Core Outcome Indicators Measurement Guidelines (COI)

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List of Acronyms

AOS	Annual Outcome Survey
CAPI	Computer-Assisted Personal Interview
CI(s)	Core Indicator(s)
COI(s)	Core Outcome Indicators
DEF	Development Effectiveness Framework
EB	Executive Board
FAO	Food and Agriculture Organization
FFS	Farmers Field Schools
FPIC	Free, Prior and Informed Consent
GHG	Greenhouse Gas
GPS	Global Positioning System
HH	Household
IFAD	International Fund for Agricultural Development
KAP	Knowledge Attitude and Practices
LCU	Local Currency Unit
MDDW	Minimum Diet Diversity for Women
M&E	Monitoring & Evaluation
OPR	Operational Policy and Results
PDRMA	Atlas Mountains Rural Development Project
PRiME	Programme in Rural M&E
PSI(s)	Project-specific Indicator(s)
RIA	Research and Impact Assessment
RIMS	Results Management and Information System
SDGs	Sustainable Development Goals
SOs	Strategic Objectives
TCEP	Three Crops Extension Project
ToC	Theory of Change
TORs	Terms of Reference
USAID	United States Agency for International Development
VC	Value Chain
WB	World Bank

Core Outcome Indicators Measurement Guidelines (COI)

Context: need for more results-oriented reporting system

IFAD has a unique contribution to make to the achievement of the SDGs. It has a key role to play in ending rural poverty and hunger, addressing environmental sustainability and climate change, improving nutrition, empowering rural women and girls, creating opportunities for rural youth, and addressing the challenges of fragility and migration in rural areas. To do so, IFAD has agreed as part of IFAD 11 Commitments[1] to enhance its business model in order to ensure excellence in operations, accountability and results. In this context, the IFAD Development Effectiveness Framework[2] (DEF) was reviewed by the Executive Board in 2016. The need for better linkages between project M&E and corporate results reporting is one of the core priorities of the DEF, which offers a comprehensive and coherent approach for improving project monitoring and fostering the use of evidence in portfolio management.

The Core Indicators framework

The Results Management and Information System (RIMS) was set in 2003 as IFAD's primary mechanism for measuring and reporting results by projects at output, outcome and impact levels. It was revised in 2017 and replaced with the Core Indicators (CIs) framework[3] to make corporate results reporting more strategic, more robust, simpler and effectively mainstreamed in project M&E systems. The CIs consist of 1 outreach, 20 output and 22 outcome[4] indicators. These are mapped to the strategic objectives (SOs) and areas of thematic focus of IFAD Strategic Framework 2016-2025; they are also aligned with the Sustainable Development Goals (SDGs) defined in the 2030 Agenda. A core aspect of the CIs is that they are easily integrated into project logframes and can be aggregated across projects and countries to facilitate corporate reporting. CIs are mandatory whenever relevant to the project Theory of Change (ToC), and can be complemented by project-specific indicators (PSIs).

What is this guide?

This document is a guideline that lays out the mandatory methodology developed by IFAD for collecting timely and reliable data on CIs at the outcome-level at project baseline, midterm and completion stages. The methodology outlined in this document supersedes the RIMS rating-based assessments and the

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[1] (IFAD11/4/R.2/Rev.1)
[2] EB 2016/119/R.12
[3] Please refer to IFAD Report (2017): Taking IFAD's Results and Impact Management System (RIMS) to the Next Level (EC2017/96/W.P.7).
[4] 18 original ones plus one new indicator on nutrition (CI 1.2.9: Improved nutrition KAP), one new indicator on empowerment (CI IE.2.1. Individuals demonstrating an improvement in empowerment) and two new indicators on stakeholder feedback (CI SF.2.1: Satisfaction with project-supported services CI SF.2.2: Influence in decision-making in project-supported groups).

Annual Outcome Survey[5] (AOS). The guidelines provide a step-by-step explanation on how to plan for, design, conduct and analyze CIs outcome surveys over the project cycle. It is intended for staff of IFAD-funded projects and programmes and for technical consultants involved in the process.

Improving project monitoring and evaluation and fostering the use of evidence in portfolio management are necessary at all levels of results: outputs, outcomes and impact. Although these guidelines are meant to provide guidance on how to measure IFAD Core Indicators (CIs) at outcome level, they fall within a holistic approach for improving results measurement at all levels. The guidelines are indeed complementary to other sources of information or studies, such as impact surveys or project´s M&E systems.

Content

The guidelines are organized as follows. After the overview section, which highlights the key elements of the methodology, the guide details each step to be followed while preparing and conducting a COI survey at baseline, mid-term and completion.

STEP 1: Reviewing the project and determining the population of interest and the CIs. This section explains the main elements to review and analyse prior to building and conducting the survey itself, such as the ToC, the project logframe and the targeting strategy. Based on these elements, guidance is provided on how to identify the population of interest and the CIs in the logframe.

STEP 2: Building the questionnaire. This section presents the Core Outcome Indicators survey instrument (i.e. the CIs questionnaire and a guide to the questionnaire).

STEP 3: Designing the population sample. This section explains the key principles for a robust sampling design (i.e. how large and disperse the sample should be);

STEP 4: Conducting the survey. This section provides guidance on conducting the survey from planning to fieldwork and gives some tips to be borne in mind while conducting the survey.

STEP 5: Analyzing and reporting. How to conduct data analysis and further reporting out of the surveys.

The guidelines also include several appendices illustrating the guidelines and providing more detailed information:

I.   **COI Questionnaire Template and Guide**
II.   **Nutrition and Empowerment Indicators : Detailed Description and Measurement**
III.   **Outcome CIs Not Measured Through COI Questionnaire**
IV.   **Complementary Technical Information**
V.   **Free, Prior and Informed Consent and Questionnaire Form (FPIC)**
VI.   **TORs Template**
VII.   **Glossary**

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[5] The annual outcome survey (AOS) is a project M&E tool developed by the IFAD Asia and Pacific Division in 2009. It was designed as a quick and short questionnaire survey (no more than 20 closed questions) covering a small, random sample of project participants.

Objective:

The COI measurement guidelines provide a rigorous methodological framework that can be easily used by project teams to collect Core Outcome Indicators (COI) data and thus measure **attributable** changes in CIs through dedicated surveys.

Definition: Attribution Vs Contribution
Attribution means being able to establish a causal link between observed changes in project outcomes and a specific project intervention. Only through attribution, one can credibly claim that the impact of an intervention is due to the project. **Contribution** cannot infer any causation between the project and the outcome observed but can establish the extent to which a specific intervention has helped to achieve or was part of what caused the outcomes of interest.

The COI measurement guidelines are not only a useful tool for evaluation but also help projects monitor their progress. They also allow to assess changes occurring at the outcome level due to the project intervention and help projects obtaining early evidence of progress towards objectives, assessing whether or not the project is on the right track.

Why?

By measuring outcomes and impact, IFAD can better assess the effectiveness and value of its projects, and pinpoint where changes or improvements need to be made.

In the absence of mandatory harmonized guidelines, experience from IFAD projects shows that outcome indicators are not systematically reported on or that the data collected is not fully reliable. The use and strengthening of projects M&E systems is a key priority for IFAD and the COI measurement guidelines are intended to strengthen the outcome-assessment methodology of IFAD-funded projects.

Table 1: Indicators level and related measurement

Indicators level	Output	Outcome	Impact
Definition	Project deliverables, directly resulting from project´s activities	Change expected as a result of beneficiaries participation to the project	Mid and long term effects expected from the project
Measurement	Project M&E system	Dedicated surveys during project´s implementation	Impact assessment on 15 % of IFAD's portfolio Project Completion Report for 100% of IFAD´s portfolio

How?

Sample-based survey. Since it is too costly to survey the entire project outreach population, the COI measurement guidelines explain how to generate a study sample that is representative of the desired population.

Quantitative survey. The COI measurement guidelines recommend to collect data through quantitative surveys in order to measure and quantify the effects of project´s interventions.

Comparison group[6]. Sample-based surveys are intended to collect data on two differentiated groups over time: the treatment group (sample of beneficiaries) and the comparison group (sample of non-beneficiaries). Attribution can only be determined through surveys contemplating the existence of a treatment and a comparison group reflecting the situation with and without project´s intervention. Note that as part of the COI measurement guidelines, the comparison group is mandatory only at the project completion stage[7].

What?

