PRiME
Program in Rural M&E

Impact Evaluation Course

Independent Office of Evaluation

IFAD
Investing in rural people

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Centers for Learning on Evaluation and Results

TRAINER'S AGENDA

PRiME
Program in Rural M&E

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TABLE OF CONTENTS

IFAD-CLEAR PROJECT BACKGROUND: PRiME

The Centers for Learning on Evaluation and Results (CLEAR) and the International Fund for Agricultural Development (IFAD) have joined forces to design and implement PRiME, a training and global certification framework for M&E and impact assessment in rural development.

PRiME is headquartered at the CLEAR Center for Latin America, based at *Centro de Investigación y Docencia Económicas* (CIDE), Mexico City. It works with government officials and ministries currently engaged with IFAD, improving their knowledge of M&E as a tool for greater impact in the rural sectors managed by these government counterparts. Participants are nominated by their respective governments, based on pre-established criteria. In addition, PRiME welcomes other interested officials, consultants, and development partners from affiliated international financial institutions, multilateral development banks, and National Governments.

PRiME aims to achieve the following objectives:

- **Improve the skill base for M&E in IFAD-financed client countries in the rural sector.**
- **Develop knowledge repository for rural-focused M&E training materials.**
- **Develop a globally recognized certification program for M&E in rural development.**

To achieve these objectives, **PRiME offers two training programs**: the *Fundamentals of M&E certification* and the *Impact Evaluation course*. **All course materials are public goods as they are available not only to M&E officers in on-going projects financed by IFAD, but also to other monitoring evaluation practitioners and scholars beyond IFAD.**

OVERVIEW

OBJECTIVES

The main objective of the PRiME *Impact Evaluation course* is to develop the capacities of monitoring and evaluation officers of national governments and practitioners from diverse international finance and development organizations. Specifically, the course aims to build capacity in impact evaluation applied to rural development through a dedicated training on impact evaluation drawing from good international practices and including field experiences from IFAD's Independent Office of Evaluation (IOE).

COURSE FORMAT

The course includes a combination of lectures, group exercises, plenary exercises, and case studies. Group work is an essential component of the course. **The course is designed to be primarily workshop-based, in which participants can work through tasks and problems that mimic their daily activities**. Trainers are there to facilitate the group work, addressing real-world concerns.

COURSE OBJECTIVES

By the end of the Impact Evaluation course, participants will be able to:

- Learn the importance and the types of questions impact evaluations can answer.
- Understand key concepts of impact evaluations (e.g. counterfactual, treatment and control groups, randomization, impact calculation).
- Recognize when and how to use each of the most common approaches (experimental evaluation, difference-in-differences, instrumental variables, regression discontinuity design, and matching).
- Identify the main challenges in evaluating rural projects.

ABOUT THIS TRAINER'S AGENDA

This document details the weekly and daily schedules of the PRiME *Impact Evaluation course*. It provides additional information on lecture slides and activities and suggests how trainers can alter or complement different parts of the course. This agenda is complementary to the course *Presentation*, to the *Participant's Handbook*, and the *Answer Key*, all of which will be made available to you previous to the course.

The schedules are indicative and can be adjusted according to the needs of each group[1]. As a trainer, you are free to provide additional information and exercises; however, you must cover all the contents and exercises included in course materials in order to ensure that the course is taught in a consistent manner across all cohorts of participants.

We first reproduce the schedules presented in the Participant's Handbook, both the general one for the whole week and the ones specific for each working day. After the week schedule, we present general notes for the course. After each daily schedule, more detailed instructional information for each topic and activity per day is provided and which we hope will aid you in the delivery of the training.

This detailed information is available for you in Excel format and can be used to adjust the time allocated to each activity or portion of the course. We believe the Excel file is a useful, flexible tool for you to plan the delivery of the course and to adjust it to the needs of each group of participants.

We close this section emphasizing that most comments in this agenda should be taken by what they are: suggestions. Trainers should follow their own judgment and whatever course of action seems most appropriate to the learning of the group of participants attending their edition of the course.

1 The slides numbers are based on the English version of the 2019 presentation. The numbers might not be the same for other language or year versions.

COURSE AGENDA: WEEK SCHEDULE

COURSE AGENDA

The PRiME Impact Evaluation course is a five-day in-person training. Sessions begin at 9:00 am and finish by 6:00 pm, with an hour-long lunch break at 1:00 pm. On the last day (Friday) the course ends earlier, at 5:00 pm. The course agenda is structured as follows.

MODULES	CONTENT

Introduction to Impact Evaluation and Refreshers	• Theory of Change
	• M&E Fundamentals Refresher
	• Introduction to Impact Evaluation (part I):
	  ▸ Importance
	  ▸ Questions it can answer
	  ▸ Use of results, and
	  ▸ Estimated parameters
	• Statistics Refresher
	• Econometrics Refresher

Experimental Evaluations	• Introduction to Impact Evaluation (part II):
	  ▸ Limitations of non-rigorous methods
	  ▸ Causality and counterfactual
	  ▸ Selection of a comparison group
	• Introduction to Evaluations
	  ▸ Randomized Controlled Trials (RCT)
	  ▸ Random sampling vs. random assignment
	  ▸ Randomization set-up and unit of randomization
	  ▸ Impact calculation and balance checks
	  ▸ Randomization designs
	  ▸ Multiple treatment arms
	• Power and Sample Size Calculations
	• Threats to Identification:
	  ▸ Spillover effects
	  ▸ Attrition
	  ▸ Imperfect compliance
	  ▸ Failure to follow treatment protocol and drop out
	  ▸ Unintended behavioral responses

Non-Experimental Approaches – Part I	• Difference-in-Differences (DiD):
	  ▸ When to use it
	  ▸ Assumptions
	  ▸ Impact calculation
	  ▸ Limitations
	  ▸ Implementation example

