



Projektbericht

RWI – Leibniz-Institut für Wirtschaftsforschung

Methodological Guidelines for Measuring Employment Effects of Rural Development Interventions

**Projektbericht im Auftrag der Deutschen Gesellschaft für
Internationale Zusammenarbeit (GIZ) GmbH**

Endbericht – überarbeitete Fassung

31. Mai 2019



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Projektteam

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Contents

Executive Summary	5
1 Introduction	7
1.1 Project background.....	7
1.2 Labor market and employment characteristics in rural areas.....	9
1.3 Results of the portfolio analysis of agricultural and rural development projects.....	10
2 Employment related activity types in the portfolio of rural development interventions.....	15
2.1 Definition of employment indicators	15
2.2 Methodology to identify employment related activities in rural development projects, and to measure their effects	18
3 The toolkit.....	23
Step 1: Activity cluster – In which activities does a program engage?.....	23
Step 2: Visualization – linking activities to intermediate and employment outcomes	23
Step 3: Method map – methods to measure or estimate employment effects.....	24
Activity cluster 1 “Vocational Training, Education, Skills Development” (Part 1)	27
Activity cluster 1 “Vocational Training, Education, Skills Development” (Part 2)	35
Activity cluster 1 “Vocational Training, Education, Skills Development” (Part 3)	47
Activity cluster 2 “Promotion of Production and Innovation”	51
Activity cluster 3 “Product Diversification”	58
Activity cluster 4 “Value Chain Promotion”	65
Activity cluster 5 “Improvement of Sales/Marketing Strategies”	75
Activity cluster 6 “Improvement of Financial Services” (Part 1).....	80
Activity cluster 6 “Improvement of Financial Services” (Part 2).....	87
Activity cluster 7 “Cash-for-Work Measures”	90
Activity cluster 8 “Improvement of Land Rights/Land Use”	96
4 Conceptual considerations for an overarching employment-focused results logic for agricultural and rural development projects	103
5. Outlook.....	106
References.....	107
Annex:	
A.1 Portfolio analysis of rural development interventions:.....	108
A1.1 Methodology & Scope	108
A.1.2 Overview of the Main Findings of the Portfolio Analysis	109
A.2 Terminology of main concepts underlying M&E frameworks.....	112
A.2.1 Concepts defining the project approach and goals.....	113
A.2.2 Concepts defining the project mechanism.....	114
A.2.3 Concepts defining the project consequences.....	115

List of tables and figures

Toolkit overview	Activity clusters – Method maps – Examples	26
Method map 1.1.1	Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 1 “New employment”	28
Method map 1.1.2	Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 2 “Additional employment”	29
Method map 1.1.3	Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 3 “Improved working conditions”	30
Method map 1.1.4	Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 4 “Income increase”	31
Method map 1.2.1	Activity 1 “Education / Skills” – Intermediate Outcomes “Completion / Utilization / Application / Skills / Transfer / Framework” –Key indicator 1 “New employment”	36
Method map 1.2.2	Activity 1 “Education / Skills” – Intermediate Outcome “Completion / Utilization / Application / Skills / Transfer” –Key indicator 2 “Additional employment”	37
Method map 1.2.3	Activity 1 “Education / Skills” – Intermediate Outcome “Completion / Utilization / Application / Skills / Transfer” –Key indicator 3 “Improved working conditions”	38
Method map 1.2.4	Activity 1 “Education / Skills” – Intermediate Outcome “Completion / Utilization / Application / Skills / Transfer” –Key indicator 4 “Income increase”	39
Method map 1.3.1	Activity 1 “Education / Skills” – Intermediate Outcome “Improved institutional framework” –Key indicators “New employment / Additional Employment / Improved Working Conditions / Increased Income”	48
Method map 2.1.3	Activity 2 “Production / Innovation” – Intermediate Outcome “Productivity Increases” –Key indicator 3 “Improved Working Conditions”	52
Method map 2.2.4	Activity 2 “Production / Innovation” – Intermediate Outcome “Increase in Production” –Key indicator 4 “Income increases”	54
Method map 3.1.4	Activity 3 “Product diversification” – Intermediate Outcome “Diversification of product range” –Key indicator 4 “Income increases”	59
Method map 3.2.4	Activity 3 “Product diversification” – Intermediate Outcome “Revenue increase alternative products” –Key indicator 4 “Income increases”	60
Method map 3.3.4	Activity 3 “Product diversification” – Intermediate Outcome “Dependency reduction single product” –Key indicator 4 “Income increases”	61
Method map 4.1.1	Activity 4 “Value Chain Promotion” – All Intermediate Outcomes – Key indicator 1 “New employment”	66
Method map 4.1.2	Activity 4 “Value Chain Promotion” – All Intermediate Outcomes – Key indicator 2 “Additional employment”	68
Method map 4.1.4	Activity 4 “Value Chain Promotion” – All Intermediate Outcomes – Key indicator 4 “Income increases”	70
Method map 5.1.4	Activity 5 “Sales / Marketing” – Intermediate Outcome “Revenue increase” – Key indicator 4 “Income increases”	76

Method map 6.1.1	Activity 6 “Financial Services” – Intermediate Outcome “Utilization of Financial Services – Key indicator 1 “New employment” 81	81
Method map 6.1.2	Activity 6 “Financial Services” – Intermediate Outcome “Utilization of Financial Services – Key indicator 2 “Additional employment” 82	82
Method map 6.1.4	Activity 6 “Financial Services” – Intermediate Outcome “Utilization of Financial Services – Key indicator 4 “Income increase” 83	83
Method map 6.2.1	Activity 6 “Financial Services” – Intermediate Outcome “Improved framework conditions” –Key indicators “New employment / Additional Employment / Increased Income” 88	88
Method map 7.1.1	Activity 7 “Cash-for-Work” – Key indicator 1 “New employment” 91	91
Method map 7.1.2	Activity 7 “Cash-for-Work” – Key indicator 2 “Additional employment” 92	92
Method map 7.1.4	Activity 7 “Cash-for-Work” – Key indicator 4 “Income increase” 93	93
Method map 8.1.1	Activity 8 “Land use” – Intermediate Outcome “Improved access to land” – Key indicator 1 “New employment” 97	97
Method map 8.1.2	Activity 8 “Land use” – Intermediate Outcome “Improved access to land” – Key indicator 2 “Additional employment” 98	98
Method map 8.1.4	Activity 8 “Land use” – Intermediate Outcome “Improved access to land” – Key indicator 4 “Income increase” 99	99
Figure 1.	Portfolio analysis: explicit and non-explicit links to the four employment dimensions in rural and agricultural development interventions 14	14
Figure 2.	Activity clusters of rural and agricultural development projects 19	19
Figure 3.	Generic visualization of the employment links in an activity cluster 22	22
Figure 4.	Activity clusters mapping to visualizations..... 23	23
Figure AC 1 -1	Visualization of activity cluster 1 “Vocational Training, Education, Skills Development” (Part 1)..... 27	27
Figure AC 1-2	Visualization of activity cluster 1 “Vocational Training, Education, Skills Development” (Part 2)..... 35	35
Figure AC 1-3	Visualization of activity cluster 1 “Vocational Training, Education, Skills Development” (Part 3)..... 47	47
Figure AC 2	Visualization of activity cluster 2 “Promotion of Production and Innovation” 51	51
Figure AC 3	Visualization of activity cluster 3 “Product Diversification” 58	58
Figure AC 4	Visualization of activity cluster 4 “Value Chain Promotion” 65	65
Figure AC 5	Visualization of activity cluster 5 “Improvement of Sales/Marketing Strategies” 75	75
Figure AC 6-1	Visualization of activity cluster 6 “Improvement of Financial Services” (Part 1) 80	80
Figure AC 6-2	Visualization of activity cluster 6 “Improvement of Financial Services” (Part 2) 87	87
Figure AC 7	Visualization of activity cluster 7 “Cash-for-Work Measures” 90	90
Figure AC 8	Visualization of activity cluster 8 “Improvement of Land Rights/Land Use” 96	96

Figure 5.	Blueprint for a generalized results logic towards employment indicators in agricultural and rural development interventions.....	105
Figure A.1	Graphical illustration of the types of effects of rural development interventions.....	117

Executive Summary

Measuring **employment effects** of development cooperation interventions has become a topic of key relevance. On the one hand, there is an increased interest, in general, in measuring impacts of development programs for steering, reporting, and accountability reasons. On the other hand, the **creation of jobs** – and the improvement of other features of employment – has become one of the main objectives of development cooperation.

Against the background of this general trend, also **agricultural and rural development programs** have recognized the importance of their activities for employment: for instance, the G20 Initiative for Rural Youth Employment (G20 Germany 2017) has highlighted and emphatically underlined the objective of supporting, in particular, the coming generation of youth in rural areas with adequate employment opportunities.

As the creation and promotion of employment opportunities thus enters center stage also in the agricultural and rural development context, a resulting task is the appropriate measurement of the ensuing employment effects of interventions implemented in this context. This is the central task, and constitutes the central contents, of this report: **to develop and present guidelines – a practical toolkit – for the measurement and estimation of employment effects** for agricultural and rural development interventions of the German development cooperation, in particular GIZ technical cooperation programs.

The task is noteworthy for several reasons. First, **rural labor markets are characterized by specific features** that distinguish them from other contexts of employment promotion, and that such a toolkit needs to take into account: for instance, a frequent lack of formal, stable and dependent employment opportunities; a general abundance of (low-skilled) labor and the relevance of subsistence farming; a dependence on agricultural seasons; and the facts that underemployment may be a more critical issue than unemployment, and that rural individuals may often engage in several simultaneous income-generating activities. This issue implies that the toolkit needs to use relevant employment indicators that reflect the labor market realities of the rural setting. The employment indicators thus used in the toolkit are in line with GIZ practice and comprise four dimensions: (1) new employment, (2) additional employment, (3) improved working conditions, (4) income increase.

Second, **the portfolio of technical cooperation interventions in agricultural and rural development is very comprehensive and heterogeneous**. This implies that the toolkit needs to find a tractable systematization of this broad set of interventions from an employment perspective.

Third, whereas many of the development interventions in the agricultural and rural development arguably affect employment outcomes, they **do not explicitly specify an employment objective**. Typically, this implies that the corresponding results logics only go up to the point (from an employment perspective) of specifying intermediate outcomes such as “productivity increases” and “improved employability” etc. but leave the link between these intermediate outcomes and the four employment indicators implicit. It is therefore a final key task of the toolkit to lay open these links and provide procedures of how these links can be identified and used to measure and estimate employment effects.

In assessing these tasks, the research project has produced this report, at the heart of which is precisely this **toolkit for agricultural and rural development programs** to measure or estimate their employment effects. This toolkit consists of **three steps**:

Step 1 defines **eight activity clusters** that systematize the comprehensive and heterogeneous set of activities of rural development interventions. These activity clusters are:

1. Education/Vocational Training/Skills Development
2. Promotion of Production and Innovation
3. Product Diversification
4. Value Chain Promotion
5. Improvement of Sales/Marketing Strategies
6. Improvement of Financial Services
7. Cash-for-Work Measures
8. Improvement of Land Rights/Land Use

In **Step 2**, for each of these eight activity clusters the **relevant pathways from intervention outputs to intermediate outcomes to each the four employment indicators** are delineated in so-called **visualization graphs**. This hands-on structure is equally helpful for active programs to identify links to employment outcomes from their typical outputs via intermediate outcomes, as it is helpful for the design of agricultural and rural development results logics geared towards employment.

In **step 3**, each of the links to employment carved out in step 2 is connected with a so-called **method map**, i.e. a practical instruction how – for each specific link – employment effects can be measured or estimated. Each method map provides three features: first, an explanation of how the **link between program activities, intermediate outcomes and employment indicators** can be established and plausibilized in the monitoring system. Second, an explanation of **procedures to measure** employment effects, distinguishing the measurement of gross and net effects. Third, an explanation of how a **plausible estimation** approach could proceed in practice.

The toolkit is further enhanced by a comprehensive set of measurement **examples** that highlight the approaches in rural and agricultural practice and give numerical examples. Since any approach at measuring or estimating employment effects requires (monitoring) data, examples of sources of verification are also included.

The toolkit (presented in the report in chapter 3) is framed by a presentation of the context of agricultural and rural development interventions and the results of the analysis of the portfolio of these interventions as the analytical basis for the toolkit (chapter 1). Chapter 2 explains the main methodological features of the approach, and chapter 4 presents a blueprint for a more generalized results logic for agricultural and rural development interventions, that aims to draw the several activity clusters together and serves as a basis for future project planning. Chapter 5 concludes with a brief outlook.

1 Introduction

1.1 Project background

Over the last decade there has been an increased interest in measuring employment effects of development interventions, for both steering and reporting reasons. First, employment and employment promotion have become a key focus of development cooperation efforts: specifically, many activities of German development cooperation, especially in the sector of sustainable economic development (NaWi) explicitly target job creation and the improvement of working conditions in several dimensions, in particular income increases. The latter dimension of employment generation and improvement is of particular relevance, since income increases have been identified as one main driver of poverty reduction.

This prominence of an **employment agenda in development cooperation** is reflected, for instance, in the 2013 World Development Report on “Jobs” (World Bank 2013) and, for the German case specifically, in the “Marshall Plan with Africa” (BMZ 2017) and its objective to generate and improve employment opportunities in a comprehensive and sustained way. **Moreover, the G20 Initiative for Rural Youth Employment** (G20 Germany 2017) has highlighted and emphatically underlined the importance of supporting specifically the **coming generation of youth in rural areas with adequate employment opportunities**. This moment can be seen as an essential starting point in German development cooperation to focus increasingly on employment promotion and job creation, especially for the rural youth, also in the agricultural and rural development context. Rural (youth) employment has become a major topic and is correspondingly reflected in the portfolio.

As employment generation has entered center stage of development activities, this has been accompanied by efforts to (rigorously) **measure the ensuing employment effects**: for instance, a set of pilot studies conducted for the Federal Ministry for Economic Cooperation and Development (BMZ) and GIZ - Deutsche Gesellschaft für Internationale Zusammenarbeit (RWI 2013 and 2014, Kluge and Stöterau 2014) address the measurement of employment impacts of a portfolio of development cooperation interventions, and give guidance on appropriate methodologies. At the same time, despite this increased interest in initiating and assessing employment effects, many activities of the German development cooperation – in particular in the agricultural and rural development context – affect employment outcomes through a set of intermediate outcomes without explicitly linking the two. This makes it particularly challenging for these activities to measure and report their effects on employment (and its several dimensions), since frequently in ongoing projects no final employment indicators are specified. In addition, even for explicitly employment-targeting interventions it is methodologically challenging to rigorously measure employment effects (Kluge and Stöterau 2014).

Against this background, it is **the objective of this report to develop guidelines** for a methodology – and effectively: a toolkit – **to measure employment effects**, with a particular focus on **agricultural and rural development interventions**. The latter define the specific set of programs that this report covers. Even more specifically, the toolkit comprises interventions within the technical cooperation of German development cooperation. The evident objective for the methodological guidelines is that they intend to be as implementable, i.e. “simple”, as possible, and at the same time as rigorous as necessary. In impact evaluation terms, “rigorous” refers to methods that attempt to causally attribute effects to interventions, and to use the best available approach in a given context.

The report is the outcome of a research project that started in spring 2018 with a comprehensive portfolio analysis of the agricultural and rural development programs in German

technical cooperation. This analysis aimed at identifying the employment references (explicit / non-explicit) in project activities, relevant employment indicators – and intermediate indicators linked or potentially linkable to them – and their respective sources of verification in the entire agricultural and rural development portfolio.

A key aspect in this exercise is to define what is meant with “employment” in the given context, since it is evident that employment effects of development cooperation interventions address several dimensions of labor market outcomes. Specifically, this study uses the **four employment indicators** as they were defined by GIZ in the annual survey for the aggregated impact monitoring (GIZ 2018): 1) Creation of new employment, 2) Creation of additional employment / reduction of underemployment, 3) improvement of working conditions, and 4) improvement of income.

Field missions to Ghana and Kenya (in spring 2018) and to Ethiopia (in fall 2018) helped gather a detailed understanding of program implementation in agricultural and rural development and the relevance of employment in the specific contexts, and of the corresponding monitoring system. The fall mission also served to field-test several of the conceptual ideas on the methodology that the project team had developed throughout the year.

This final report therefore presents the methodological guidelines that constitute the result of the research project conducted during 2018. After giving some brief background on labor market interventions in rural contexts (section 1.2), section 1.3 also presents a concise summary of the portfolio analysis of agricultural and rural development interventions in technical cooperation. This analysis illustrates the various types of explicit and non-explicit connection of rural development interventions with key employment indicators. Based on these preparatory steps, section 2 delineates the methodological approach chosen for the measurement guidelines.

Section 3 constitutes the core part of the report and presents **a toolkit** how to measure or estimate employment effects for programs in agricultural and rural development. The toolkit proceeds **in three steps**: first, for programs to identify the activity (or activities) they are undertaking. Second, to identify the set of intermediate outcomes and employment outcomes these activities target. Third, to look up the appropriate method for their specific combination(s) of activity, intermediate outcome and employment indicator.

Section 4 complements this toolkit approach by presenting a blueprint for a generalized model results logic that intends to nest the full set of agricultural and rural development activities in an overarching representation.

Several other international organizations have developed related guidelines to harmonize their M&E frameworks with regard to measuring employment and income effects. Of particular relevance to this report is the ILO’s “Guide to Measuring Decent Jobs for Youth: Monitoring, evaluation and learning in labor market programs” (ILO 2018), which offers a comprehensive introduction to the topics of results measurement and impact assessment with a particular focus on youth employment and decent work criteria. Other guidelines were developed, for instance, by the World Bank, most notably the handbook on “Measuring success of youth livelihood interventions: A practical guide to monitoring and evaluation” (Hempel and Fiala 2011). However, these resources focus very strongly on providing methodological support for conducting impact assessments for particular projects – rather than for an entire portfolio.

Few existing guidelines develop a harmonized approach to M&E indicators and systems while simultaneously taking into account **the labor market characteristics of rural areas**. A somewhat related approach to the one presented here is followed in the World Bank’s “Jobs M&E Toolkit” (World Bank 2017), which provides a package of resources and definitions to guide staff and

clients in mainstreaming job-related indicators across World Bank projects. In addition, it provides several examples of “jobs data collection forms” that can serve as a useful resource for collecting employment-related (survey) information. Since any effort at measuring or estimating employment effects in practice requires some data – the corresponding sources of verification – the forms given in the World Bank Jobs M&E Toolkit can be a helpful reference point also for practical M&E data collection in agricultural and rural development projects.

1.2 Labor market and employment characteristics in rural areas

The labor market in rural areas of developing countries displays specific characteristics which are important for defining and measuring impact of agricultural- and rural development projects (for a more detailed discussion of rural labor markets see, for instance, Campbell 2013, Fields 2012, and Oya and Pontara 2015). This concerns, first, a high degree of informality and vulnerability (e.g. lack of social protection). Second, the predominance of self-employment, most often as own-account work rather than paid employment (wage-earning), which usually includes some form of unpaid and non-market work. Third, the significance of agriculture with a high share of low-productivity farmers with various degrees of auto-consumption (“survivalists”) and a high exposure to seasonality and weather shocks. A fourth characteristic is the abundance of labor and the scarcity of human capital.

These labor market characteristics translate into specific employment situations often encountered in the rural economy: Individuals in rural areas typically simultaneously engage in different income-generating activities (“multiple job-holding”) to supplement the inadequate and unstable earnings accruing from just one of them. A high incidence of side-line off-farm and informal sector work is another characteristic feature. In many rural areas, it appears that the rural non-farm sector is growing and only a small proportion of households appear not to engage in off-farm work at all. At the same time, for most households agricultural activities continue to be the most important source of income. For example, many individuals are simultaneously engaged in small-scale subsistence farming, seasonal agricultural wage labor and non-farm self-employment. The type and level of involvement in off-farm work, however, is unequally distributed across households. The reliance on agriculture as an important source of income makes many (especially poor) households vulnerable to external shocks (e.g. weather) and seasonal fluctuations in demand.

The relevance of this report in addressing employment effects in a rural context can be summarized by combining three facts about global poverty: (i) more than 75% of the world’s poor live in rural areas (Castaneda et al, 2016); (ii) many of them depend on agriculture to earn a living (IFAD, 2016), and (iii) approximately 1.2 billion youth aged 15-24 live in the world today and almost 88 percent of them come from developing countries (FAO 2017). According to FAO (2017), a key policy lever to address rural poverty (among youth), is to “create more and better employment opportunities”. But employment opportunities for rural youth in developing countries remain limited and of poor quality – which is even more acute given that 40 million people will enter the workforce every year globally (again mostly youth and mostly in rural areas) according to the ILO (2017).

A particular aspect of this is not only to create employment opportunities – but also to improve the working conditions and incomes of those who already work. The ILO estimates that many of the nearly eight out of ten working poor who live in rural areas engage in vulnerable employment, especially in agriculture. Less than 20 percent of agricultural workers have access to basic social protection. Again, young people – 85 per cent of whom are living in developing countries and mostly in rural areas– account for a disproportionate share (23.5 per cent) of the

working poor. This dynamic is particularly pronounced in Africa, where over 70 percent of youth subsist on US\$2 per day or less. The challenge is equally relevant for rural women – who are, for example, more likely than men to hold low-wage, part-time, and seasonal employment (FAO 2017).

