Introduction to GIS

Teacher: Dr. Atta-ur-Rahman
Course: Geographic Information System
Lecture 8

Four Major GIS Functions

- data capture
  - graphic data: digitised, converted from existing data
  - attribute data: keyed-in, loaded from existing data files
- data storage and manipulation
  - file management
  - editing
- data analysis
  - database query
  - spatial analysis
  - modelling
- data display
  - maps
  - reports

WHAT ARE THE FUNCTIONS INVOLVED IN GIS

1. INPUT OF DATA

- **Data collection**

  (Both Geographical & Statistical)
- **Data verification**
- **Data transfer**
- **Data editing**

WHAT ARE THE FUNCTIONS INVOLVED IN GIS

2.DATA STORAGE

- On hard disk
- On floppy disk
- On CDs

WHAT ARE THE FUNCTIONS INVOLVED IN GIS

3.MANIPULATION OF DATA

- **Cartographic function**
  - **a.Scale changes**
  - **b.Vector-Raster changes**
  - **c.Projection changes**
  - **d.Map embellishment like adding north, title, scale and legend etc**

(continued….)

WHAT ARE THE FUNCTIONS INVOLVED IN GIS

3.MANIPULATION OF DATA

- **Data integration (Core of GIS)**
  - **a.Maps over laying**
  - **b.Spatial transformation**
  - **c.Spatial aggregation**

(continued……..)

WHAT ARE THE FUNCTIONS INVOLVED IN GIS

3. MANIPULATION OF DATA

- **Feature measurement**
  - a. Number of features
  - b. Calculate distance, area
  - c. Statistical analysis like crossing of tables and correction