	• Instrumental Variable (IV):
	  ▸ When to use it
	  ▸ Assumptions
	  ▸ Encouragement design
	  ▸ Impact calculation
	  ▸ Local average treatment effect (LATE)
	  ▸ Limitations
	• Regression Discontinuity (RDD):
	  ▸ When to use it
	  ▸ Assumptions
	  ▸ Sharp and fuzzy designs
	  ▸ Impact calculation
	  ▸ Limitations

Non-Experimental Approaches – Part II and Challenges in Evaluating Rural Projects	• Matching:
	  ▸ When to use it
	  ▸ Assumptions
	  ▸ Exact matching and the curse of dimensionality
	• Propensity Score Matching (PSM):
	  ▸ Implementation
	  ▸ Impact calculation
	  ▸ Limitations
	• Propensity Score Matching with Difference-in-Differences (PSM + DiD):
	  ▸ When to use it
	  ▸ Assumptions
	  ▸ Impact calculation
	  ▸ Limitations
	  ▸ Notes on recall data
	• Challenges in Evaluating Rural Projects
	  ▸ Definition of the sample unit
	  ▸ Self-selection
	  ▸ Data collection
	  ▸ Baseline data
	  ▸ Spillover effects

Evaluation Design and Case Studies	• Approaches Review: RCT, DiD, IV, RDD, and PSM
	• Evaluation Design with Multiple Approaches
	• Case studies:
	  ▸ Readings
	  ▸ Discussion
	  ▸ Presentations
	• Reflections and closing

PERIOD		Day 1	Day 2	Day 3	Day 4	Day 5
start	end	Monday	Tuesday	Wednesday	Thursday	Friday
9:00	11:00	Overview & Introductions	Impact Evaluation Fundamentals	Non-experimental Evaluations: Differences-in-Differences (part I)	Non-experimental Evaluations: Matching (part I)	Approaches Review
		Theory of Change (part I)	Introduction to Randomized Evaluations (part I)			Evaluation Design
11:00	11:30	**Break**	**Break**	**Break**	**Break**	**Break**
11:30	13:00	Theory of Change (part II)	Introduction to Randomized Evaluations (part II)	Non-experimental Evaluations: Differences-in-Differences (part II)	Non-experimental Evaluations: Matching (part II)	Case Studies: Readings and Discussion
		M&E Refresher				
13:00	14:00	**Lunch**	**Lunch**	**Lunch**	**Lunch**	**Lunch**
14:00	15:45	Statistics Refresher	Power and Sample Size Calculations	Non-experimental Evaluations: Instrumental Variables	Non-experimental Evaluations: Matching + DiD	Case Studies: Presentations
15:45	16:15	**Break**	**Break**	**Break**	**Break**	
16:15	18:00	Econometrics Refresher	Topics in Randomized Evaluations	Non-experimental Evaluations: Regression Discontinuity Design	Challenges in Evaluating Rural Projects	Reflections and Closing (ends at 17:00)
						AAR
18:00	18:30	**AAR**	**AAR**	**AAR**	**AAR**	

General Notes

Trainers should **feel free to rearrange, shorten, or extend** the different parts of the day. It is also possible to move content to different days (like days 3 and 4) or to simply finish some days earlier (like day 5).

We recommend **keeping the balance between passive and active learning**, mixing lecture time and activities throughout the day. Whenever possible, use active learning (like an Excel exercise or group discussion) after lunch.

Most of the **course activities assume that participants will be divided into 5 groups** of 4--6 people each. The classroom arrangement should allow participants to fully interact with the people in their groups (e.g., five big round tables).

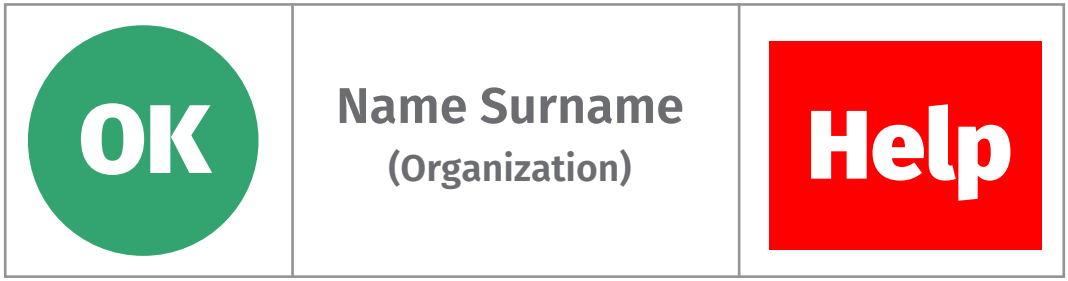
Trainer's guidance is important for most activities, particularly the hands-on exercises. **Trainers are encouraged to walk around the tables** checking on the progress of participants and helping those with issues, both those related to the content or to the equipment (hardware and software). Bicolor name tags can help with that (see below).

Throughout the course, **encourage participants to consult the main references**: Gertler et al (2011, 1ed) or (2016, 2ed), Winters et al (2010), and the IFAD manual (2015).

To ensure that participants will engage every day with different people in the group activities and that the groups will be well balanced on average (gender, background, technical level, etc.), we encourage the use of **random assignment of seats**. At the end of each day, the participants leave their name tags in the room, which are randomly distributed among the seats by the trainers. In the next morning, participants find their name tags and take the seat to which they were randomly assigned.

Name Tags

Bicolor name tags can be used for active learning and for timely feedback on activities. The idea is quite simple. It assumes that each participant will use a "tent" name tag with a green (OK) symbol on one end and a red (help) symbol on the other end (see figure below).



