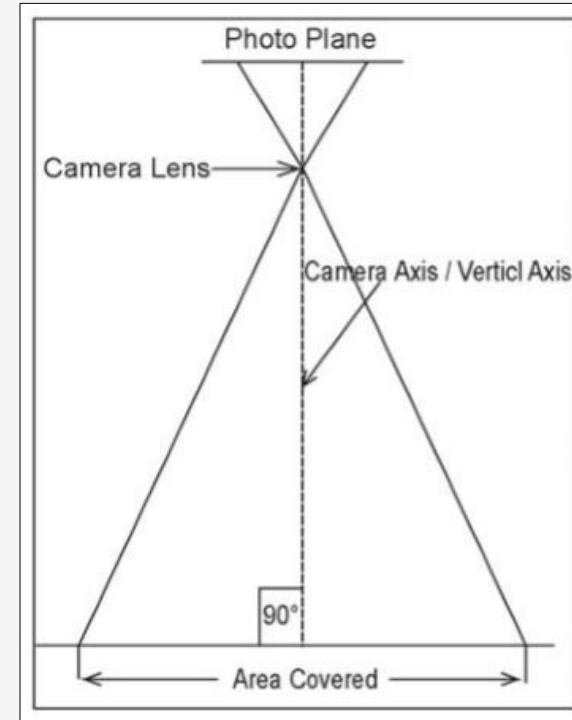
- There are three important parameters that govern the classification
    - I. Position of the camera axis
    - II. Scale
    - III. Angular extent of coverage and the film used
-

# *Types of Aerial Photographs Based on the Position of the Cameral Axis:*

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

# *Vertical Photographs*

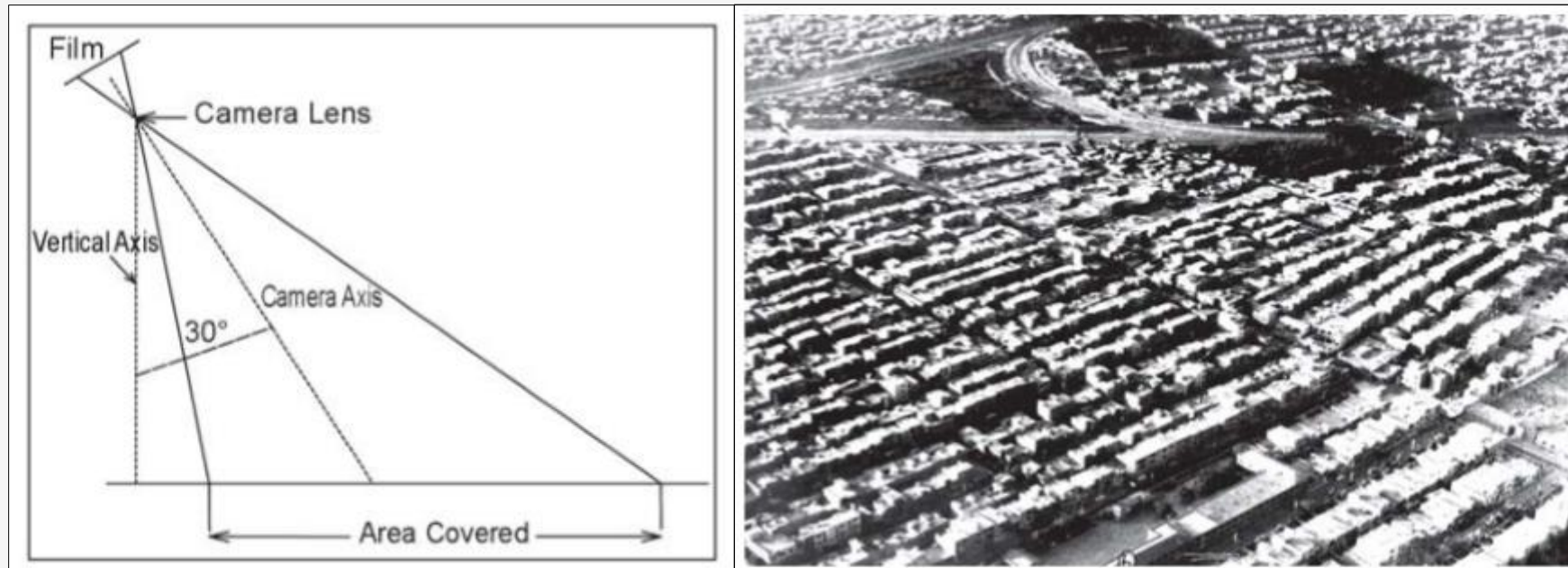
- These photographs are taken when the air borne camera is positioned vertically downwards. The axis of the camera is kept perpendicular to the ground surface.
- However, it is normally very difficult to achieve perfect parallelism between the two planes due to the fact that the aircraft flies over the 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 30, the near-vertical aerial photographs are obtained.
- Any photography with an unintentional deviation of more than 30 in the optical axis from the vertical axis is known as a tilted photograph.



