TRAINING REPORT

For FARM-Africa Extension Staff

Data Analysis, Technical Report Writing, and Grant Proposal Writing Course held at FARM-Africa Meru Office from 5-9th December 2005

By

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INTRODUCTION

The course sought to train FARM-Africa field staff in Meru District on how to analyse qualitative and quantitative data and on how to write technical reports and grant project proposals. The course was based on the training needs identified by researchers working with FARM-Africa in Meru Central District.

Consultants' Specific Responsibilities

1. To train the staff in data analysis (of qualitative and quantitative data) and writing of technical reports and project grants proposals.
2. To cover the following areas in analysis of data: Process of data analysis, levels of measurement, types of data, methods of data analysis (univariate, bivariate and multivariate for quantitative data), descriptive and inferential statistics, and interpretation of results.
3. To train the staff on how to analyse qualitative and quantitative data.
4. To make the training relevant and practical to the staff by using the research data they had already collected from the field and responding to their questions during the training in an interactive manner and evaluating their performance and giving them feedback.
5. To help the staff in identifying and recommending areas for future training.

Expected Outputs

1. Complete training on analysis of qualitative and quantitative data and on writing good technical reports and successful grant proposals.
2. Acquisition of skills by the staff, through the training, for differentiating qualitative from quantitative research and qualitative from quantitative data analysis.
3. Acquisition of skills by the staff, through the training, for analysing qualitative and quantitative data.

4. Acquisition of skills by the staff, through the training, for writing good technical reports and successful grant proposals.
5. A training report by the consultants.
6. Provision of reading materials, for future reference, to the course participants by the consultants.
7. Provision of a certificate of attendance to each course participant by the consultants.

ORGANIZATION OF TRAINING

At the beginning of the course, the consultants assessed the training needs of the trainees and matched them with those identified in the terms of reference. This enabled the consultants to ensure that the participants derived as much benefit as possible from the training. Through this needs assessment, the course participants indicated that they needed skills on:

1. The principles of data collection.
2. How to differentiate qualitative from quantitative research.
3. How to address issues of validity and reliability in data collection.
4. How to effectively supervise the data collection process by minimising biases and other sources of errors in data collection.
5. How to collect quality data through different instruments including questionnaires, interviews and focus group discussions.
6. Understanding the tools of data analysis.
7. How to interpret research findings.
8. How to write good technical reports.
9. How to write successful grant proposals.

The needs listed above cover more than those outlined in the terms of reference governing the contractual assignment. The consultants covered the training in the following three main areas:

1. Qualitative Research
2. Quantitative Research
3. Writing good technical reports and successful grant project proposals.

A. Qualitative Data Analysis

The topics covered during the first two days in qualitative research were:

- Principles of questionnaire construction. The participants went through fifteen main principles guiding the development of quality questionnaires. Each principle was illustrated with sufficient examples.
- Differences between qualitative research and quantitative research. It was felt that understanding the differences between the two was necessary in understanding the appropriateness of each type of research, appreciating the methods of collecting and analysing data.
- Methods of qualitative data collection:
    - Highly structured interviews,
    - Semi-structured interviews,
    - Unstructured interviews,
    - Focus group discussions: when to use them and their characteristics
- Handling qualitative data
- Transcribing qualitative data
- Analysis of qualitative data (either a priori or emerging):
    - More simple schemes - Content analysis (manifest and latent content analysis), simple valence analysis, constant comparative analysis;
    - More complex schemes - Effects matrices, developmental research sequence.
- Presentation of qualitative findings.

B. Quantitative Data Analysis

In quantitative data analysis, which also took two days, the training covered:

- **Levels/Scales of Measurement**
    - Nominal, ordinal, interval and ratio scales of measurement. Sufficient examples and practical exercises were given to

participants using samples of questionnaires to identify the scales of measurement for various questionnaire items.
  - Considerations in levels of scale measurement

- **Data Collection Strategies**
  - Interviews
  - Questionnaires
  - Attitude scales (Likert-type scales and Osgood-type scales)

- **Effects of Data Collection on the Behaviour or Responses of the participants.**

  Roles taken by respondents, thereby influencing the quality of data collected include "good participant," "apprehensive participant," "suspicious participant," "negativistic participant," and "faithful participant."

- **Methods of Data Collection:** Univariate, bivariate and multivariate

- **Descriptive Statistics**
  - Frequency statistics like percentages (Distribution analysis)
  - Graphical presentations
  - Measures of central tendency: Mean, median, mode
  - Measures of variability (Measures of Dispersion): standard deviation, variance, range
  - Measures of Relations (Certain coefficients of correlations)

- **Inferential Statistics**
  - Analysis of Differences, crosstabulations, rank order correlations
  - Analysis of Variance and Related Methods
  - Multivariate Analysis: Multivariate regression, logistic regression, factor analysis. Practical examples using the participants' own data set were used to do descriptive and inferential statistics.

- **Interpretation and reporting research findings**
  - Numerical and graphical presentation.

- o The participants were trained on how to interpret the results using their own data set.