Participants can place their name tags vertically with the green symbol up to signal that they have finished a task or have understood a concept, or they can place it with the red symbol up to signal that they need help or did not understand a concept. During most of the time, the name tag should be placed horizontally (the neutral position).

The idea for the colored name tags is inspired by a Data Carpentry workshop in Geospatial data at the University of Wisconsin-Madison, in July/2019 (datascience.wisc.edu/training/).

The Data Carpentry team also uses sticky notes (see below) to collect feedback between breaks and at the end of each session. They kindly shared some links and tips for teaching that can be useful for PRiME:

- software-carpentry.org/blog/2015/03/teaching-tips.html
- datacarpentry.org/blog/2017/06/minute-cards
- dynamicecology.wordpress.com/2015/01/13/sticky-notes-as-a-teaching-and-lab-meeting-tool/

Using Sticky Notes for Feedback and Active Learning

Sticky Notes (like Post-It®) are a practical and fun way to receive feedback from participants. They also offer an opportunity for participants to be more active in the classroom. We encourage the use of sticky notes in the course in two activities: in day one, to share expectations about the course, and at the end of each day, for feedback.

In the first case (expectations sharing), participants can use sticky notes of any color (light colors are preferred). They can write their expectations for the course and place the sticky note on a wall. The first participant just places their note on the designated wall. The next participants first check the expectations (notes) that have been placed so far. If their expectation is similar to one already posted, they place their sticky note below it (or to the right of it). If their expectation does not relate to any other posted so far, they start a new column (or row).

At the end of the activity, the sticky notes produce a **bar chart** in which each column/row represents a category of expectation and each note represents an observation within that category. Trainers can take a picture of the notes on the wall to record the participant's responses and to comment on the most common categories.

The use of sticky notes for feedback at the end of each day follows a similar structure. The main difference is that participants will receive sticky notes of three different colors: one "positive" color like green or blue, one "negative" like pink or orange, and one "neutral" like yellow. Each color will have a corresponding wall (or a section on a wall).

The participants will then write on the sticky notes

- something that worked well today (positive color),
- something that needs improvement (negative color), and
- any questions or suggestions you have (neutral color).

Participants should put each sticky note on its corresponding wall placing similar comments under (or to the right) of the post-its already placed there. Once more, at the end of the activity, the participants will have created a bar chart for each question.

The trainers are encouraged to take pictures of these results and use them as inputs for the After Action Reviews (AAR), and comment on them the next day. We encourage trainers to comment on all the questions posted by the participants at the beginning of each day.

Alternatives to the use of sticky notes can be the use of an online form like Google Docs of Google Forms, brief group discussions, or individual conversations between trainers and participants before and after instruction or during breaks.

Online Resources

There are many online resources out there for those teaching statistics, econometrics, and impact evaluation. Those most relevant and accessible to the participants are listed in the references. Other resources can assist trainers in providing intuition and more details about the methods discussed in the course. A recent example is this set of visual representations of the most common approaches for causal inference developed by Nick Huntington-Klein, which can be a nice visual aid to the participants of this course:
https://nickchk.com/causalgraphs.html

Another interesting online resource is the training site "Getting Started in Data Analysis using Stata and R" by Oscar Torres-Reyna (available at: dss.princeton.edu/training/). The website is mentioned in the Econometrics Refresher and in the PRiME Fundamentals of Monitoring and Evaluation 2 course.

MODULE 1: INTRODUCTION TO IMPACT EVALUATION (DAY 1)

TIME	CONTENT	DELIVERY MODE	LEARNING OBJECTIVES
9:00-9:30	Overview of IFAD-CLEAR Training and Introductions	**Presentation:** • About PRiME • Structure of training • Participant's introductions and expectations	Overview of the course structure. Introductions and expectations.
9:30-11:00	Theory of Change (part I)	**Presentation and Group Exercise:** • Theory of Change • Exercise 1, Part I: Situational Analysis	Understand the importance of the theory of change for impact evaluations. Analyze a fictional intervention.
11:00-11:30	**BREAK**		
11:30-12:15	Theory of Change (part II)	**Group Exercise 1, Part II:** Implementation	Implement a theory of change for a fictional intervention.
12:15-13:00	M&E Fundamentals Refresher	**Presentation and Group Exercise:** • M&E Fundamentals refresher • Components of program evaluation • Introduction to Impact Evaluation • Exercise 2: Sharing Challenges from the Field	Refresh basic concepts of M&E. Understand the basic components of program evaluation (importance, questions it can answer, use of results, and estimated parameters). Consider challenges related to Impact Evaluation.
13:00-14:00	**LUNCH**		
14:00-15:45	Statistics Refresher	**Presentation and Exercise:** • Measures of centrality and dispersion, • Hypothesis-testing • Statistical significance • Exercise 3: Statistics Refresher	Refresh basic statistical concepts. Practice concepts using fictional data.
15:45-16:15	**BREAK**		
16:15-18:00	Econometrics Refresher	**Presentation and Exercise:** • Linear regression • Interpretation of regression outputs • Exercise 4: Econometrics Refresher	Refresh basic econometrics concepts. Practice concepts using fictional data.

General Notes on Day 1

There is a great deal of flexibility in the "sharing challenges activity." The default is a short group discussion on day 1 and a class discussion on day 4. For the second part, trainers are advised to ask participants to email their informal memos. Trainers will then read through these emails and select some cases and challenges to motivate a large class discussion on day 4. However, trainers should feel free to modify the activity as they see fit. They might choose a different way to receive the memos from participants, removing the email component. Also, trainers can reduce considerably the time allocated for the class discussion on day 4 (approximately 1h45min). Trainers can even drop this part altogether and use the time to catch up with the content if the previous parts went slower than planned.