The COI measurement guidelines include a template questionnaire (Appendix I) comprising questions intended to measure outcome-level CIs. The COI template questionnaire focuses on 18 (out of 22) Core Outcome Indicators, i.e. the COIs that are measurable and quantifiable through standardized written surveys administered in person to respondents and/or organizations. The questionnaire is divided into modules, aligned to IFAD's thematic areas of focus. It is meant to be flexible and adaptable to each project: only questions related to COIs reflected in the project logframes are to be selected from the exhaustive list. Additional questions for project-specific indicators may be added to the template as deemed relevant.
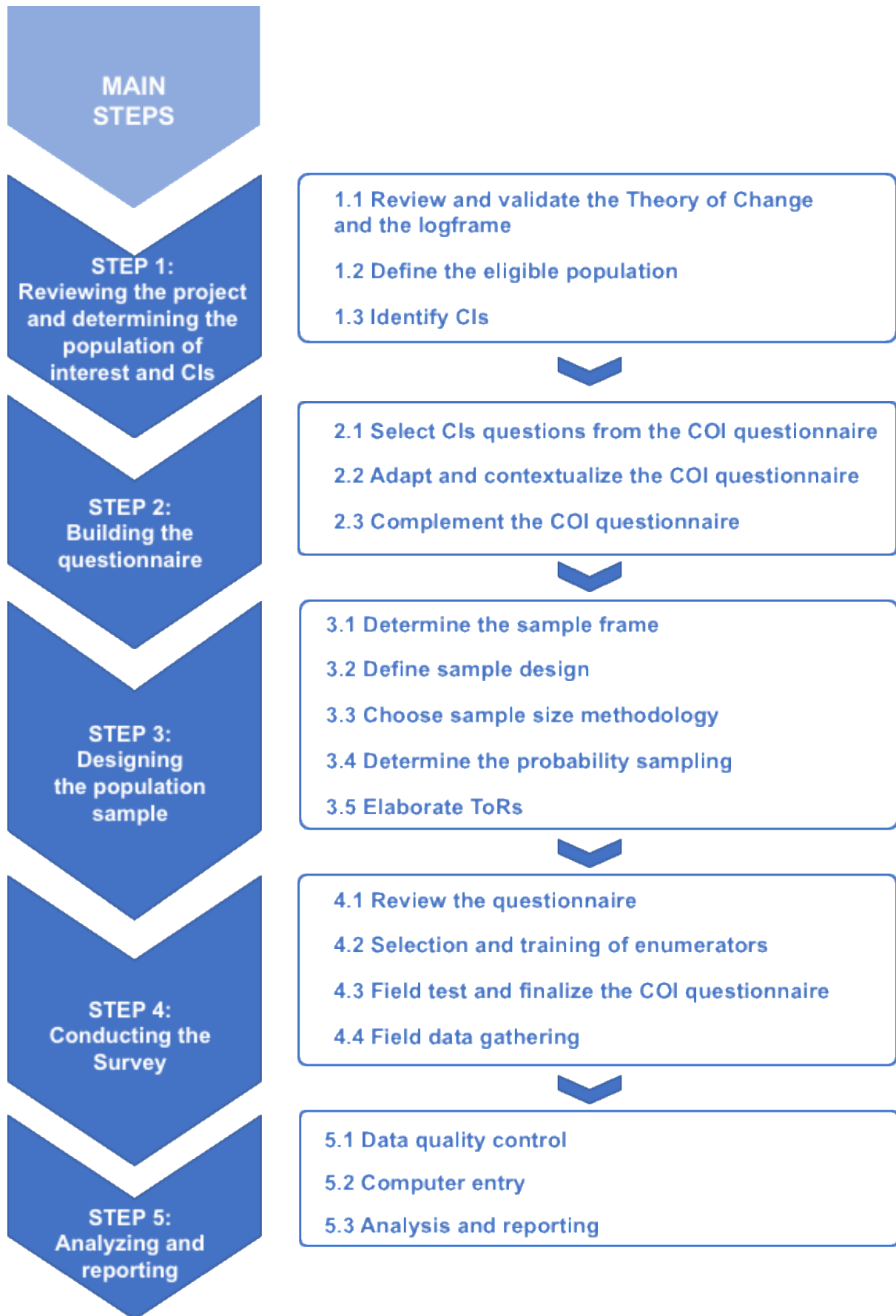
When?

In order to best capture the effects of a project, surveys are expected to be carried out three times over the course of its implementation[8]: at project baseline, mid-term and completion stages.

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[6] **The Comparison group** is the name given to the group of individuals not receiving the treatment or intervention in a quasi-experimental design, while the **control group** is the name of the group not receiving the treatment in an experimental design such as Random Control Trial. The COI measurement guidelines propose using a quasi-experimental design.

[7] Comparison groups are not mandatory at baseline and mid-term stages. Surveys including comparison groups at baseline and mid-term may be conducted if resources are available since they provide additional information for the analysis.

[8] The duration of IFAD projects is around 6 to 7 years. Complementary annual surveys may be carried out if deemed necessary the project team and if resources are available. However, those cannot substitute for the COI survey at baseline, mid-term and completion.

Chart 1: Main steps to develop and conduct a project-specific COI survey

MAIN STEPS

STEP 1: Reviewing the project and determining the population of interest and CIs

1.1 Review and validate the Theory of Change and the logframe

1.2 Define the eligible population

1.3 Identify CIs

STEP 2: Building the questionnaire

2.1 Select CIs questions from the COI questionnaire

2.2 Adapt and contextualize the COI questionnaire

2.3 Complement the COI questionnaire

STEP 3: Designing the population sample

3.1 Determine the sample frame

3.2 Define sample design

3.3 Choose sample size methodology

3.4 Determine the probability sampling

3.5 Elaborate ToRs

STEP 4: Conducting the Survey

4.1 Review the questionnaire

4.2 Selection and training of enumerators

4.3 Field test and finalize the COI questionnaire

4.4 Field data gathering

STEP 5: Analyzing and reporting

5.1 Data quality control

5.2 Computer entry

5.3 Analysis and reporting

5

1.1 Review and validate the project Theory of Change and logframe

Before collecting data, a solid understanding of the purpose of the project to be assessed is needed. Each project should have a theory of change that identifies the development problem to be addressed, the underlying causes of that problem, the investments and activities to address these causes and the desired outputs, outcomes and impact. A Theory of Change explains how and why change is expected to happen with the project. It articulates the causal chains and spells out the assumptions which could affect the progress of the project which are not under the control of the implementers. It is a visual, structured way of outlining the steps needed in order to achieve project results[9].

The logframe should adequately reflect the theory of change, and the impact pathway between investments and activities through outputs, outcomes and impact should be made clear. The review and validation of the ToC and the logframe might have been carried out prior to the COI survey, it is then unnecessary to go through the whole process again; the review might then focus on the key assumptions and validation of the logframe targets.

The review of the logframe also provides an opportunity to ensure IFAD mainstreaming themes[10] and corporate commitments[11] are adequately integrated into the logframes and reflect the project´s approach (see Table 2 below).

Definitions

The **Theory of Change** (ToC) illustrates the causal pathways that are expected to be activated by projects' inputs and activities and the related outputs in order to achieve intended outcomes and impacts. A ToC also determines the underlying assumptions made for achieving the expected changes and considers unexpected results and factors which may influence the project [12].

The **Logframe** is a key element of project planning and design, setting the indicators the project results will be measured against, and their related targets. During project implementation, the Logframe is used to monitor performance versus set targets, and helps assess whether the project is moving forward as planned.

➤ **As a preliminary step and if not done already, the project team, in coordination with IFAD should review and validate the project´s ToC and logframe.**

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[9] Source: PRiME: Programme in Rural M&E, IFAD, CLEAR and CIDE (https://www.primetraining.global)
[10] Source: IFAD 12 Mainstreaming paper and Annexes VI and VII of IFAD Project Design Guidelines (https://xdesk.ifad.org/sites/opsmanual/index#/investmentprojects/design)
[11] Source: IFAD Increasing Transparency for Greater Accountability Action Plan, EB 2019, (https://webapps.ifad.org/members/eb/126/docs/EB-2019-126-R-36.pdf)
[12] Definition based on RIA's impact assessment plan and DAC OECD glossary: https://www.oecd.org/dac/evaluation/2754804.pdf

Table 2: Mainstreaming themes and CI requirements

Mainstreaming themes and corporate commitments		Related indicators	Use and requirements
Climate Finance	**Adaptation**	**OUTPUT** CI 1.1.1: *Number of beneficiaries gaining increased secure access to land [13]* CI 3.1.1: *Number of groups supported to sustainably manage natural resources and climate-related risk* CI 3.1.2: *Number of persons provided with climate information services* CI 3.1.4: *Number of hectares of land brought under climate-resilient management* **OUTCOME** CI 3.2.2: *(Number) Percentage of persons/households reporting adoption of environmentally sustainable and climate-resilient technologies and practices* CI 3.2.3: *(Number) Percentage of persons/households reporting a significant reduction in the time spent for collecting water or fuel*	At least one of the following CIs The higher the share of adaptation finance, the more intervention-appropriate indicators may be selected
	Mitigation	**OUTPUT** CI 3.1.3: *Number of persons accessing technologies that sequester carbon or reduce greenhouse gas emissions.* **OUTCOME** CI 3.2.1: *Tons of Greenhouse gas emissions (tCO2e) avoided and/or sequestered.*	If Appropriate Mandatory
GENDER Transformative		**OUTREACH**: disaggregated by sex **OUTCOME**: *CI IE.2.1:Individuals demonstrating an improvement in empowerment*	Mandatory Mandatory
Nutrition sensitive		**OUTREACH**: disaggregated by sex and youth **OUTPUT**: CI 1.1.8: *Households provided with targeted support to improve their nutrition.* **OUTCOME**: CI 1.2.8: *Percentage of women reporting minimum dietary diversity (MDDW[14])* CI 1.2.9: *Percentage of households with improved nutrition Knowledge Attitudes and Practices (KAP)*	Mandatory Mandatory At least 1 Outcome CI mandatory
Youth sensitive		**OUTREACH**: disaggregated by sex and youth	Mandatory
Stakeholder Feedback		**OUTCOME:** *CI SF.2.1: (Number) Percentage of households satisfied with project-supported services* *CI SF.2.2: (Number) Percentage of households reporting they can influence decision-making of local authorities and project-supported service providers*	Both mandatory in projects logframes approved from December 2020 onwards

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[13] In IFAD12 this Indicator supersedes CI 1.1.1 Persons whose ownership or user rights over natural resources have been registered in national cadasters and/or geographic information management systems.

