Training Course on Data Visualization and Business Intelligence for Agri-Analytics

Professional Development Training Course Outline

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

Course Introduction

In today’s data-driven agricultural landscape, Data Visualization and Business Intelligence (BI) have become crucial tools for unlocking insights, driving productivity, and making informed decisions. Training Course on Data Visualization and Business Intelligence for Agri-Analytics equips agri-professionals, data scientists, policymakers, and decision-makers with cutting-edge skills to convert raw agri-data into impactful visual narratives and actionable intelligence. With an emphasis on real-world applications, the course empowers participants to use powerful BI tools such as Power BI, Tableau, and Python-based dashboards to identify trends, forecast yields, and enhance sustainable farming practices.

As the agricultural sector embraces digital transformation, understanding how to integrate Agri-Analytics with intuitive dashboards, geospatial mapping, and interactive reports becomes essential. This course bridges the gap between data collection and insight generation, combining statistical rigor with visual storytelling to help stakeholders optimize operations, monitor performance, and respond proactively to changing agro-economic conditions. Through case-based learning and practical exercises, participants will develop the capacity to influence agribusiness strategies using data-backed decisions.

Programme Curriculum

Training Course on Data Visualization and Business Intelligence for Agri-Analytics

Introduction

In today’s data-driven agricultural landscape, Data Visualization and Business Intelligence (BI) have become crucial tools for unlocking insights, driving productivity, and making informed decisions. Training Course on Data Visualization and Business Intelligence for Agri-Analytics equips agri-professionals, data scientists, policymakers, and decision-makers with cutting-edge skills to convert raw agri-data into impactful visual narratives and actionable intelligence. With an emphasis on real-world applications, the course empowers participants to use powerful BI tools such as Power BI, Tableau, and

Python-based dashboards to identify trends, forecast yields, and enhance sustainable farming practices.

As the agricultural sector embraces digital transformation, understanding how to integrate Agri-Analytics with intuitive dashboards, geospatial mapping, and interactive reports becomes essential. This course bridges the gap between data collection and insight generation, combining statistical rigor with visual storytelling to help stakeholders optimize operations, monitor performance, and respond proactively to changing agro-economic conditions. Through case-based learning and practical exercises, participants will develop the capacity to influence agribusiness strategies using data-backed decisions.

Training Objectives

1. Understand core principles of data visualization in agriculture.
2. Explore top business intelligence tools for agri-data.
3. Learn to analyze agri-metrics using dashboards and KPIs.
4. Apply geospatial analytics to monitor crop performance.
5. Automate reports for supply chain optimization.
6. Improve decision-making through interactive dashboards.
7. Master data storytelling for agribusiness stakeholders.
8. Build real-time monitoring systems for farm operations.
9. Visualize climate and soil data for precision farming.
10. Perform predictive analytics for yield forecasting.
11. Integrate AI-driven BI tools for agri-insight generation.
12. Ensure data quality and governance in agri-analytics.
13. Create customized reports for agri-policy planning.

Target Audience

1. Agricultural Economists
2. Agribusiness Managers
3. Policy Makers in Agriculture
4. Agricultural Extension Officers
5. ICT Professionals in AgriTech
6. Data Scientists & Analysts in Agriculture
7. Agri-Entrepreneurs & Startups
8. Students & Researchers in Agri-Informatics

Course Duration: 10 days

Course Modules

Module 1: Introduction to Agri-Analytics and Data Visualization

- Definition and scope of Agri-Analytics
- Importance of visualization in modern farming
- Key data sources in agriculture
- Overview of visualization tools
- Emerging trends in Agri-BI
- **Case Study**: Visualizing crop production trends in sub-Saharan Africa

Module 2: Tools for Business Intelligence in Agriculture

- Overview of Power BI, Tableau, Google Data Studio
- Comparison of features and capabilities
- Dashboard design principles
- Real-time data integration techniques

- Cloud-based BI for agriculture
- **Case Study**: Deploying Tableau for market price monitoring