1.3 Results of the portfolio analysis of agricultural and rural development projects

The first step of this research project has been a comprehensive portfolio analysis across the heterogeneous GIZ rural and agricultural development projects in sub-Saharan Africa and the MENA region. The focus on these regions results from the fact that they are politically particularly relevant to the German development portfolio targeting employment promotion measures. The portfolio analysis a) creates a systematic overview of employment references in rural development projects and b) identifies links of how these projects (potentially) contribute to employment outcomes. This section briefly summarizes the methodological case selection approach and procedure. Annex A.1.1 contains a detailed description of the methodology, selection criteria and structure of the portfolio analysis.

Using the SAP System of GIZ, **123 active projects** in which rural development was a main objective (**LE2**) and, after closer examination, some projects in which it was a secondary objective (**LE1**) were identified. After excluding some non-eligible projects such as audit projects or contract volumes under 200.000 (see Annex A.1.1 for details), a **sample size of 94 eligible projects was identified for the portfolio analysis**. Using project proposals, progress reports and results matrixes of the selected GIZ projects, a systematic in-depth analysis of both existing employment references as well as of further potential links for the integration of additional employment effects was conducted. Moreover, monitoring and evaluation techniques of projects with already specified employment outcomes were assessed with respect to the methods applied.

The main findings of the portfolio analysis are displayed in detail in the Annex Section A.1.2 Overall, the analysis shows that **out of 94 projects analyzed 70 of them had either explicit or non-explicit employment references**. (Further key figures about the explicit as well as non-explicit employment references of the projects are outlined later on in this section.) An **explicit employment reference** in this context refers to projects that explicitly mention and therefore target employment quantitatively or qualitatively in their outcomes i.e. indicators. The analysis shows, however, that only very few of the projects have these explicit employment references.

At the same time, most of the projects target employment **non-explicitly**, meaning that they have the potential to create employment or already do so but without reflecting it in their indicators. Thus, the potential remains implicit, meaning that employment is not intended as an effect and is, therefore, not monitored or measured. Field visits proved e.g. that several projects target employment as a side effect of their activities, but do not measure it because it is not reflected in their indicators and thus not accounted for in the M&E system. From an employment perspective, many projects comprise, however, intermediate outcomes and effects in regard to employment. This means that these projects follow the same results logic or theory of change in their interventions as projects with explicit employment targets, but stop at an intermediate level where the link between the targeted outcome (which is intermediate in regard to employment) and the eventual employment outcome is not established. For a more detailed explanation of this concept see Annex Section A.1.2 This finding also means that many projects are not aware of the link between an intermediate outcome they may have and the potential effect it has for employment.

Example: Difference between explicit and non-explicit employment reference

A project with an explicitly targeted employment outcome might e.g. target the increase of income (income \triangleq qualitative employment dimension) for its beneficiaries through a training intervention that aims at increasing the production, i.e. output in yields (increase in production \triangleq mechanism to achieve income).

Another project might also target the increase of production (i.e. yields) through a training intervention, but might not explicitly state in the indicator that this could also lead to an increase in income for those people who have increased their production. Thus, the same results logic is applied, but one project stops at an intermediate level with regard to an employment effect. Thus, the potential employment effect in this case is not measured by the project.

On the one hand, these findings imply that there is a great potential of making employment effects measurable by linking intermediate outcomes concerning employment with actual employment outcomes. To account for this potential, Chapter 2 presents instructions on how to detect typical linkages between targeted 'intermediate employment' outcomes of the rural development projects and one of the four key employment indicators (new employment, additional employment, improved working conditions, increased income). If the links are detected, measurement and estimation instructions will be presented to make these links measurable. In short, the non-explicit link to employment, which already exists in many projects, can potentially be made explicit and can thus be measured as an effect.

On the other hand, the findings of the portfolio analysis suggest that there is often some lack of a results chain or theory of change *towards employment* in the existing indicators of agricultural and rural development projects, and that the impact model in its interactions with different results chains may not be fully consistent from this perspective (i.e. geared towards employment objectives). The toolkit in section 3 provides guidance on what are the typical links between intermediate and final employment outcomes – for a set of different types of rural development activities – and can thus assist in formulating such links more explicitly when setting up rural development projects and their M&E designs.

One result of the analysis is that, despite the notable heterogeneity of the rural development projects, the explicit as well as non-explicit employment references appear in a limited set of reoccurring activities typically undertaken by rural development projects. The many diverse, heterogeneous activities can thus be summarized into **eight streamlined impact logics** according to the frequency with which explicit and especially non-explicit employment references occur¹. These impact logics comprise the following eight activity areas:

- 1. Education/Vocational Training/Skills Development**
- 2. Promotion of Production and Innovation**
- 3. Product Diversification**
- 4. Value Chain Promotion**
- 5. Improvement of Sales/Marketing Strategies**

¹ Evidently, the research project considered many different versions of a potential typology of rural development interventions in order to make the analysis tractable and the toolkit practicable (such as e.g. the one proposed in RWI 2013). At the end of these considerations, the eight activity clusters suggested here appear to be the most fitting representation of interventions in the rural development portfolio.

6. **Improvement of Financial Services**
7. **Cash-for-Work Measures**
8. **Improvement of Land Rights/Land Use**

The analysis of the impact logics is based on the indicators and activities of the 70 projects, which were identified earlier with an either explicit or non-explicit employment relevance. The bilateral projects contained on average one or two employment references, whereas the regional projects usually had a stronger employment focus and contained on average more than two employment references. This resulted in **a total of 158 employment references**, which were clustered by impact logic and according to their explicit and non-explicit employment relations, respectively (The main findings for each of the eight impact logics are explained in detail in the Annex Section A.1.2).

In sum, the findings show that only **one third of the 158 analyzed employment references** had **explicit** employment relations, meaning that for **two thirds of the cases the employment relation remained non-explicit**. Figure 1 visualizes the findings that are summarized in the following part of this section: specifically, findings for the eight simplified impact logics show that employment references most commonly occur in the areas of **promotion of production and innovation** (41 times), **value chain promotion** (39 times) or **education or training** (37 times) in the widest sense.

Intervention **areas regarding value chain promotion** most frequently target qualitative (i.e. income) as well as quantitative (i.e. jobs) employment outcomes explicitly. In addition, the activities undertaken in this area illustrate a lot of potential for non-explicit links to employment as well. Value chain promotion activities show, through their frequent use and the diversity of the employment dimensions targeted, that they are one of the most important areas to be enhanced if employment outcomes are to be increased. The portfolio analysis illustrates that, among these activities, the improvement of cooperation among the different actors (farmer cooperatives) and networks (governance) of the value chain is most effective to boost employment outcomes. Moreover, even though it is not the focus of the portfolio analysis, measures encouraging entrepreneurship, business start-up or MSME promotion are particularly promising to enhance employment effects in rural areas.

Interventions regarding **education, vocational training and skills development** display a great potential of achieving employment effects through the improvement of employability; at the same time, in the portfolio the majority of the activities undertaken in this area does neither explicitly target new or additional employment nor increased income or better working conditions. Activities targeting interventions or trainings therefore bear the *potential* to create employment if the outcomes, that are intermediate in regard to employment, are linked to actual employment outcomes.

As displayed in Figure 1, the impact logics regarding the areas of **product diversification** (9 times), improvement of **sales and marketing strategies** (8 times) and most frequently the promotion of **production and innovation** (41 times) all target employment exclusively through the dimension of **income increase**. That is true for the explicit references in which income increase is targeted in the outcomes as well as for the non-explicit employment relations. Impact logics that are less frequently addressed in regard to employment are the **improvement of financial services** (8 times) and **land rights** (7 times). The indicators analyzed in this regard all **targeted employment non-explicitly**, which means that employment was never a direct target of an outcome or output. Nevertheless, the impact of an improvement of financial services or land rights

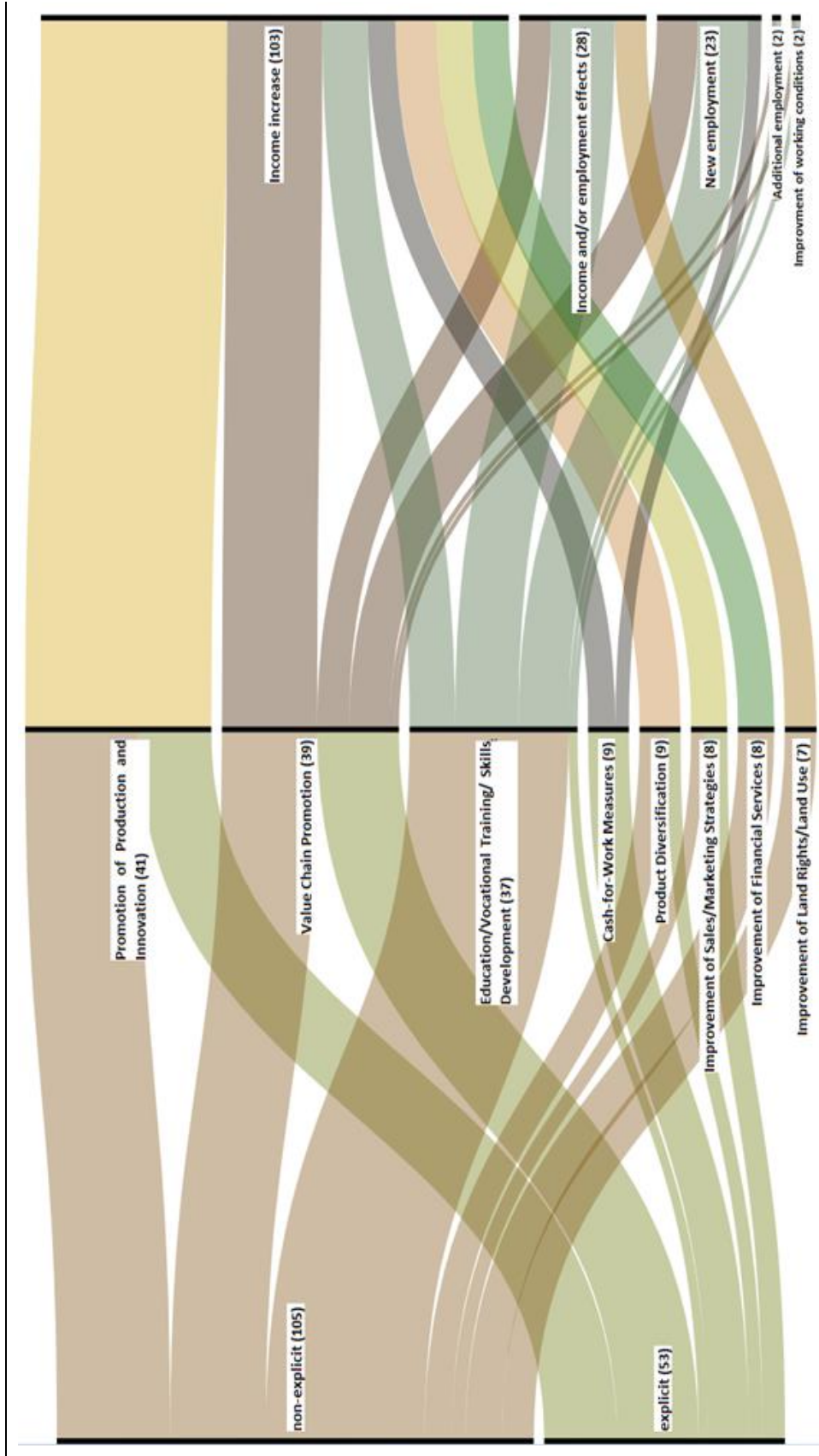
(i.e. access to capital or land) should not be underestimated in regard to the possibilities it can have for the rural population and eventually for their employment possibilities.

Contrary to that, the **Cash for Work measures** (9 times) analyzed all displayed an **exclusively explicit relation to either income or employment increase**. Even though these measures are only temporary and mostly applied for a short period of time they can boost employment in the short-run and can mean hardship relief for many beneficiaries. The CfW measures analyzed in this portfolio were mostly included as part of an additional proposal to the projects within contexts in which an influx of refugees or returnees was apparent.

Overall, the portfolio analysis shows that **the employment dimension most frequently addressed in rural development projects is income increase** (103 times), both for explicit employment references as well as for non-explicit employment references. At the same time, the majority of projects address employment effects non-explicitly (105 times), which bears the potential to increase quantitative as well as qualitative employment effects and make them more visible in rural development interventions.

As outlined above, Figure 1 displays in quantified terms the results of the portfolio analysis. It demonstrates on the left-hand side that **two thirds** of 158 employment references in rural development projects so far remain **non-explicit**. Recall that the thickness of the paths displayed indicates which of the impact logics are most frequently addressed in regard to employment, and thus might be worth expanding if employment effects are to be included in a project intervention. (Again, Annex Section A.1.2 presents in more detail the numbers for the explicit as well as non-explicit employment references for each of the eight impact logics.) The right hand side of Figure 1 demonstrates to which of the four key employment dimensions the intervention logics and thus the various activities of the projects contribute. Some of the detected non-explicit employment references could potentially contribute to either or both of the quantitative or qualitative employment dimensions (28 times).

Figure 1. Portfolio analysis: explicit and non-explicit links to the four employment dimensions in rural and agricultural development interventions



Source: RWI

2 Employment related activity types in the portfolio of rural development interventions

2.1 Definition of employment indicators

It is a challenging task to precisely define employment indicators in a way that they reflect a broad range of project realities and are measurable in practice. This report – and the toolkit in section 3 – uses **the set of employment indicators by GIZ** as they are specified in the survey for aggregate impact monitoring 2018 (for the detailed definitions see GIZ 2018, the concise versions follow below).

Definition of employment as applied by GIZ:

A person is considered to be employed if he or she is

- 15 years or older,
- informally and/or formally active,
- dependent, self-employed or engaged in family business,
- produces goods and/or services
- and if he or she generates income and/or benefits in kind through his/her employment(s).

Employment effects generally include **quantitative as well as qualitative aspects**. Projects can quantitatively contribute to both the creation of *new* employment relationships as well as to the reduction of underemployment by creating *additional* employment in already existing activities. Qualitatively, projects can contribute to improving the working conditions or, in particular, the incomes of their beneficiaries.

For agricultural and rural development projects applies, specifically, the following definition of employment:

Employment in rural areas is remunerated work. Remuneration can take various forms, including monetary and non-monetary remuneration, benefits in kind, formal or informal. It also includes part-time or full-time work in a family business and the “production for personal use”.

This implies that any set of employment indicators should reflect the typical labor market characteristics in rural areas, in order to measure meaningful results. Specifically, some key characteristics that differentiate many rural labor markets are:

- Lack of formal, stable and dependent employment opportunities
- Abundance of (low-skilled) labor
- Relevance of (subsistence- and/or side-line) farming
- Dependence on agriculture seasons/weather shocks (translates in the entire economy)
- High vulnerability (e.g. lack of formal social safety nets, enforcement of labor standards)
- Work in agriculture often (perceived) low-quality, low-paid, etc.

These features of labor markets translate into specific employment situations which are typically observed in rural contexts:

- Underemployment rather than unemployment (people cannot afford not to work)
- Predominance of self-employment (i.e. MSME) and own-account work

- Simultaneous, multiple income-generating activities (off/on-farm) (to supplement the inadequate and unstable earnings accruing from just one)
- Staggered, short term, seasonal own-account work
- Community- and family (unpaid) labor sharing (non-market work)
- Gap between aspirations vs. existing work opportunities – especially for youth (e.g. blue/white-collar vs. low-quality, seasonal farm job)
- Frequent reallocation or switch between income-generating activities, dependent on availability and pay

These specific labor market characteristics – while typically considered when designing interventions – have also to be taken into account for employment indicator formulation, measurement and data collection. They will thus also guide the development of the toolkit in chapter 3 of this report. And the **set of employment indicators** contains therefore the following four dimensions, which apply to the individuals as defined above:

- Quantitative: creation of new employment
- Quantitative: creation of additional employment; reduction of underemployment
- Qualitative: improvement of working conditions
- Qualitative: improvement of income

When applying these indicators it can be of particular importance to consider **gender and youth** aspects separately. As many interventions target labor market outcomes for women and/or youth specifically, any such indicator should allow for being measured separately for female and young target groups. From a methodological perspective this can be included in a straightforward way, as long as the samples to measure employment effects are large enough to be disaggregated by gender and age groups. In turn, this implies that if impacts for women and youth are of particular interest, then sufficiently comprehensive data needs to be collected.

Indicator 1 - Creation of new employment / jobs:

This indicator counts the number of individuals who have newly entered a dependent or self-employed occupation as a result of the contribution of a GIZ intervention. The question specifically applicable in this case is:

(1): How many persons, who were not employed before, have come into employment through the contribution of your intervention?

Indicator 2 - Creation of additional employment; reduction of underemployment:

This indicator counts the number of individuals who were able to reduce their underemployment and pick up additional employment through the contribution of a GIZ intervention. A reduction of underemployment occurs when the working time in a segment (i.e. in an agricultural family business) increases due to better conditions. The questions specifically applicable in this case are:

(2.1): How many persons have reduced their temporal underemployment through the contribution of your intervention?

(2.2): How many hours per week do these persons work more per week [month]?

(2.3): Can it be assumed that productivity has remained constant or increased for this increase in working time?

Full-time equivalents (FTE) based on the hours worked per week or month can be calculated. One full-time equivalent equals 1 job that corresponds to 8 hours of work per day over 225 days a year.

Indicator 3 - Improvement of working conditions:

This indicator determines the number of individuals whose working conditions have improved as a result of the contribution of a GIZ intervention. The question specifically applicable in this case is:

(3): How many persons have benefitted through the contribution of your intervention in terms of improved working conditions?

Better Working Conditions include the following elements²:

- Labor standards are respected
- Employment contracts are in place
- Social security (e.g. contribution to pension or health insurance) has improved
- Job security has improved
- The quality of women's jobs has improved
- The workplace quality of women has improved
- Workers have access to health programs at the workplace
- Access to financial services of the company employing the worker
- Contract Farming / purchase contracts allow safer/higher remuneration

Concerning the rural development sector, the guide on the aggregate impact monitoring highlights that reliable information whether the promoted employment relationships meet all the above-listed criteria cannot be provided. A typically practicable criterion is that a (context-specific) subset of this list is fulfilled. In any case, it should be the aim to examine the possibilities of promoting decent work and, in cases where decent work is the concrete objective of the project, to record these effects.

Indicator 4: improvement of income/ increase in income:

This indicator counts the number of individuals whose earned income has improved as a result of the contribution of a GIZ intervention. The earned income or salary consists of earnings (in the form of money, goods or services) received by a person (including family workers) for the performance of a remunerated or self-employed activity. The question specifically applicable in this case is:

(4): How many persons have benefitted through the contribution of your intervention in terms of increased income?

The survey guide (GIZ 2018) also includes a short discussion on measuring gross effects vs. collecting data on positive or negative “second-order” effects:

² For a more detailed in-depth guidance of how to improve working conditions see ILO Core Labor Standards or FAO Understanding Decent Rural Employment.

In general, interventions assess gross employment effects. **Gross employment effects** simply compare the employment outcome of beneficiaries before and after the intervention, thus implicitly assuming that the employment situation of beneficiaries would have remained unchanged, had the intervention not gone underway. Arguably, this can be an unrealistic assumption. To determine the success of development interventions in improving employment outcomes of beneficiaries, net effects may be more informative: That is, the realized employment outcome net of the employment outcome that would have occurred even in the absence of the intervention. To arrive at **net employment effects** thus requires the measurement of the counterfactual scenario using a control group (Kluve and Stöterau 2014).

Given that corresponding information is available, also **positive or negative second-round effects** should be taken into account: Positive second-round effects include e.g. additional employment upstream or downstream in value chains and through consumption, as an indirect result of GIZ activity. Negative second-round effects include e.g. substitution of employment through higher-qualified individuals or displacement in other sectors, displacement through increased labor productivity or net job loss due to mechanization (GIZ 2018).

Evidently, this pragmatic explanation does not need to have the intention to provide a comprehensive and precise conceptual framework of what should be considered direct, indirect and induced effects, and hence, which and how these different aspects should be integrated into M&E systems. While some guidelines and conceptual frameworks have been developed as part of GIZ activities (e.g. Kluve and Stöterau 2014), none of them has so far been applied comprehensively across a wide range of projects. This was frequently mentioned as a key challenge by several GIZ projects during the assessment missions.

The remaining chapter 2 will thus use the terminology rather broadly without a specific ex-ante definition, as is common practice across GIZ projects. Appendix A2 contains a review of the corresponding conceptual framework and precise terminology.

2.2 Methodology to identify employment related activities in rural development projects, and to measure their effects

Challenges

As indicated in the portfolio analysis, many rural and agricultural development projects achieve employment effects. Nonetheless, the majority of projects do so non-explicitly, i.e. without linking their targeted outcomes explicitly to actual employment effects. In the absence of a specified link between intermediate non-employment outcomes and (potentially) connected employment outcomes, evidently the measurement of employment effects is difficult.

In addition, the portfolio of activities in rural and agricultural development is both very comprehensive and very heterogeneous; this heterogeneity regards the ways in which employment outcomes are targeted or not (and measurable or not), and it regards the ways in which the various results logics lead to employment-related outcomes. Besides that, the heterogeneity expands to the way in which gender or youth disaggregated data for employment aspects are considered in the projects. The fact that employment is in two thirds of the cases *not* specified in an indicator (recall Figure 1) is then reflected in the fact that several projects – across the portfolio – do not have a stringent inclusion of pathways to employment in the results logic formulations.