[14] MDDW stands for Minimum Dietary Diversity for Women and is a measure diet quality

1.2 Define the eligible population

Targeting strategy: IFAD's mandate defines its "target group" as rural people living in poverty and food and nutrition insecurity in developing countries, with a special focus on women, youth, minorities, indigenous and disabled people. Each project defines its own targeting strategy according to its objectives, leading to the definition of the project' selection criteria that determines the eligible population.

The targeting strategy is usually defined at project design stage and then validated at start-up. However, it might evolve during implementation (for instance, because of reduction of geographical scope, abandonment of selected value chains, etc.). In any case, the targeting strategy must be available by the time of the baseline survey and may need to be revised at project mid-term and completion stages. The targeting strategy should clearly define who are the different groups targeted for each of the project activities and whether the beneficiaries of various activities might overlap. It is also very important to clarify the project targets in terms of specific groups' participation, such as women, youth and indigenous people for instance. The availability of a clear and detailed targeting strategy is indeed critical to build a solid sample frame[15].

Example: PDRMA targeting strategy in Morocco (simplified)

Selection criteria for eligible population:
- **Geographical:** Provinces of Ouarzazate, Tinghir, Midelt, Khénifra and Beni Mellal in the Atlas;
- **Social:** Communities with high incidence of poverty, 50% of women and 40% of young people;
- **Land ownership:** Less than 2 ha of irrigated land OR less than 10 ha of rain-fed land;
- **Value chain:** Apple trees plantation, potato cultivation or safran production

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➢ **Project staff, in coordination with IFAD should review and validate the project targeting strategy and define clear selection criteria.**

Eligible population or population of interest: The eligible population represents all people that fulfil the set of selection criteria defined by the project. In the COI template questionnaire, the word ¨unit¨ might refer to individuals, households or broader groups e.g. producers organizations, rural enterprises or cooperatives.

Within the eligible population, some people will receive project services (beneficiaries) while others will not receive the treatment (non-beneficiaries).

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[15] Definition in Appendix VII: Glossary

Chart 2: Eligible and Non-Eligible population
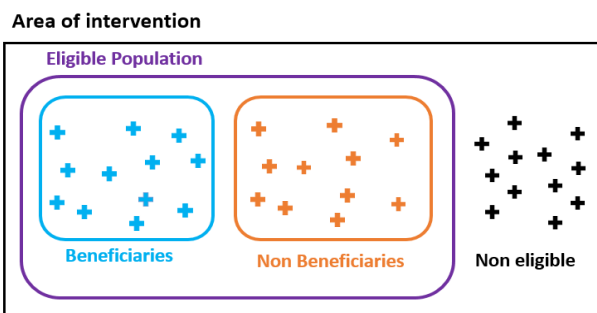
> ➢ **Project staff should define the eligible population based on the selection criteria of the targeting strategy.**
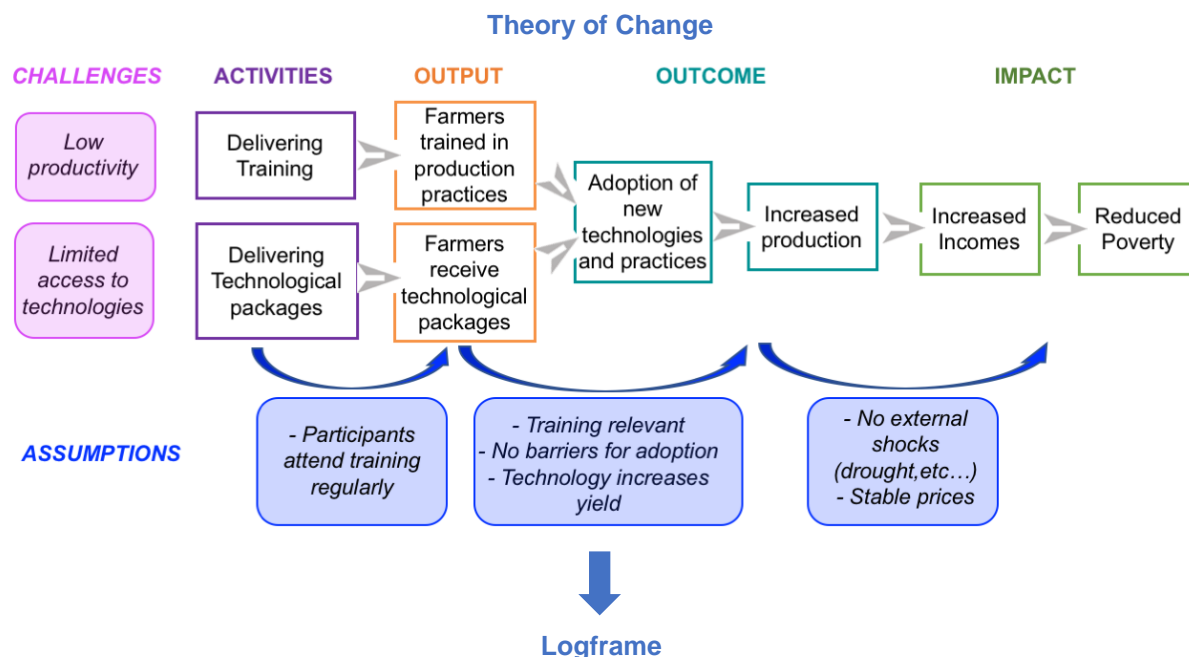
1.3 Identify CIs

Logframes should incorporate CIs that are relevant to the measurement of a project outputs and outcomes and that provide relevant information on its ToC. However, CIs do not aim to capture the full richness and vastness of IFAD's interventions. Indeed, in any given project, CIs may need to be complemented by project-specific output, outcome and impact indicators to measure specific results that cannot be adequately captured by the CIs.

> ➢ **The review and validation of the project ToC and logframe should lead to the identification of the project CIs.**

The identification of the relevant CIs to be assessed is key for the elaboration of the questionnaire (see STEP 2: Building the questionnaire).

Example : From ToC and Logframe to CIs

Theory of Change

CHALLENGES **ACTIVITIES** **OUTPUT** **OUTCOME** **IMPACT**

Low productivity

Limited access to technologies

Delivering Training

Delivering Technological packages

Farmers trained in production practices

Farmers receive technological packages

Adoption of new technologies and practices

Increased production

Increased Incomes

Reduced Poverty

ASSUMPTIONS

- Participants attend training regularly

- Training relevant
- No barriers for adoption
- Technology increases yield

- No external shocks (drought,etc…)
- Stable prices

Logframe

Results hierarchy	Indicator		Means of verification			Assumptions
	Name	Target	Source	Freq.	Resp.	
Goal: Reduced poverty	Poverty reduced by x% in the project area	x %	Survey	Baseline and Completion	Project team	No external shocks
Development Objective: Increased Incomes	Percentage of farmers reporting increased agricultural incomes of at least xx%	x %	Survey			Stable prices
Outcome1: Adoption of new technologies	CI 1.2.2: Percentage of persons reporting adoption of new/improved inputs, technologies or practices	x %	COI survey	COI survey at Baseline, Mid-term and Completion	Project team	Training relevant No barriers for adoption
Outcome 2: Increased production	CI 1.2.4: Percentage of persons reporting an increase in production	x %	COI Survey			Technology increases yield
Output 1: Farmers trained in agricultural practices	CI 1.1.4: Farmers trained in production practices	Nb	M&E system	Continuous	Project team	Participants attend training regularly
Output 2: Farmers receive technological packages	CI 1.1.3: Farmers accessing technological packages	Nb	M&E system	Continuous		

This is a simple example using CIs, but in practice, it is likely other activities are carried out by the project, thus resulting in other outcomes, all contributing to the goal.

This section presents the Core Outcome Indicators (CIs) survey instrument (e.g. the COIs template questionnaire and guidance for the elaboration and adaptation of the questionnaire).

> **Definition: Household**
>
> A household can be defined as a group of individuals that eat together and share a common budget. This includes all members that live in the same dwelling, compound or close by. Members of a household do not need to be related by blood or marriage. If the household is polygamous, more than one spouse may be included if the spouse and associated household members eat together from the same pot and share a common budget. Spouses of the household head that do not eat together and do not share a common budget should not be included. Members that live elsewhere (e.g., students at boarding school, people who have migrated temporarily) may still be included if they share a common budget. If a household member (excluding students) has been away for more than 6 months, s/he should not be included. Note that sharing remittances does not constitute sharing the same budget.

The definition of a household can vary depending on the local realities and it is important to verify it on the ground. For example, in some contexts, a household is best defined as a group of individuals who share the "same kitchen."

2.1 Select CIs questions from the COI template questionnaire

The COI questionnaire is meant for a quantitative survey and thus only deals with 18 out of the 22 Core Outcome Indicators which are measurable through standardized written surveys that can be administered in person to respondents and/or organizations (See Appendix I for detailed COI template questionnaire).

The questionnaire template is divided into 10 specific thematic modules. The core modules – Household roster and Housing and Assets modules- include demographics and background socio-economic characteristics. They are not directly related to any COI but are essential both to contextualize the survey and to determine the validity of the comparison group. The thematic modules are project-specific and mirror the theory of change and logframe.

The table below illustrates the relevant Core Outcome Indicators measured by each module. In some cases, outcome indicators are derived from an aggregation of a set of questions. The table also indicates the unit to be surveyed for each indicator. For most indicators, the survey unit corresponds to the household. However, for CI 1.2.8. *Women reporting minimum dietary diversity (MDDW)*, the questions should be addressed to a woman between 15 to 49 years old (Women of reproductive age): this part of the population is often the most nutritionally vulnerable within the household and so its nutritional

situation can be used as a proxy[16]. Module [I] of Rural Enterprises should be conducted at household level but has to be applied to respondents involved in rural enterprises promoted by the project. Finally, Module [J] of Producer Organizations is not conducted at household level but should be applied to producer organizations supported by the project and related questions should be addressed to a resource and knowledgeable person regarding the producer organization in question.