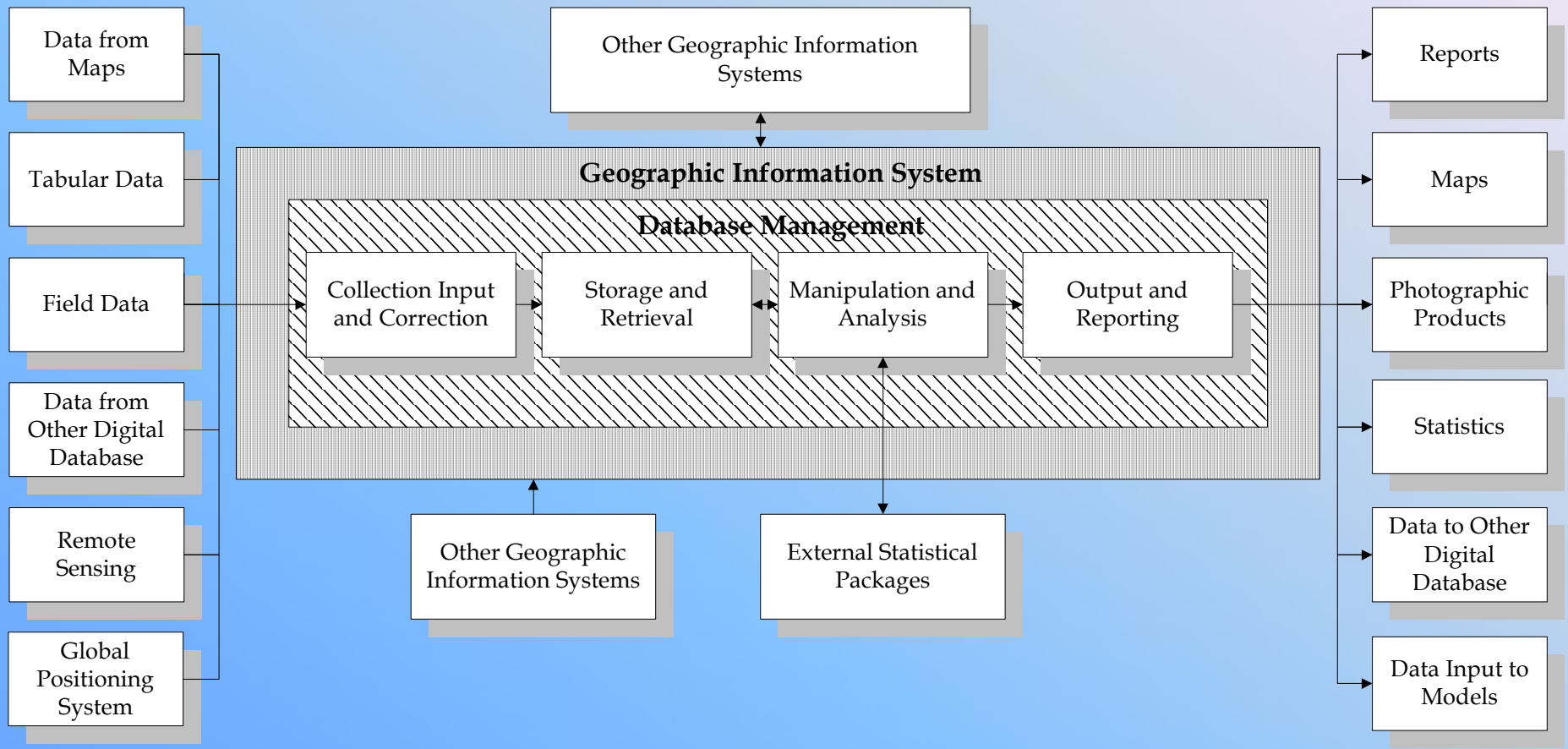
WHAT ARE THE FUNCTIONS INVOLVED IN GIS

4. DATA OUTPUT

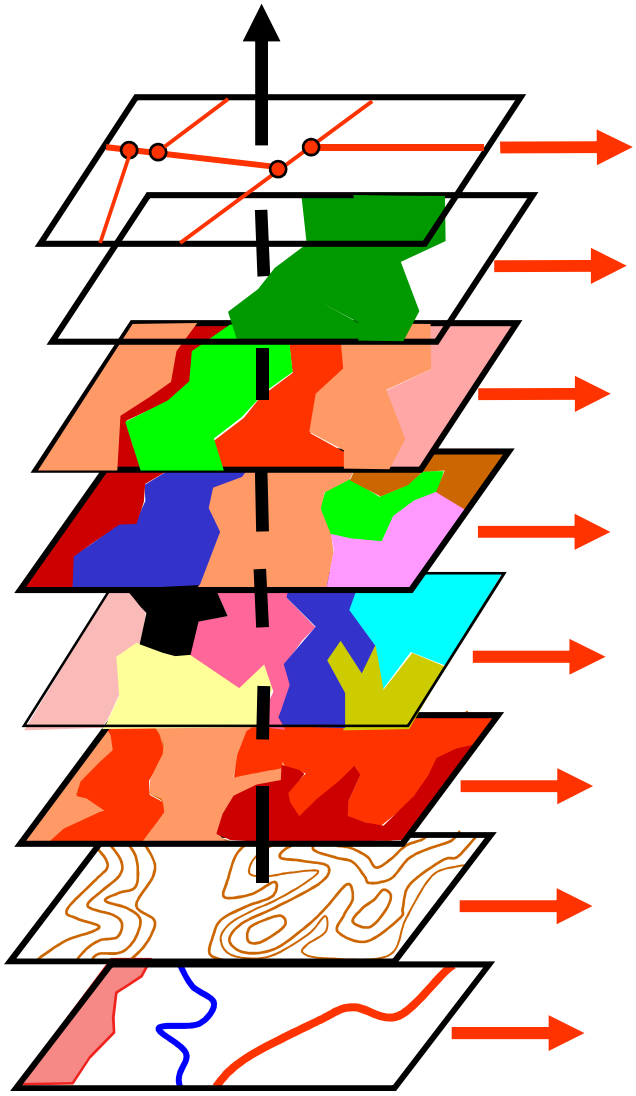
- **Data presentation**
  - **a. Maps**
  - **b. Tables**
  - **c. Diagrams**