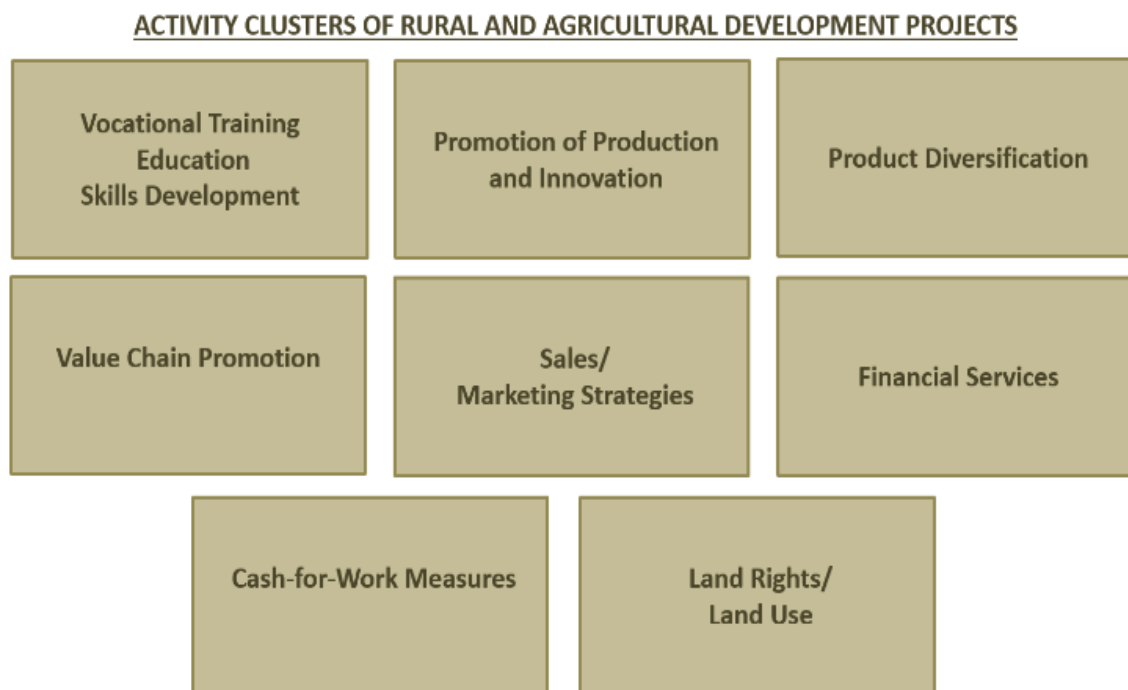
Solution

The solution is based on the development of **eight activity clusters**, which build upon the impact logics identified in the portfolio analysis. These eight clusters represent **typical reoccurring ac-**

activities to be found **across all different project types of rural and agricultural development interventions**. These are illustrated in Figure 2 and form the starting point of the toolkit in section 3. Within each cluster, the presented activities share typical ways of being connected with employment (as represented by the four employment indicators defined in the previous section); “typical” means that there is still substantial variation in practice, i.e. there are no standardized pathways in rural development interventions. It is important to note that **these clusters are *not* based on typical project intervention types** of rural and agricultural development projects but rather more generally on **frequently recurring activities *across*** these project types (recall the impact logics of the portfolio analysis).

The activity clusters **only** focus on those activities that have a **potential linkage with an employment effect** or have, even more importantly, potentially **measurable links with one or more of the four employment dimensions**. In practice this means that the clusters cannot comprise all of the activities that any rural development project carries out, but only those activities that have potential connections to employment.

Figure 2.
Activity clusters of rural and agricultural development projects



Source: RWI

This means, for instance, that a food security project, which focuses both on a) advising young mothers on sufficient calorie intake and nutritious diet and b) on product diversification by introducing diversified production cultures to the farmers they work with, will only find the activity of product diversification depicted in the eight activity clusters and not the consultation on calorie intake. This is the case because product diversification has (over the additional revenue it creates for the farmers) a linkage to one of the employment dimensions, namely income increase for the farmers that diversify their production, while nutrition consultation has no directly measurable or estimable connection to employment.

Similarly, a forestry management project might find their activity in value chain promotion in the activity clusters, while their equally important biodiversity conservation activities are not displayed: even though biodiversity conservation is indeed an important and typical reoccurring activity across various rural and agricultural development projects (not only for forest projects), it has, other than value chain promotion, no direct measurable or estimable link to the employment dimension and therefore cannot be included.³

For each of the eight activity clusters, the possible links between targeted outcomes of rural and agricultural development projects and the four employment dimensions can then be visualized in a second step. Figure 3 shows a generic illustration. Because *only* if a mechanism leading to an employment effect (potentially through an intermediate outcome) is identified clearly, an actual methodological assessment of the effect is possible. Therefore, the **objective of the activity clusters** and their corresponding **visualization** is to make possible employment outcomes visible and explicit.

Finally, for each identified link in the visualization graph that connects the specific project outputs with possible employment effects, a corresponding method for the measurement or estimation of the respective employment effect can be provided in a third step.

The methodological approach to measuring employment effects for rural and agricultural development interventions consists therefore of three steps:

Step 1: A classification of intervention activities into eight activity clusters.

Step 2: *Within* each activity cluster, linking project outputs to the four employment indicators, potentially via intermediate outcomes.

Step 3: For *each* of these links, providing a so-called *method map* that explains how (a) the link to employment can be established in the monitoring system, and ways to (b) measure or (c) estimate employment effects.

This 3-step approach is presented as a toolkit for practical use in the subsequent section 3.

A few remarks on this methodological approach

A key building block of the toolkit is to link different **intermediate employment outcomes** that the projects achieve/target (shown in the middle of Figure 3, one level above the example measures) to the employment outcomes. These intermediate outcomes typically represent targeted outcomes or sometimes outputs in the area of the respective cluster (e.g. improved employability as an outcome in the activity cluster comprising education and skills development). It is important to note that the intermediate employment outcomes are only intermediary in the sense that from there potential links to employment can be specified and measured (i.e. they are only “intermediate” from the perspective of employment being the ultimate objective).

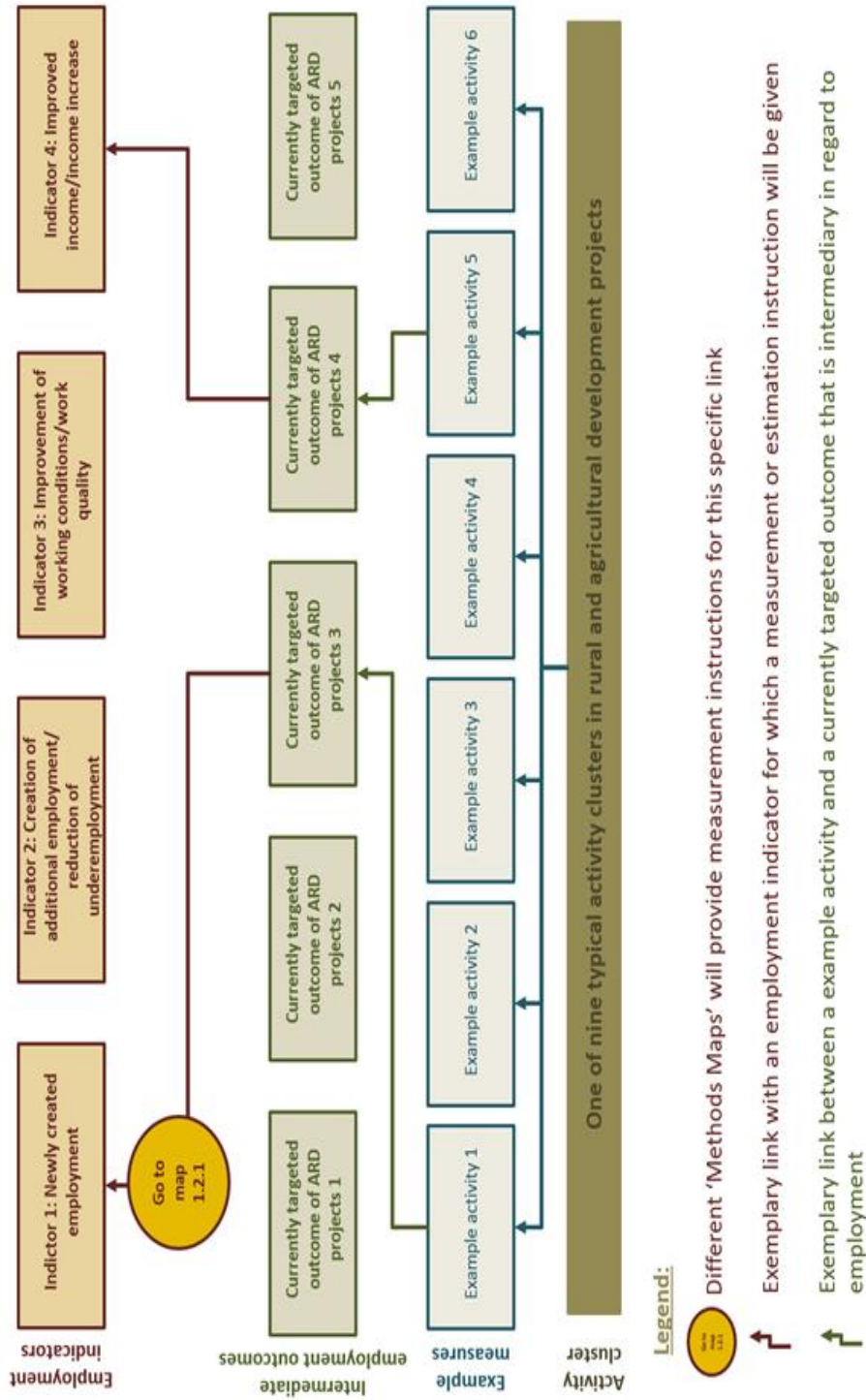
Many projects have outcomes that have employment potential, but they do not link these outcomes explicitly to employment indicators and therefore do not assess and measure the employment effect created by them. The aim is therefore to identify, in the activity clusters, one or more outcomes targeted by the own project which have potentially a *measurable* – i.e. quantifiable or

³ It should be noted, however, that the analysis and the field testing have revealed that almost all rural development projects have at least one activity that relates to employment, and that these activities were captured by the pathways to employment in the activity clusters.

demonstrable, typically using M&E data – link with one or more of the four employment indicators. Once a link is identified, the toolkit will guide users to the appropriate method where measurement and estimation instructions for that exact mechanism are given.

Across the different activity clusters in the toolkit, there may be some overlap regarding the example measures presented or the intermediate employment outcomes displayed. This is due to the fact that the toolkit has to cover the heterogeneity of all the rural and agricultural development project types, where each project has different foci. The objective is therefore to present a rather broad range of possible activities to ensure that each project is covered with its specific project reality, instead of narrowing it down to examples that are more abstract.

Figure 3. Generic visualization of the employment links in an activity cluster



Source: RWI

3 The toolkit

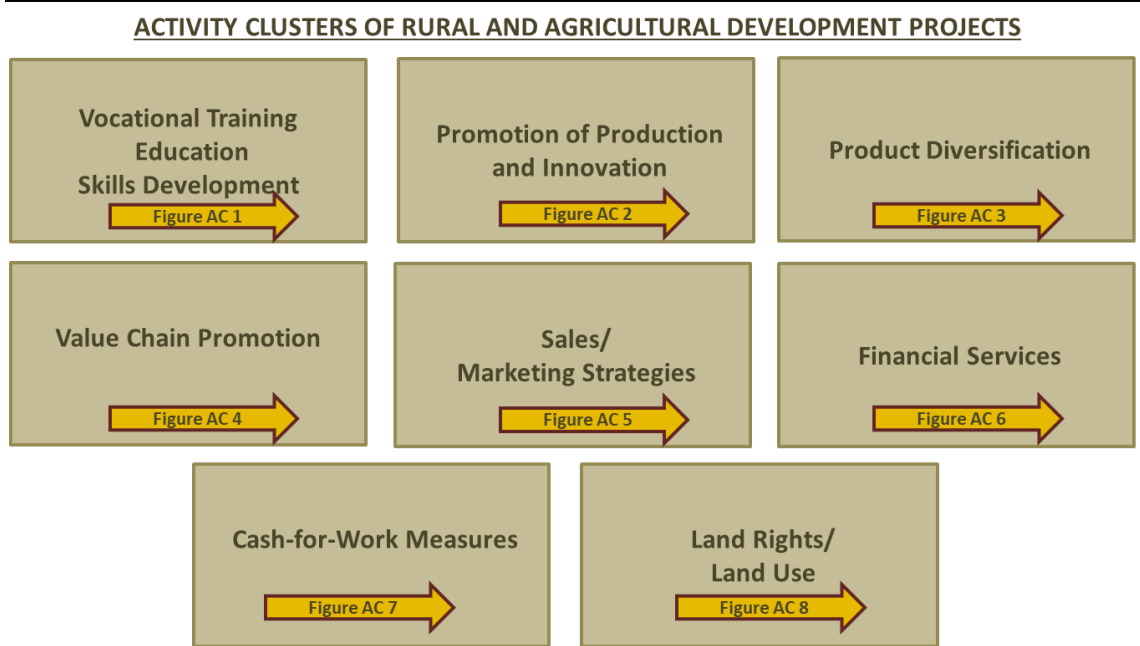
This toolkit is designed to provide agricultural and rural development programs with guidelines how to measure or estimate their employment effects in three steps. Simultaneously, the toolkit provides guidelines concerning the pathways in which agricultural and rural development activities can result in employment effects measured by the set of indicators outlined above.

Step 1: Activity cluster – In which activities does a program engage?

Step 1 defines eight **activity clusters** in which agricultural and rural development programs can be active. It can be one activity cluster, or it can be several which usually complement each other. As illustrated in Figure 4, each activity cluster is linked to a visualization graph in step 2. The **visualization graph** contains the visualization of potential employment effects of the different activities, linking project activities to intermediate outcomes and finally to relevant employment indicators.

Figure 4.

Activity clusters mapping to visualizations



Source: RWI

Step 2: Visualization – linking activities to intermediate and employment outcomes

Step 2 uses the visualization of the results logic for each given activity cluster to connect specific measures with intermediate employment outcomes and final employment indicators. Each connection is then linked to a **method map**, i.e. a methodological suggestion how to measure or estimate employment effects in the specific case. In a given cluster visualization, there can be several relevant paths for a specific program.

A second feature of the visualization graphs is that they provide a systematic illustration of potential results logics linking activities in the agricultural and rural context to potential employment effects; this can also be helpful in the planning stage of new programs, to conceive through which set of activities which employment indicator will or could be influenced.

Finally, the visualization graphs also include examples to highlight typical paths within each activity cluster.

Please note that, in order to make the illustration clearer, Figures AC 1 (Cluster “training, education, skills”) and AC 6 (Cluster “financial services”) consist of three and two parts, respectively – this is because if the parts were merged into only one visualization graph each, the number of arrows would have been intractable.

Step 3: Method map – methods to measure or estimate employment effects

In step 3, the corresponding methods that are linked to the cluster visualization can be implemented, choosing between approaches to measure or estimate employment effects.

These “method maps” provide methodological guidance for measuring or estimating employment effects for the specific paths identified in the visualization graphs within each activity cluster. **The method maps follow a uniform structure, and within this uniform structure give methodological advice for the specific case given by the particular combination of activity + intermediate outcome + key employment indicator.** It is important to emphasize that this approach balances the requirements of the toolkit to be sufficiently specific (that is, to provide a useful tool for many particular activities, but without producing hundreds of single method maps for each special case) and also to provide a general structure (that is, to follow a uniform structure, but without merely giving an overall framework that is not applicable in a concrete case).

This uniform structure of the method maps is as follows:

The first panel of the method map concerns the link between intermediate outcome and key indicator. Some explanation is given on the typical mechanism that links the two, along with the corresponding measurement or monitoring requirements. The latter specify what measure would be typically collected in the monitoring system, and how (e.g. using a survey among a sample of beneficiaries).

The second panel of the method map concerns the *measurement* of employment effects. This includes example measurement instructions for a) gross effects, and b) net effects, where the latter generally requires a comparison or control group of non-participants (these could be, most often, individuals, but also regions, schools, sectors etc.). Illustrations of how the comparison group could be constructed are given subsequently in examples (see below). More detailed explanations of research designs for control-group approaches are discussed, inter alia, in Kluge and Stöterau (2014), Hempel and Fiala (2011), or Gertler et al. (2016). The second panel also specifies the (minimum) monitoring requirements for these measurements, along with possible ways of collecting this information through surveys.

The third panel of the method map concerns the *estimation* of employment effects, as an alternative to measuring the effects. Again, a typical example is provided in the method map together with monitoring requirements and a corresponding survey method. Note that **the estimation approach suggested here is based on the general idea that an estimate of a gross employment effect can be derived by monitoring (or plausibly assuming) an “outcome achievement quota” – that is, the quota of beneficiaries for whom the achievement of the intermediate outcome (e.g. productivity increase) simultaneously implies an achievement of the employment outcome (e.g. income increase).** This approach is illustrated further in the examples.

This uniform structure of the method maps thus provides guidance in different methodological scenarios, i.e. in cases where differing versions of measurement or estimation are possible, depending e.g. on time, resources and data constraints. At the same time, there is a *preferential ranking of methods* implied in this uniform structure: i) The first-best approach would be the *measurement of net effects*, taking into account a control group (cf. also Kluge and Stöterau 2014); ii) the second-best approach would be the *measurement of gross effects*; iii) the third-best approach would be the *estimation* of employment effects using the outcome achievement quota, data for which would be generated within the intervention's *own monitoring system*; finally, iv), an approach of last resort would be the *estimation* based on the outcome achievement quota, in which the quota is taken from *external sources* (e.g. a similar program by another donor).

Examples

Throughout the toolkit, the approach for each activity cluster is illustrated using **examples of typical or specific activities in that cluster**, with corresponding intermediate outcomes. The examples then describe how, following the method maps, employment effects can be measured or estimated for the given activity. Numerical illustrations are given to further substantiate the examples.

In many instances it is to be expected that, in practice, the relevant monitoring data for measurement – gross and net – or estimation of employment effects will be collected through surveys. There are many reference works on survey methods available; for some key survey design guidelines in the context of impact evaluation see e.g. Gertler et al. (2016) or the World Bank's Jobs M&E toolkit (World Bank 2017) mentioned in the introduction. Also, GIZ has plenty of experience in designing surveys for effect measurement, see e.g. the sample questionnaires for employment effect studies in Kluge (2011).

Finally, all methods delineated here can be equally applied to measuring or estimating **gender- or youth-specific employment effects**, both of which are often of specific interest or constitute the key objective of a given intervention in the rural and agricultural context. The methodological approaches suggested in the toolkit do generally not depend on which beneficiary group is targeted. The only practical requirement typically implied would be to collect gender- and youth disaggregated data, and that sample sizes may need to be larger if disaggregated results by gender or age group are of interest.

The following table gives an **overview of the toolkit structure**. The first column displays the activity clusters – for each of the activity clusters, the toolkit contains a visualization graph. The second column displays which method maps exist within each activity cluster, and which intermediate outcome and employment outcome are linked in the respective method map. The third column displays the corresponding examples that are included to give a detailed illustration of the specific case. Since the method maps follow an analogous structure and methodical logic across activities (in particular those method maps leading to the same employment indicator), examples are given for key cases – The examples not explicitly given follow an analogous set-up to the ones detailed here. Note that the logic of the numeration of method maps and examples uses the format “#. #.#” in which the first number refers to the activity cluster, the second to the intermediate outcome, and the third to the employment indicator.

