



EXECUTIVE COURSE - DATA MANAGEMENT, ANALYSIS & STATISTICAL DATA MODELLING USING STATA

Contact Persons

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COURSE INFORMATION

Course Name: **Data Management, Analysis and Statistical Data Modeling Using STATA**
Total Course hours: **26 hours (In class=18, Exercises=8)**
Language: **English**
Training type: **Practical Hands on training and use of case studies**

INTRODUCTION

STATA is a complete, integrated statistical software package that provides everything you need for data analysis, data management, and graphics. With both a point and click interface and a powerful, intuitive command syntax, STATA is fast, accurate, and easy to use. The software is good for a number of statistical analyses including but not limited to cross-sectional data analysis, Time series data analysis, panel data analysis, survival analysis, data modelling, simulation methods. It is thus a powerful tool for almost all researchers and data analysts.

This course will provide a thorough understanding of data management process, and pragmatic step-by-step training for conducting data analysis and development of databases using STATA. While the course is centered on the above, it will also impart insights on the importance of data collection, key performance indicators and data quality control and assurance.

WHO SHOULD ATTEND?

This course is targeting Researchers, Statisticians, Monitoring and Evaluation officials, Economists as well as academicians from various international development organizations, foundations, governments, non-governmental organizations and higher institutions of learning who wish to retool their data management and analysis skills. No Prior attendance of a STATA course is required.

LEARNING OBJECTIVES

- To improve participants knowledge & understanding of M&E data
- To improve practical skills for data analysis and modeling using STATA
- To share knowledge and experiences in M&E data analysis using STATA

COURSE OUTLINE

1.0 Understanding data and its concepts.

- ✓ Different types of data
- ✓ Variables (Qualitative and quantitative)
- ✓ Measurement scales
- ✓ Basic statistical concepts

2.0 Data Management using Stata

- ✓ Stata Software concepts
- ✓ Designing data entry screens
- ✓ Data coding
- ✓ Data entry
- ✓ Data transformations (generating new variables from existing variables)
- ✓ Merging datasets

3.0 Data Analysis Using Stata

3.1 Univariate analysis

- ✓ Descriptive statistical analysis
- ✓ Frequency tables
- ✓ Graphing data (pie charts, bar graphs, scatter plots, line graphs)

3.2 **Bivariate data analysis**

- ✓ Correlation analysis
- ✓ Association tests (chi-square tests)
- ✓ Analysis of quantitative and qualitative variables (E.g Comparing means by different categories)
- ✓ Tests for differences (One sample T-test, paired sample t tests, independent sample t-tests, Anova tests)

3.3 **Multivariate Analysis**

- ✓ Data modelling concepts
- ✓ Model specification and selection criteria
- ✓ Diagnostic tests for model specification errors.
- ✓ Linear regression models (simple and multiple regressions)
- ✓ Count dependent variable models (poisson regression models)
- ✓ Binary dependent models (Logit and Probit models)
- ✓ Categorical outcome models (Multinomial logistics models, ordered logit models)
- ✓ Step wise regression models
- ✓ Dummy variable regression models
- ✓ Structural change models