Spatial Analysis in Program Evaluation Training Course

Professional Development Training Course Outline

Category	Monitoring and Evaluation	**Duration**	10 Days
Base Fee	$3,000 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

Spatial analysis has emerged as a transformative tool in program evaluation, enabling evaluators, policymakers, and development professionals to visualize, analyze, and interpret geographic patterns of program interventions. Leveraging Geographic Information Systems (GIS), remote sensing, and advanced spatial statistics, this training equips participants with the ability to uncover spatial trends, optimize resource allocation, and measure program impact across diverse regions. Through practical applications, case studies, and hands-on exercises, learners gain the analytical skills required to integrate spatial insights into decision-making processes, ensuring evidence-based interventions and sustainable outcomes.

Spatial Analysis in Program Evaluation Training Course emphasizes the integration of spatial data with Monitoring & Evaluation (M&E) frameworks, empowering participants to enhance program efficiency, identify gaps, and assess socio-environmental impacts. Participants will explore spatial modeling, hotspot analysis, and geospatial visualization techniques while learning how to communicate findings effectively for policy advocacy. By the end of the training, participants will be equipped with cutting-edge skills to transform raw spatial data into actionable insights, driving innovation in program evaluation and impact measurement.

Programme Curriculum

Spatial Analysis in Program Evaluation Training Course

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10 days

Course Objectives

By the end of this course, participants will be able to:

1. Understand fundamental concepts of spatial analysis in M&E.
2. Apply GIS tools to program evaluation datasets.
3. Conduct spatial data cleaning, preprocessing, and integration.
4. Perform hotspot analysis for identifying high-impact areas.
5. Analyze spatial distribution of program interventions.
6. Integrate remote sensing data for environmental and social impact assessments.
7. Use spatial modeling techniques for predictive program outcomes.
8. Visualize spatial trends using interactive maps and dashboards.
9. Interpret spatial statistics for policy and decision-making.
10. Assess program reach and coverage using geospatial analytics.
11. Link spatial data with socio-economic and demographic datasets.
12. Communicate spatial insights effectively through maps and reports.
13. Develop actionable strategies for data-driven program improvements.

Target Audience

1. Program evaluators and M&E specialists
2. GIS analysts and spatial data scientists
3. Policy analysts and planners
4. Development sector professionals
5. Environmental and social impact assessors
6. Government and NGO program managers
7. Data-driven decision-makers
8. Researchers and academicians

Course Modules

Module 1: Introduction to Spatial Analysis in M&E

- Overview of spatial concepts and applications
- Role of geospatial data in program evaluation
- Key spatial metrics and indicators

- Case Study: Mapping healthcare access in rural Kenya
- Basic spatial data visualization

Module 2: GIS Fundamentals for Program Evaluation

- GIS software overview
- Spatial data types
- Coordinate systems and projections
- Case Study: Educational program coverage mapping
- Importing and visualizing datasets

Module 3: Spatial Data Collection and Sources

- Satellite imagery and remote sensing data
- GPS and field survey integration
- Open-source spatial data repositories
- Case Study: Agricultural intervention mapping
- Importing real-world datasets

Module 4: Data Cleaning and Preprocessing

- Handling missing spatial data
- Data transformation and normalization
- Geocoding and address matching
- Case Study: Public health program evaluation
- Preprocessing sample data

Module 5: Exploratory Spatial Data Analysis (ESDA)

- Spatial autocorrelation and clustering
- Density mapping and point pattern analysis
- Moran’s I and Getis-Ord statistics
- Case Study: Malaria outbreak hotspots
- Generating density maps

Module 6: Spatial Modeling for Program Outcomes

- Predictive spatial models
- Regression and geostatistical techniques
- Scenario analysis using spatial models
- Case Study: Predicting school enrollment trends
- Running a spatial regression

Module 7: Hotspot and Cluster Analysis

- Identifying high-impact intervention areas
- Kernel density, spatial scan statistics
- Mapping program success patterns
- Case Study: Water sanitation intervention clusters
- Hotspot detection in GIS

Module 8: Remote Sensing Integration

- Satellite imagery interpretation
- Vegetation, land use, and environmental metrics
- Linking remote sensing to program indicators
- Case Study: Deforestation impact on rural livelihoods
- Overlay analysis with program data

Module 9: Spatial Decision Support Systems

- Designing geospatial dashboards
- Integration with M&E platforms
- Interactive map visualizations for reporting
- Case Study: NGO program monitoring dashboard
- Dashboard creation in QGIS/ArcGIS

Module 10: Socioeconomic and Demographic Spatial Analysis

- Integrating census and household survey data
- Spatial equity analysis
- Population density and program reach mapping
- Case Study: Targeting subsidies in urban slums
- Correlating demographic data with outcomes

Module 11: Program Impact Assessment using GIS

- Measuring spatial program coverage
- Change detection over time
- Evaluating efficiency and resource allocation
- Case Study: Vaccination program evaluation
- Lab: Pre- and post-intervention maps

Module 12: Communicating Spatial Insights

- Map design and storytelling
- Infographics and spatial reports
- Effective visualization for stakeholders
- Case Study: Policy brief with spatial evidence
- Preparing a report with maps

Module 13: Spatial Data Ethics and Privacy

- Data confidentiality and privacy laws
- Responsible geospatial data use
- Ethical challenges in spatial evaluation
- Case Study: Health program location privacy
- Mitigating ethical risks

Module 14: Advanced Spatial Techniques

- Network analysis for service accessibility
- Spatial interpolation and kriging
- Multi-criteria decision analysis
- Case Study: Optimizing emergency response routes

- Lab: Advanced geospatial modeling

Module 15: Capstone Project and Real-World Application

- Integrating all techniques learned
- Identifying a real program evaluation problem
- Data collection, analysis, and reporting
- Case Study: Comprehensive evaluation of NGO projects
- Group project and peer review

Training Methodology

This course employs a participatory and hands-on approach to ensure practical learning, including:

- Interactive lectures and presentations.
- Group discussions and brainstorming sessions.
- Hands-on exercises using real-world datasets.
- Role-playing and scenario-based simulations.
- Analysis of case studies to bridge theory and practice.
- Peer-to-peer learning and networking.
- Expert-led Q&A sessions.
- Continuous feedback and personalized guidance.

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	04 Dec 2026	Online	$2,000
23 Nov 2026	04 Dec 2026	Physical	$3,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$6,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$9,000
23 Nov 2026	04 Dec 2026	Physical	$12,000
23 Nov 2026	04 Dec 2026	Physical	$12,000

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