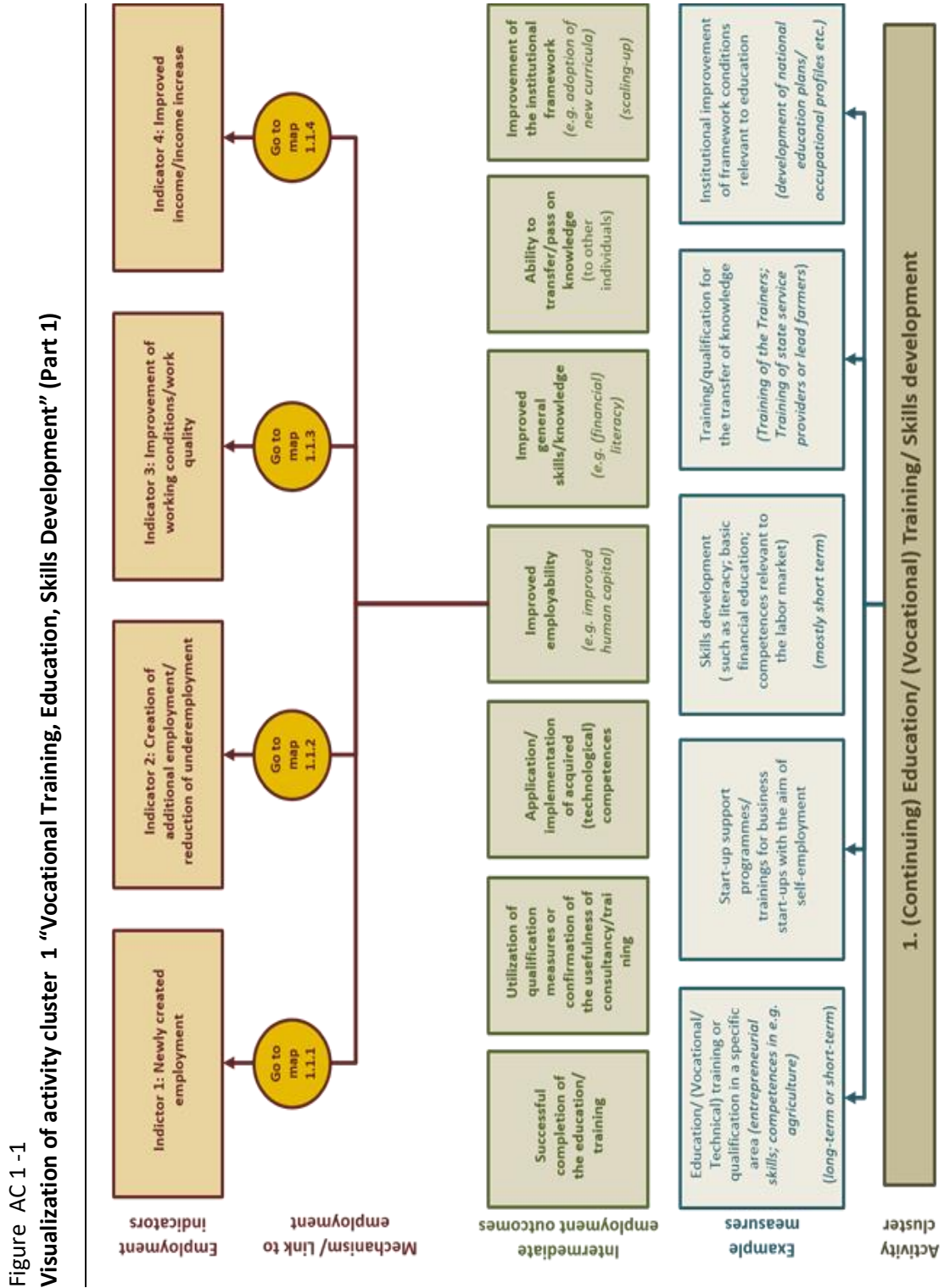
As mentioned above, programs should identify and select the activity clusters, visualization graphs and method maps (most) relevant to their needs and can use the hyperlinks to navigate quickly to the relevant sections.

Toolkit overview

Activity clusters – Method maps – Examples

Activity cluster	Method map: Intermediate outcome => employment outcome (#.#.# = activity cluster . intermediate outcome . employment outcome)	Example
1. Voc. Training, Education, Skills <u>(Part 1)</u>	1.1.1 Improved employability => new employment	1.1.1
	1.1.2 Improved employability => additional employment	
	1.1.3 Improved employability => improved working conditions	
	1.1.4 Improved employability => income increase	
<u>(Part 2)</u>	1.2.1 Completion/Utilization/Application/Skills/Transfer => new employment	
	1.2.2 Completion/Utilization/Application/Skills/Transfer => additional employment	1.2.2
	1.2.3 Completion/Utilization/Application/Skills/Transfer => improved working conditions	1.2.3
	1.2.4 Completion/Utilization/Application/Skills/Transfer => income increase	1.2.4
<u>(Part 3)</u>	1.3.1 Improved institutional framework => new employment / additional employment / improved working conditions / income increases	1.3.1
2. Promotion of Production and Innovation	2.1.3 Productivity increases => improved working conditions	
	2.1.4 Productivity increases => income increases	2.1.4
	2.2.4 Increase in production => income increases	
3. Product Diversification	3.1.4 Diversification of product range => income increases	
	3.2.4 Revenue increase alternative products => income increases	3.2.4
	3.3.4 Dependency reduction single product => income increases	
4. Value chain promotion	4.1.1 All intermediate outcomes => new employment	
	4.1.2 All intermediate outcomes => additional employment	
	4.1.4 All intermediate outcomes => income increases	4.1.4
5. Improvement of Sales/ Marketing	5.1.4 Revenue increase => income increases	5.1.4
6. Improvement of Financial Services <u>(Part 1)</u>	6.1.1 Utilization of financial services => new employment	
	6.1.2 Utilization of financial services => additional employment	
	6.1.4 Utilization of financial services => income increases	6.1.4
<u>(Part 2)</u>	6.2.1 Improved institutional framework => new employment / additional employment / improved working conditions / income increases	6.2.1
7. Cash-for-Work Measures	7.1.1 n/a => new employment	
	7.1.2 n/a => additional employment	
	7.1.4 n/a => income increases	7.1.4
8. Improvement of Land rights / Land use	8.1.1 Improved access to land => new employment	
	8.1.2 Improved access to land => additional employment	
	8.1.4 Improved access to land => income increases	8.1.4

Activity cluster 1 “Vocational Training, Education, Skills Development” (Part 1)



Source: RWI

Method map 1.1.1

Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 1 “New employment”

Intermediate Outcome	Improved employability
Key indicator of employment effects	New employment
Link between Intermediate Outcome and Key indicator	
Mechanism	Increased employability leads to improvements in any of the 4 key indicators
Measurement/monitoring requirements	<ul style="list-style-type: none"> • Skills or competencies measure as a measure of employability: standardized tests; or other measure of employability • Data: survey (with skills measurement, or other measure of employability)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with a job * number of total beneficiaries • Net effects: Compare share of beneficiaries who found a job with control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • skills or employability measure • share employed before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with increased employability have also found new employment
Monitoring requirements	Quota of beneficiaries for whom an increase in employability implies finding a job
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 1.1.2

Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 2 “Additional employment”

Intermediate Outcome	Improved employability
Key indicator of employment effects	Additional employment
Link between Intermediate Outcome and Key indicator	
Mechanism	Increased employability leads to improvements in any of the 4 key indicators
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Skills or competencies measure as a measure of employability: standardized tests; or other measure of employability • Data: survey (with skills measurement, or other measure of employability)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of survey respondents with increased employment * number of total beneficiaries • Net: Compare share of beneficiaries with increased employment with control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • skills or employability measure • Measure of working hours (periods) before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased employability have also increased employment (working hours or periods)
Monitoring requirements	Quota of beneficiaries for whom an increase in employability implies an increase in employment
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 1.1.3

Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 3 “Improved working conditions”

Intermediate Outcome	Improved employability
Key indicator of employment effects	Improved working conditions
Link between Intermediate Outcome and Key indicator	
Mechanism	Increased employability leads to improvements in any of the 4 key indicators
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Skills or competencies measure as a measure of employability: standardized tests; or other measure of employability • Data: survey (with skills measurement, or other measure of employability)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of survey respondents with improved working conditions * number of total beneficiaries • Net: Compare share of beneficiaries with improved working conditions with control group that did not participate
Monitoring requirements	<p>Variables:</p> <ul style="list-style-type: none"> • Skills or employability measure • Measure of working conditions before and after (item list) • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased employability have also improved working conditions
Monitoring requirements	Quota of beneficiaries for whom an increase in employability implies improved working conditions
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 1.1.4

Activity 1 “Education / Skills” – Intermediate Outcome “Improved employability” –Key indicator 4 “Income increase”

Intermediate Outcome	Improved employability
Key indicator of employment effects	Income increase
Link between Intermediate Outcome and Key indicator	
Mechanism	Increased employability leads to improvements in any of the 4 key indicators
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Skills or competencies measure as a measure of employability: standardized tests; or other measure of employability • Data: survey (with skills measurement, or other measure of employability)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of survey respondents with increased income * number of total beneficiaries • Net: Compare share of beneficiaries with increased income with control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • skills or employability measure • Income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased employability have also increased income
Monitoring requirements	Quota of beneficiaries for whom an increase in employability implies income increases
Survey method for estimate	Survey among a sample of program beneficiaries

**Example 1.1.1: measurement and estimation of employment effects in activity cluster
“Vocational Training, Education, Skills Development” (Part 1)**

a) Activity

An agricultural TVET intervention for women focuses on labor market-oriented training in the agricultural and food sector in selected pilot countries. The project offers various kinds of long and short-term training measures (e.g. for 1000 participants), which target an increase in the (self-) employability of the participants. The project measures entail teaching labor market relevant skills, possibilities to improve product quality, or connecting the beneficiaries with new clients and markets.

b) Indicators

Indicators of the project that target employment non-explicitly⁴ are for example:

- 60% of the 360 interviewed women confirm the labor market relevance of the training measures.⁵
- 60% of the 360 interviewed women confirm by means of concrete examples that the newly implemented training measures have increased their (self-) employability.

This shows that the project targets employment on an intermediate level by assessing the labor market relevance of the training measures and the employability of the trainees. The project probably contributes to employment creation, but does not yet measure the actual employment effects, because no explicit employment indicator (i.e. how many of the trained women have actually taken up a new or additional employment or have increased their income) is specified.

If the project now wants to measure or estimate corresponding employment effects, such as how many of the participants have – through their increased employability – actually obtained new employment or have started additional work or increased their income, it can proceed as follows.

c) Using method map 1.1.1 to measure or estimate effects

for key indicator 1 “new employment”

First panel of method map – establish link between intermediate outcome and indicator

- The concerned link is between “employability” (intermediate indicator) and “new employment”
- Plausibilization of the link: women were trained in the agricultural and food sector => the newly acquired skills increase their employability => which results in a higher probability of finding employment or starting self-employment
- Monitoring: The program’s M&E team conducts a survey among beneficiaries e.g. 3 months after the training; the survey finds that 71% of interviewed women report that they are now better equipped to find employment / start self-employment (i.e. employable)

⁴ see “1.3. Results of the portfolio analysis” for the detailed concept.

⁵ Depending on the size of the project the number of “360” could be either the full population of beneficiaries or a representative sample of an overall larger number of beneficiaries.

- Alternative: in order to not rely on a self-reported survey measure of employability, also an objective skills measure such as a test at the end of the training program can be used

Second panel of method map – measurement

Gross effect

- “(Self-)employment before”: the baseline of (a sample of) program participants shows that 10% of beneficiaries were already in some form of (self-)employment before starting the training
- “(Self-) employment after”: a follow-up survey (potentially the same that collects information on the “employability” in the first panel) of (a sample of) program participants shows that 37% are (self-) employed now
- The before-after difference of 27 percentage points (37 – 10) measures the gross program effect on new employment expressed in employment probability
- The same before-after approach could be used with absolute numbers (e.g. 30 (self-) employed before, 110 after => 80 new employments gross program effect)

Net effect

- Identify a suitable comparison group, e.g. women who are similar to the program beneficiaries but live in a nearby region and were not served by the program; or women who applied to the program but could not be served because of limited training slots
- “(Self-)employment before”: the baseline data of the comparison group shows that 8% of women in the sample are (self-)employed
- “(Self-)employment after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the survey of the beneficiaries) shows that 20% of women are (self-) employed
- The before-after difference for the comparison group shows that also without the training an additional 12 percentage points become (self-)employed (20 – 8)
- The difference of 27 percentage points (before-after of beneficiaries) and 12 percentage points (before-after comparison group) = 15 percentage points thus measures the net program effect on new employment (employment probability)

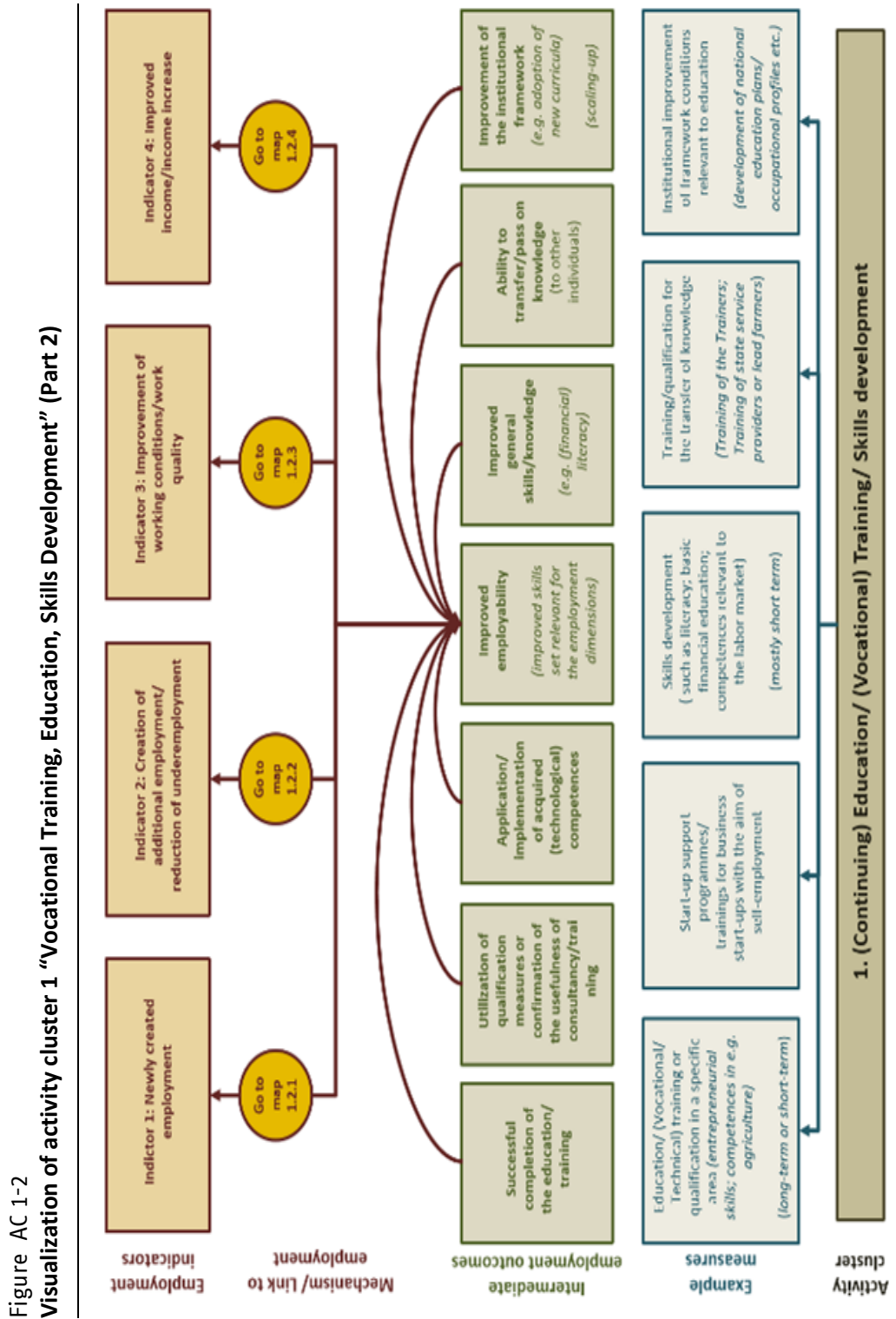
Third panel of method map– estimation

- Suppose there is no baseline data available from the beneficiaries, i.e. no gross effect *measurement* is possible
- In a follow-up survey (representative sample of beneficiaries), 71% per cent of respondents say they are now more employable / have increased their skills (see first panel – monitoring above)
- The same (or a separate) survey indicates that 33% of those that report increased employability / skills are also (self-)employed
- One could then estimate the program effect on “new employment” as 0.71 (increase in employability rate) * 0.33 (quota for whom increase in employability implies new (self-)employment) = 0.23, i.e. 23 percentage point increase in employment probability

- In relation to the total number of program beneficiaries (e.g. 1,000) this calculation would estimate an absolute gross employment effect of $1,000 * 0.71 * 0.33 = 230$.

[Back to toolkit overview.](#)

Activity cluster 1 “Vocational Training, Education, Skills Development” (Part 2)



Source: RWI

Method map 1.2.1

Activity 1 “Education / Skills” – Intermediate Outcomes “Completion / Utilization / Application / Skills / Transfer / Framework” –Key indicator 1 “New employment”

Any of the intermediate outcomes:

- Successful COMPLETION of the education / training
- UTILIZATION of qualification measures or confirmation of usefulness of the training
- APPLICATION of acquired competences
- Improved general SKILLS, and
- the ability to TRANSFER knowledge
- improved FRAMEWORK conditions (locally, e.g. schools with modernized curricula)

sequentially all feed into the "improved employability" indicator.

Therefore, employment effect measurement in each of these five cases can be summarized using the employability path; only the link to employability needs to be verified in the monitoring system.

Intermediate Outcome	Improved employability via a) Completion, b) Utilization, c) Application, d) Improved Skills, e) Transfer ability, or f) Framework
Key indicator of employment effects	New employment
Link between Intermediate Outcome and Key indicator	
Mechanism	a) Completion, b) Utilization, c) Application, d) Improved Skills, e) Transfer ability, or f) Framework lead to increased employability which leads to improvements in any of the 4 key indicators
Measurement / monitoring requirements	a) Measure of completion: certificates, final exam b) Monitor utilization or confirmation of usefulness (survey) c) Application of competencies (survey of beneficiaries or employers) d) Skills or competencies measure: standardized tests e) Ability to transfer knowledge (survey of beneficiaries or employers) f) Document changes in framework (features of new curricula)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with a job * number of total beneficiaries • Net effects: Compare share of beneficiaries who found a job with control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • Measure of a) completion, b) utilization , c) application , d) skills, e) transfer, f) framework • share employed before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability, f) improved framework – and hence increased employability – have also found new employment
Monitoring requirements	Quota of beneficiaries for whom a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability, f) better framework implies finding a job
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 1.2.2

Activity 1 “Education / Skills” – Intermediate Outcome “Completion / Utilization / Application / Skills / Transfer” –Key indicator 2 “Additional employment”

Any of the intermediate outcomes:

- Successful COMPLETION of the education / training
- UTILIZATION of qualification measures or confirmation of usefulness of the training
- APPLICATION of acquired competences
- Improved general SKILLS, and
- the ability to TRANSFER knowledge
- improved FRAMEWORK conditions (locally, e.g. schools with modernized curricula)

sequentially all feed into the "improved employability" indicator.

Therefore, employment effect measurement in each of these five cases can be summarized using the employability path; only the link to employability needs to be verified in the monitoring system.

Intermediate Outcome	Improved employability via a) Completion, b) Utilization, c) Application, d) Improved Skills, e) Transfer ability, or f) Framework
Key indicator of employment effects	Additional employment
Link between Intermediate Outcome and Key indicator	
Mechanism	a) Completion, b) Utilization, c) Application, d) Improved Skills, e) Transfer ability, or f) Framework lead to increased employability which leads to improvements in any of the 4 key indicators
Measurement / monitoring requirements	a) Measure of completion: certificates, final exam b) Monitor utilization or confirmation of usefulness (survey) c) Application of competencies (survey of beneficiaries or employers) d) Skills or competencies measure: standardized tests e) Ability to transfer knowledge (survey of beneficiaries or employers) f) Document changes in framework (features of new curricula)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of survey respondents with increased employment * number of total beneficiaries • Net: Compare share of beneficiaries with increased employment with control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • a) completion measure, b) utilization measure, c) application measure, d) skills measure, or e) transfer measure, f) framework • Measure of working hours (periods) before and after • same for comparison group
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability or f) improved framework – and hence increased employability – have also increased employment (working hours or periods)
Monitoring requirements	Quota of beneficiaries for whom a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability, or f) improved framework implies increased employment (working hours or periods)
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 1.2.3

Activity 1 “Education / Skills” – Intermediate Outcome “Completion / Utilization / Application / Skills / Transfer” –Key indicator 3 “Improved working conditions”

Any of the intermediate outcomes:

- Successful COMPLETION of the education / training
- UTILIZATION of qualification measures or confirmation of usefulness of the training
- APPLICATION of acquired competences
- Improved general SKILLS, and
- the ability to TRANSFER knowledge
- improved FRAMEWORK conditions (locally, e.g. schools with modernized curricula)

sequentially all feed into the "improved employability" indicator.

Therefore, employment effect measurement in each of these five cases can be summarized using the employability path; only the link to employability needs to be verified in the monitoring system.

Intermediate Outcome	Improved employability via a) Completion, b) Utilization, c) Application, d) Improved Skills, e) Transfer ability, or f) Framework
Key indicator of employment effects	Improved working conditions
Link between Intermediate Outcome and Key indicator	
Mechanism	a) Completion, b) Utilization, c) Application, d) Improved Skills, or e) Transfer ability lead to increased employability which leads to improvements in any of the 4 key indicators
Measurement / monitoring requirements	a) Measure of completion: certificates, final exam b) Monitor utilization or confirmation of usefulness (survey) c) Application of competencies (survey of beneficiaries or employers) d) Skills or competencies measure: standardized tests e) Ability to transfer knowledge (survey of beneficiaries or employers) f) Document changes in framework (features of new curricula)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of survey respondents with improved working conditions number of total beneficiaries • Net: Compare share of beneficiaries with improved working conditions with control group that did not participate
Monitoring requirements	<ul style="list-style-type: none"> • Variables: • a) completion measure, b) utilization measure, c) application measure, d) skills measure, e) transfer measure, f) framework • Measure of working conditions before and after (item list) • same for comparison group
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability, or f) improved framework – and hence increased employability – have also improved working conditions
Monitoring requirements	Quota of beneficiaries for whom a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability, or f) improved framework implies improved working conditions
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 1.2.4

Activity 1 “Education / Skills” – Intermediate Outcome “Completion / Utilization / Application / Skills / Transfer” –Key indicator 4 “Income increase”

Any of the intermediate outcomes:

- Successful COMPLETION of the education / training
- UTILIZATION of qualification measures or confirmation of usefulness of the training
- APPLICATION of acquired competences
- Improved general SKILLS, and
- the ability to TRANSFER knowledge
- improved FRAMEWORK conditions (locally, e.g. schools with modernized curricula)

sequentially all feed into the "improved employability" indicator.

