



Statistical Poverty-Analysis in Sub-Saharan Africa

Trainer's Manual

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1. Introduction

This course is designed to provide participants with experience of the process of data gathering, data analysis and decision making in the area of poverty statistics and with the use of statistical data to support this.

It is concerned with the giving the participants an overview of the most important statistical measures of poverty. It is also meant to sharpen the view of participants towards the shortcomings of several measures, i.e. show how perceiving and understanding reality is not done by statistics but by using all possible information sources and combining them to arrive at sound judgment and decision making.

At the end of the course participants should have a sound knowledge of what is standard procedure of poverty measuring, what is possible in the area of poverty statistics and learn about guidelines and decision making processes to choose the most appropriate sources of information to arrive at fact based decision making.

Throughout the course the participants are confronted with exercises, to a reasonable share from Mozambique. The advantage of Mozambique is, that many raw data sources are available and the cases of poverty monitoring (also the shortcomings) are rather typical for Sub-Saharan Africa.

The availability of data was the reason to choose Mozambique. There is no recommendation to follow Mozambique's example. However it makes sense to stick to the available information for one country in order to be able to recommend choices or to illustrate typical difficulties in using measures and data sources

This manual is intended for the use of trainers who will monitor this course the as a training course, distance learning exercise or seminar. The complete set of material required in order to monitor the course is as follows:

A CD containing all available documents:

- The Participant's manual
- The Trainer's manual
- The Support material and there
 - Official Documentation
 - Posters and Training Support
 - Questionnaires
 - Research Documents
- Exercises and Data
- Evaluation Support

The Exercise may be run as a Group activity or it can also be used by individuals and these two approaches are described in Section 2. It is recommended that each participant be provided with their own copy of the Participant's Manual.

2. The Objectives

There are several objectives of this course. It is believed by the organizers that fact based politics is an aim for a conscious process of reducing the wealth gap between rich and poor countries, between rich and poor fractions of society. Without interfering into political decisions, the statistician claims to know essentials of life in his or her working country and society. If the findings of the statistician is what decision makers need, these can and should be the base of politics for the benefit of the people.

Having limited resources it is important to exploit the available funds for the best use of information. This course should contribute to aid a participant in its choice of the appropriate measure and set of tools to make others aware of the reality of poverty in a given environment.

2.1. The Learning Process

The learning process should enable the participants to

- Gather or refresh basic knowledge of poverty indicators.
- Understand and Compare measures and techniques.
- Discuss outcomes and interpret results.

Among the potential uses of the course are the following:

- Demonstrate the process of data use and decision making where there are potentially conflicting objectives and information
- Illustrate the complex nature of poverty and the interrelationships between different aspects of poverty and policy;
- Help participants identify the role of statistical data and analysis in the policy process and to highlight the need to develop an integrated program of surveys and other statistical enquiries;

2.2. Use of the Exercises

No specialist knowledge is required from the participants, although some basic acquaintance with statistics and policy in African countries is certainly useful as is background knowledge of official statistics. No in-depth computer skills are required, although some competence in using EXCEL would certainly be an advantage.

The Exercise should be done, if possible in groups. When the Exercises are to be used by individuals, it is not possible to demonstrate the process of mutual help, but in all other respects the objectives remain the same.

2.2.1. Group Exercises

Some Exercises are designed as group exercise, ideally with groups of about five participants. These exercises are usually grouped around posters and are named "poster exercises". Not necessarily posters are necessary for these but their use is recommended as groups act more as a physical unit, if individuals have to commit some physical contribution. This can be Metaplan cards to be completed and pinned to an appropriate poster location. It can also be verbal contributions and a group moderator acting as a note-taker.

Likewise the EXCEL exercises are best to be solved in groups, because the technique of using EXCEL skills is rather of secondary importance. The exercises usually are prepared for some "in-principle" treatment or solution. In a group the technical shortcomings of one individual might be overcome by the competence of another and all individuals hopefully might benefit from the learning effect of the examples.

2.2.2. Use by Individuals

Although many of the Exercise are designed primarily for use by groups of participants, they can be used by individuals, especially for the computer based exercises

When used by individuals, the Exercise can form part of a formal training course, or it could be used simply as an exercise that is undertaken by people in their own time and at their own speed. All computer exercises come with given results, sometimes results for subgroups are omitted but usually should be simple to achieve.

2.2.3. Limitations of the Exercise

It is important for both trainers and participants in the Exercise to understand the limitations of exercises. Mozambique is a real country. The exercises deal with a simplified, limited population and environment, usually the province of Sofala. As such, therefore, it should not be thought of as being representative of any other country in sub-Saharan Africa or elsewhere. While the exercises contain aspects of a number of different countries, it cannot be thought of as referring to the actual situation in any particular one.