Depending on the technical background of course participants, the statistics and the econometrics refreshers may take longer the time they have been allocated (one afternoon). If this happens, trainers can shift part of the content to the next days (we recommend moving contents forward in blocks of half morning or half afternoon, keeping the order they have in the course). Day 2 is also dense and does not provide much space for catching up with the content, but on days 3 and 4, it is possible to open some space.

Breakdown of Day 1

Overview & Introductions

Part 0a, slides 1–5, Greetings and introductions & About us: PRiME and CLEAR

Part 0b, slides 6–8, Introductions and Expectations

Use "roll call" for introductions: each person stands up and says their name, country, and work experience. Follow with the first post-it activity: participants write their expectations for the course in a post-it and place them in a wall, placing similar expectations below/beside the first ones, thus producing a bar chart.

Part 0c, slides 9–14, Course Overview, Learning Goals, and References

Theory of Change

Part 1a, slides 15–25, Theory of Change

Part 1b, slides 26–27, Exercise 1: Theory of Change, Part I: Situational Analysis

Read the introduction of the fictional intervention with the participants or let them read on their own. Alternatively, ask participants to read this introduction before and just mention the main points to give context for the exercise. In this first part, guide the discussion within each group of participants. Let them focus on the basic analysis, active comprehension and mapping of the more complicated challenges and topics to the next portions of the course.

Part 1c, slide 28, Exercise 1: Theory of Change, Part II: Implementation

The best way to do this activity is to provide a stickers version of the third table of the template, the one whose title is "Words and Phrases (Suggested Answers). Alternatively, facilitators can print a spare copy of the suggested answers, were participants will be able to literally "cut and paste" the suggested answers into the blank template. As a second alternative, participants can use the suggested answers to write their own phrases and words on post-its and assemble them on the table or wall following the template. In this case, tell participants that they have access to the answers, so they don't need to fill in their own tables during the activity. Encourage them to use classroom time to discuss with their group and create a solution together. Suggestion: they can take a picture of their post-its.

Part 1d, slides 29–30, Wrap-up and Examples IOE/IFAD

Finish this portion mentioning examples of the theory of change used in IOE/IFAD evaluations. You can open a couple of the PDFs and show the pages with the theory of change to the participants.

M&E Refresher

Part 2a, slides 31–43, M&E Refresher and Introduction to Impact Evaluation

Part 2b, slides 44–45, Exercise 2: Sharing Challenges from the Field

Participants share, within their groups, challenges relating to M&E and IE that they encounter in their work. Participants are encouraged to take notes and use them to compose an informal memo later (in their own time). The memos can be emailed to the trainers by the morning of day 3. Trainers will then read the memos and comment on a selected sample of them on day 4, keeping the author of each challenge anonymous unless stated otherwise.

Reassure participants that their emails/challenges/memos will not be shared with anyone other than the trainers. If selected, they will be shared only with the classroom and the names of the projects, and the author will be kept anonymous (unless stated otherwise). Tell them that sharing is not mandatory but is highly encouraged: it helps to organize their thoughts, makes their colleagues experience richer, and allows for a more tailored learning experience for everyone.

Statistics Refresher

Part 3a, slides 46–56, Statistics Refresher: Lecture

Emphasize that this section is a short refresher on some statistical concepts that are relevant to the course. To actually learn basic Statistics requires much more time and it is beyond the scope of this course. Use the exercises to reinforce the concepts and tools reviewed in this refresher.

Part 3b, slides 57–60, Exercise 3: Statistics Refresher

The first 15min of this portion can be used to make sure all participants have their equipment, software, and datasets ready to use. Dedicate some time to walk through the folder with excel files, the Data Analysis Excel add-in, and the basic operations in Excel.

Econometrics Refresher

Part 4a, slides 61–67, Econometrics Refresher: Lecture

As before, emphasize that this section is a short refresher only. To actually learn basic Econometrics is beyond the scope of this course. Use the exercises to reinforce the concepts and tools reviewed in this refresher. The image in slide 67 (interpretation of a regression table) is an excerpt of a presentation available on the internet ("Linear Regression using Stata" (v.6.3), by Oscar Torres-Reyna, available at: dss.princeton.edu/training/). We chose to use that image instead of making one using the regression output from the Data Analysis add-in because we thought it would provide an opportunity for trainers to comment how regression outputs are similar across softwares. It is also an opportunity to refer participants to Torres-Reyna's slides, in the dss.princeton.edu/training/ website. This website is an amazing resource for those interested in learning more about statistics and econometrics. In fact, it is one of the references in the F2 course (see F2 Manual, page 39).

Part 4b, slides 68–71, Exercise 4: Econometrics Refresher

Wrap-up and AAR

Part 5, slide 72, Wrap-up of the day

Ask participants to give feedback using post-its. Encourage them to mention something that worked (blue/green), something that needs improvement (pink/orange), and any questions or suggestions they have (yellow). Ask them to place post-its on the wall as they leave (identify a section on the wall for each color). Participants can place their feedback under (or to the right of) of similar post-its producing bar charts.

Remind participants to compose and send their informal memos (emails) for Exercise 2 by the morning of day 3.

Explain that there will be a random assignment of seats starting the next day. Participants should leave their name tags in the room, which will be randomly distributed among the seats by the trainers. Next morning, participants will find their name tags and take the seat to which they were randomly assigned. This process ensures that every day they will engage with different people in the group activities and that the groups will be well balanced on average (gender, background, technical level, etc.).

After Action Review (AAR): trainers and PRiME team only

Feedback of the day by the trainers. Discuss strengths (what worked), challenges (what did not work), and opportunities (what can be improved) regarding course content, course delivery, and logistics. Participant's feedback should be used as an input in this review process.