Regarding IFAD Empowerment indicator (*CI IE.2.1: Individuals demonstrating an improvement in empowerment*), the survey unit also corresponds to the household although the sex of the respondent matters in this case; it is indeed important to ensure that the proportion of women and men respondents reflects the proportion of women and men targeted by the project (*OUTREACH CI 1: Number of persons receiving services promoted or supported by the project*).

> **Based on the selection of the outcome CIs identified in the project logframe, the questionnaire automatically generates the associated mandatory questions to be administered in person to respondents.**

Table 3: COI modules and list of Core Outcome Indicators

Module	CI OUTCOME *(short name)*	UNIT SURVEYED
[A] Household Roster	Identification and demographics:	Households
[B] Housing And Assets [B1] Housing [B2] Assets	Household characterization	Households
[C] Production And Natural Resources [C0] Farm Information [C1] Crop [C2] Livestock [C3] Fishery	1.2.1. Improved access to resources for production purposes	Households
	1.2.2. Adoption of inputs/tech/practices	Households
	1.2.3. Reduced water shortage	Households
	1.2.4. Increase in production	Households
[D] Processing And Market Access	2.2.6. Improved physical access to markets, processing and storage facilities	Households
[E] Financial Services	1.2.5. Use of rural financial services	Households
[F] Nutrition [F1] Nutrition Background [F2] Diet Diversity [F3] KAP	1.2.8. Women reporting minimum dietary diversity (MDDW) 1.2.9. Improved nutrition Knowledge Attitudes and Practices (KAP)	Women (15-49) in Households Households
[G] Environmental Sustainability And Climate Resilience	3.2.2. Adoption of environmentally/climate resilient technologies or practices	Households
	3.2.3. Reduction of time spent for water/fuel collection	Households

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[16] Source: MDDW, a guide to measurement, FAO and USAID, 2016 (http://www.fao.org/3/a-i5486e.pdf).

[H] Participation and Empowerment [H1] Access and use of Services [H2] Group Membership and Influence [H3] Time Allocation [H4] Autonomy In Decision-Making [H5] General Self-Efficacy Scale [H6] Attitudes About Domestic Violence	SF.2.1. Satisfaction with project-supported services SF.2.2. Influence in decision-making of local authorities and project-supported service providers IE.2.1. Improvement in empowerment	Households
[I] Rural Enterprises	2.2.1. Jobs created	Supported rural enterprises at HH level
	2.2.2. Rural enterprises with increase profit	Supported rural enterprises at HH level
[J] Producer Organizations	2.2.1. Jobs created	Rural producers´organisations
	2.2.3. POs engaged in partnership/agreement/contract	Rural producers´organisations
	2.2.4. New/improved services from POs	Rural producers´organisations
	2.2.5. POs with increased sales	Rural producers´organisations

Four Core Outcome Indicators[17] are not captured by the COI questionnaire. Their measurement require different data systems and tools (see Appendix III for indications).

2.2 Adapt and contextualize the COI questionnaire

Adaptation of the COI questionnaire: The COI questionnaire is to be used as a template and requires adaptation for each project:

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[17]These four COIs are:
Inclusive financial services: Outcome indicator 1.2.6: (Number) Percentage of partner financial service providers with portfolio-at-risk ≥30 days below 5% and Outcome indicator 1.2.7: (Number) Percentage of partner financial services providers with operational self- sufficiency above 100%.
Environmental sustainability and climate change: Outcome indicator 3.2.1: Tons of Greenhouse gas emissions (tCO2e) avoided and/or sequestered
Policy: Policy 3: Number of existing/new laws, regulations, policies or strategies proposed to policy makers for approval, ratification or amendment.

▪ The survey **reference period**[18] needs to be adapted depending on the project timeline and refers to the reference period about which the survey questions apply. For most questions the recommended reference period corresponds to "*the last 12 months*" (See table on Recommended reference period in Appendix I: COI questionnaire template and guide). The questions are indeed formulated in a certain way allowing comparison between surveys;

▪ However if no baseline data are available, **recall questions** should be added and the reference period might need to be adapted[19]. In cases where there is a significant time lag between the beginning of the project and the midterm survey, a landmark event in the region/country can be used as an anchor for the reference period. This will assure that respondents provide answers for the same period of reference;

▪ Note that since the COI questionnaire aims at collecting data on CIs at the outcome-level for both the treatment and comparison group and at different **project stages** (baseline, mid-term and completion), questions will be selected in the questionnaire according to the group interviewed and the stage of the project[20];

▪ **Consistency check questions** might also be included in the questionnaire, especially regarding key outcome questions, in order to ensure the accuracy and reliability of the answers provided. For instance, regarding crop production (CI.1.2.4), the template questionnaire (question C.1.14) refers to the quantity of crop harvested on the plot. Consistency check questions might then refer to the average yield per unit of area and the size of the plot/cultivated area.

➢ **Project staff in coordination with IFAD team define the reference periods and adapt the questionnaire according to the stage of implementation (baseline, mid-term and completion).**

Contextualization: Questions and response options also need to be contextualized prior to being fielded:

▪ Response options for ethnicity, religion, name/type of livestock/crop, types of food, definition of household, etc. might vary based on project location. The same applies for Local Currency Units (LCU) which should be replaced with the currency used in the project area. At the end of the questionnaire, the option codes should be revised accordingly;

▪ Project activities: some questions refer directly to specific activities delivered by the project (e.g., technological packages and training provided, financial products or services promoted, etc.). For each such question, the list of specific activities provided by the project should then be contextualized;.

▪ Diversity of projects and contexts: ssince the COI questionnaire template is quite standard and cannot capture all the diversity of IFAD-funded projects, some questions might need to be rephrased.

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[18] The reference period is the time frame for which survey respondents are asked to report activities or experiences of interest.
[19] Please note that this may not work for the CI 1.2.8: Women reporting MDDW, which is a 24 hr recall a longer time lag may lead to inaccurate data since the respondents may not remember what they consumed
[20] For instance, at baseline stage, there is no need to ask questions regarding participation to IFAD-financed project´s activities such as *B.1.1: Did you or anyone in the HH receive [production inputs and/or technological packages from IFAD: define according to project]?* or *B.1.2: Did you or anyone in the HH participate in [training on production practises and/or technologies defined according to project]?*

For instance, the questions example provided in the template COI questionnaire regarding livestock production are meant for large livestock for meat production purposes. These questions (C.2.16 to C.2.27) should then be adapted according to the type of livestock and of production under consideration.

The CIs-related questions included in the questionnaire should always remain the same when relevant to a particular group or stage of the project although adaptation and contextualization might be necessary. Proposed modifications should be submitted for IFAD´s approval, through the presentation of a draft questionnaire, in order to ensure consistency of the CI reporting. The elements and questions requiring adaptation and/or contextualization are highlighted in yellow in the template COI questionnaire (see Appendix I of the guidelines).

> ➢ **Project staff in coordination with IFAD team takes into account the project' specific context and adapt the questionnaire accordingly.**

2.3 Complement the COI questionnaire

The COI questionnaire is conceived as an adaptable survey tool with a modular approach. It allows adding optional modules and questions based on project specificity and the desired level of analysis.

Targeting strategy and specific targeting aspects (gender, youth, indigenous people, disabled population). IFAD projects target specific vulnerable groups of the population in order to leave no one behind. Targeting criteria need to be included in the COI questionnaire to ensure that the survey is applied to the desired population. Specific questions and modules also have to be added to capture specific targeting aspects such as gender, youth, indigenous people, etc. (see Appendix II on Nutrition and Empowerment indicators: detailed description and measurement).

Project Specific Indicators (PSI) at outcome level: CIs provide a general but limited snapshot of IFAD-supported activities and are meant to be further aggregated across projects, countries and regions for corporate reporting. CIs may be complemented in the logframe by project-specific indicators which are designed to measure specific results that may not be adequately captured by the CIs (for instance, an outcome indicator such as of income diversification). Even though PSIs are not aggregated for IFAD corporate reporting, it is important for projects to also monitor and report on those indicators in their logframes. The COI methodology is robust and flexible enough so as to be complemented to measure such outcome PSIs. To do so, the project should add outcomes PSIs-related questions to the COI questionnaire.

Impact-related questions: Projects usually include impact indicators in their logframe and should report on them at completion in the Project Completion Report even if they are not part of the subset of projects subject to rigorous RIA impact assessments (15% of IFAD projects). The same logic applies here as for the outcomes PSIs; Impact-related questions might be added to the COI questionnaire at

baseline and completion in order for the project to report on the impact achieved at the end of project implementation.

Fragility context (manmade and natural disasters): Since IFAD targets the most vulnerable population, IFAD projects are often implemented in fragility contexts. The COI questionnaire should then be complemented by questions related to possible fragile situations in order to capture the specific context of implementation and so as to better understand the effects of fragility on the project results.

For example, while projects in areas exposed to substantial climate change and variability would be expected to include climate-resilience building measures, the occurrence of extreme climate events (such as droughts, floods, heatwaves, hurricanes, wildfires) during project implementation may still undermine productive activities and impact beneficiary households. Other drivers of fragility, such as natural hazards (earthquakes, volcanic eruptions) or conflicts occurring during project execution may affect project delivery.