The results generated, therefore, depend crucially on the specification of the various equations and on the values of the parameters as well as on the initial values. It should not be assumed, however, that the results produced by the Exercise will be replicated in the specific situation of a particular country.

3. Monitoring the Course

These recommendations should be helpful for the Trainer: They are not meant to be compulsory or limiting the initiative and fantasy.

The authors believe that the learning process is best achieved by the participants themselves. They should find the solutions and recommend the further decisions.

Trainers should be enablers and guides. The discovery of the truth is in the hands of the participants and it is their privilege to find it for themselves. If a group of participants can prove the value of their findings to other, possibly even convince another group of their reasoning, the learning process has reached one of its goals.

To each chapter are given some recommendations as to use of support material, Posters or Exercises.

These Annotations should be improved and adapted by individual trainers according to their preferences. Beside a column with recommendations, there is another with annotations for the trainer and some room for recording of the course progress at the end.

Chapter 1

Recommended	Annotation / Done
Explain Documents	
Use Folders to explain	
<ul style="list-style-type: none"> ■ Part Handbook 	
<ul style="list-style-type: none"> ■ The Support material and there <ul style="list-style-type: none"> • Official Documentation • Posters and Training Support • Questionnaires • Research Documents 	
<ul style="list-style-type: none"> ■ Exercises and Data 	
First refer to The Support material Official Documentation	
Recommend: Reading UN Handbook	
Recommend: Poverty and Well Being 2004	
Discuss objectives of course: Start with groups answering to Poster1 ("Poster_Initial_Metaplan.doc") -> Leave Results until the end of	
Introduce Poverty Line	
Goto Data Show Display of Doc ("Poverty and Well Being 2004.pdf")	
Goto Pages 44 ff Refer to 1.1 Box	
Food and Non-Food Needs	
Share of Food Expenditure and Engel's Coefficient	
Absolute versus relative poverty	
Cost of Basic Needs Approach Refer to 1.2, Box	
Households and Individuals: Adult Equivalence (Scale Economies)	
Introduce document "Adult Equivalent Calc.doc"	
Introduce document "Rebuilding after War: Micro-level Determinants of Poverty Reduction in Mozambique"	

Recommended	Annotation / Done
Leave enough time to read the documents important boxes. Let groups report on results of Ex1 (First Exercise to Form Groups. Do not force Groups, not more than 5)	
Setting and updating prices, comment on 1.3 Table	
International comparisons , comment on 1.4 Box	
Measurement of Poverty by Expenditure by Flexible Bundle Approach	
Let Groups Explain	
Let Groups report on Scale Economy / Equivalent Adults	
Prepare Chart: / Data Show 1.1 Box and "Results of IAF 96 and 03.doc"	
Where are the poorest regions?	
Where are the highest Engel's coefficients?	

Chapter 2

Recommended	Annotation / Done
Introduce poverty Measures	
Features of Poverty Measures (Explain on White Board / Data Show-> similar to Prepared Exercise or use Prepared Exercise)	
Desirable features of poverty measures (What does it mean and why)	
Headcount (Example)	
Poverty Gap	
Squared poverty gap	
Watt's Index	
Indices (Elaborate on Formulas but stress understanding instead of mathematics) Gap and Distribution – postpone to Prepared Exercise	
Sample Design .. what does it mean for the Indices	
Comparing the measures	
Using Prepared Exercise:	
Explain Columns	
Modify PL,	
Modify Expenditures by Typing	
Modify Expenditures by Mouse Movement	
Exercise 2 (1.Set): before introduce.. then do Ex1 -5	
Discuss data file "HH_03_BasicData_HH&Ind_sofala_Ex2_0.xls"	
Read Questionnaire (Community, Households and Individual)	
Read Data Dictionary ("Mozambique Household Survey-Description of Variables and Values.doc")	
Explain Basics of Pivot Tables	
Refer to Short introduction by "Microsoft Excel Pivot Tables.doc" on Support Documents	
Leave time enough to learn about Pivot Tables. These are the basic exercises for Pivot Tables	
Exercise 6. Check abilities of participants on EXCEL, try to create groups to avoid much time delay-> The exercises are not that important but to learn from them	

Recommended	Annotation / Done
Exercise 7 a. and b, if time	
Exit time and the value of descriptive tools. Explain formula in brief and Start Exercises 2.(2.Set).13 and 14	
Explain Mean, Median, Quantiles / Percentiles	
Explain Lorez C./ Gini	
Start Exercises 2.(2.Set).15	
Summarize all Indices and complete	
Start Exercises 2.(2.Set).1 -12 This exercise should help to get some feeling about the different basic indices	
Group Presentation of Results of Exercises 2.(2.Set).	