Therefore, employment effect measurement in each of these five cases can be summarized using the employability path; only the link to employability needs to be verified in the monitoring system.

Intermediate Outcome	Improved employability via a) Completion, b) Utilization, c) Application, d) Improved Skills, or e) Transfer ability
Key indicator of employment effects	Income increase
Link between Intermediate Outcome and Key indicator	
Mechanism	a) Completion, b) Utilization, c) Application, d) Improved Skills, or e) Transfer ability lead to increased employability which leads to improvements in any of the 4 key indicators
Measurement / monitoring requirements	a) Measure of completion: certificates, final exam b) Monitor utilization or confirmation of usefulness (survey) c) Application of competencies (survey of beneficiaries or employers) d) Skills or competencies measure: standardized tests e) Ability to transfer knowledge (survey of beneficiaries or employers) f) Document changes in framework (features of new curricula)
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of survey respondents with increased income * number of total beneficiaries • Net: Compare share of beneficiaries with increased income with control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • a) completion measure, b) utilization measure, c) application measure, d) skills measure, e) transfer measure, or f) framework • Income before and after • same for comparison group
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability, or f) improved framework – and hence increased employability – have also increased incomes
Monitoring requirements	Quota of beneficiaries for whom a) increased completion, b), increased utilization, c) increased application, d) increased skills, e) increased transfer ability, or f) improved framework implies income increases
Survey method for estimate	Survey among a sample of program beneficiaries

Examples 1.2.2, 1.2.3, 1.2.4: measurement and estimation of employment effects in activity cluster “Vocational Training, Education, Skills Development” (Part 2)

Example 1.2.2

a) Activity

A project aims, among other things, at improving the agricultural based development of the rural economy in selected regions of a country. They do so by offering trainings for start-up/business skills in agricultural production in upstream and downstream sectors particularly for youth.

b) Indicators

An indicator of the project that targets employment non-explicitly⁶ is for example:

- 70% of Z trained participants apply the labor-market relevant competences 3 month after the training intervention has ended.

This shows that the project targets employment effects on an intermediate level by measuring the application of the acquired labor market relevant competences three month after the trainings through surveys with the former participants. However, the project is not able to report whether the application of the acquired competences actually led to new or additional employment or improved income for the beneficiaries because no employment indicator is specified. A possibility to report on this is given by the following measurement example.

c) Using method map 1.2.2 to measure or estimate effects for key indicator 2 “additional employment”

First panel of method map – establish link between intermediate outcome and key indicator

- The example concerns the case (b) from the method map 1.2.2, i.e. the link between “utilization” (=intermediate outcome) and “additional employment” as key indicator.
- Plausibilization of the link: youths were trained in business skills for agricultural production => they utilize these skills in practice => this utilization improves their employability => ...and creates additional employment among the beneficiaries.
- Monitoring: The program’s M&E team conducts a survey among beneficiaries 3 months after participation; the survey finds that 83% of interviewed youths report that they use the new skills every day.
- Remark: as a (potentially better) alternative to a self-reported measure of utilization the survey could have a list of questions on „do you use technique A?“ etc. to generate an objective measure of usage of the skills

Second panel of method map – measurement

Gross effects

- “Working hours before”: the baseline data of (a sample of) program participants shows that on average they work 25 hours per week in agricultural production

⁶ see 1.3. “Results of the portfolio analysis” for the detailed concept.

- “Working hours after”: a follow-up survey (potentially the same that collects information on the “utilization” in the first panel) of (a sample of) program participants shows that on average they work 37 hours per week in agricultural production
- The before-after difference of a 12-hour average increase (37-25) in weekly working time measures the gross program effect on additional employment expressed in working time
- And/or: the number (share) of respondents who report an increase in working hours in the follow-up survey relative to the baseline survey provide a gross measure for “the number of people with additional employment”

Remarks:

- The 12-hour average weekly effect per person can, in principle, be transformed into an “additional employment effect in FTE”
- Given that the utilization measure shows a usage rate of 83%, one could also calculate the average gross effect per person as $12h \cdot 0.83 = 9.96$ (~10)h weekly. The above mentioned 12h-effect would be based on the simplified assumption that the survey shows there is sufficient utilization and thus all beneficiaries can enter into the calculation

Net effects

- Required: Identify a suitable comparison group, e.g. youths who are similar to the program beneficiaries but live in a nearby region and were not served by the program; or youths who applied to the program but could not be served because there were not enough training slots
- “Working hours before”: the baseline data of the comparison group shows that on average they work 23 hours per week in agricultural production
- “Working hours after”: a follow-up survey of the comparison group shows that on average they work 28 hours per week in agricultural production
- => The before-after difference for the comparison group shows that also without the intervention the target population expands their agricultural activities, in this case by 5 hours per week
- => The difference of 12h (before-after of beneficiaries) and 5h (before-after comparison group) = 7h would thus measure the net program effect on additional employment (working time)
- One could also use the number (share) of comparison group individuals with increased working hours to calculate the net effect on „the number of persons with additional employment“

Remarks:

- Again, as in the gross effect case, the 7-hour average weekly net effect per person can, in principle, be transformed into a “net additional employment effect in FTE”
- Also, as in the gross case, one can adjust the 12h before-after difference for the beneficiaries using the 83% utilization quota

Third panel of method map – estimation

- Suppose there is no baseline survey among beneficiaries, i.e. no gross effect measurement is possible

- In a follow-up survey (representative sample of beneficiaries), 60% per cent of respondents say they now work more hours than before the program; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used
- One could then estimate the program effect on „persons with additional employment“ as 0.83 (utilization rate) * 0.6 (quota for whom increase in use implies increase in working time) * $5,000$ (total number of beneficiaries) = $2,490$
- If the follow-up survey also enquires about the change in the number of working hours, also the effect on working hours could be estimated (and potentially transformed into FTE)

Example 1.2.3

a) Activity

A drought resilience project aims at strengthening the resilience of the agro-pastoral population by improving the management and networking instruments of the institutional actors. As part of the project vocational profiles and standards for the agro-pastoral areas are developed.

b) Indicator

The corresponding indicator of the project, which contributes non-explicitly to employment creation is:

- 5 vocational profiles with occupational standards for pastoral and agro-pastoral production systems have been developed under the guidance of Y public institutions in the regions Y and Z.

c) Using method map 1.2.3 to measure or estimate effects for key indicator 3 “working conditions”

First panel of method map – establish link between intermediate outcome and key indicator

- Plausibilization of the link: The example concerns the case (f) from the method map 1.2.3, i.e. the new “institutional framework” improves “employability” (through the new standards and profiles) which in turn affect “working conditions” as key indicator.⁷
- Back to the example: The project monitors only if the vocational profiles and occupational standards are developed. What needs to be done in regard to also targeting employment outcomes explicitly is to monitor if the new vocational profiles and occupational standards are actually implemented and if they are applied for the targeted agro-pastoral population because this has possibly large employment effects regarding new employment opportunities or improves working conditions for the target group.

⁷ This particular example is a case in which there is also a direct path from the framework changes to improved working conditions that does not go through the employability of beneficiaries. This highlights that both paths can be affected by interventions, and that sometimes in practice the strict distinction is difficult. However, this caveat does not at all affect the possibility to measure or estimate employment effects. Also, it is a case that is most likely to occur with interventions that change the framework conditions and specifically the “working conditions” indicator.

- Monitoring: The program's M&E team documents that the new profiles have been put into practice by the relevant institutions and actors. Also, it conducts a survey among beneficiaries 1 year after the framework change; the survey finds that 43% of interviewed beneficiaries report working conditions that are in line with the new framework (This is the preferred approach – if no such survey is available, some other source of verification for this quota might be used; this could be e.g. an estimated percentage that a partner institution reports; or even an estimated percentage generated for a similar program in a different context (country, time, sector, region)).

Second panel of method map – measurement

Gross effects

- “Working conditions before”: the baseline data of (a sample of) program beneficiaries shows that on average 19% of them work in an environment that fulfills a specified minimum level of desired working conditions (defined e.g. as a minimum of X out Y total working condition pre-specified characteristics).
- “Working conditions after”: the follow-up survey after 1 year of (a sample of) program beneficiaries shows that on average 37% work in an environment that fulfills the minimum level.
- The before-after difference of 18 percentage points (37 – 19) measures the gross program effect on “the share of people with improved working conditions”.
- If the program worked with 2,000 individuals, the (gross) “number of people with improved working conditions” would thus amount to 360 individuals.
- (This quantitative effect could further be analyzed qualitatively by documenting *which* working characteristics have been affected.)

Net effects

- Required: Identify a suitable comparison group, e.g. pastoral and agro-pastoral production systems in regions where the intervention is not active.
- “Working conditions before”: the baseline data for the comparison group shows that on average 23% of them work under the minimum specified working conditions.
- “Working conditions after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for beneficiaries) shows that on average 27% work under the minimum conditions.
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population faces improved working conditions, in this case a 4 percentage point effect on the share of individuals (27 – 23).
- => The difference of 18 percentage points (before-after of beneficiaries) and 4 percentage points characteristic (before-after comparison group) = 14 percentage points measures the net program effect on working conditions: the share of beneficiaries with improved working conditions has improved by 14 percentage points, which in this example would amount to 280 individuals.

Third panel of method map – estimation

- Suppose there is no baseline survey among beneficiaries, i.e. no gross effect measurement is possible

- In a follow-up survey (representative sample of beneficiaries), 17% per cent of respondents say they face improved working conditions since the new institutional framework was put into place; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used.
- One could then estimate the program effect on „persons with improved working conditions“ as $2,000 * 0.17 = 340$.

Alternatively, the follow-up survey could use an objective measure of working conditions, by asking respondents using the item list of working conditions specified in the monitoring system, for both the points in time “now” and “one year ago”, i.e. a retrospective baseline. The difference would then be an alternative estimate of the gross program effect.

Example 1.2.4

a) Activity

A project supports the adaptation to climate-adapted agricultural practices for small-scale farmers. One part of the program is to train (lead) farmers as trainers in climate adapted production methods (e.g. conservation agriculture) to each train other farmers.

b) Indicators

The indicator of the project that targets employment non-explicitly⁸ is:

- The trained lead farmers passed on their knowledge of selected climate-adapted methods (e.g. conservation agriculture, diversification of cultivation) and nutritious diet to 1,800 other farmers.

This shows that the project contributes to employment generation by targeting the ability to transfer knowledge. The training of the lead farmers improves the employability of these farmers as trainers and offers for example additional employment and income opportunities for them. Nevertheless, no specific employment indicator is specified.

c) Using method map 1.2.4 to measure or estimate effects for key indicator 4 “income increase”

First panel of method map– establish link between intermediate outcome and key indicator

- The example concerns the case (e) from the method map 1.2.4, i.e. the “knowledge transfer” improves “employability” which in turn affects “income” as key indicator.
- Plausibilization of the link: see intervention logic above under b) Indicators.
- Monitoring: The program’s M&E team conducts a survey among beneficiaries 3 months after participation; the survey finds that 67% of interviewed trainers report that they have transferred the skills they were taught to farmers (This is the preferred approach – if no such survey is available, some other source of verification for this quota might be used).
- Alternatively, also surveys among the farmers (whether they received new knowledge from lead farmers) could serve as source of verification.

⁸ see 1.3. Results of the portfolio analysis for the detailed concept

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline data of (a sample of) program participants shows that on average they earned 100 currency units per week as lead farmers.
- “Income after”: a follow-up survey (potentially the same that collects information on the “knowledge transfer” – see first panel) of (a sample of) program participants shows that on average they earn 140 currency units as lead farmers transferring improved agricultural practices.
- The before-after difference of 40 currency units per week average earnings increase (140 – 100) measures the gross program effect on income
- And/or: the number (share) of respondents who report an increase in income in the follow-up survey relative to the baseline survey provide a gross measure for “the number of people with income increase”

Remarks:

- Using the average full-time wage for a lead farmer in the region or country, the 40-currency unit income increase for the beneficiaries can be transformed into an “additional employment effect in FTE” in a straightforward way. Suppose the basis for calculating FTE is 225 working days p.a. at 8h a day, or 45 weeks per year at 40h a week. Then one can translate the monetary value of the effect into FTEs as follows: if the average lead farmer in the region/country earns 120 currency units per week, the effect of 40 currency units represents a 33% increase per week. Assuming the increase is constant for all 45 weeks of the year, calculate these $0.33 * 200$ (total number of beneficiaries) * 45 (weeks) * 40h divided by 1800 (FTE hours per year) = 66.7 FTE. – Clearly, this calculation can be done in an even easier way: all that needs to be done is the first step of translating the monetary income increase into a % improvement by relating it to the market average income. Then that % improvement (here 33%) can be multiplied with the number of beneficiaries (200) to arrive at precisely the result of 66.7 FTE, which tells us what the monetary value of the income increase means if equivalently expressed in terms of employment expansion.
- Given that the transfer knowledge measure shows a usage rate of 67%, one could also calculate the average gross effect per person as $40 \text{ units} * 0.67 = 26.8$ units weekly. The above mentioned 40-unit effect would be based on the simplified assumption that the survey shows there is sufficient transfer and thus all beneficiaries can enter into the calculation

Net effects

- Required: Identify a suitable comparison group, e.g. lead farmers who are similar to the program beneficiaries but live in a nearby region (other farms) and were not served by the program; or farmers who applied to the program but could not be served because there were not enough training slots
- “Income before”: the baseline survey of the comparison group shows that on average they earn 110 currency units per week

- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for beneficiaries) shows that on average they earn 125 currency units per week
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case by 15 currency units per week (125 – 110)
- => The difference of 40 units (before-after of beneficiaries) and 15 units (before-after comparison group) = 25 currency units would thus measure the net program effect on earnings
- One could also use the number (share) of comparison group individuals with increased earnings to calculate the net effect on „the number of persons with income increases“

Remarks:

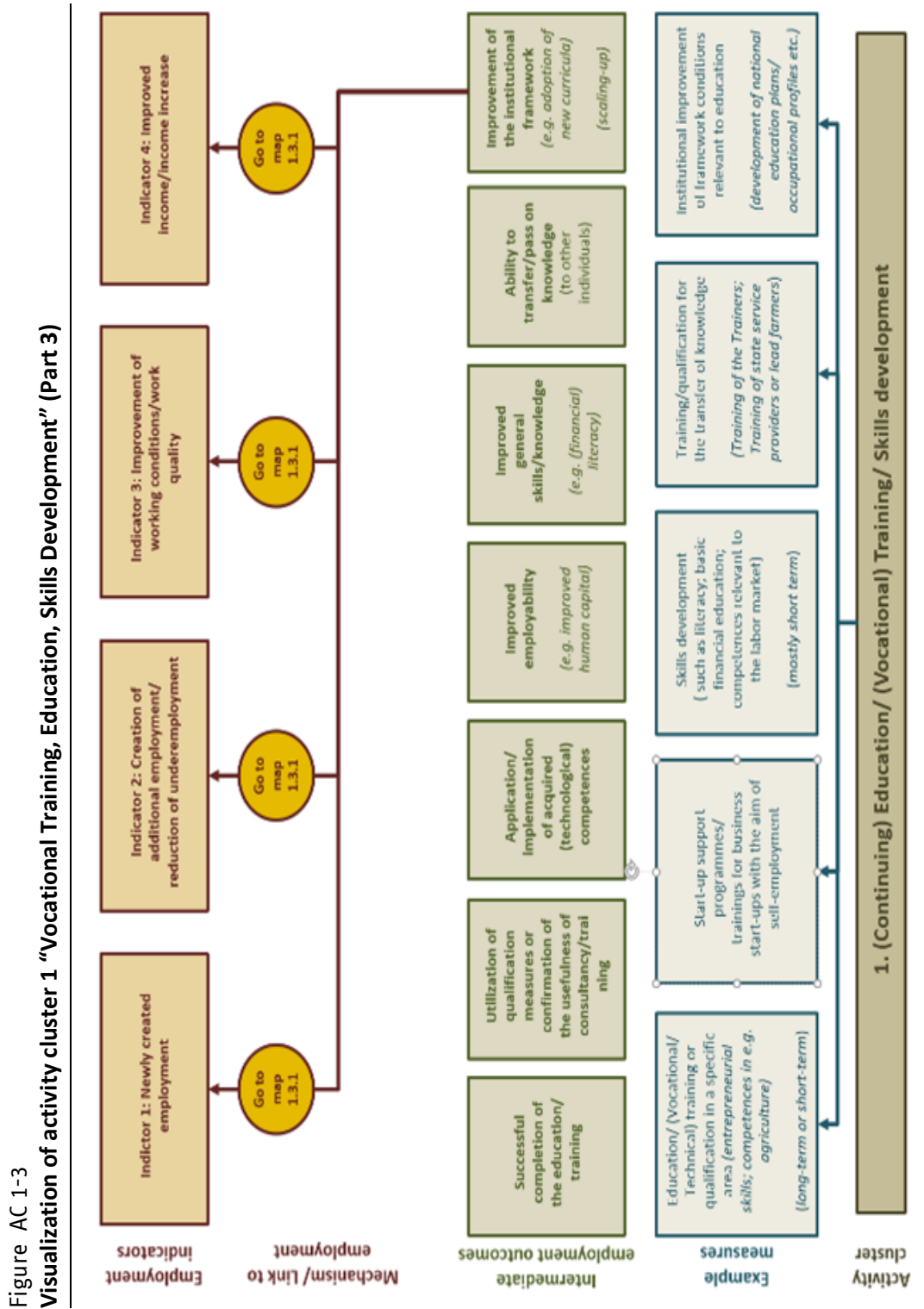
- Again, the 25-currency-unit weekly net effect per person can, in principle, be transformed into a “ net additional employment effect in FTE“ using the average full-time earnings
- As in the gross case, one can adjust the 40-unit before-after difference for the beneficiaries using the 67% transfer quota

Third panel of method map – estimation

- Suppose there is no baseline survey among beneficiaries, i.e. no gross effect measurement is possible
- In a follow-up survey (representative sample of beneficiaries), 30% per cent of respondents say they earn more than before the program; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used.
- One could then estimate the program effect on „persons with income increases“ as 0.67 (knowledge transfer rate) * 0.3 (quota of beneficiaries for whom increase in transfer use implies increase in earnings) * 200 (total number of beneficiaries=lead farmers) = 40
- If the follow-up survey also enquires about the amount change in earnings, also the effect on average earnings could be estimated (and potentially transformed into FTE)

[Back to toolkit overview.](#)

Activity cluster 1 “Vocational Training, Education, Skills Development” (Part 3)



Source: RWI

Method map 1.3.1

Activity 1 “Education / Skills” – Intermediate Outcome “Improved institutional framework” – Key indicators “New employment / Additional Employment / Improved Working Conditions / Increased Income”

Intermediate Outcome	Improved institutional framework (globally)
Key indicator of employment effects	New employment, Additional Employment, Improved Working Conditions, Increased Income
Link between Intermediate Outcome and Key indicator	
Mechanism	Typical mechanism is that changes in the regulatory framework facilitate job creation or job finding (e.g. through de-regulation or improved job matching) and job characteristics. This mechanism concerns <i>global framework</i> changes (i.e. typically at the national / government or other superordinate level) and is thus distinct from <i>local framework</i> improvements (e.g. school curricula) covered in method maps 1.2.1 – 1.2.4.
Measurement / monitoring requirements	Program activities that lead to changes in the institutional framework, e.g. #ministry officials trained, #regulations/ reforms implemented, changes in regulations, etc.
Estimation	
	Institutional / macro level activities typically require a descriptive analytical approach, which plausibilizes each step / assumption in the results logic using corresponding data. That is, for instance, monitoring would need to collect data of the step-by-step approach in the results logic: (i) prove that output was attained (#ministry officials trained), (ii) prove that outcomes were affected (#regulations implemented), (iii) combine with labor market data on connectable indicators: job growth in the economy, or #new businesses registered, etc.

Example 1.3.1: measurement and estimation of employment effects in activity cluster “Vocational Training, Education, Skills Development” (Part 3)

a) Activity

A project aims at implementing nation-wide sustainable ATVET structures and processes for the agricultural sector. The project develops, in accordance with the lead institutions such as the ministry, vocational training curricula that are implemented in all educational facilities in the sector.

b) Indicator

A corresponding indicator of the project, which contributes non-explicitly to employment creation is:

- 20 labor market-relevant training curricula in the national agricultural training facilities have been either newly implemented or have been further developed with appropriate teaching and learning materials, taking gender-specific aspects into account.

