Training course on Quantitative Data Analysis for Social Protection Impact Assessment

Professional Development Training Course Outline

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

Course Introduction

Quantitative Data Analysis for Social Protection Impact Assessment is a highly specialized and essential skill set for rigorously evaluating the effectiveness and causal impact of social protection programs. In a data-rich environment, the ability to collect, process, and statistically analyze quantitative data is paramount for understanding whether programs achieve their intended outcomes, for whom, and to what extent. This course moves beyond basic statistics to delve into advanced econometric techniques, enabling participants to confidently attribute observed changes to specific interventions, control for confounding factors, and generate robust evidence that informs policy decisions and optimizes resource allocation. It recognizes that sound quantitative analysis is the backbone of credible impact assessment, driving accountability and learning in the social protection sector. Training Course on Quantitative Data Analysis for Social Protection Impact Assessment is meticulously designed to equip with the advanced theoretical insights and intensive practical tools necessary to excel in Quantitative Data Analysis for Social Protection Impact Assessment. We will delve into the foundational concepts of causal inference and statistical modeling, master the intricacies of analyzing data from Randomized Controlled Trials (RCTs) and various Quasi-Experimental Designs (QEDs), and explore cutting-edge techniques for data cleaning, manipulation, and visualization. A significant focus will be placed on hands-on application using statistical software (Stata, R, or Python), interpreting complex results, and effectively communicating findings to diverse audiences. By integrating industry best practices, analyzing real-world complex social protection datasets, and engaging in intensive practical exercises, attendees will develop the strategic acumen to confidently lead and implement rigorous quantitative impact assessments, fostering unparalleled evidence generation, analytical rigor, and informed decision-making.

Programme Curriculum

Training Course on Quantitative Data Analysis for Social Protection Impact Assessment

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Course Objectives

Upon completion of this course, participants will be able to:

1. Analyze the fundamental concepts of **causal inference and statistical estimation** in impact assessment.
2. Comprehend the principles of **data management and preparation** for quantitative analysis.
3. Master the application of **descriptive statistics and data visualization** for social protection data.
4. Develop expertise in conducting **impact analysis for Randomized Controlled Trials (RCTs)**.
5. Formulate strategies for implementing and analyzing **Difference-in-Differences (DiD)** designs.
6. Understand the critical role of **Propensity Score Matching (PSM)** in quasi-experimental analysis.
7. Implement robust approaches to **Regression Discontinuity Design (RDD)** analysis.
8. Explore advanced **regression techniques** for estimating causal effects.
9. Apply methodologies for **sample size calculations and power analysis** in quantitative studies.
10. Understand and address **common econometric challenges** (e.g., endogeneity, selection bias).
11. Develop preliminary skills in **interpreting and communicating complex quantitative findings**.
12. Conduct a comprehensive **quantitative impact assessment** using real-world social protection data.
13. Examine **global best practices and lessons learned** in quantitative impact evaluation.

Target Audience

This course is essential for professionals seeking to develop advanced quantitative analysis skills for social protection:

1. **M&E Specialists & Data Analysts:** Responsible for analyzing social protection data.
2. **Researchers & Academics:** Conducting quantitative studies on social protection.
3. **Economists & Statisticians:** Working in government, NGOs, or research institutions.

4. **Social Protection Program Managers:** Needing to understand and interpret quantitative evidence.
5. **Government Officials:** Involved in evidence-based policy formulation and review.
6. **Development Practitioners:** Requiring rigorous analytical skills for program evaluation.
7. **Students (Master's/PhD):** Focusing on social policy, development economics, or public health.

Course Duration: 10 Days

Course Modules

Module 1: Foundations of Quantitative Impact Assessment

- Define quantitative impact assessment and its purpose.
- Explain the concept of causal inference and the counterfactual.
- Differentiate between correlation and causation in program effects.
- Discuss the role of a strong Theory of Change in analysis.
- Overview of the quantitative impact assessment process.

Module 2: Data Management and Preparation

- Master techniques for data cleaning and validation.
- Learn data manipulation skills (recoding, creating variables).
- Understand data merging and appending techniques.
- Explore strategies for handling missing data.
- Ensure data documentation and reproducibility.