Chapter 3

Recommended	Annotation / Done
What should governments do?	
Look at PRSP I and II Mozambique (Support Docs)	
Look at "Poverty and Well Being 2004.pdf"	
<p>Answer the questions:</p> <ol style="list-style-type: none"> 1. Who are the poor? 2. Where do they live? 3. What do they do? 4. On what sectors do they depend for their livelihood? 5. Do they have access to economic infrastructure and support services such as social services and safety nets? , 6. How can the government target resources to them? 	
Then discuss Poster: "Poster_PRS-Strategy_ Metaplan.doc" Group Activity. (Metaplan)	
Presentation of Group Results:	
Leave some time for studying and comparing the documents: "IFPRI_hasDevelopmentbeenProPoor.pdf" and "Joseph Hanlon_Poverty.pdf".	
(Time rather short (15 min.), Group study and Findings)	
Why different results? Different analysis: IFPRI regression model approach, Hanlon stressing social indicators	
Capability deprivation	
Indicate principal problem of poverty mapping:	
PM only useful if disaggregated	
HH Survey usually representative only on Province Level	
Are the districts "poor" : Exercises 3.1 -> No reason to believe that the districts are not poor (Rather to be done as presentation not as an exercise)	
Presentation of systems of Poverty Mapping:	
WDI (national Mapping)	
DevInfo (Provincial Mapping)	
Costumized DevInfo (District Mapping)	

Recommended	Annotation / Done
Presentation of WDI	
Presentation of DevInfo as generic Tool	
Presentation of DevInfo Database Administration (DA) application for DevInfo	
(Presentation of PovMap and PovcalNet – might be skipped if no time left)	
(Presentation of combining the detailed information of a household survey with the comprehensive coverage of a national census – might be skipped if no	
Exercise 3. Ex3.2 Compare PRSPs over two periods Continuation and Differences	
Ex3.3 – might be skipped if no time left.	
Group Exercise Poster “Poster_RecomendationsPovertyMeasures.doc”	
Group Presentation of Results: Make sure these are intermediate result	

Chapter 4

Recommended	Annotation / Done
This chapter should lead the participants towards a perception of a Poverty Monitoring System influenced by	
Start with HDI. Look at formula in Wikipedia	
Presentation of results of participants	
Reasoning of shortcomings and benefits	
Non-income measurement methods	
Example: An Asset Based Survey to Monitor Poverty	
Example File: Exercise 4: Assets_SofalaEx5_1.xls	
Explain Results in Text and discuss meaning	
Introduce statistiXL shareware add-in for EXCEL, which is not part of the standard analysis Add-in for EXCEL (http://www.statistixl.com). Use "sxlsetup.exe" (Support	
Explain Factor Analysis	
Explain Extraction of Factors	
Explain application of Formulas.	
Show calculation in Quintiles to group HH into wealth groups	
Exercise 4.1 in Groups. Short Exercise (Understand in Principle the FC Idea)	
Introduce Small-Area Estimates by explaining the difficulties analyzing regional poverty with HH indices.	
Discuss the problems in 4.4.2	
Show the results (also refer to Mapping in 4.7 Graph)	
Start introducing "Poverty" or "Development" Analysis for Sofala: Census and Household Data for Small-Area Estimates in Mozambique	
Explain Cluster and factor Analysis as one trial to identify related variables (indicators) of Development/ Poverty.	
Draw conclusions between Cluster and Factor but refrain from explaining Development BECAUSE ..	
Presentation of Multiple Regressions. Exercise follows later	

Recommended	Annotation / Done
Then embark on explaining Regression (if time enough) with the Chicken and Eggs Example Present example (EggsByAgeEx5_7.xls) then “HH+Ind_IAF_for Regression_Ex4_3.xls”	
Group Exercise: Ex4.2 Calculate regression predictors for Urban and Rural Households for Sofala HH+Ind_IAF_for Regression_Ex4_4.xls	
Outlook on Mobility and Poverty change : Relationship between inequality and mobility (4.6)	
Qualitative Studies and Participatory Assessments	
Discussion on qualitative surveys. Major drawback: Lack of integration between quantitative and qualitative surveys.	
Remark of the risk of confusion: “Development index” and “Poverty index” might easily be confused.	•
Explain SMD survey	•
Explain Questionnaire (“Prototype Questionnaire_SMD.doc”)	•
Explain Survey (“Presentation_EN_SMD051007.ppt”)	•
Explain ACCESS data entry system (“SMD_DataEntry_Sofala(port.).mdb”)	
Explain the File “SMD_CalcEx5_4.xls”	
Group Exercise Ex4.3 and Ex4.4 and Ex4.5	
Group Presentation of SMD Results	

Recommended	Annotation / Done
SWOT Analysis: Introduction by Moderator:	
Depending: If Groups are homogeneous and efficient: Group Exercise	
Otherwise: Plenary Exercise:	
Present SWOT by participants ("SWOT Analysis of Poverty Monitoring Systems.doc") and	
Present Results by Participants ("Recommend 5_10 years PMS.doc")	
Evaluation of Workshop	

Trainer's Notes