Module 3: Data Preparation and Cleaning for Agri-Analytics

- Importance of data quality
- Data wrangling techniques using Python/Excel
- Managing missing and inconsistent data
- Structured vs unstructured agri-data
- Automation in data cleansing
- **Case Study**: Cleaning satellite and field sensor datasets

Module 4: Visualization Best Practices for Agri-BI

- Chart selection and visual hierarchy
- Color theory and accessibility
- Reducing visual clutter in dashboards
- Storyboarding for agri-decision making
- Data-driven storytelling
- **Case Study**: Designing dashboards for irrigation monitoring

Module 5: Geospatial Analytics for Agriculture

- Introduction to GIS and remote sensing
- Mapping land use and vegetation indices
- Integrating shapefiles into dashboards
- Spatial joins and zonal statistics
- Geospatial visualization platforms
- **Case Study**: Mapping pest outbreaks in East Africa

Module 6: Building Interactive Dashboards

- UI/UX for agricultural dashboards
- Filters, slicers, and interactive visuals
- Drill-down and cross-filtering in BI tools
- Mobile responsiveness in dashboarding
- Embedding live dashboards in portals
- **Case Study**: Designing a livestock health monitoring dashboard

Module 7: Agri-Metrics and KPI Development

- Identifying key agricultural indicators
- Time-series visualization of KPIs
- Forecasting using trend lines
- Benchmarks and performance thresholds
- Setting SMART agricultural KPIs
- **Case Study**: KPI dashboard for maize value chains

Module 8: Climate and Soil Data Visualization

- Collecting and interpreting meteorological data
- Visualizing soil fertility maps
- Drought monitoring dashboards
- Overlaying multiple environmental layers
- Linking weather data with crop cycles
- **Case Study**: Visualizing climate impact on tea production

Module 9: Predictive Analytics and Forecasting

- Regression and machine learning models
- Forecasting crop yields and market trends
- Data model integration in BI tools
- Scenario modeling for agri-decisions
- Performance evaluation of predictions
- **Case Study**: Yield prediction using Power BI and Python

Module 10: Data Governance and Security in Agri-Analytics

- Importance of data governance
- Privacy and compliance in agri-data
- Securing dashboard access
- Version control and audit trails
- Ethical data usage
- **Case Study**: Data governance for national agricultural census

Module 11: Data-Driven Decision Making in Agribusiness

- Decision support systems
- Case-based decision modeling
- Translating analytics to business value
- Identifying insights for strategic planning
- ROI of data-informed decisions
- **Case Study**: BI impact on supply chain management in cooperatives

Module 12: Integrating IoT Data into Dashboards

- IoT in agriculture: devices and sensors
- Data streaming and ingestion
- Real-time visualization of sensor data
- Predictive maintenance for farm equipment
- IoT security and protocols
- **Case Study**: Real-time monitoring of greenhouse conditions

Module 13: Visual Analytics for Value Chain Optimization

- Mapping agri-value chains
- Identifying bottlenecks with visuals
- Pricing trends and market intelligence
- Supply-demand dashboards
- Optimization through visual analytics
- **Case Study**: Dairy supply chain optimization using dashboards

Module 14: BI for Agricultural Policy and Planning

- Using data for evidence-based policy
- National dashboards for food security
- Data for subsidy and resource allocation
- Agricultural census reporting tools
- Engaging stakeholders with visuals
- **Case Study**: BI in national fertilizer subsidy program

Module 15: Capstone Project: Agri-Dashboard Implementation

- Project planning and execution

- Selecting datasets and tools
- Building and testing your dashboard
- Peer feedback and revision
- Presentation of results
- **Case Study**: Student-led dashboard for village-level crop advisory

Training Methodology

- Interactive lectures using real-life agri-data
- Hands-on lab sessions with Power BI, Tableau, and Excel
- Case study analysis and group presentations
- Individual and group dashboard development
- Pre- and post-assessment for skill measurement
- Mentorship and guided capstone project execution

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

Start Date	End Date	Location	Price
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

Ready to enroll or request a customized program? Book online or contact us:

Register Online Now

Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com