Vertical Aerial photograph

# *Low Oblique Photographs*

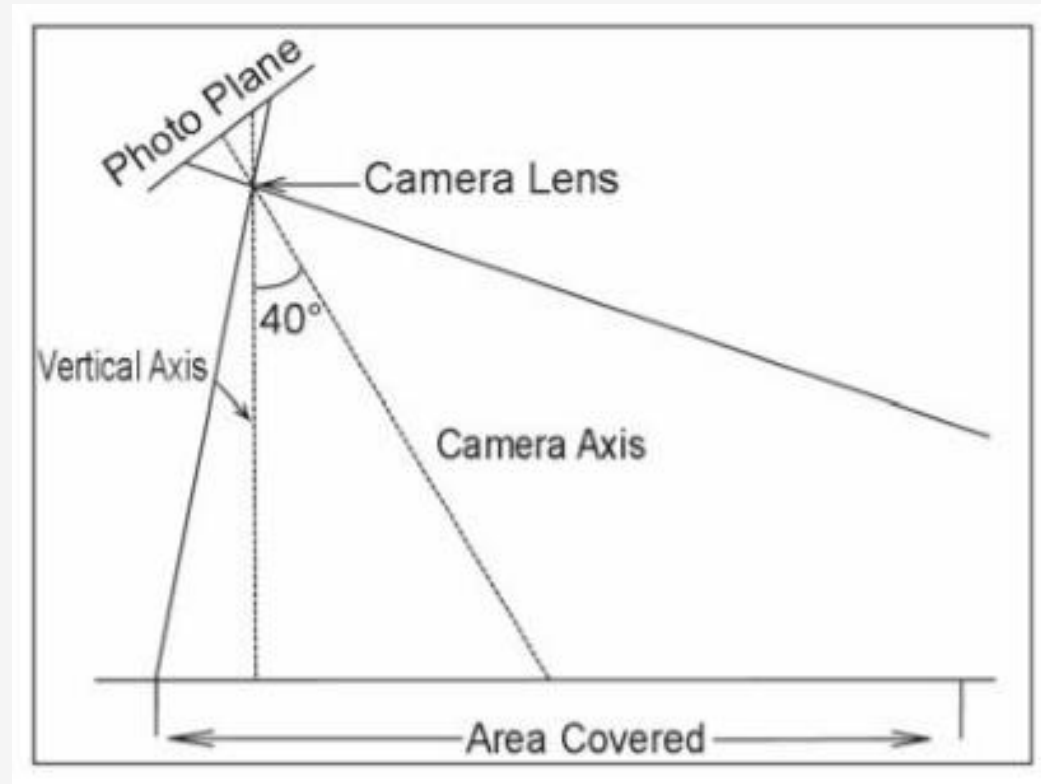
- An aerial photograph taken with an intentional deviation of  $15^\circ$  to  $30^\circ$  in the camera axis from the vertical axis is referred to as the low oblique photograph. This kind of photograph is often used in reconnaissance surveys.



Low Oblique photograph

# *High Oblique Photographs*

- The high oblique are photographs obtained when the camera axis is intentionally inclined about  $60^\circ$  from the vertical axis. Such photography is useful in reconnaissance surveys.



High Oblique Photographs

# *Types of Aerial Photographs Based on Scale:*

- (i) Large Scale Photographs
  - (ii) Medium Scale Photographs
  - (iii) Small Scale Photographs
-



# *Large Scale Photographs*

- When the scale of an aerial photograph is 1 : 15,000 and larger, the photography is classified as large-scale photograph



Large Scale Photographs  
(1:5000)

# *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



Large Scale Photographs (1:20,000)

---

# *Small Scale Photographs*

- The photographs with the scale being smaller than 1 : 30,000, are referred to as small scale photographs.



Large Scale Photographs (1:40,000)

---

# *Uses of Aerial Photographs*

- **Topographical Mapping:** In this field photogrammetry is now replacing the traditional and classical methods of ground surveys. All topographical mapping on scales 1:10000,1:25000,1:50000 are being done photogrammetrically.
  - **Geological Mapping :** Aerial Photos have been used widely to carry out geologic interpretation and preparation of base map.
  - **Forest Evaluation:** The evaluation of forest wealth such as for tree height, forest area, tree density combined with photo-interpretation studies such as types and classification of trees, areas of diseased and disease-free are a great help in preparing forest inventory by the photogrammetric techniques.
-

# *Uses of Aerial Photographs*

- **Civil Works:** Aerial photos are now a must for a highway engineer for the planning , alignment and execution of highway project. Similarly for telephone , power transmission , drainage and sewerage and irrigation canals the use of aerial photos and subsequent mapping for engineering and civil project is of immense help in cutting down the cost and time.
  - **War-time studies:** Aerial Photos are great spies having their eyes in the air and watching all enemy locations, movements and supply lines, etc.
-

Thank You