MODULE 2: EXPERIMENTAL EVALUATIONS (DAY 2)

TIME	CONTENT	DELIVERY MODE	LEARNING OBJECTIVES
9:00-10:30	Impact Evaluation Fundamentals	**Presentation and Group Exercise:** • Fundamentals of Impact Evaluation • Exercise 5: Selection of a Comparison Group	Understand the limitations of common non-rigorous methods, the concepts of causality and counterfactual, and how to select a comparison group.
10:30-11:00	Introduction to Randomized Evaluations (part I)	**Presentation:** • Introduction to randomized evaluations • Random sampling vs. random assignment • Randomization set-up • Unit of randomization • Balance checks • Impact calculation	Understand basic concepts of experimental evaluations (definition, treatment assignment, set-up, and impact calculation).
11:00-11:30		**BREAK**	

11:30-13:00	Introduction to Randomized Evaluations (part II)	**Group Exercise:**
		• Exercise 6: Experimental Evaluations
		  ○ Law of Large Numbers
		  ○ Randomization Mechanics
		  ○ Balance Checks
		  ○ Impact Calculation
			Verify the law of large number using fictional data. Practice random assignment of treatment. Check the balance of randomly formed groups. Calculate the impact of an intervention using fictional data.

13:00-14:00		**LUNCH**	
14:00-15:45	Power and Sample Size Calculations	**Presentation and Exercise:** • Exercise 7: Power and Sample Size Calculations	Understand the intuition behind power and sample size calculations and the trade-offs involved.
15:45-16:15		**BREAK**	
16:15-18:00	Topics in Randomized Evaluations	**Presentation, Plenary Exercise, and Example:** • Randomization designs • Example 1: on multiple treatment arms • Threats to the identification of impacts	Understand how different randomization designs work. Understand how to estimate impact when there are multiple treatment arms. Examine the main threats to impact evaluations (spillover, attrition, and imperfect compliance).

General Notes on Day 2

If the exercises and examples for the day take more time than planned, the content can be moved to day 3, and part of the content from day 3 moved to day 4. If needed, trainers can use the time allocated to the "Sharing Challenges Discussion" on day 4 (1h45min) to catch-up with the content.

After Exercise 7, depending on how much time you have and how comfortable you are with the topic, you can comment on some advanced topics in power and sample size: multi-treatment, multi-hypothesis corrections, heterogeneous effects, measurement error, etc. You can comment on: the recommendations of having a specialist in Power and Sample Size in the evaluation team (course F2 and Gertler et al.); how measurement error relates to underpowered analysis and biases results towards zero; the tradeoff between baseline and more data (underpowered studies).

You can also comment on heterogeneous effects with an emphasis on effects by gender. For example, you can mention that including an analysis of heterogeneous effects by gender is very appealing in any Impact Evaluation. Such analysis is generally easy to implement and relevant in most contexts. The gender variable is almost always available in the data, and it is binary, which means it is easy to use in interactions and differences in means. However, the investigation of heterogeneous effects by gender must be justified in the theory of change and considered in the power and sample size calculations to avoid reporting spurious effects or use heterogeneous effects to "save" a bad evaluation.

Breakdown of Day 2

Roadmap and Feedback

Part 0a, slides 73–74, Greetings, Recap of previous day, and Plan for today

The recap and the plan for the day should only list the topics. We just want to show how everything fits together and remind the participants of the general roadmap for the course, not to explain again the topics and clarify doubts.

Part 0b, no slides, Feedback from previous day: suggestions and questions

Acknowledge the feedback received. Address questions and suggestions collected in the feedback session of the previous day(s). Focus on clarifying questions here, leaving more advanced questions or re-explanations to be addressed later, as the course moves towards the content that relates to these questions.

Impact Evaluation Fundamentals

Part 1a, slides 75–79, Limitations of Common Non-rigorous Methods

Part 1b, slides 80–84, Causality and Counterfactual

Part 1c, slides 85–92, Selection of a Comparison Group

Part 1d, slides 93–94, Exercise 5: Selection of a Comparison Group

This exercise can work as a discuss-and-share activity, instead of a traditional question-based exercise.

Introduction to Randomized Evaluations

Part 2a, slides 95–103, Introduction to Randomized Evaluations

Define experimental vs. non-experimental. Refer to glossaries of terms/lexicons available in the literature (Gertler et al (2011, 2016) and the 3iE website provide good options).

Part 2b, slide 104, Random Sampling vs. Random Assignment

Stress the difference. Refer the participants to material on random sampling in the main references (particularly, Gertler et al (2011, 2016)).

Part 2b, slides 105–107, Randomization Set-up and Unit of Randomization

Mention how these decisions will relate to evaluation design, sample size, and threats to identification. Mention case study 1 (farm plots are the unit of randomization there).

Part 2d, slide 108, Exercise 6: Experimental Evaluations, Parts I and II

Dedicate some time to read the introduction with the participants. Focus on part I (law of large numbers). Do part II with the participants first, projecting the answer key version on the screen and detailing the steps and formulas. Mention that random assignment can be done within each village instead of on the whole sample. Encourage the participants to try on their own later or during instruction time (time permitting). This exercise can be used as a template for future reference. Mention that it is quite similar to the example in Gertler et al (2016, p78) or (2011, p58) and refer participants to that chapter.

Part 2e, slides 109–111, Impact Calculation and Balance Checks

Make mentions to the econometrics refresher: t-tests and how dummy variables (also known as dichotomous or binary variables) are used to produce differences in means.

Part 2f, slides 112–113, Exercise 6: Experimental Evaluations, Parts III and IV

For part III (balance checks), use the knowledge built with the example on the law of large numbers and the statistics refresher (t-tests and p-values). For part IV (impact calculation), emphasize how the exercise brings together the refresher on statistics and econometrics (interpreting outputs and tables).