Participation in other development initiatives. It is likely that during the project life, other development interventions occur in the same area of intervention. IFAD´s projects and other projects´ beneficiary populations are thus likely to overlap. This does not mean that specific effects of projects cannot be attributed to IFAD but it may have implications on the comparison group. This implies that the latter needs to be carefully built in order to take such instance into account. To do so, the COI questionnaire should include questions regarding the participation of the respondents to other projects/programs. This information will help building a rigorous comparison group against the treatment group. Please note that the questions related to other projects should refer to the type of interventions rather than the name of the intervention in order to avoid confusion for respondents.

Qualitative surveys. In addition to the COI quantitative surveys, other methods can be employed to enrich the analysis and further reflect on aspects which might not be entirely captured through quantitative questions. Qualitative analysis are particularly useful in order to assess and understand positive and negative unintended and/or unanticipated effects resulting from the project. Qualitative structured or semi-structured interviews, focus groups, observations or participatory perception surveys can be conducted in addition to the COI survey. In order to spare resources (time and budget) and increase coordination and linkages, quantitative and qualitative surveys might be conducted through the same tender/procurement process and implemented simultaneously.

➢ **Project staff in coordination with IFAD team complete the COI questionnaire in order to take into account the project' specificities: PSIs, impact-related questions, fragility context, other development initiatives, specific targeting strategies.**

STEP 3: Designing the population sample.

Prior to collecting data on Core Outcome Indicators, the most appropriate process must be chosen. In selecting the best method for data collection, different factors should be considered: i) the type of information needed to measure a given indicator; ii) the resources available in terms of staff, time, and budget; and iii) cultural appropriateness, i.e., how well the method fits the language, norms and values of the individuals and groups from whom one intend to collect data.

Since it is not possible to survey the entire population for cost and time considerations), a representative sample of the desired population[21] should be defined prior to conducting the survey. The sample design refers to the strategy followed for selecting who should be surveyed so as to generate a study sample that is representative of the targeted population as a whole.

Definition: Representative and random sample

A random sample is expected to produce a **representative sample**, meaning that it looks identical in characteristics to the larger desired population. A random sample is defined as a sample where each individual member of the desired population has a known, non-zero chance of being selected as part of the sample. Each individual is chosen randomly and entirely by chance.

This section explains the key principles for a robust sample design. The project staff has to come out with major decisions on key aspects of the sample design while an external service provider can be hired at a later stage to elaborate a more detailed methodology and to implement the survey based on the project main recommendations.

3.1 Determine the sample frame

The **sample frame** is the **list of all the units in the desired population** from which random samples of units are selected to build the survey samples over the project cycle. Based on the information available, these units should be crossed with the main characteristics of the desired population. (e.g., geographical location, farm type, main products, etc.). To build such a list of units (sample frame), the project relies on its M&E system which should register data on beneficiaries and households supported by the project.

To ensure the representativeness of the sample, many factors should be taken into account based on a good understanding of the targeting strategy. It should clearly define who are the different groups targeted or each of the project activities and how the beneficiaries might overlap. The project targets in terms of specific groups' participation, such as women and youth for instance, also have to be taken into account. It is indeed important to ensure that the proportion of women and men in the sample

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[21] The desired population is a generic term representing the population from which the sample is drawn. For instance the desired population corresponds to the group of beneficiaries at baseline (when beneficiaries are identified).

reflects the proportion of women and men targeted by the project (*OUTREACH CI 1: Number of persons receiving services promoted or supported by the project*). All these elements have to be adequately reflected in the sample.

However, when defining the sample frame **at baseline**, projects might not have yet fully identified the beneficiaries. The project staff should thus gather and analyze data on potential beneficiaries (eligible population) related to the selection criteria (e.g., geographical location). Data on potential beneficiaries may be collected through different sources:

- To facilitate the drawing of the sample within the eligible population, a listing of potential beneficiaries can be conducted in the field. Basic information from each household in the enumeration area will be collected, taking, on average, no more than 5 minutes per household to assess household eligibility, basic demographic and contact information. The household sample will then be constructed on the basis of this listing. An initial identification and selection of enumeration areas may also be required, for instance, the preliminary listing could be done only on the primary cluster (if clusters are defined in the sampling design). This listing might be carried out by the project directly or by the service provider selected to carry out the survey (and this task should then be included in the TORs). However, it is recommended that the preliminary listing be carried out by the project staff since this will help refine the project targeting strategy;
- For nation-wide projects, secondary data (if and when available) should be used to obtain such listing. Secondary sources include households surveys, population and agricultural census.

Example: Beneficiary Listing Strategy – TCEP Project, Liberia

TCEP is under implementation in eleven statutory districts in Nimba County. The project is expected to reach 11,000 beneficiaries in cocoa value chain. Of these, 8000 will be cocoa smallholders, who are members of Kuu groups and Farmers Field Schools (FFS), 2400 additional farmers, who will also benefit from the rehabilitated roads, input supply and market linkages, and 600 people who will benefit as a result of job creation along the value chain.

The listing of beneficiaries was based on the following conditions: (i) participants must be resident in the area; (ii) have a cocoa plantation that requires revitalization; (iii) be members of a Kuu group; (iv) be willing to revitalize his/her plantation and accept the conditions set forth by the project, namely to provide the required labour and to adopt the project approach. Additional priority was given to: (a) higher productive cocoa communities; (a) women-headed households and female farmers; (b) young farmers between 18 and 35 years old; and (c) survivors of the Ebola Virus Disease. Between September and October 2019, in all eleven districts, potential beneficiaries were profiled and registered by name, location, sex and age group. The final list worked as a sampling frame for the baseline survey sample consisting of 732 cocoa smallholders.

This data gathering and analysis also applies to the selection of the comparison group at completion stage.

> ➢ **Based on available information, project staff should build a list of all units and provide all available information related to the selection criteria.**

3.2 Define sample design

Treatment and Comparison group[22]

As explained above, the COI measurement guidelines intend to establish attribution, which means that the survey should contemplate a treatment and a comparison group. The treatment and comparison groups are the units selected to be surveyed and they are a subset of the beneficiaries and non-beneficiaries population respectively.

Note that the comparison group is mandatory only at the project completion stage.

Definitions:

Treatment group

A treatment group is a group of households who received project services . It is compared to the group which did not receive project services (comparison group) in order to analyze the effects of the projects interventions. Besides whether receiving or not project services , the treatment group is similar to the comparison group in their baseline characteristics.

Comparison group

A comparison group is a group of households who are not benefitting from project interventions. Including a comparison group allows to compare households participating in the project with similar characteristics at baseline to households who do not receive project support. The comparison group provides information on whether the changes for participating households might have happened regardless of project interventions. Known as the counterfactual, it indicates the degree to which changes for project households can be attributed to project interventions.

Treatment and comparison groups should be similar in the following ways:

- On average, characteristics (livelihoods and socio-economic profiles) of treatment and comparison groups should be the same at baseline;
- Treatment and comparison groups should react to the program in the same way;
- The two groups cannot be exposed to other interventions differentially during the evaluation period.

The treatment and comparison groups should be as similar as possible at baseline and fulfill the same project targeting criteria, to ensure that results are attributable to the project´s interventions. The external factors (social, economic, political, etc.) affect both the treatment and the comparison groups and in a similar way. This is why a comparison group is required in order to distinguish results deriving from project interventions from those resulting from external factors.

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[22] **The Comparison group** is the name given to the group of individuals not receiving the treatment or intervention **in a quasi-experimental design**, while the **Control group** is the name of the group not receiving the treatment in an **experimental design** such as Random Control Trials. The COI measurement guidelines describes a quasi-experimental design.

However, it may not always be possible to find comparison households within the project area because either of the project benefitting nearly all the households in the area (project saturation or because of spillover effects (non-beneficiaries being affected by project activities). In fact, some project interventions indirectly benefit households that are not directly participating in project activities for example through knowledge dissemination (adopting technologies from their neighbor who was supported by the project) gaining access to infrastructure and market opportunities created by the project, etc.). The comparison group will then need to be drawn from neighboring areas with similar economic conditions and livelihood opportunities to that of the project targeted areas.

Evaluations of agricultural and rural development projects face specific challenges and participants are often not randomly assigned[23] for ethical and political reasons. Quasi-experimental approaches are then used to construct treatment and control groups to be able to evaluate development projects (see Appendix IV: Complementary technical information, for brief presentation of main quasi-experimental approaches).

Panel data structure

The panel data structure is the recommended sample design for Core Outcome Indicators surveys. Surveys are conducted at three points in time (baseline, mid-term and completion) on the same population units (hence a panel of households and individuals): at the beginning of the project implementation to establish a baseline, at mid-term to monitor changes in outcomes, and at the end of the project to assess final outcomes. The panel data structure tracks more accurately changes that have occurred, reduces variability and allows to better capture outcomes and impact of project intervention over the course of the project implementation.

In a panel data structure, it is important to repeat the same questions at the different stages of the project life (baseline, mid-term and completion) to be able to compare the data.

However, the COI measurement guidelines are flexible and projects might choose another sampling method, such as cross-sectional data structure, upon justification and IFAD's approval (OPR: Operational Policy and Results Division).

For instance, in contexts of conflict or of population displacement, it might be very difficult to survey the same units overtime. In addition, continuous monitoring of a number of selected households may result in project staff giving more support to these households – and the households themselves making greater efforts – with the result that these sample households become unrepresentative.

Throughout project implementation, some households happen to drop out due to various factors such as out-migration, livelihood change, or else – this is the attrition factor. In a panel data structure, data collection procedures involve carrying out baseline and follow-up surveys (e.g. at mid-term and completion) for the same farmers.