C. Writing Technical Reports and Grant Proposals

- **Technical Report Writing**

  General components of a report:

  - o Title Page: This shows the title of the report, the author(s), the sponsors
  - o Executive Summary
  - o Table of Contents
  - o List of Tables
  - o List of Figures
  - o Acronyms
  - o Introduction
  - o Body of Text
  - o Conclusion
  - o Implications and Recommendations
  - o Appendices
  - o References

Step 1: Identify your Outer Frame and Main Points

Step 2: Identify your Major Sections and their Points

Step 3: Diagnose the Continuity of Your Themes

Step 4: Diagnose the Whole Document

Communicating Evidence Visually

- **Guidelines for Writing Successful Grant Proposals**

  - o Sections:
  - o Introductory summary
  - o Problems/needs/situation description
  - o Outcome/Impact of activities

- o Budget
- o Supplementary materials
- o Types of proposals: Research project, development project, evaluation project, and conference/travel grant proposal.

The participants were given materials on all the topics covered. They also remained with one valuable statistics book, which could be purchased by the FARM-Africa office as reference material.

COURSE EVALUATION BY THE PARTICIPANTS

At the end of the one-week course, the participants were given an opportunity to evaluate the course in terms of whether it had addressed their felt needs; whether teaching was interactive and discussion-oriented, whether the facilitators clarified concepts using practical and relevant and familiar local examples; whether evaluative exercises were adequate, and whether the notes given were adequate and relevant. They were to classify their evaluation comments into three categories: Strengths, weaknesses and proposed suggestions for improving future courses. Below is a list of their observations and comments:

A. *Strengths*

1. Knowledge of the subject matter: They observed that the consultants had a thorough understanding of what they were teaching.
2. Participants' needs: The course content was well tailored to meet the participants' needs. It adequately covered the identified needs, in addition to more useful and relevant information.
3. Flexibility in teaching and training: The participants observed that although they came from different backgrounds in terms of their understanding of the subject, none of them was left behind in mastering the subject. They were brought to the same level of understanding on the material covered. This was attributed to the consultants' handling of the training to take the participants' background differences into account.

4. Consultants-participants' interaction: The participants observed that the course was handled in an interactive manner making the training stimulating and focused, and not a one-man's show.

5. Immediate usefulness of the course: The participants observed that the materials taught would improve their skills in handling problems related to qualitative and quantitative research (instrumentation; data collection, analysis, interpretation and presentation) and in writing technical reports and project grant proposals. They added that their confidence in research methods had been boosted.

6. Learning materials: The participants said that the consultants provided relevant and appropriate learning materials, used flip chart illustrations that made notes-taking for future reference easier, and used the computer to help them understand how to use the SPSS for data analysis by using the participants' own data set. These strategies made them understand how to manage and analyze data.

7. Work-based practical exercises: In the participants' view, the consultants gave them practical exercises that were based on the participants' routine work, which made learning and understanding of the materials easier.

8. Evaluation and feedback: The participants said that they were happy with group assignments that sought to determine their mastery of the materials taught and were particularly happy with the immediate feedback that they got from the consultants.

B. Weaknesses

- Inadequate time for the consultants to address participants' needs for research skills fully was the single weakness / limitation of the course.

- Shortage of time could not allow the consultants, for instance, to cover sampling procedures, provide in-depth statistical data analysis and interpretation of results or to give practical assignments on writing successful grant proposals.

- In order for the participants to better understand data analysis, they require prior knowledge of the research process but there was little time to cover those aspects of research.

C. Participants' proposed suggestions for improving the course in future

1. In order to ensure that the participants apply the materials leaned correctly, a follow-up should be organised as part of the course requirements. Prior to the follow-up, the participants should, with guidance from the consultants, develop field action plans for implementation, which the consultants would check later in the field and give appropriate feedback.
2. Any training similar to this one should preferably last two weeks. The material covered in the training should build on what was taught previously.
3. Before the training begins, the facilitators should meet the course participants in order for them to agree on how the training should be conducted in terms of scheduling and materials to be used.
4. Course organisers should select a training venue that allows the consultants and course participants to interact informally.

CONCLUSION AND RECOMMENDATION

The course was intensively undertaken to train field staff in qualitative and quantitative analytical methods. Handling some of the important and necessary prior procedures before data analysis was found to be very relevant and useful. The participants felt that such materials had enlightened them on the mistakes they had been making previously in data collection, analysis and interpretation.

As observed by the participants themselves, the consultants also noted that the planned one-week course duration was not sufficient to provide an in-depth understanding of this extremely important area in research. The time was too short to allow the participants explore different types of analyses and make presentations of their work and the consultants were not able to provide enough exercises on the concepts being taught.

The consultants were also unable to plan for follow-up, which would have required the participants to develop their action plans on the materials taught and for the consultants to check the implementation of those action plans later in the field and provide feedback to the participants. This is because follow-up had not been factored into the contract but this is an area that FARM-Africa needs to seriously consider because it makes the training more oriented towards problem solving and gives the staff greater confidence in doing their work. It would be very useful for them to be provided with more opportunities where the training can be strengthened to enhance mastery of skills in data collection, analysis, interpretation and writing of the findings in reports for sharing with stakeholders or for publication.

Signatures:

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