Power and Sample Size Calculations

Part 3a, slides 114–123, Power and Sample Size Calculations

If possible, keep the formula on display using a flipchart or whiteboard. You can also use the formula to approach the multiple-choice questions used in the diagnostic/assessment, showing how the components of the formula can move the required sample size up or down.

Part 3b, slides 124–126, Exercise 7: Power and Sample Size Calculations

Topics in Randomized Evaluations

Part 4a, slides 127–131, Randomization Designs

Comment on how a roll-out design can generate different levels of intensity/exposure to the treatment.

Part 4b, slide 132, Plenary Exercise: Discussion

Use the group discussion to motivate the next part(s) of the course.

Part 4c, slides 133–137, Multiple Treatment Arms

Comment on how different levels of intensity or exposure to the treatment can be understood as different treatment arms. Mention case study 5 as an example.

Part 4d, slide 138, Example 1: Multiple Treatment Arms and Interacted Regressors

Go over the example in the manual with participants (consider projecting it on the screen). You can cover the example in detail if there is enough time or mention it briefly and leave it as an extra resource for participants who want to go deeper into the topic. This example is useful to prepare the ground for the DiD implementation example/exercise on day 3.

Part 4e, slides 139–151, Threats to Identification

Alternate between lecturing, questions, and discussions in this part. Preview challenges in agricultural projects and the multi-method exercise on day 5. Mention the relationship between these threats and the choices made during the evaluation design (unit of randomization, randomization design, and use of non-experimental methods).

Wrap-up and AAR

Part 5, slide 152, Wrap-up of the day

Ask participants to give feedback using the sticky notes or another method like an online form. Remind participants to write their informal memos (emails) for the "sharing challenges" activity (they can also update their memos if they want). Explain that there will be a random assignment of seats again the next day.

After Action Review (AAR): trainers and PRiME team only

MODULE 3: NON-EXPERIMENTAL APPROACHES – PART I (DAY 3)

TIME	CONTENT	DELIVERY MODE	LEARNING OBJECTIVES
9:00-11:00	Differences-in-Differences (DiD) (part I)	**Presentation, Example, and Group Exercise:** • Differences-in-Differences approach • Example 2: on DiD using interacted regressors • Exercise 8, Part I: Applied Questions	Understand the basic concepts involved in the DiD approach (when to use it, assumptions, impact calculation, and limitations). Examine an example of implementation with interacted regressors. Practice implementation using fictional data.
11:00-11:30		**BREAK**	
11:30-13:00	Differences-in-Differences (DiD) (part II)	**Group Exercise:** • Exercise 8, Part II : Conceptual Questions	Analyze conceptual topics related to the DiD approach in the context of a fictional intervention.
13:00-14:00		**LUNCH**	
14:00-15:45	Instrumental Variables (IV)	**Presentation and Group Exercise:** • Instrumental Variables approach • Exercise 9: Instrumental Variables (IV)	Understand the basic concepts involved in the IV approach (when to use it, assumptions, encouragement design, impact calculation, local average treatment effect (LATE), and limitations). Analyze the approach in the context of a fictional intervention.
15:45-16:15		**BREAK**	
16:15-18:00	Regression Discontinuity Design (RDD)	**Presentation and Group Exercise:** • Regression with Discontinuity Design approach • Exercise 10: Regression Discontinuity Design (RDD)	Understand the basic concepts involved in the RDD approach (when to use it, assumptions, sharp and fuzzy designs, impact calculation, and limitations). Analyze the approach in the context of a fictional intervention.

General Notes on Day 3

After Exercise 8, depending on how much time you have and how comfortable you are with the topic, you can comment on some advanced topics related to the Differences-in-Differences method. For example, you can comment on panel estimations with individual fixed effects (illustrate 2x2 case in which the FE and the first-difference are equivalents), triple differences, pre-trends, and case-studies.

Breakdown of Day 3

Roadmap and Feedback

Part 0a, slides 153–154, Greetings, Recap of previous day, and Plan for today

Part 0b, no slides, Feedback from previous day: suggestions and questions

Differences-in-Differences (DiD)

Part 1a, slides 155–166, Differences-in-Differences: Lecture

Note that, unlike many other methods, the DiD approach requires baseline information not only for covariates but also for the dependent variable. Mention that the issues with using recall data for the outcome of interest will be addressed on day 4.

Part 1b, slide 167, Example 2: Differences-in-Differences with Interacted Regressors

Go over this example in the manual with participants (consider projecting it on the screen). As you did with Example 1 on the previous day, you can cover the example in detail if there is enough time or mention it briefly and leave it as an extra resource for participants who want to go deeper into the topic. Note how the interaction of the time and treatment dummies resembles the interactions used in multiple treatment arms and in the case of heterogeneous effects.

Part 1c, slide 168, Exercise 8: Differences-in-Differences, Part I: Applied Questions

Part 1d, slides 169-170, Exercise 8: Differences-in-Differences, Part II: Conceptual Questions

You can assign one question to each group and ask them to report to the whole class after discussing it. Use the participant's responses and discussion to solidify concepts and address practical aspects of using this method to evaluate rural projects.

Instrumental Variables (IV)

Part 2a, slides 171–184, Instrumental Variables : Lecture

Focus discussion on encouragement design (more likely to occur in Impact Evaluations) and on how the IV approach relates to the ITT parameter, which can be the most relevant parameter in certain policy applications.

Part 2b, slides 185–187, Exercise 9: Instrumental Variables (IV)

You can assign one question to each group and ask them to report to the whole class after discussing it. Use the participant's responses and discussion to solidify concepts and address practical aspects of using this method to evaluate rural projects.