The project targets the improvement of the institutional context through which employment and income in this sector can be potentially improved. However, the project has no explicit employment indicator specified, from which actual employment effects (i.e. number of newly/additionally employed individuals through this improvement of the institutional context).

c) Using method map 1.3.1 to measure or estimate effects

for key indicator 1 “new employment”

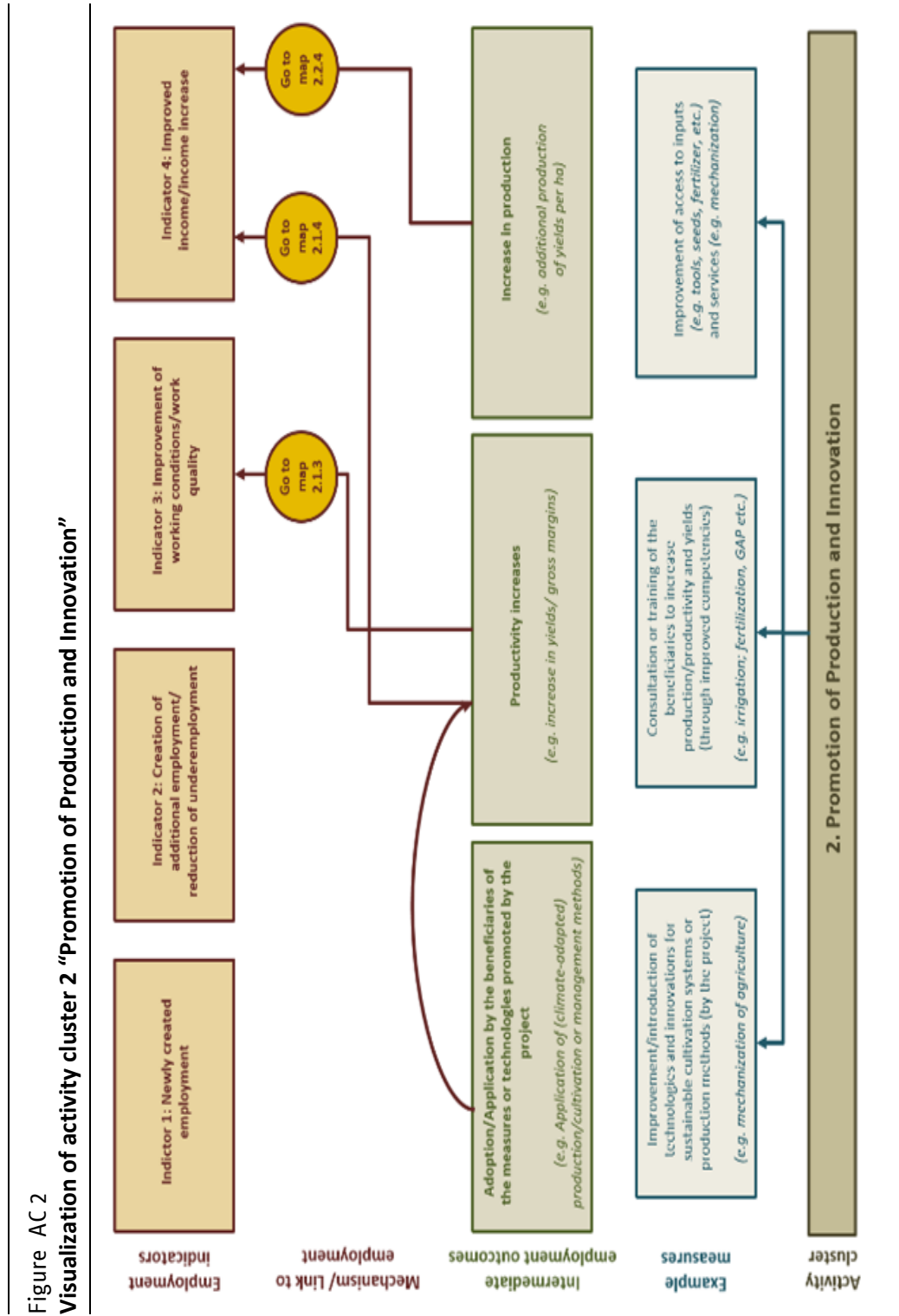
- As explained in the method map, overarching advisory activities and global (i.e. national-level) institutional changes are difficult to be assessed through measurement.
- An estimation approach typically follows the *stepwise logic linking the activity with the ultimate employment outcome, plausibilizing each step with some data*. In this case, for instance:
 - Monitor and document that the new training curricula were actually devised
 - Document usage of these by, for instance, surveying 15 agricultural training facilities to show that the new curricula are known and put into practice
 - Also working meetings between ministry officials and heads of the schools etc. could be monitored to prove the link (number of meetings, results, etc.)
 - Possibly, in addition, interview students about course contents (if possible, use a similar survey on students before the project starts its framework activities)

Then an estimation could look as follows: Given that there is monitoring evidence that (i) the curricula were actually put in place [new law and regulation formulated] in (ii) a sufficiently large number of training facilities [the 15 report accordingly] and (iii) students and teachers confirm the changed curricula: suppose 100,000 target students (according to Ministry of Education data) are in the relevant training system in one cohort (year). The new curricula improve their educational attainment = employability by 5% (graduation tests in a sample of students/schools could be used to specify this number), then the effect on “new employment” could be estimated as 5,000 individuals, assuming that the employability effect directly translates into an employment effect (it could also be discounted using some factor). Additional evidence plausibilizing this approach could be drawn from firm surveys, if employers report that trainees are better qualified with the new framework.

If the monitoring system shows that gender-specific regulations were put in place (check that regulations were defined, and are actually used by the training facilities): separately estimate the effect for the, say, 30,000 female target students (again, Ministry data) in the training system.

[Back to toolkit overview.](#)

Activity cluster 2 “Promotion of Production and Innovation”



Source: RWI

Method map 2.1.3

Activity 2 “Production / Innovation” – Intermediate Outcome “Productivity Increases” –Key indicator 3 “Improved Working Conditions”

Intermediate Outcome	Productivity Increases
Key indicator of employment effects	Improved working conditions
Link between Intermediate Outcome and Key indicator	
Mechanism	Through an increase in productivity – e.g. mechanization or improved cultivation system – working conditions are potentially facilitated and improved
Measurement / monitoring requirements	Measure productivity increase, e.g. increase in yields / gross margins
Measurement	
Example measurement	<ul style="list-style-type: none"> Gross: share of beneficiaries in a sample whose working conditions have improved * number of total beneficiaries Net: Compare share of beneficiaries with improved working conditions with a control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> Working conditions before and after (item list) same for comparison group Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> Survey of beneficiaries (and comparison group for net effects) after participation Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased productivity have also improved their working conditions
Monitoring requirements	Quota of beneficiaries for whom an increase in productivity implies an improvement in working conditions
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 2.1.4

Activity 2 “Production / Innovation” – Intermediate Outcome “Productivity Increases” –Key indicator 4 “Income increases”

Intermediate Outcome	Productivity Increases
Key indicator of employment effects	Income increases
Link between Intermediate Outcome and Key indicator	
Mechanism	Through an increase in productivity – e.g. mechanization, improved cultivation system, innovation – increased production leads to increased output leads to increase in revenue leads to increase in income
Measurement / monitoring requirements	Measure productivity increase, e.g. increase in yields / gross margins
Measurement	
Example measurement	<ul style="list-style-type: none"> Gross: share of beneficiaries in a sample whose income has increased * number of total beneficiaries Net: Compare share of beneficiaries with income increases with a control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> Income before and after same for comparison group Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> Survey of beneficiaries (and comparison group for net effects) after participation Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased productivity have also increased their income
Monitoring requirements	Quota of beneficiaries for whom an increase in productivity implies an increased income
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 2.2.4

Activity 2 “Production / Innovation” – Intermediate Outcome “Increase in Production” –Key indicator 4 “Income increases”

Intermediate Outcome	Increase in Production
Key indicator of employment effects	Income increases
Link between Intermediate Outcome and Key indicator	
Mechanism	Activities of the program lead to increased production leads to increased output leads to increase in revenue leads to increase in income
Measurement / monitoring requirements	Measure production before and after (of a certain product)
Measurement	
Example measurement	<ul style="list-style-type: none"> Gross: share of beneficiaries in a sample whose income has increased * number of total beneficiaries Net: Compare share of beneficiaries with income increases with a control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> Income before and after same for comparison group Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> Survey of beneficiaries (and comparison group for net effects) after participation Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased production have also increased their income
Monitoring requirements	Quota of beneficiaries for whom an increase in production implies an increased income
Survey method for estimate	Survey among a sample of program beneficiaries

Example 2.1.4: measurement and estimation of employment effects in activity cluster “Promotion of Production and Innovation”

a) Activity

A sustainable land management project aims at supporting farmer organizations in two regions to generate value out of rehabilitated land areas on a permanent basis. One activity of the project is therefore to introduce new sustainable cultivation technologies for sustainable production to the farmers (50% of which are women).

b) Indicator

One of the indicators that measures that progress is:

- 80% of the 3,000 smallholders (half of which are women) reached apply six of the sustainable cultivation methods propagated by the project.

Thus, the project evaluates through representative surveys among the smallholder farmers whether the farmers *apply* the newly introduced cultivation methods. What is not considered, but could be easily included in the survey is whether the new cultivation technologies also generate value for the farmers (i.e. increase the productivity (e.g. increase in yields/ha)), which then also generates, from an employment perspective, opportunities for improved income or additional labor (e.g. through gross-margin calculations, incl. labor inputs). Therefore, by following these measurement steps the project could gather information on employment effects via an intermediate indicator even though it has no explicit employment indicator specified.

c) Using method map 2.1.4 to measure or estimate effects for key indicator 4 “income increase”

First panel of method map – establish link between intermediate outcome and key indicator

- The example concerns the case visualized in Figure AC 2, in which the intermediate outcome “adoption” feeds into the intermediate outcome “productivity increases” which in turn affects “income” as key indicator.
- Plausibilization of the link: see intervention logic above under b) Indicators.
- Monitoring: The program’s M&E team conducts a survey among beneficiaries which finds that 83% of interviewed beneficiaries apply six or more of the cultivation methods propagated by the project. In addition, the survey finds that two thirds (66%) of these 83% that apply the methods – i.e. 55% of all respondents – also report increases in productivity (yield) in the relevant time period (e.g. last year). (This is the preferred approach – if no such survey is available, some other source of verification for these quotas might be used)
- Half of the survey sample were female beneficiaries, among which 89% apply six or more of the cultivation methods. 78% of these 89% - i.e. 70% of all female respondents – also report productivity increases.

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline data of a sample of (female) program beneficiaries shows that on average they earned 100 (85) currency units per week.

- “Income after”: a follow-up survey (potentially the same that collects information on the use of cultivation methods and productivity/yield) of a sample of (female) program participants shows that on average they earn 140 (130) currency units per week.
- The before-after difference of 40 (45) currency units per week average earnings increase measures the gross program effect on income for all (female) beneficiaries
- And/or: the number/share of (female) respondents who report an increase in income in the follow-up survey relative to the baseline survey provides a gross measure for “the number/share of (female) program beneficiaries with income increase”

Remarks:

- Using the average full-time wage for a (female) beneficiary, the 40-(45-)currency unit income increase can, in principle, be transformed into an “additional employment effect in (female) FTE”
- Given that the survey on use of cultivation methods shows an adoption rate of 83% (females: 89%), one could also calculate the average gross effect per person (female) as 40 units*0.83 = 33.2 units weekly (female: 45 units*0.89 = 40 units). The above mentioned 40-unit (45-unit) effect would be based on the simplified assumption that the survey shows there is sufficient adoption and thus all beneficiaries can enter into the calculation.

Net effects

- Required: Identify a suitable comparison group (including a large enough share of women), e.g. smallholders who are similar to the program beneficiaries but live in a nearby region and were not served by the program
- “Income before”: the baseline survey of the comparison group shows that on average they earn 110 currency units per week (females in the comparison group: 90 units)
- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for beneficiaries) shows that on average they earn 125 currency units per week (females: 108 units)
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case by 15 currency units per week (females: 18 units increase)
- => The difference of 40 units (before-after of beneficiaries) and 15 units (before-after comparison group) = 25 currency units would thus measure the net program effect on earnings
- For females specifically, the difference of 45 units (before-after of female beneficiaries) and 18 units (before-after female comparison group) = 27 currency units would then measure the net program effect on earnings
- One could also use the number/share of (female) comparison group individuals with increased earnings to calculate the net effect on „the number/share of (female) program beneficiaries with income increases“

Remarks:

- Again, the 25-currency-unit weekly net effect per person (27 for females) can, in principle, be transformed into a “net additional employment effect in (female) FTE” using the average full-time earnings

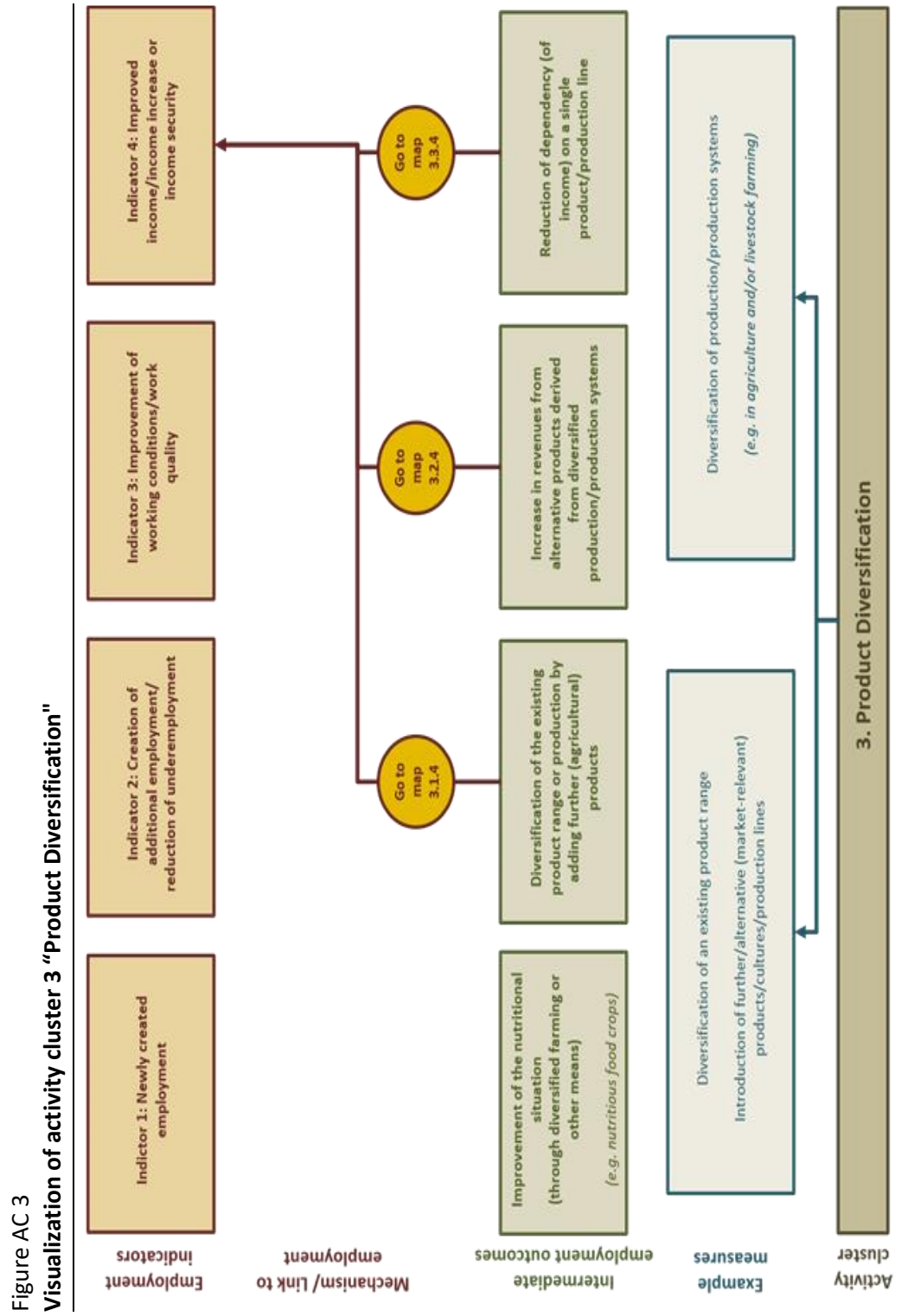
- As in the gross case, one can adjust the 40-(45-)unit before-after difference for the beneficiaries using the 83% (89%) adoption rate

Third panel of method map – estimation

- Suppose there is no baseline survey among beneficiaries, i.e. no gross effect measurement is possible
- In a follow-up survey (representative sample of (female) beneficiaries), 15% (25% for females) of respondents say they earn more than before the program; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used
- One could then estimate the program effect on „persons with income increases“ as 0.83 (cultivation method adoption rate) * 0.15 (quota of beneficiaries for whom adoption implies increase in earnings) * $3,000$ (total number of beneficiaries) = 374
- The corresponding estimation for the female subsample only would be: 0.89 (cultivation method adoption rate) * 0.25 (quota of female beneficiaries for whom adoption implies increase in earnings) * $1,500$ (total number of female beneficiaries) = 334
- A potentially improved estimation would also use the information from the monitoring survey about the share of the adopters that also report increases in productivity (yields), i.e. the second intermediate outcome through which adoption connects with the employment indicator “income increase”: 0.83 (cultivation method adoption rate) * 0.66 (share for whom adoption comes with productivity increase) * 0.15 (quota of beneficiaries who report increase in earnings) * $3,000$ (total number of beneficiaries) = 247
- For females specifically: 0.89 (cultivation method adoption rate) * 0.78 (share for whom adoption comes with productivity increase) * 0.25 (quota of female beneficiaries who report increase in earnings) * $1,500$ (total number of female beneficiaries) = 260
- If the follow-up survey also enquires about the amount change in earnings, also the effect on average earnings could be estimated (and potentially transformed into FTE)

[Back to toolkit overview.](#)

Activity cluster 3 “Product Diversification”



Source: RWI

Method map 3.1.4

Activity 3 “Product diversification” – Intermediate Outcome “Diversification of product range” –Key indicator 4 “Income increases”

Intermediate Outcome	Diversification of product range
Key indicator of employment effects	Income increases
Link between Intermediate Outcome and Key indicator	
Mechanism	Diversification of product range / additional crops leads to increased output leads to increase in revenue leads to increase in income
Measurement / monitoring requirements	Measure product range before and after
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of beneficiaries in a sample whose income has increased relative to before the program * number of total beneficiaries • Net: Compare share of beneficiaries with income increases with a control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • Income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased / diversified product range have also increased their income
Monitoring requirements	Quota of beneficiaries for whom an increase / diversification in the product range implies an increased income
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 3.2.4

Activity 3 “Product diversification” – Intermediate Outcome “Revenue increase alternative products” –Key indicator 4 “Income increases”

Intermediate Outcome	Increase in revenue from alternative products derived from diversified production
Key indicator of employment effects	Income increases
Link between Intermediate Outcome and Key indicator	
Mechanism	Increase in revenue from alternative products derived from diversified production leads to increased profits leads to increased individual income
Measurement / monitoring requirements	Measure revenue before and after
Measurement	
Example measurement	<ul style="list-style-type: none"> Gross: share of beneficiaries in a sample whose income has increased relative to before the program * number of total beneficiaries Net: Compare share of beneficiaries with income increases with a control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> Income before and after same for comparison group Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> Survey of beneficiaries (and comparison group for net effects) after participation Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with increased revenue from alternative products have also increased their income
Monitoring requirements	Quota of beneficiaries for whom an increase in revenue from alternative products implies an increased income
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 3.3.4

Activity 3 “Product diversification” – Intermediate Outcome “Dependency reduction single product” –Key indicator 4 “Income increases”

Intermediate Outcome	Reduction in dependency (of income) on a single product / production line
Key indicator of employment effects	Income increases
Link between Intermediate Outcome and Key indicator	
Mechanism	Diversification of product range leads to broader supply of products leads to decreased dependency from one product leads to securing income from other products / increase in income
Measurement / monitoring requirements	Measure product range before and after
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross: share of beneficiaries in a sample whose income has increased relative to before the program * number of total beneficiaries • Net: Compare share of beneficiaries with income increases with a control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • Income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross effect: Y% of beneficiaries with decreased dependency (increase in product range) have also increased their income
Monitoring requirements	Quota of beneficiaries for whom a decreased dependency (increase in product range) implies an increased income
Survey method for estimate	Survey among a sample of program beneficiaries

**Example 3.2.4: measurement and estimation of employment effects in activity cluster
“Product Diversification”**

a) Activity

A rural development project helps the members of selected producer associations in three regions to improve their production and cultivation methods. One part of the project concentrates on diversifying the production methods by introducing diversified cultivation and production techniques for agricultural farming.

b) Indicator

One targeted outcome of the project is

- 60% of the 2000 members (out of which 30% are women) have expanded their production by at least two new cultures or production lines.

The project monitors through surveys whether the members of the producer associations change their behavior and expand their production lines by adding new cultures. What is not considered, but could be easily included in a survey down the line is whether the farmers that have actually diversified their production have also experienced a *revenue increase* from the additional crop cultures they use. This could generate, from an employment perspective, opportunities for improved income. Therefore, by following these measurement steps the project could gather information on employment effects via the intermediate outcome revenue increase even though it has no explicit employment indicator specified.