DATA TRANSFERING/DATA SHARING

Principal Components and Functions of an Ideal GIS



THEN WHAT SHOULD BE THE BEST ROUTE, LEAVE IT UPTO GIS



Cadastral parcel

National park

Risk area

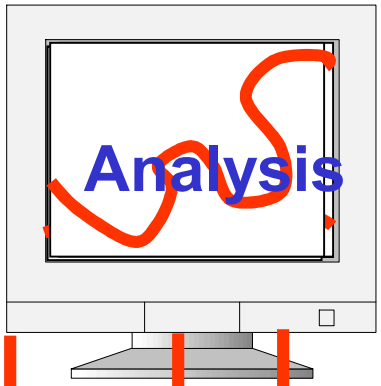
Land-use

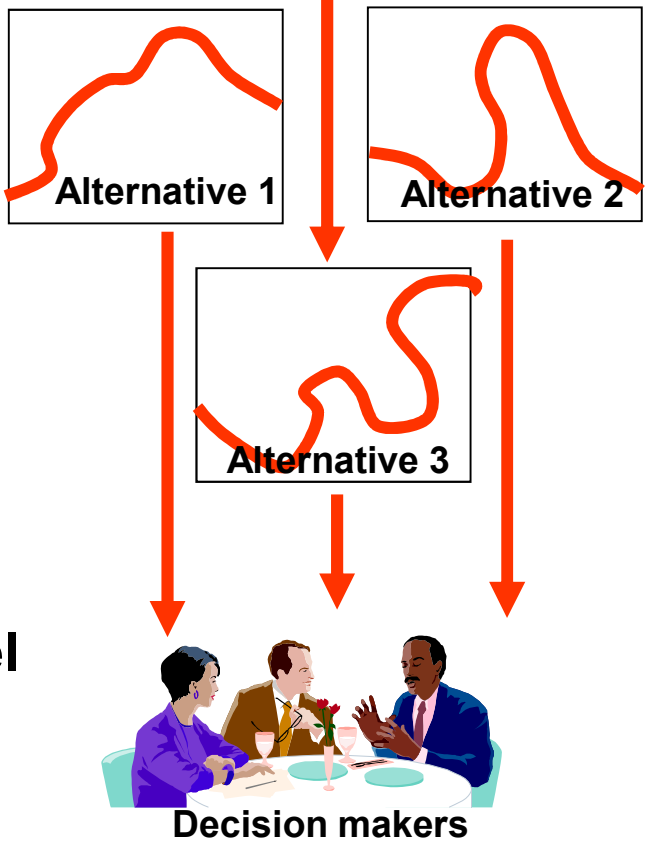
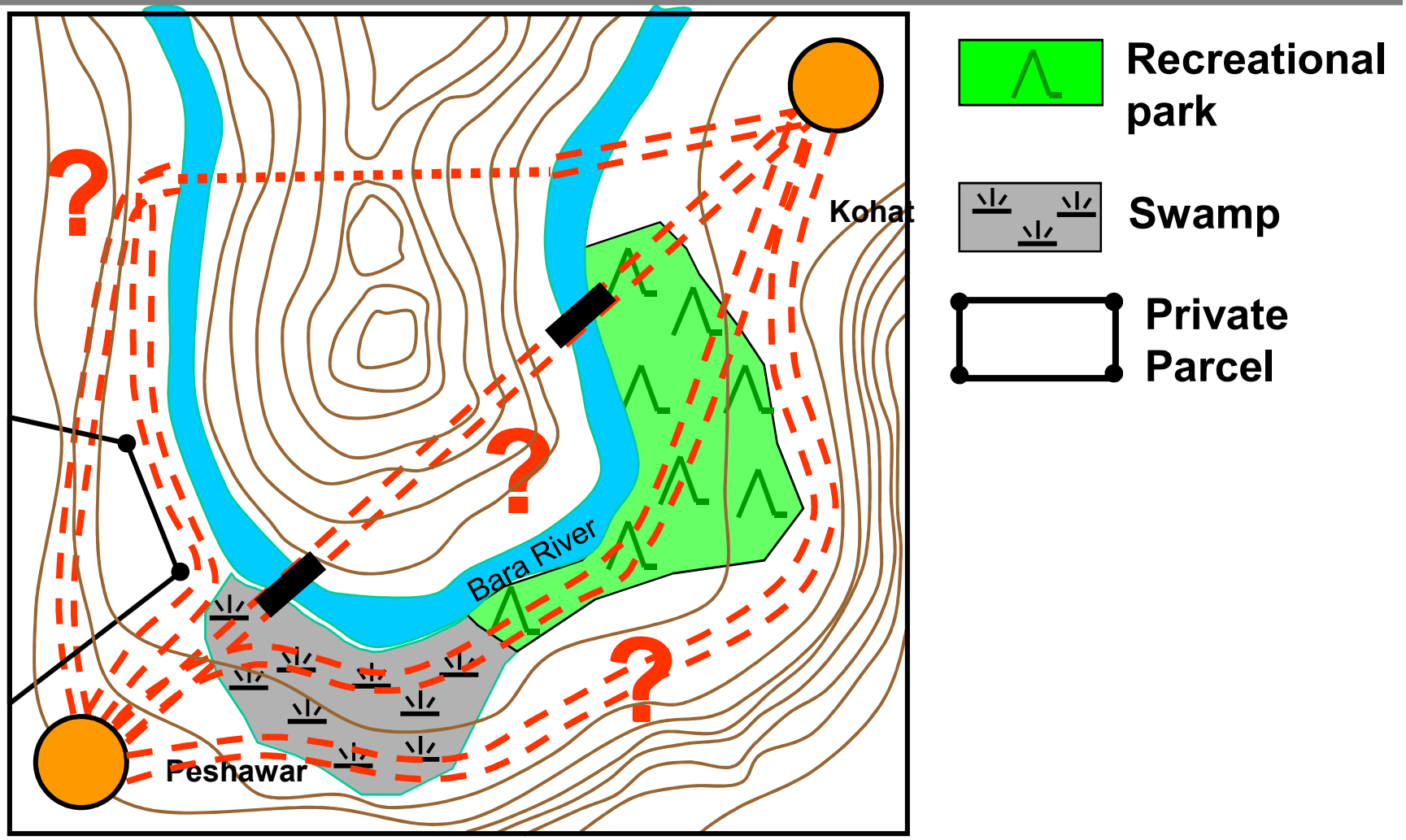
Soil

Slopes

Digital Terrain Model

Topography





SELECTION OF SUITABLE ROUTE BETWEEN PESHAWAR AND KOHAT