Regression Discontinuity Design (RDD)

Part 3a, slides 188–208, Regression Discontinuity Design: Lecture

Focus on the intuition of the method and on opportunities to use it. Consider moving the discussion away from the formulas and towards possible uses of RDD as a way to complement experimental evaluations (e.g., comparing treated units near the eligibility criteria to non-treated units to investigate long-term effects of an intervention).

Part 1b, slides 209-211, Exercise 10: Regression Discontinuity Design (RDD)

You can assign one question to each group and ask them to report to the whole class after discussing it. Use the participant's responses and discussion to solidify concepts and address practical aspects of using this method to evaluate rural projects.

Wrap-up and AAR

Part 5, slide 212, Wrap-up of the day

Ask participants to give feedback using sticky notes. Remind participants of random assignment of seats again the next day and give them an update on any changes of schedule for the last two days.

After Action Review (AAR): trainers and PRiME team only

MODULE 4: NON-EXPERIMENTAL APPROACHES – PART II (DAY 4)

TIME	CONTENT	DELIVERY MODE	LEARNING OBJECTIVES
9:00-10:30	Matching	**Presentation and Group Exercise:** • Matching approach • Exercise 11: Matching	Understand the basic concepts involved in the Matching approach (when to use it, assumptions, exact matching, and the curse of dimensionality). Analyze the approach in the context of a fictional intervention.
10:30-11:00	Propensity Score Matching (PSM) (part I)	**Presentation:** • Propensity Score Matching (PSM)	Understand the basic concepts involved in the PSM approach (when to use it, implementation, impact calculation, and limitations).
11:00-11:30	**BREAK**		
11:30-12:30	Propensity Score Matching (PSM) (part II)	**Group Exercise:** • Exercise 12: Propensity Score Matching	Analyze the PSM approach in the context of a fictional intervention.
12:30-13:00	PSM + DiD (part I)	**Presentation:** • Propensity Score Matching with Differences-in-Differences	Understand the basic concepts involved in the PSM + DiD approach (when to use it, assumptions, impact calculation, and limitations). Examine the pros and cons of using recall data.
13:00-14:00	**LUNCH**		
14:00-15:15	PSM + DiD (part II)	**Group Exercise** • Exercise 13: Propensity Score Matching with Differences-in-Differences (PSM + DiD)	Analyze the PSM + DiD approach in the context of a real intervention (IOE/IFAD evaluation report).
15:15-15:45	Challenges in Evaluating Rural Projects (part I)	**Presentation:** • Challenges in Evaluating Rural Projects	Understand the main challenges in evaluating rural projects (defining the sample unit, self-selection, data collection, baseline data, and spillover effects).
15:45-16:15	**BREAK**		
16:15-18:00	Challenges in Evaluating Rural Projects (part II)	**Group Exercise:** • Follow-up on Exercise 2 (Sharing Challenges from the Field)	Consider real-world challenges related to impact evaluation considering the concepts learned in the course.

General Notes on Day 4

As mentioned before, there is a great deal of flexibility in the "sharing challenges activity." The default is a short group discussion on day 1 and a class discussion on day 4. For this discussion, the trainers can select the most interesting (and relevant to the course) challenges and read them to the class. Then, the groups can discuss possible solutions to the challenges using the concepts learned in the course. Trainers can also use this space to comment on more advanced and complex topics, and also to prepare the ground for the case studies (real-world applications).

If the class is behind on the course content (for example, if there was not enough time to cover the statistics and econometrics refreshers, or longer exercise like Exercise 6), the trainers can shorten the follow-up of Exercise 2 and use the last quarter of the day to catch up with the content.

Roadmap and Feedback

Part 0a, slides 213–214, Greetings, Recap of previous day, and Plan for today

Part 0b, no slides, Feedback from previous day: suggestions and questions

Matching

Part 1a, slides 215–224, Matching: Lecture

Refrain from mentioning dimensionality issues and the PSM for now. Focus on the intuition of the Matching approach, the practicality of the method, and its limitations (selection on observables is a strong assumption).

Part 1b, slide 225, Exercise 11: Matching

Propensity Score Matching (PSM)

Part 2a, slides 226–237, Propensity Score Matching: Lecture

Mention that the PSM is one of the most widely used non-experimental methods for the evaluation of rural programs: it is one of the most feasible to implement. Mention how the Probit model can be used to estimate the Propensity Scores.

Part 2b, slides 238–240, Exercise 12: Propensity Score Matching (PSM)

Propensity Score Matching with Differences-in-Differences (PSM+DiD)

Part 3a, slides 241–248, PSM with DiD: Lecture

Mention that asset indexes can be a more reliable measure of income or wealth when recall data is used.

Part 3b, slides 249–251, Exercise 13: Propensity Score Matching with Differences-in-Differences

Note to participants that this exercise departs form the fictional intervention they were using before and prepares the ground for the case studies in the next day.

Challenges in Evaluating Rural Projects

Part 4a, slides 252–255, Overview of Challenges

You can mention also the longer maturity of many agricultural projects, the data collection challenges that come when we observe only one crop per year, and any other challenges not addressed in detail here.

Part 4b, slides 256–263, Data Collection and Baseline

Part 4c, slides 264–271, Spillover Effects

Part 4d, slides 272–273, Follow-up on Exercise 2 (Challenges from the Field): Summary

Trainers present a summary of the challenges shared by the participants. Mention the most common themes and select a few relevant cases for group discussion.

Part 4e, no slides, Follow-up on Exercise 2 (Challenges from the Field): Discussion

Facilitate a big discussion of the challenges presented by participants. Make sure that everyone is involved (balance participation among participants). Identify and separate the issues relating to M&E and to IE. Use cases to review the techniques and content discussed in the previous parts and days.

