



Offered by
Government of Pakistan
Ministry of National Health Services, Regulations and Coordination
Health Services Academy (HSA)

Course No.6:

Title: The Capacity Building on the Use of Geospatial Data and Technologies for Immunization Planning and Health System Strengthening

Duration: 6 Weeks (2 day per week (Saturday to Sunday))

Software: ArcGIS 10.x MS excel, PowerPoint

Participant Fee: 30,000

Certificate: Earn a Certificate upon completion

About This Course:

The training aimed to: (Training objectives)

- Inform the decision making process in Health System Planning for example health facility allocation and expansion
- Improve the use of geospatial data and technologies to support health system strengthening
- Strengthen the Region/State level capacity regarding the maintenance and update of the health facilities and Expanded Program on Immunization (EPI) communities master lists
- Strengthen the technical capacity of the Pakistan EPI program when it come to the use of geospatial data and technologies for micro-planning of immunization delivery

Expected participant profile:

- The Districts/Region/State MOHS & EPI staff that will be supporting the creation of the microplanning maps.
- The Region/State MOHS staff that will be supporting the regular update of the health facilities and villages master list as well as produce thematic maps for the Region/State MOHS office

- A manager that oversees the management and use of data at the Region/State level

Invited participants:

- EPI Medical Officer
- EPI health Assistant
- Computer person from the State/Region Participants initial skills:
- MS Office, MS Excel in particular & ArcGIS

At the end of the training, the participants gained knowledge/skills on

- Basic concepts behind the geospatial data management process, health facility master list, and the making of a good thematic map
- Proper data collection process
- Production of thematic maps in support of the immunization microplanning process
- Use of thematic maps for decision-making, supervision, and evaluation of the immunization microplanning process

Syllabus - What you will learn from this course

Session 1: Introduction to the use of geospatial data and technologies in public health	Session 2: The microplanning process followed in country	Session 3: How geospatial data and technologies could support the current process	Session 4: The process behind making a good thematic map	Session 5: Making a good thematic map – Defining and compiling good geospatial data
Session 6: Making a good thematic map – Extracting or collecting geospatial data	Exercise 1: Using an Android phone and GPS essentials to collect geographic coordinates in the field	Session 7: Explanation of the ArcGIS installation process	Session 8: Introduction to the concept of master list and common geo-registry	Session 9: The health facilities and EPI communities master list
session 10: Updating mechanism for the health facility and EPI communities	Session 11: Preparing the data for its use in a GIS software	Exercise 2: Preparing the EPI program statistical data for the	Session 12: Finishing the installation of ArcGIS and presentation of its interface and	Session 13: The components of a good thematic map

master lists and role of the Regions/States		microplanning process	functionalities	
Session 14: Using the QGIS Layout Manager to create a nice layout and save/print your map	Exercise 3: Preparing the geospatial and geographic data for the (selected Area)	Exercise 4: Preparing the RHC and Sub RHC base microplanning maps	Exercise 5: Using the base microplanning maps at the RHC-level for session planning and supervision	Exercise 6: Answering requests from township to central level during the microplanning plan validation process
Exercise 7: Preparing the Township Level Monitoring & evaluation maps for the 6-months and annual review	Session 15: Use of the Township level monitoring & evaluation maps for the 6-months and annual reviews	Session 16: Recap on the role of the state/regions geospatial data manage	Session 17: Expanding the learning from this training to all the States/Regions (Challenges and opportunities)	Session 18: Other important points and additional resources



Use of Geospatial Technologies & Data in Public Health Sector

The effective use of digital innovations has the potential to improve data-driven decision-making, planning and evaluation of Health Sector Programmes. In this context, geospatial technologies, which include global navigation satellite system (GNSS), geographic information systems (GIS) and remote sensing, are helping Health programmes implementation through the visualization and analytical power of maps, geospatial analysis and modelling.

Geographic Information System (GIS):

A collection of computer software and data used to view and manage information about geographic objects, analyze spatial relationships, and model spatial processes. A GIS provides a framework for gathering and organizing spatial data and related information so that it can be displayed and analyzed.

Geospatial data:

Information about the location and shape of objects, geographic features and the relationships between them.

Geospatial technologies:

A set of equipment, computer applications and systems to visualize, measure, and analyze Earth's features, typically involving such systems as Global Navigation Satellite System (GNSS), Geographical Information Systems (GIS), and remote Sensing (RS)

Global Navigation Satellite System (GNSS):

Any satellite navigation system with global coverage—a system of orbiting satellites that transmit signals received by devices on the ground to determine the position of the receiver on Earth.

Health system map:

A map containing the spatial distribution of the geographic features pertaining to the health system, in general, and the delivery of health service, in particular (e.g. health facilities, health districts, and catchment areas).