A correction for non-response/attrition is thus needed. The attrition rate refers to the number of farmers that cannot be interviewed in the follow up survey because they are not found by interviewers. There are two main approaches to take attrition into account: (i) by increasing the sample size by a percentage

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[23] Random assignment means that treatment status is randomly determined for each unit. *Examples*: lottery, picking names out a hat, coin toss (see Appendix VII:Glossary).

that would potentially account for the possible loss (5 to 25% attrition rate contingent on the context) and (ii) by adjusting for non-response through statistical modelling after the data collection is completed.

Chart 3: Panel data structure
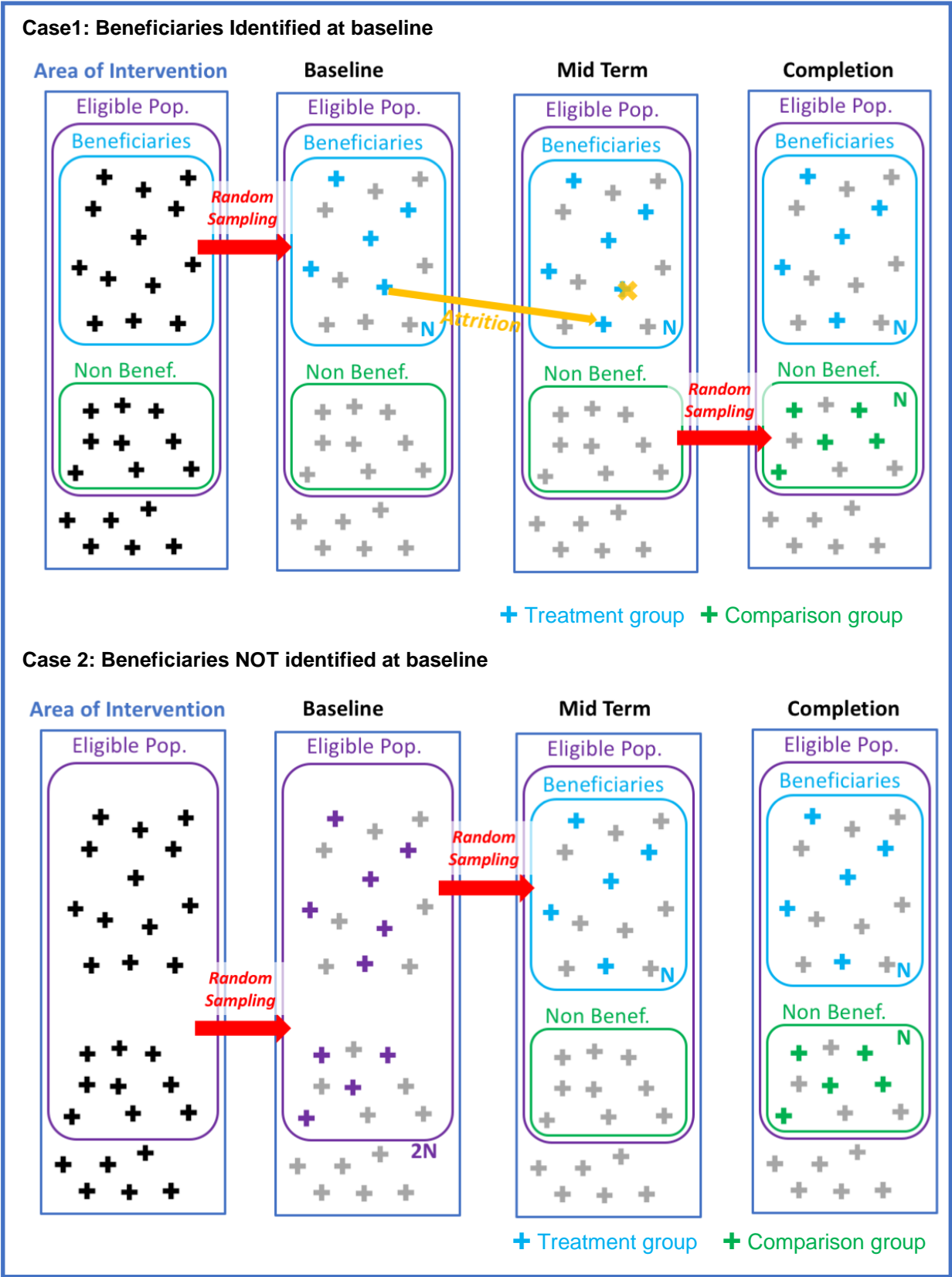
➤ **Choose sampling method and define use of comparison group according to project´s characteristics and stage of implementation**

3.3. Choose Sample size methodology

The sample size refers to the number of households to be included in the survey and defines how many observations are enough to be able to detect significant effects in the variable of interest. The sample size is referred to as N. These are defined through the use of a statistical formula or the application of the Rule of Thumb.

Sample size formula

An appropriate sample size for a population-based survey is determined largely by three factors:

(a) **Effect size:** the expected difference in the variable (COI indicator) with and without intervention or the difference between the treatment and the comparison group in the variable of interest;

(b) **Variance:** How variable is the effect, how wide of the range of difference you expect and

(c) **Confidence level:** How sure you want to be (95% generally).

To ensure sufficient statistical power to identify project outcomes and impact, statisticians rely on a power formula to define the size of the sample. It requires a fair amount of information.

IFAD recommends the use of the World Bank power formula[24]:

$$N = \frac{4\sigma^2(z_\alpha + z_\beta)^2}{D^2}$$

The key quantities are the following:

D – the effect size is the impact on the outcome variable measured as a difference in means. Note that in a contribution-based study, this will be based on the difference in the outcome *before* and *after* the project intervention; in an attribution-based study, it will be the difference between the treatment and the comparison groups outcomes, i.e., *with* and *without* the project intervention.

σ² – the variance ('Sigma') in population outcome metric; or how wide of a range of differences you expect in the outcome that you will measure (changes in income). This can be difficult to calculate – the best way is to have secondary data or data previously collected (national household survey, project assessment, piloting data, data from previous projects, etc.).

z – The values of z are taken from a table depending on the values of α and β

α – relates to "type I error"

β – relates to "type II error"

The technical details are presented in Appendix IV: Complementary Technical Information.

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[24] World Bank. 2007. Data for Impact Evaluation. Doing Impact Evaluation N.6, Washington, D.C.: WB

The use of a different formula for the determination of the sample size should be justified and submitted to IFAD's approval (OPR: Operational Policy and Results Division).

OR

Rule of Thumb

Instead of the exact sample size calculation, project teams could also choose to survey a fixed sample. This is because a general rule of thumb could be applied whereby it is advised that at least 750 units per group are selected. This means that the COI survey would sample **750 treated units** and **750 comparison units**.

The size of the sample is not proportional to the size of the project, which is why the rule of thumb might apply to projects of different size: the 750 units represent the minimum number of units to be surveyed.

Practical enforcement

Once the required number of observations is obtained from the formula, this number is doubled if one needs to sample comparison and treatment groups as both groups should be of equal size.

Even though not the preferred approach, beneficiaries might not be identified at the beginning of the project when the baseline is carried out. It is thus not possible to conduct the baseline survey on the treatment group only. The baseline survey-sample should thus be drawn from the eligible population, considering increasing the sample size to ensure that it contains sufficient treatment units. At mid-term and completion, once beneficiaries are identified, the survey-sample is adjusted to the 750 treatment units stated by the Rule of Thumb (see Table 4 and chart below).

Table 4: Sample size calculation according to the stage of the survey

Stages:			Baseline	Mid-Term	Completion
Sample size calculation	Beneficiaries **identified** at baseline	Formula	N treated units	N treated units	N treated units + N comparison units
		Rule of Thumb	750 treated units	750 treated units	750 treated units + 750 comparison units
	Beneficiaries **not identified** at baseline	Formula	2N eligible units	N treated units	N treated units + N comparison units
		Rule of Thumb	1500 eligible units	750 treated units	750 treated units + 750 comparison units

➢ **Sample size N methodology chosen**

3.4 Determine the probability sampling

> **Definition: Probability Sampling[25]**
>
> Sampling means selecting a particular group or sample to represent the desired population and in particular **probability sampling** refers to the sampling method in which all the members of the population have an equal chance to be a part of the sample: A **probability sampling** method is any method of **sampling** that utilizes some form of **random** selection. There are different types of probability sampling, i.e Cluster Sampling and Stratified Sampling.

Cluster sampling

The term cluster refers to a natural intact grouping of members of the population, corresponding to existing geographical areas (i.e. districts or villages) or non-geographical ones (i.e. cooperatives, producers organizations or sectors,).

Cluster sampling is defined as a sampling technique in which the population is divided into clusters, and then a sample of the clusters is selected. In the case of cluster sampling, there is homogeneity between groups/clusters but the members of each cluster are heterogeneous.

The sampling might be further narrowed down in order to reduce sample variability and reduce costs, through a two stage-cluster sampling design. In the first stage, the primary sampling units or clusters are randomly selected, and in the second stage, secondary sampling units -usually households- are randomly chosen within the already selected primary sampling units.

When the clusters are not of equal size, a probability proportional to each cluster´s size should be applied (see details of calculation in Appendix IV: Complementary Technical Information).

Stratified sampling

There might be large differences within the desired population and homogeneous subgroups or strata might be distinguished. Strata might represent physical, agro-ecological conditions or different value chains. In stratified sampling, all the population is divided into various mutually exclusive, homogeneous subgroups (strata), units are then selected randomly from each group (stratum) in order to form a single sample. In the case of stratified sampling, heterogeneity occurs between groups/strata but there is homogeneity within the strata.