Wrap-up and AAR

Part 5, slide 274, Wrap-up of the day

Ask participants to give feedback using sticky notes. Update orientations for the last day.

After Action Review (AAR): trainers and PRiME team only

MODULE 5: EVALUATION DESIGN AND CASE STUDIES (DAY 5)

TIME	CONTENT	DELIVERY MODE	LEARNING OBJECTIVES
9:00-9:30	Approaches Review	**Presentation:** • Approaches Review and Comparison	Review when and how to use each approach (RCT, DiD, IV, RDD, and PSM). Examine the advantages and disadvantages of each approach.
9:30-11:00	Evaluation Design	**Group Exercise:** • Exercise 14: Multi-Approach Design	Analyze a fictional intervention that allows for multiple approaches. Review and apply several concepts learned in the course.
11:00-11:30	**BREAK**		
11:30-13:00	Case Studies (part I)	**Group Exercise:** • Case Studies: readings and group discussion	Apply the concepts learned in the course to real-world interventions. Review when and how to use each approach.
13:00-14:00	**LUNCH**		
14:00-16:30	Case Studies (part II)	**Group Exercise:** • Case Studies: presentations	Apply the concepts learned in the course to real-world interventions. Review when and how to use each approach.
16:30-17:00	Reflections and Closing	**Plenary Discussion**	Reflect on the learning experiences in the course. Review materials for future reference.

General Notes on Day 5

End the day 1h earlier, with no afternoon coffee break.

Breakdown of Day 5

Roadmap and Feedback

Part 0a, slides 275–276, Greetings, Recap of previous day, and Plan for today

Part 0b, no slides, Feedback from previous day: suggestions and questions

Approaches Review

Part 1a, slides 277–278, Approach Review and Comparison

Evaluation Design

Part 2a, slides 279–280, Exercise 14: Multi-Approach Design (Instructions)
This evaluation design used in this exercise was inspired by the Impact Evaluation plan for the Rio Rural program, in Brazil, circa 2013 (unpublished).

Part 2b, slides 281–282, Exercise 14: Multi-Approach Design (Questions)
See comments on the Answer Key: the design allows for multiple approaches and interpretations. The suggested answers are not exhaustive. If more time is available, the groups can propose different approaches, including ones at the village level.

Case Studies

Part 3a, slides 283–285, Case Studies: Instructions

Part 3b, no slides, Case Studies: Readings, Preparation, and Group Discussion

Part 3c, slides 286–292, Case Studies: Presentation and Classroom Discussion
Give approximately 20 min for each group and reserve about 10 min for comments and discussion following the presentations.

Wrap-up and AAR

Part 4a, slide 293, Wrap-up of the day
Ask participants to give feedback using post-its.

Part 4b, slides 294–295, References and Next Steps

Remind participants of course assessments and online feedback in a few days/ weeks.

Also remind participants of online resources, references, and additional material. Show the list of references in slides and point to the corresponding pages in their manual: mention which references are more practical, more advanced, etc. Note that most references are available in multiple languages like English, Spanish, and French. Consider opening the pdf version of Gertler et al (2016) and Winters et al (2015) and going over the summary of contents/structure of chapters. Show also the glossary/lexicon of terms in these documents. Open a few links to online resources, including material from PRiME Fundamentals 1 and 2.

Part 4c, slide 296, Closing

Encourage participants to exchange contacts and keep in touch. Thank everyone.

After Action Review (AAR): trainers and PRiME team only

REFERENCES

Main References

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Available at: openknowledge.worldbank.org/handle/10986/2550
Languages: English, French, Portuguese, and Spanish

Gertler, P. J., Martinez, S., Premand, P., Rawlings, L. B., Vermeersch, C. M. J. (2016). Impact evaluation in practice. Second Edition. Washington, DC: Inter-American Development Bank and World Bank.
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Languages: English, Portuguese, and Spanish

Winters, P., Salazar, L., & Maffioli, A. (2010). Designing impact evaluations for agricultural projects. Inter-American Development Bank, Washington, DC, 14, 2012.
Available at: publications.iadb.org/en/designing-impact-evaluations-agricultural-projects

IOE/IFAD (2015): Evaluation Manual.
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Languages: Arabic, English, French, and Spanish

Additional References

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Ravallion, M. (2001). The mystery of the vanishing benefits: An introduction to impact evaluation. The World Bank Economic Review, 15(1), 115-140.

Weiss, C. H. (1998). Evaluation. Upper Saddle River, p 129.

References for the Case Studies

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Duflo, E., Kremer, M., & Robinson, J. (2008). How high are rates of return to fertilizer? Evidence from field experiments in Kenya. American economic review, 98(2), 482-88.

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IOE/IFAD (2013). Democratic Socialist Republic of Sri Lanka: Dry Zone Livelihood Support and Partnership Programme, July 2013. Impact Evaluation Report.

IOE/IFAD Reports[2]

Democratic Socialist Republic of Sri Lanka: Dry Zone Livelihood Support and Partnership Programme, June 2013

India: Jharkhand Chhattisgarh Tribal Development Programme, August 2015

Republic of Mozambique: Sofala Bank Artisanal Fisheries Project, December 2016

Georgia: Agricultural Support Project, September 2017

Kenya: Smallholder Horticulture Marketing Programme, December 2018

Online Resources

Inter-American Development Bank (IDB)
www.iadb.org/en/topics-effectiveness-improving-lives/impact-evaluation

Better Evaluation
www.betterevaluation.org

International Initiative for Impact Evaluation (3ie)
www.3ieimpact.org

Impact Management Project
impactmanagementproject.com

2 All reports produced by the Independent Office of Evaluation (IOE) of the International Fund for Agricultural Development (IFAD) are available at: www.ifad.org/web/ioe/ie.