Module 3: Descriptive Statistics and Data Visualization

- Apply measures of central tendency and dispersion.
- Utilize frequency distributions and cross-tabulations.
- Generate effective data visualizations (histograms, box plots).
- Create scatter plots and line graphs for trends.
- Disaggregate data for equity and inclusion analysis.

Module 4: Impact Analysis for Randomized Controlled Trials (RCTs)

- Revisit RCT principles and the power of randomization.
- Conduct mean and proportion comparisons between groups.
- Implement simple linear regression for treatment effects.
- Address clustering and stratification in RCT analysis.
- Interpret and present RCT findings robustly.

Module 5: Introduction to Regression Analysis

- Understand the basics of ordinary least squares (OLS) regression.
- Interpret regression coefficients and statistical significance.
- Learn about multiple regression for controlling covariates.
- Discuss assumptions of OLS and diagnostic checks.
- Apply regression to social protection outcome data.

Module 6: Difference-in-Differences (DiD) Analysis

- Master the core principles of the DiD method.
- Understand the critical parallel trends assumption.

- Implement DiD using panel data structures.
- Conduct tests for the parallel trends assumption.
- Interpret DiD coefficients and their policy relevance.

Module 7: Propensity Score Matching (PSM) Analysis

- Grasp the concept of balancing observable characteristics.
- Learn the steps: estimating propensity scores, choosing matching algorithms.
- Conduct balance checks and assess common support.
- Implement PSM in statistical software.
- Interpret PSM results and discuss limitations.

Module 8: Regression Discontinuity Design (RDD) Analysis

- Explore the unique design of RDD leveraging a cutoff.
- Differentiate between sharp and fuzzy RDD.
- Understand the assumptions for valid RDD.
- Learn to implement RDD using local linear regression.
- Analyze real-world applications of RDD.

Module 9: Advanced Regression Techniques

- Apply panel data models (fixed effects, random effects).
- Utilize binary outcome models (Logit, Probit).
- Explore count data models (Poisson, Negative Binomial).
- Address issues of heteroskedasticity and autocorrelation.
- Introduce instrumental variables (IV) for endogeneity.

Module 10: Sample Size and Power Analysis

- Understand the importance of statistical power.
- Learn to calculate sample sizes for RCTs.
- Calculate sample sizes for various QEDs.
- Discuss factors influencing power (effect size, variance).
- Utilize specialized software for power analysis.

Module 11: Common Econometric Challenges

- Address issues of selection bias in non-experimental settings.
- Discuss the problem of endogeneity and its solutions.
- Understand measurement error and its implications.
- Explore issues of external validity and generalizability.
- Learn strategies for robustness checks.

Module 12: Interpreting and Communicating Findings

- Develop skills in interpreting complex quantitative results.
- Learn to present findings clearly for diverse audiences.
- Master the art of writing compelling policy briefs.
- Utilize effective data visualization for communication.
- Discuss strategies for fostering evidence-based policy.

Training Methodology

- **Interactive Workshops:** Facilitated discussions, group exercises, and problem-solving activities.
- **Case Studies:** Real-world examples to illustrate successful community-based surveillance practices.
- **Role-Playing and Simulations:** Practice engaging communities in surveillance activities.
- **Expert Presentations:** Insights from experienced public health professionals and community leaders.
- **Group Projects:** Collaborative development of community surveillance plans.
- **Action Planning:** Development of personalized action plans for implementing community-based surveillance.
- **Digital Tools and Resources:** Utilization of online platforms for collaboration and learning.
- **Peer-to-Peer Learning:** Sharing experiences and insights on community engagement.
- **Post-Training Support:** Access to online forums, mentorship, and continued learning resources.

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

- Participants must be conversant in English.
- Upon completion of training, participants will receive an Authorized Training Certificate.
- The course duration is flexible and can be modified to fit any number of days.
- Course fee includes facilitation, training materials, 2 coffee breaks, buffet lunch, and a Certificate upon successful completion.
- One-year post-training support, consultation, and coaching provided after the course.
- Payment should be made at least a week before the training commencement to Fineskill Training Center account, as indicated in the invoice, to enable better preparation.

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

Start Date	End Date	Location	Price
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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