Stratified sampling might need to be considered depending on project' characteristics. IFAD projects usually target various Value Chains (VC) within a single project. In this case, each VC represents a stratum from a statistical perspective.

This therefore requires a discussion of the sample size and support from a specialist -statistician- might be required to elaborate the sampling methodology. Different methodological options regarding the sample size with stratified sampling might be adopted depending on the features of the project and the resources available (see details in Appendix IV: Complementary Technical Information).

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[25] Source: https://keydifferences.com

Table 5: Comparison Cluster and Stratified Sampling

Probability Sampling	Cluster Sampling	Stratified Sampling
Definition and Sample	Population is divided into natural existing groups/clusters, and then individuals selected from randomly selected clusters	Population divided into homogeneous subgroups/strata, and then individuals randomly selected from each stratum
Objective	To reduce cost and improve efficiency.	To increase precision and representation.
Homogeneity	Between groups	Within group
Heterogeneity	Within group	Between groups
Example (simplified)	**Two stage-cluster sampling** Clusters : 100 communities of equal size Sample Size : 750 households Primary sampling units: 10 communities randomly selected (out of 100) Secondary sampling units: 75 households randomly selected within each of the 10 selected communities Sample Composition: 10 communitiesx75 households =750 households)	**Stratified Sampling with 2 VCs** Strata: VC_1 and VC_2 Sample Size : 750 households Stratum proportion in the desired population: VC_1= 40% and VC_2=60% Sample Composition: 40%x750= 300 households randomly selected within VC_1 60%x750= 450 households randomly selected within VC_2

➢ **Based on the project characteristics, the team should determine the probability sampling to be used and define which clusters or strata to be considered in the sampling**

3.5 TORs

Given the complexity of the analysis, the project staff might need to mobilize a specialized service provider to develop the detailed methodology. They should then develop ToRs including the main elements of sample design (sample frame, clusters/strata, sampling method and sample size). The ToRs should also include the analysis of the data collected thanks to the survey (see STEP 5: Analyzing and reporting), especially when analytical capacities are limited or not available at project and IFAD staff levels. Prior to issuing the ToRs, the Project staff should submit the ToRs for IFAD´s review and clearance (see Appendix VI: TORs template). If the Project staff decides to opt for an "in-house" arrangement in collaboration with the national statistical institutions, a document detailing the key elements to take into account for the survey (similar to the ToRs) still should be prepared in order to ensure that the survey serves the purpose of and is adapted to the project and that it complies with the COI measurement requirements. Once the detailed methodology is defined and before conducting the survey, the technical proposal should be cleared by IFAD.

➢ **Develop TORs for tender if needed**
➢ **Develop or obtain (through external firm) detailed methodology based on those elements**

This section provides guidance on conducting the survey: from planning to fieldwork. It requires the right amount of personnel (either from the project or hired externally) and time and proper planning.

Project staff might hire a data collection firm to develop and implement the survey through a bidding process (see previous step regarding the elaboration of ToRs). This process, especially the procurement, might be lengthy and should be properly planned.

The Project might opt for an "in-house" arrangement in collaboration with the national statistical institutions. However, it is important to keep in mind that a substantial amount of work might be required, especially from field staff, over and above their other duties.

Planning is key to ensure results are available in a timely manner. In particular, mid-term and completion surveys should be conducted and results made available *prior* to the Mid-Term Review and Completion missions in order for the teams to be able use survey results in the missions reports.

Before conducting the survey, the technical proposal should be cleared by IFAD.

4.1 Review the questionnaire

Translation of questionnaire forms

Questionnaires may be drawn up in English (or in the other IFAD working languages), which can be helpful if IFAD is involved in their development and in reviewing drafts. Some projects will have enumerators who can translate questions directly into local languages during the interview. However, it is preferable to have questionnaires translated ahead of time and the translations checked against the original by bilingual enumerators.

Design of questionnaire forms

The questionnaire needs to be well laid out, with clear instructions to enumerators, explaining which questions may be skipped if the respondent indicates that a particular line of questions does not apply. The questionnaire should also contain a clear statement that enumerators can read out to the respondents, which explains the project and the aims of the survey.

Free, Prior and Informed Consent (FPIC)

The questionnaire should include an informed consent form in order to ensure that the respondents agree to participate in the survey. Informed consent from each respondent must be obtained.

The form presents the principles and objectives of the survey to respondents. It also assures the respondent that his or her identity and the responses provided will be treated as confidential.

Surveyors have the responsibility to ensure that the respondents understand the objective of the survey and that they answer any question the respondents may have in a positive and respectful way (see

Appendix V on FPIC and consent form)[26]. The consent form might be adapted depending on whether or not the respondent belongs to the treatment or the comparison group since mentioning the project and the government might be sensitive to people not benefitting from those activities.

➢ **Translate the questionnaire and design the questionnaire forms**

4.2 Selection and training of enumerators

Selection. Enumerators may be project field staff or external consultants hired to conduct the survey. Payments and allowances need to be agreed ahead of time and include overnight allowances and travel costs, unless covered by the project. It is also very important to consider and ensure gender-balance while selecting the enumerators. This is particularly important for projects with a specific gender approach and activities, such as (but not limited to) identified gender-transformative, nutrition-sensitive or youth -sensitive projects.

Training. Training for enumerators is essential to ensure that they fully understand the questions and that they know how to complete the form. Enumerators recruited for this work must be familiar with the project, its objectives, target groups, components and implementation processes. All enumerators need to be clear about cropping seasons and years, and about which year's crop would be included as the most recent. They must be polite and respectful of respondents.
For projects with specific approach and activities, such as gender-transformative or nutrition-sensitive projects, specific training on those aspects should be provided. The enumerators also need to be trained on how to seek the respondent's informed consent prior to the interview. .

➢ **Select and train the enumerators and the field staff**

4.3 Field test and finalize the questionnaire

Field-testing.
The training process usually includes testing the questionnaire on a limited number of project households. The goal of testing questionnaire is to reword unclear questions and eliminate questions for which it may be difficult to obtain reliable or accurate answers. Field-testing the instrument is a basic principle in survey practice to avoid bias and increase validity and reliability.

Finalize the questionnaire
Once the questionnaire has been fully tested and adjusted, a final revision is necessary to ensure consistency and flow, and to check for redundancies potentially introduced during the re-write. It must

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[26] Sources: IFAD How To DO Note on Seeking free, prior and informed consent on IFAD Investment projects, 2015 (www.ifad.org/documents/38714170/40197975/htdn_fpic.pdf) and FAO Guidelines for assessing nutrition-related Knowledge, Attitudes and Practices, 2014 (http://www.fao.org/3/i3545e/i3545e00.htm).

then be laid out and printed in an easy-to-read and use format, with a large font, abundant spacing between questions and additional white space for notes.

> **Definition: Validity and reliability**
> Validity and reliability are two critical concepts in implementing effective data collection systems. **Validity** is the accuracy of the information generated. **Reliability** refers to the extent to which data are reproducible (Do questions on a survey repeatedly produce the same response regardless of when the survey is administered?). Reliability can be increased by insuring that the same survey instruments are used at all stages of the data collection process; i.e baseline, mid-term, completion.

> ➤ **Test on the field, adapt and then finalize the questionnaire**

4.4. Field data gathering

Data collection requires detailed scheduling, with lists of villages/communities assigned to each survey team. Enumerators need guidance on which survey unit to interview (i.e.,individuals, households members, women specifically, producers organizations, rural enterprises).

The work of enumerators should be closely supervised in the field by experienced supervisors who observe interviews, especially at the beginning of the survey and check all completed questionnaires. Checking the answer received as soon as possible after interviews are finished allows for errors to be corrected by enumerators based on their recall of the interview.

In a few cases, it may be necessary to return to the village and repeat the entire interview or reject the questionnaire if it turns out, for example, that the household should not have been included in the sample frame. Additional interviews may be needed to replace rejected questionnaires.

> **Few tips for data collection**
>
> **Local Authorities :** National authorities should prepare a letter to send to local authorities well before the survey staff visit
>
> **Transportation and Security:** Ensure that all vehicles have been well maintained and that there will be no conflicting demands for them during the fieldwork period. Allow funds in the survey budget for fuel, maintenance and necessary repairs. Estimate fuel needs by calculating the typical distances to be travelled within the project area.
>
> **Local Maps:** Obtain a map of the project area showing the location of the villages7communities to be visited. Often, it is necessary to approximate the locations of some communities based on consultations with knowledgeable informants.
>
> **Adequate scheduling:** It is important to take into account seasonality and agricultural calendar and avoid peak labour periods (harvesting or planting seasons), avoid unusual conditions (electoral season, Ramadan, rainy season, etc.) and consider major national or religious holidays.
>
> Obtaining the **Appropriate Equipment** if needed.

> ➤ **Carry out the surveys and collect data**

5.1 Data quality control

Data quality is essential to ensure the accuracy and usefulness of the survey. Data quality control requires a significant effort.

Common sources of error:

One common source of error is failing to skip questions – for example, when a respondent answers "no" to the question "Do you have any savings?" but then answers the subsequent "if yes" question about where the savings are kept.

Where answers are quantified, such as area of land, volume of production or value of sales, it is possible that data obviously outside the possible range of answers can be entered – in one survey, a smallholder farmer was reported to cultivate 1,000 acres! This is sometimes due to a data entry error by the enumerator on the hand-written form or to a mistake by the computer data entry operator.