**c) Using method map 3.2.4 to measure or estimate effects
for key indicator 4 “income increase”**

First panel of method map – establish link between intermediate outcome and key indicator

- The example concerns the case visualized in Figure AC 3, in which the intermediate outcome “increase in revenue” from alternative products derived from diversified production / production systems feeds into “income increase” as key employment indicator.
- Plausibilization of the link: see intervention logic above under b) Indicators.
- Monitoring: The program’s M&E team conducts a survey among beneficiaries which finds that 63% of interviewed beneficiaries have expanded their production by two or more new production lines. In addition, the survey finds that 80% of these 63% that apply the methods – i.e. 50% of all respondents – also report increases in revenue in the relevant time period (e.g. last 6 months). (Using a survey to verify this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used.)
- Given that 30% of the targeted beneficiaries are women (see b) Indicator above), the survey also specifically samples females: among female respondents, 75% have expanded their production by two or more production lines. 70% of these 75% - i.e. 53% of all female respondents – also report productivity increases.

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline data of a sample of (female) program beneficiaries shows that on average they earned 90 (75) currency units per week.

- “Income after”: a follow-up survey (potentially the same that collects information on the use of cultivation methods and productivity/yield – see the first panel) of a sample of (female) program participants shows that on average they earn 105 (87) currency units per week.
- The before-after difference of 15 (12) currency units per week average earnings increase measures the gross program effect on income for all (female) beneficiaries
- And/or: the number/share of (female) respondents who report an increase in income in the follow-up survey relative to the baseline survey provides a gross measure for “the number/share of (female) program beneficiaries with income increase”

Remarks:

- Using the average full-time wage for a (female) beneficiary, the 15-(12-)currency unit income increase can, in principle, be transformed into an “additional employment effect in (female) FTE”
- Given that the survey on the use of new production lines finds an expansion rate of 63% (females: 75%), one could also calculate the average gross effect per person (female) as 15 units*0.63 = 9.5 currency units weekly (female: 12 units*0.75 = 9 currency units). The above-reported 15-unit (12-unit) effect would be based on the simplified assumption that the survey shows there is sufficient production expansion and thus all beneficiaries can enter into the calculation.

Net effects

- Required: Identify a suitable comparison group (including a large enough share of women), e.g. members of producers associations (in regions that are) similar to the program beneficiaries but that were not served by the program
- “Income before”: the baseline survey of the comparison group shows that on average they earn 95 currency units per week (females in the comparison group: 80 units)
- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for beneficiaries) shows that on average they earn 98 currency units per week (females: 85 units)
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case by 3 currency units per week (females: 5 units increase)
- => The difference of 15 units (before-after of beneficiaries) and 3 units (before-after comparison group) = 12 currency units would thus measure the net program effect on earnings
- For females specifically, the difference of 12 units (before-after of female beneficiaries) and 5 units (before-after female comparison group) = 7 currency units would then measure the net program effect on female earnings
- One could also use the number/share of (female) comparison group individuals with increased earnings to calculate the net effect on „the number/share of (female) program beneficiaries with income increases“

Remarks:

- Again, as in the gross measurement case, the 12-currency-unit weekly net effect per person (7 for females) can, in principle, be transformed into a “net additional employment effect in (female) FTE” using the average full-time earnings

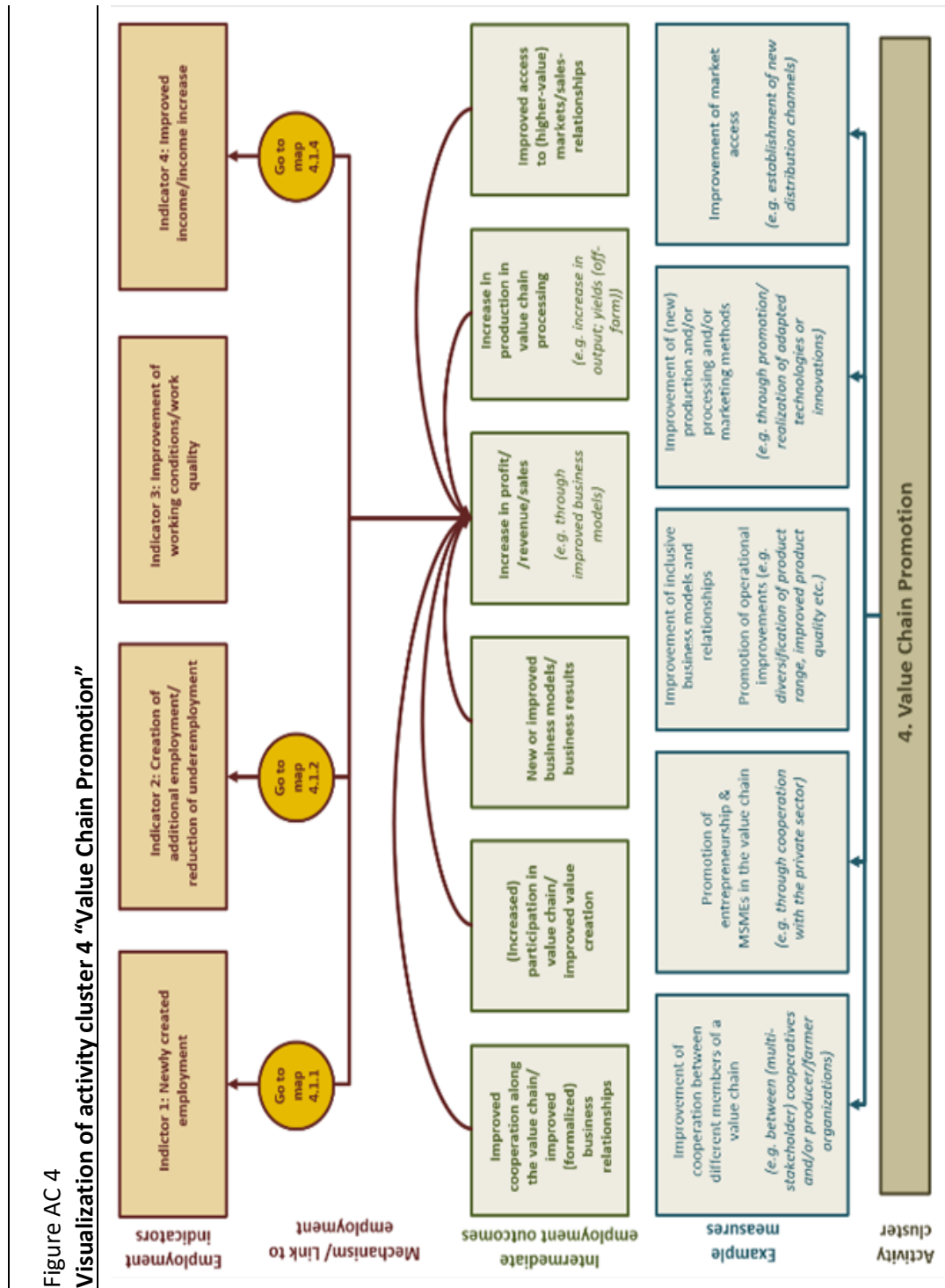
- As in the gross case, one can adjust the 12-(7-)unit before-after difference for the (female) beneficiaries using the 63% (75%) expansion quota

Third panel of method map – estimation

- Suppose there is no baseline survey among beneficiaries, i.e. no gross effect measurement is possible
- In a follow-up survey (representative sample of (female) beneficiaries), 40% (44% for females) of respondents say they earn more than before the program; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used
- One could then estimate the program effect on „persons with income increases“ as 0.63 (production expansion quota) * 0.40 (quota of beneficiaries for whom expansion implies increase in earnings) * $2,000$ (total number of beneficiaries) = 504
- The corresponding estimation for the female subsample only would be: 0.75 (production expansion quota) * 0.44 (quota of female beneficiaries for whom expansion implies increase in earnings) * 600 (total number of female beneficiaries) = 198
- A potentially improved estimation would also use the information from the monitoring survey about the share of the production expanders that also report increases in revenue: 0.63 (production expansion quota) * 0.80 (share for whom expansion comes with revenue increase) * 0.40 (quota of beneficiaries who report increase in earnings) * $2,000$ (total number of beneficiaries) = 403
- For females specifically: 0.75 (production expansion quota) * 0.70 (share for whom expansion comes with productivity increase) * 0.44 (quota of female beneficiaries who report increase in earnings) * 600 (total number of female beneficiaries) = 139
- If the follow-up survey also enquires about the amount change in earnings, also the effect on average earnings could be estimated (and potentially transformed into FTE)

[Back to toolkit overview.](#)

Activity cluster 4 “Value Chain Promotion”



Source: RWI

Method map 4.1.1

Activity 4 “Value Chain Promotion” – All Intermediate Outcomes – Key indicator 1 “New employment”

Any of the intermediate outcomes:

- a) Improved COOPERATION along the value chain / improved business relationships
- b) (Increased) participation in value chain / improved VALUE CREATION
- c) New or improved BUSINESS MODELS / business results
- d) Increase in PRODUCTION in value chain processing
- e) Improved ACCESS to (higher-value) markets or sales relationships

sequentially all feed into the intermediate outcome "increase in profit / revenue / sales " .

Therefore, employment effect measurement in each of these five cases can be summarized using the path through the increase in profit, revenue, or sales. In addition, only the link of each of the intermediate outcomes to profit increases needs to be verified in the monitoring system.

Intermediate Outcome	Increase in profit / revenue / sales, potentially via a) cooperation in the VC, b) improved value creation, c) new business models, d) increase in production, or e) access to markets
Key indicator of employment effects	New employment
Link between Intermediate Outcome and Key indicator	
Mechanism	<p>a) Improved cooperation leads to better market access leads to more efficient production leads to increased output leads to increased revenue leads to potentially increased or new employment</p> <p>b) Value creation: improvement of (new) production methods and/or marketing (e.g. through promoting adapted technologies / innovations by the program) leads to increased value creation leads to demand for labor leads to increased contribution to value creation leads to increased or new employment</p> <p>c) New or improved business models include diversification of product range, better marketing, improved (financial) services, improved product quality etc. and leads to better business models / results in the VC leads to potentially increased or new employment</p> <p>d) Increase in production leads to increase in yields leads to increase in revenue leads to potentially increased or new employment</p> <p>e) Improved access to markets leads to more efficient production leads to increased output leads to increased revenue leads to potentially increased or new employment.</p> <ul style="list-style-type: none"> • Generally, increases in profits / revenues / sales can lead to increased or new employment
Measurement / monitoring requirements	<p>a) Measure of improved cooperation: e.g. # business transactions, business partners</p> <p>b) Measure of increased value creation (output)</p> <p>c) Monitoring of adaptation / take-up of business models (survey)</p> <p>d) Measure production</p> <p>e) Monitor access to markets: transactions, outreach, business partners</p> <p>In addition: monitor revenue and sales</p>
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with a job (or jobs created) * number of total beneficiaries • Net effects: Compare share of beneficiaries who found a job (created jobs) with control group that did not participate

Method map 4.1.1 (contd.)

Monitoring requirements	<p>Variables:</p> <ul style="list-style-type: none"> • a) cooperation measure, b) value creation measure, c) business model measure, d) production measure, or e) access to market measure • revenue and sales • share employed before and after; number of employees before and after • same for comparison group • Number of beneficiaries • Survey of beneficiaries (and comparison group for net effects) after participation
Survey method for measurement	<ul style="list-style-type: none"> • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	<p>Gross: Y% of beneficiaries with increased revenue, potentially via a) increased cooperation, b), increased value creation, c) improved business model, d) increased production, or e) increased market access have also created (found) new employment</p>
Monitoring requirements	<p>Quota of beneficiaries for whom an increase in revenue, potentially via a) increased cooperation, b), increased value creation, c) improved business model, d) increased production, or e) increased market access implies finding a job or creating a job</p>
Survey method for estimate	<p>Survey among a sample of program beneficiaries</p>

Method map 4.1.2

Activity 4 “Value Chain Promotion” – All Intermediate Outcomes – Key indicator 2 “Additional employment”

Any of the intermediate outcomes:

- a) Improved COOPERATION along the value chain / improved business relationships
- b) (Increased) participation in value chain / improved VALUE CREATION
- c) New or improved BUSINESS MODELS / business results
- d) Increase in PRODUCTION in value chain processing
- e) Improved ACCESS to (higher-value) markets or sales relationships

sequentially all feed into the intermediate outcome "increase in profit / revenue / sales " .

Therefore, employment effect measurement in each of these five cases can be summarized using the path through the increase in profit, revenue, or sales. In addition, only the link of each of the intermediate outcomes to profit increases needs to be verified in the monitoring system.

Intermediate Outcome	Increase in profit / revenue / sales, potentially via a) cooperation in the VC, b) improved value creation, c) new business models, d) increase in production, or e) access to markets
Key indicator of employment effects	Additional employment
Link between Intermediate Outcome and Key indicator	
Mechanism	<p>a) Improved cooperation leads to better market access leads to more efficient production leads to increased output leads to increased revenue leads to potentially increased or new employment</p> <p>b) Value creation: improvement of (new) production methods and/or marketing (e.g. through promoting adapted technologies / innovations by the program) leads to increased value creation leads to demand for labor leads to increased contribution to value creation leads to increased or new employment</p> <p>c) New or improved business models include diversification of product range, better marketing, improved (financial) services, improved product quality etc. and leads to better business models / results in the VC leads to potentially increased or new employment</p> <p>d) Increase in production leads to increase in yields leads to increase in revenue leads to potentially increased or new employment</p> <p>e) Improved access to markets leads to more efficient production leads to increased output leads to increased revenue leads to potentially increased or new employment.</p> <ul style="list-style-type: none"> • Generally, increases in profits / revenues / sales can lead to increased or new employment
Measurement / monitoring requirements	<p>a) Measure of improved cooperation: e.g. # business transactions, business partners</p> <p>b) Measure of increased value creation (output)</p> <p>c) Monitoring of adaptation / take-up of business models (survey)</p> <p>d) Measure production</p> <p>e) Monitor access to markets: transactions, outreach, business partners</p> <p>In addition: monitor revenue and sales</p>

Method map 4.1.2 (contd.)

Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with increased employment * number of total beneficiaries • Net effects: Compare share of beneficiaries with increased employment with control group that did not participate
Monitoring requirements	<p>Variables:</p> <ul style="list-style-type: none"> • a) cooperation measure, b) value creation measure, c) business model measure, d) production measure, or e) access to market measure • revenue and sales • measure of working hours (employment periods) before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	<p>Gross: Y% of beneficiaries with increased revenue, potentially via a) increased cooperation, b), increased value creation, c) improved business model, d) increased production, or e) increased market access have increased their employment</p>
Monitoring requirements	<p>Quota of beneficiaries for whom an increase in revenue, potentially via a) increased cooperation, b), increased value creation, c) improved business model, d) increased production, or e) increased market access implies increasing their employment</p>
Survey method for estimate	<p>Survey among a sample of program beneficiaries</p>

Method map 4.1.4

Activity 4 “Value Chain Promotion” – All Intermediate Outcomes – Key indicator 4 “Income increases”

Any of the intermediate outcomes:

- a) Improved COOPERATION along the value chain / improved business relationships
- b) (Increased) participation in value chain / improved VALUE CREATION
- c) New or improved BUSINESS MODELS / business results
- d) Increase in PRODUCTION in value chain processing
- e) Improved ACCESS to (higher-value) markets or sales relationships

sequentially all feed into the intermediate outcome "increase in profit / revenue / sales " .

Therefore, employment effect measurement in each of these five cases can be summarized using the path through the increase in profit, revenue, or sales. In addition, only the link of each of the intermediate outcomes to profit increases needs to be verified in the monitoring system.

Intermediate Outcome	Increase in profit / revenue / sales, potentially via a) cooperation in the VC, b) improved value creation, c) new business models, d) increase in production, or e) access to markets
Key indicator of employment effects	Income increases
Link between Intermediate Outcome and Key indicator	
Mechanism	<p>a) Improved cooperation leads to better market access leads to more efficient production leads to increased output leads to increased revenue leads to increased income</p> <p>b) Value creation: improvement of (new) production methods and/or marketing (e.g. through promoting adapted technologies / innovations by the program) leads to increased value creation leads to demand for labor leads to increased contribution to value creation leads to increased income</p> <p>c) New or improved business models include diversification of product range, better marketing, improved (financial) services, improved product quality etc. and leads to better business models / results in the VC leads to increased income</p> <p>d) Increase in production leads to increase in yields leads to increase in revenue leads to increased income</p> <p>e) Improved access to markets leads to more efficient production leads to increased output leads to increased revenue leads to increased income.</p> <ul style="list-style-type: none"> • Generally, increases in profits / revenues / sales can lead to increased income
Measurement / monitoring requirements	<p>a) Measure of improved cooperation: e.g. # business transactions, business partners</p> <p>b) Measure of increased value creation (output)</p> <p>c) Monitoring of adaptation / take-up of business models (survey)</p> <p>d) Measure production</p> <p>e) Monitor access to markets: transactions, outreach, business partners</p> <p>In addition: monitor revenue and sales</p>
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with income increases before/after * number of total beneficiaries • Net effects: Compare share of beneficiaries with income increases with control group that did not participate

Method map 4.1.4 (contd.)

Monitoring requirements	<p>Variables:</p> <ul style="list-style-type: none"> • a) cooperation measure, b) value creation measure, c) business model measure, d) production measure, or e) access to market measure • revenue and sales • income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	<p>Gross:</p> <p>Y% of beneficiaries with increased revenue, potentially via a) increased co-operation, b), increased value creation, c) improved business model, d) increased production, or e) increased market access have also increased income</p>
Monitoring requirements	<p>Quota of beneficiaries for whom an increase in revenue, potentially via a) increased cooperation, b), increased value creation, c) improved business model, d) increased production, or e) increased market access implies increased income</p>
Survey method for estimate	<p>Survey among a sample of program beneficiaries</p>

Example 4.1.4: measurement and estimation of employment effects in activity cluster “Value Chain Promotion”

a) Activity

A project aims to integrate MSMEs and smallholders into selected value chains (i.e. manioc, peanut, sunflower etc.). The overall objective of the project is to promote broad-based business models and operational improvements (new processing methods; better marketing etc.) to improve value generation in the chains and to integrate new producers into the supported value chains.

b) Indicator

One of the indicators specified to measure that progress is:

- 75% of MSMEs and smallholders (7,875 out of a total of 10,500) in the relevant value chains have introduced a significant operational improvement (i.e. quality improvement, new distribution channels, diversification of the product range) to increase the value creation/value added.

The project monitors the advancements through representative, gender-differentiated surveys, interviews, market analyses and the collection of key figures. Even though this project does not have any employment indicator specified, it can be expected to contribute nonetheless on an intermediate level to employment effects by increasing the value creation, which generates new profits and revenue and leads potentially to increased income for the smallholders and MSMEs. Similarly, the project potentially creates new or additional employment opportunities for the smallholders that start participating in the chains.

c) Using method map 4.1.4 to measure or estimate effects

for key indicator 4 “income increase”

First panel of method map – establish link between intermediate outcome and key indicator

- The example concerns the case (c) from the method map 4.1.4, i.e. the “new or improved business models” include diversification of product range, improved product quality etc. and leads to an “increase in profit/revenue/sales” which in turn affects “income” as key employment indicator.
- Plausibilization of the link: see intervention logic above, and under b) Indicators.
- Monitoring: The program’s M&E team conducts a survey among a sample of beneficiaries after the program support; the survey finds that 77% of interviewed MSMEs and smallholders report that they have introduced a set of significant operational improvements (i.e. the new business models)
- In addition, to underscore this monitoring effort and provide evidence for the link with the intermediate indicator “increase in profit/revenue/sales”, it would be useful to collect information on profits, revenue or sales (ideally before-after, i.e. in baseline and follow-up surveys).
- For this example, suppose the latter effort has been made, and the data collected show that among the 77% of respondents who report the implementation of the new business model, 89% also report an increase in revenue.