Strange numbers can also result from a misunderstanding between the enumerator and the respondent regarding units used to measure land area, distances or weight. Enumerators should not be tempted to immediately convert local units used by respondents into the standard units used in project reports. A better practice is to record all numbers using the local units as expressed by respondents and convert these into standard units later, when checking the questionnaires, and to write the converted amount on the questionnaire form. Local units can vary from place to place within a project area, and farmers may sometimes use different land measurement units, especially where there are no formal land titles based on cadastral surveys. Also in some places, crops and inputs are measured in terms of volume (i.e. baskets or "cuvettes") rather than by weight.

Strategies for data quality assurance

As data is collected and entered into a storage mechanism, checking for errors and data quality is an important step that is easily overlooked. Ideally, one would need to accommodate for the necessary time to review data and ensure its quality.

The following strategies could be used:

- Double data entry.
- Spot checking.
- Sort data to find missing data, outliers, high, or low values
- Use automation, such as drop-down menus.
- Format a database to accept only numbers.
- Review data for anomalies.
- Discuss data discrepancies and/or findings with implementers.

Ideally, data-quality checks can be implemented while collecting the data rather than ex-post as in the case of paper -based surveys by using electronic devices for the data collection.

➢ **Control the quality of the data collected**

5.2 Computer data entry

Data entry

Computer data entry can already start during data collection in the field by using electronic devices.

Example of software for conducting complex surveys with dynamic structure

Dedicated softwares such as Survey Solutions are suited for this purpose. It is a Computer-Assisted Personal Interview (CAPI) technology developed by the World Bank using tablet devices. The software can be tailored to the needs of the users, allowing them to successfully complete simple and more sophisticated projects: from basic evaluation questionnaires to complicated multistage panel surveys. Introducing CAPI technology dramatically reduces the time lag between data collection and data analysis. Actually, since manual coding of the responses recorded with pen and paper is no longer necessary, data validation is done during data collection and the information is ready for statistical analysis as soon as the survey is completed.

Using electronic devices

Using electronic devices (tablet or phone) for interviewing yields many other benefits:

It reduces the number of coding errors. Surveys can contain validation data that make it impossible to enter values outside a given range. Supervisors may also view and check the collected information as soon as the enumerators finish the interviews, together with possible error reports. Automated routing reduces the incidence of missing data.

Changes in the structure of the questionnaire can be instantly reflected on the interviewers' devices. This allows for last-minute updates or error corrections.

Georeferencing. The use of electronic devices also facilitates the georeferencing of beneficiaries by easily recording the GPS coordinates of the surveyed population.

➢ **Computerize data.**

5.3 Analysis and reporting

Estimation of the results

The COI survey is conducted on a sample of beneficiaries and a control group at completion. Results then have to be extrapolated for the whole beneficiary population in order to populate the logframe. It is important to keep in mind that some indicators might not apply to the whole beneficiary population and this has to be taken into account for the estimation.

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Example:

Estimation for indicator 1.2.2: Percentage of households reporting adoption of new inputs or technological packages

The indicator intends to measure the adoption rate of a new input or technological package provided by the project. The percentage of household adopting this new input or technology should then be calculated on the basis of the total number of households which received such input or technology.

In the example below, only 600 households, out of the 750 interviewed, were provided with an input or a technological package from the project. Out of those 600, 510 households report the adoption of the input or technology.

The percentage of households reporting the adoption of new inputs or technological packages is then **85%** (=510/600).

750	→	600	→	510
HHs COI sample		HH accessing production inputs or technological packages		HH reporting adoption of new inputs or technological packages

Let´s assume that the total outreach of the project is **15000 households**. Regarding the estimation of the number of households reporting the adoption of new inputs or technological packages, there are two options according to the data available.

1. The project **recorded** the number of households which were provided input or technological packages: for instance 12500 households. The percentage of adoption calculated in the sample is thus applied to this number:

Number of households reporting adoption of new input or technology

= 12500x85% = **10625 households**

2. The project **did NOT record** the number of households which were provided input or technological packages. This number too has to be estimated:

Number of households provided with input or technology = 15000x(600/750) = **12000 households**

Number of households reporting adoption of new input or technology

= 12 000x85% = **10 200 households**

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Measure of progress and complementary information

The COI survey aims at collecting data regarding IFAD Core Outcome Indicators (and other indicators if so decided by the project team) and thus allows to assess changes occurring at the outcome level due to project intervention. It does not only intend to evaluate the project but also helps projects monitor their progress. The COI mid-term survey provides early evidence of progress towards objectives. It is indeed the first time at mid-term) that data is consistently collected at outcome level as up to then, most information collected through the project´s M&E system is largely limited to the output level[27]. However, results at mid-term should be analyzed carefully since the survey does not include a comparison group;

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[27] The COI baseline survey provides baseline information regarding the situation without project´s intervention but does not inform about progress since it should be carried out before activities are implemented.

results cannot be attributable only to the project interventions although it helps assessing whether or not the project is on the right track.

These measurements can also be cross-checked with complementary information gathered through other surveys and the project M&E system (see Appendix IV: Complementary Technical Information for complementary data gathering tools).

The following paragraph describes some examples of interaction and synergies between the COI survey and other sources of information:

- Project M&E system should register data on beneficiaries and households supported by the project. Such listing is very valuable, first to identify the beneficiaries and then to draw the treatment sample for the mid-term survey;

- In addition, some outcome indicators only apply to a subset of the beneficiary population: for instance the CI outcome indicator on household adoption of new inputs or technology should be calculated on the basis of the total number of households which received such input or technology (see previous paragraph on estimation of the results and related example). The COI questionnaire includes questions about participation to project interventions (B.1.1 and B.1.2 for the example cited above) and this information should be cross-checked with the project´s M&E data;

- The COI survey includes questions regarding the quantifiable CI outcome indicators, yet comparable information might be collected through other means such as group monitoring and record books. Indeed the number of jobs created by rural enterprises (CI 2.2.1) might have already been collected and recorded directly through the project´s M&E system, same goes for the increased profit of rural enterprises (CI 2.2.2). References to alternative methods are presented in the Appendix I: COI questionnaire template;

- Some COIs cannot be measured through the COI survey (see Appendix III of the guidelines: Outcome CIs not measured through COI questionnaire). In such cases, other data gathering tools must be used, such as providers records. For instance, the CI outcome indicator related to the Portfolio-at-risk (CI 1.2.6) should be gathered directly by the Financial Services Providers;

Analysis at completion

The data collected thanks to the methodology described so far allows to carrying out a complex and rigorous statistical analysis; It provides for significant and robust results and allows to measure changes attributable to the project´s interventions. This is the recommended type of analysis.

However, for projects with limited resources or in fragile countries, a simplified method of analysis might be adopted, relying only on CI related questions (no analysis variables) and examining the difference between the means of the treatment and the comparison groups.

Table 6: Analyses and characteristics

Analysis	Complex and rigorous analysis	Simplified analysis
Methodology	Statistical analysis	Difference between the means of the treatment and comparison groups

PROs and CONs	+ Rigorous
	  - More costly
	  - Requires technical support
		+ Simple
		- Less rigorous, not necessarily statistically significant

Conditions	**For projects with sufficient resources**	**For Projects with limited resources (budget and capacities)** **Countries in fragile/difficult situation**

Note that the ToRs should include the analysis of the data collected through the survey, particularly when analytical capacities are limited and/or not readily available at project and IFAD levels.

Interpretation and presentation of the results

Since the guidelines aim at measuring changes attributable to the project´s interventions, the results should reflect that and thus should present the changes experienced by the treatment group compared with the comparison group. This approach (of attributable changes) also applies to the definition of the targets in the logframes in order to avoid reporting gaps between targets and results due to differences in measurement methodology[28].

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[28] For ongoing projects, targets might be revised in light of these elements.

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Example (simplified):

Results for indicator 1.2.4: Percentage of households reporting an increase in production

The results should indicate only the percentage of households which have experienced a significant increase in production above a certain threshold, which corresponds to the increase experienced by the comparison group (without project interventions).

In the simplified example below, the orange dots correspond to the production of the treatment group (10 units) at completion. It appears that only 70% of the beneficiaries have experienced a SIGNIFICANT increase in production compared to the comparison group.

</div>
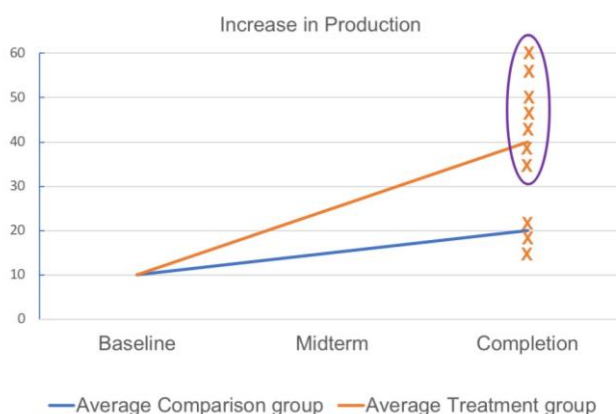
Report

Once the surveys have been conducted and their quality controlled, the analysis of the results should be presented in a report.

The report summarizes the conclusions emerging from the analysis and includes the following elements:

- the description of the methodology used
- the questionnaire
- the list of villages/communities surveyed
- the results of the survey
- the updated logframe (at least CIs at outcome levels)
- the ToC and its description based on the results of the survey
- the analysis and interpretation of the results

The survey database should also be provided to project staff and IFAD.