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline data of (a sample of) program beneficiaries shows that on average they earned 1,000 local currency units per week.
- “Income after”: a follow-up survey (potentially the same that collects information on the “new or improved business model”) of (a sample of) program beneficiaries shows that on average they earn 1,200 currency units
- The before-after difference of 200 currency units per week average earnings increase measures the gross program effect on income
- And/or: the number (share) of respondents who report an increase in income in the follow-up survey relative to the baseline survey provide a gross measure for “the number of beneficiaries with income increase”

Remarks:

- Using the average full-time income for the typical MSME / smallholder in this context, the 200-currency unit income increase can, in principle, be transformed into an “additional employment effect in FTE”
- Given that the survey indicates an implementation rate of the new business model of 77%, one could also calculate the average gross effect per beneficiary as $200 \text{ units} \times 0.77 = 154$ currency units weekly. The above mentioned 200-unit effect would be based on the simplified assumption that the survey shows there is sufficient business model implementation and thus all beneficiaries can enter into the calculation

Net effects

- Required: Identify a suitable comparison group, e.g. MSMEs and smallholders who are similar to the program beneficiaries but live in a nearby region and were not served by the program; or MSMEs or smallholders who applied to the program but could not be served because there were not enough slots
- “Income before”: the baseline data of the comparison group shows that on average they earn 900 currency units per week
- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for beneficiaries) shows that on average they earn 1,025 currency units per week
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case by 125 currency units per week
- => The difference of 200 units (before-after of beneficiaries) and 125 units (before-after comparison group) = 75 currency units would thus measure the net program effect on earnings
- One could also use the number (share) of comparison group MSMEs/smallholders with increased earnings to calculate the net effect on „the number of beneficiaries with income increases“

Remarks:

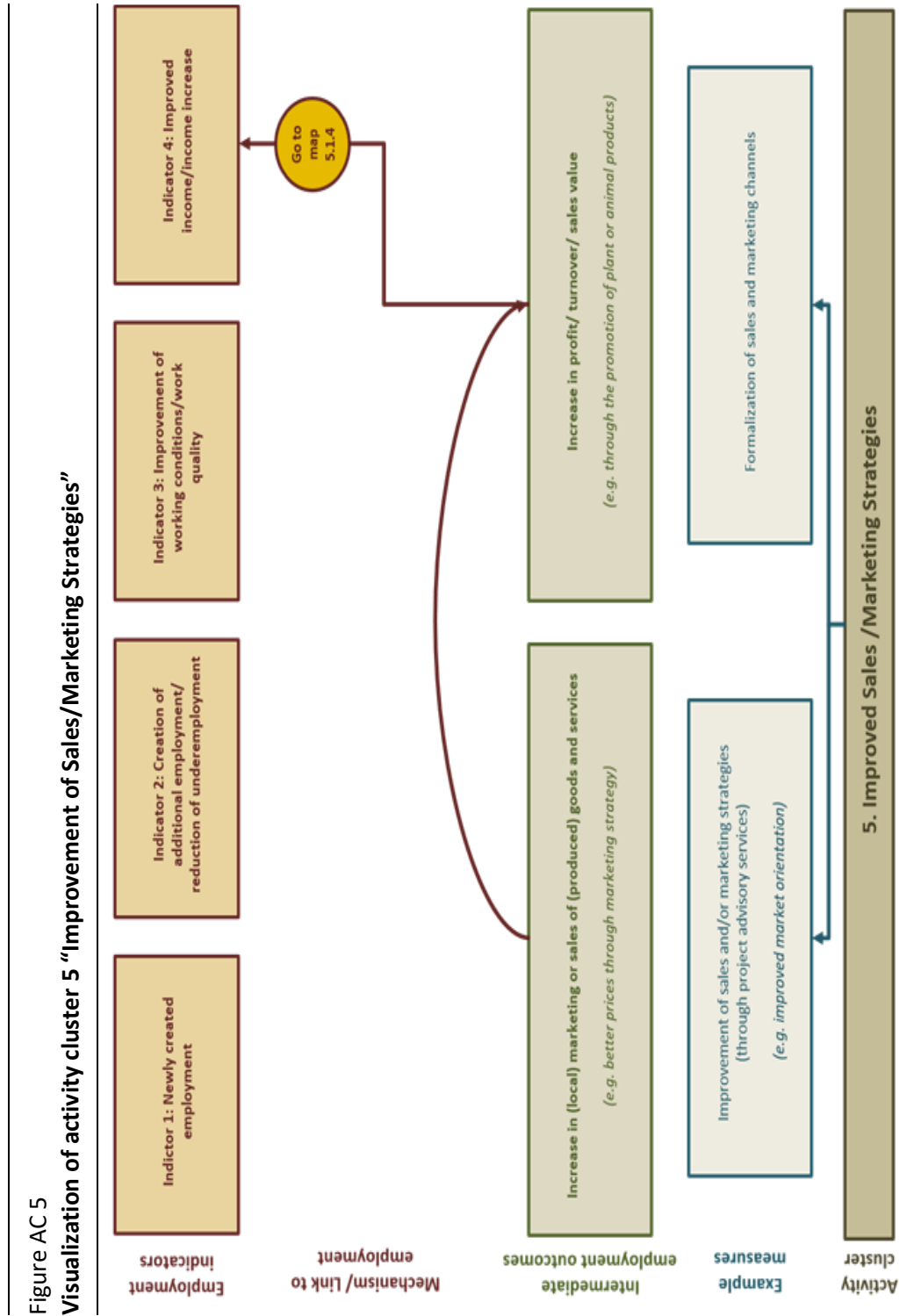
- Again, the 75-currency-unit weekly net effect per beneficiary can, in principle, be transformed into a “net additional employment effect in FTE” using the average full-time earnings
- As in the gross case, one can adjust the 200-unit before-after difference for the beneficiaries using the 77% transfer quota

Third panel – estimation

- Suppose there is no baseline survey among beneficiaries, i.e. no gross effect measurement is possible
- In a follow-up survey (representative sample of beneficiaries), 80% per cent of respondents say they earn more than before the program; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used
- One could then estimate the program effect on „beneficiaries with income increases“ as 0.77 (new business model implementation rate) * 0.80 (quota of beneficiaries for whom using the new business model implies increase in earnings) * $10,500$ (total number of beneficiaries) = $6,468$.
- A potentially improved estimate would also take into account the share of beneficiaries that actually report an improvement in the intermediate outcome “increase in revenue” (see monitoring data gathered, above): 0.77 (new business model implementation rate) * 0.89 (share that also report a revenue increase) * 0.80 (quota of beneficiaries for whom using the new business model implies increase in earnings) * $10,500$ (total number of beneficiaries) = $5,757$.
- If the follow-up survey also enquires about the amount change in earnings, also the effect on average earnings could be estimated (and potentially transformed into FTE)

[Back to toolkit overview.](#)

Activity cluster 5 “Improvement of Sales/Marketing Strategies”



Source: RWI

Method map 5.1.4

Activity 5 “Sales / Marketing” – Intermediate Outcome “Revenue increase” – Key indicator 4 “Income increases”

In this activity cluster, the intermediate outcome “increase in (local) marketing or sales of (produced) goods and services” sequentially feeds into the intermediate outcome “increase in profit / turnover / sales value”, which can then be linked to the key indicator “income increases” as described below.

Intermediate Outcome	Increase in profit / revenue, potentially via increases in marketing or sales
Key indicator of employment effects	Income increases
Link between Intermediate Outcome and Key indicator	
Mechanism	Improved marketing efforts lead to increase in sales leads to increase in profit/turnover leads to an income increase
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Baseline and follow-up data on marketing behavior (survey with item list) • In addition: monitor revenue and sales
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with income increases before/after * number of total beneficiaries • Net effects: Compare share of beneficiaries with income increases with control group that did not participate
Monitoring requirements	<ul style="list-style-type: none"> • income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with increased revenue (increased marketing or sales) have also increased their income
Monitoring requirements	Quota of beneficiaries for whom an increase in revenue (increased marketing or sales) implies increased income
Survey method for estimate	Survey among a sample of program beneficiaries

Example 5.1.4: measurement and estimation of employment effects in activity cluster “Improvement of Sales/Marketing Strategies”

a) Activity

A project supports among other things 7,000 smallholder farmers in three selected regions to formalize their sales and marketing channels for livestock and small animal husbandry.

b) Indicator

One indicator through which the project measures that objective is:

- Through the introduction of formalized marketing channels, the annual turnover from the sale of animal products has increased by 20%.

The project monitors the annual turnover rate for the formalized sale of animal products. From an employment perspective, what could be additionally monitored is the income increase for the individual farmer that results out of the increased annual turnover.

c) Using method map 5.1.4 to measure or estimate effects

for key indicator 4 “income increase”

First panel of method map – establish link between intermediate outcome and key indicator

- The example concerns method map 5.1.4, in which an increase in marketing or sales of goods and services leads to an “increase in profit/revenue/sales” which in turn affects “income” as key employment indicator.
- Plausibilization of the link: see intervention logic above, and under b) Indicators.
- Monitoring: The program’s M&E team conducts a survey among a sample of beneficiaries before and after the program support; the survey finds that – according to an item-list of formalized sales and marketing behavior prepared by the M&E team – about 10% of respondents regularly used such channels prior to the program, and about 60% did so afterwards. That is, the program has an “improvement implementation quota” of 50%.
- In addition, to underscore this monitoring effort and provide evidence for the link with the intermediate indicator “increase in profit/revenue/sales”, it would be useful to collect information on profits, revenue or sales (ideally before-after, i.e. in baseline and follow-up surveys).
- For this example, suppose the latter effort has been made, and the data collected show that among the 50% of respondents who newly implement of the new sales and marketing channels, 95% also report an increase in revenue.

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline data of (a sample of) program beneficiaries shows that on average they earned 500 local currency units per week.
- “Income after”: a follow-up survey (potentially the same that collects information on the usage of the sales/marketing channels and on revenue) of (a sample of) program beneficiaries shows that on average they earn 650 currency units

- The before-after difference of 150 currency units per week average earnings increase measures the gross program effect on income
- And/or: the number (share) of respondents who report an increase in income in the follow-up survey relative to the baseline survey provide a gross measure for “the number of beneficiaries with income increase”

Remarks:

- Using the average full-time income for the typical smallholder in this context, the 150-currency unit income increase can, in principle, be transformed into an “additional employment effect in FTE”
- Given that the survey indicates an implementation quota of the new sales/marketing channels of 50%, one could also calculate the average gross effect per beneficiary as $150 \text{ units} \times 0.50 = 75 \text{ currency units weekly}$. The above mentioned 150-unit effect would be based on the simplified assumption that the survey shows there is sufficient sales/marketing model implementation and thus all beneficiaries can enter into the calculation

Net effects

- Required: Identify a suitable comparison group, e.g. smallholders who are similar to the program beneficiaries but live in a nearby, separate region and were not served by the program; or smallholders who applied to the program but could not be served because there were not enough slots
- “Income before”: the baseline data of the comparison group shows that on average they earn 550 currency units per week
- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for beneficiaries) shows that on average they earn 630 currency units per week
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case by 80 currency units per week
- => The difference of 150 units (before-after of beneficiaries) and 80 units (before-after comparison group) = 70 currency units would thus measure the net program effect on earnings
- One could also use the number (share) of comparison group smallholders with increased earnings to calculate the net effect on „the number of beneficiaries with income increases“

Remarks:

- Again, the 70-currency-unit weekly net effect per beneficiary can, in principle, be transformed into a “net additional employment effect in FTE” using the average full-time earnings
- As in the gross case, one can adjust the 150-unit before-after difference for the beneficiaries using the 50% transfer quota

Third panel of method map – estimation

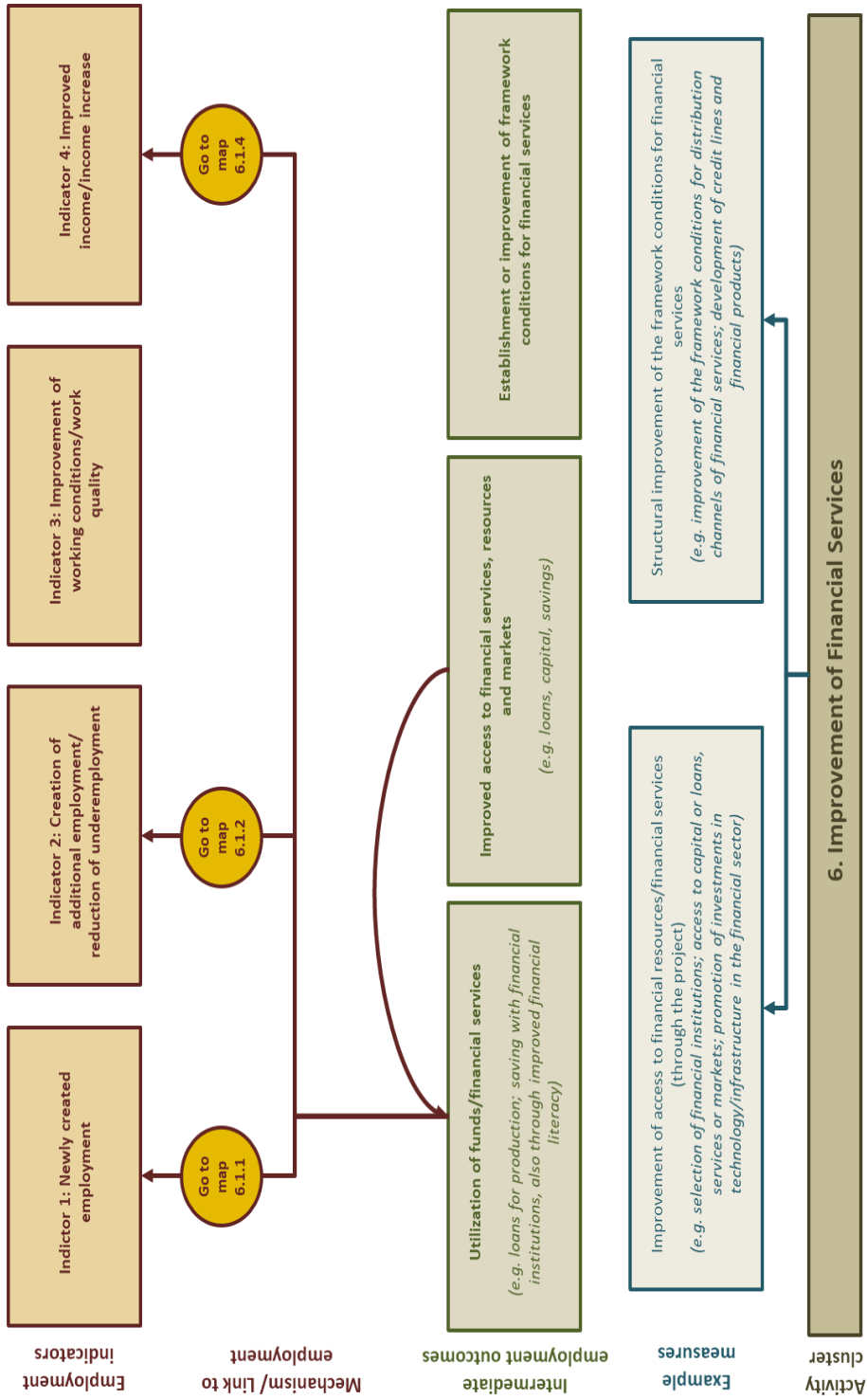
- Suppose there is no baseline survey among beneficiaries, i.e. no gross effect measurement is possible

- In a follow-up survey (representative sample of beneficiaries), 87% per cent of respondents say they earn more than before the program; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used
- One could then estimate the program effect on „beneficiaries with income increases“ as 0.50 (sales/marketing implementation rate) * 0.87 (quota of beneficiaries for whom using the new sales/marketing model implies an increase in earnings) * $7,000$ (total number of beneficiaries) = $3,045$.
- A potentially improved estimate would also take into account the share of beneficiaries that actually report an improvement in the intermediate outcome “increase in revenue” (see monitoring data gathered, above), that is: 0.50 (sales/marketing implementation rate) * 0.95 (share that also report a revenue increase) * 0.87 (quota of beneficiaries for whom using the new sales/marketing model implies an increase in earnings) * $7,000$ (total number of beneficiaries) = $2,893$.
- If the follow-up survey also enquires about the amount change in earnings, also the effect on average earnings could be estimated (and potentially transformed into FTE)

[Back to toolkit overview.](#)

Activity cluster 6 “Improvement of Financial Services” (Part 1)

Figure AC 6-1
Visualization of activity cluster 6 “Improvement of Financial Services” (Part 1)



Source: RWI

Method map 6.1.1

Activity 6 “Financial Services” – Intermediate Outcome “Utilization of Financial Services – Key indicator 1 “New employment”

The intermediate outcome “improved access to financial services, resources and markets” sequentially feeds into the intermediate outcome "utilization of funds/financial services", since the eventual use is the logically coherent continuation of the provision of access, in order to bring about employment effects.

Intermediate Outcome	Utilization of financial services and/or improved access to financial services, resources and markets
Key indicator of employment effects	New employment
Link between Intermediate Outcome and Key indicator	
Mechanism	<ul style="list-style-type: none"> • (Improved access to financial services leads to) Utilization of financial services leads to improvements in production, better access to markets, investments (with higher return), higher output and sales, which lead to increased revenue leads to potentially increased or new employment • Improved market access leads to increased output / sales lead to increased revenue leads to potentially increased or new employment
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Measure of improved access to financial services: monitor available offers, bank supply • Measure of utilization of services: loans, transactions • Monitor access to markets: transactions, outreach, business partners <p>In addition: monitor revenue and sales</p>
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with a job (or jobs created) * number of total beneficiaries • Net effects: Compare share of beneficiaries who found a job (created jobs) with control group that did not participate
Monitoring requirements	<p>Variables:</p> <ul style="list-style-type: none"> • revenue and sales • share employed before and after; number of employees before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	<p>Gross:</p> <p>Y% of beneficiaries with utilization of financial services or better access to markets have also created (found) new employment</p>
Monitoring requirements	Quota of beneficiaries for whom the utilization of financial services or increased market access implies finding a job or creating a job
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 6.1.2

Activity 6 “Financial Services” – Intermediate Outcome “Utilization of Financial Services – Key indicator 2 “Additional employment”

The intermediate outcome “improved access to financial services, resources and markets” sequentially feeds into the intermediate outcome "utilization of funds/financial services", since the eventual use is the logically coherent continuation of the provision of access, in order to bring about employment effects.

Intermediate Outcome	Utilization of financial services and/or improved access to financial services, resources and markets
Key indicator of employment effects	Additional employment
Link between Intermediate Outcome and Key indicator	
Mechanism	<ul style="list-style-type: none"> • (Improved access to financial services leads to) Utilization of financial services leads to improvements in production, better access to markets, investments (with higher return), higher output and sales, which lead to increased revenue leads to potentially increased or new employment • Improved market access leads to increased output / sales lead to increased revenue leads to potentially increased or new employment
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Measure of improved access to financial services: monitor available offers, bank supply • Measure of utilization of services: loans, transactions • Monitor access to markets: transactions, outreach, business partners <p>In addition: monitor revenue and sales</p>
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with increased employment * number of total beneficiaries • Net effects: Compare share of beneficiaries with increased employment with control group that did not participate
Monitoring requirements	<p>Variables:</p> <ul style="list-style-type: none"> • revenue and sales • working hours (or working periods) before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with utilization of financial services or better access to markets have also increased their employment
Monitoring requirements	Quota of beneficiaries for whom the utilization of financial services or increased market access implies increasing their employment
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 6.1.4

Activity 6 “Financial Services” – Intermediate Outcome “Utilization of Financial Services – Key indicator 4 “Income increase”

The intermediate outcome “improved access to financial services, resources and markets” sequentially feeds into the intermediate outcome "utilization of funds/financial services", since the eventual use is the logically coherent continuation of the provision of access, in order to bring about employment effects.

Intermediate Outcome	Utilization of financial services and/or improved access to financial services, resources and markets
Key indicator of employment effects	Income increase
Link between Intermediate Outcome and Key indicator	
Mechanism	<ul style="list-style-type: none"> • (Improved access to financial services leads to) Utilization of financial services leads to improvements in production, better access to markets, investments (with higher return), higher output and sales, which lead to increased revenue leads to increased income • Improved market access leads to increased output / sales lead to increased revenue leads to increased income
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Measure of improved access to financial services: monitor available offers, bank supply • Measure of utilization of services: loans, transactions • Monitor access to markets: transactions, outreach, business partners <p>In addition: monitor revenue and sales</p>
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with increased income before/after * number of total beneficiaries • Net effects: Compare share of beneficiaries with increased income with control group that did not participate
Monitoring requirements	<p>Variables:</p> <ul style="list-style-type: none"> • revenue and sales • income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with utilization of financial services or better access to markets have also increased their income
Monitoring requirements	Quota of beneficiaries for whom the utilization of financial services or increased market access implies increasing their income
Survey method for estimate	Survey among a sample of program beneficiaries

**Example 6.1.4: measurement and estimation of employment effects in activity cluster
“Improvement of Financial Services” (Part 1)**

a) Activity

An agricultural financing and rural development program aims, in cooperation with KfW or other financial institutions, at improving the agricultural-based development of the rural economy in selected districts of a country. One area of the technical cooperation activities concentrates on the establishment of enterprises and MSMEs upstream and downstream in selected agricultural value chains. Part of that effort is focused at improving the access to financial services for the newly established enterprises or MSMEs.

b) Indicator

The corresponding indicator of the project, which measures the progress is:

- The number of 3,000 agricultural enterprises or MSMEs upstream and/or downstream of agricultural value chains that use financial services (i.e. loans; saving accounts) of financial institutions in the selected districts has increased by 50% to 4,500.

Thus, the project promotes an increase in the utilization of financial services by 50% and monitors how many agricultural enterprises or MSMEs make use of the financial services offered by financial institutions. From an employment perspective however, the utilization of financial services (i.e. taking out a loan for production) bears the potential for improvements in production, better access to markets or investments (with higher return), which all lead to increased revenue and thus potentially creates employment effects such as increased income or new or additional employment.

c) Using method map 6.1.4 to measure or estimate effects

for key indicator 4 “income increase”

First panel of method map – establish link between intermediate outcome and key indicator

- The example concerns method map 6.1.4, in which improved access to financial services leads to increased utilization of these services, leads to improvement in production, better access to markets, investments, etc., which leads to an “increase in profit/revenue/sales” which in turn affects “income” as key employment indicator.
- Plausibilization of the link: see intervention logic above, and under b) Indicator.
- Monitoring: The program’s M&E team conducts a survey among a sample of agricultural enterprises and MSMEs in the selected districts before and after the program activities are rolled out; the survey finds that – according to an item-list of usage of financial services prepared by the M&E team – about 40% of respondents regularly used such channels prior to the program, and about 70% did so afterwards. That is, the program has a “financial services take-up quota” of 30%.
- In addition, to underscore this monitoring effort and provide evidence for the link with the intermediate indicator “increase in profit/revenue/sales”, it would be useful to collect information on profits, revenue or sales (ideally before-after, i.e. in baseline and follow-up surveys).
- For this example, suppose the latter effort has been made, and the data collected show that among the 30% of respondents who newly took up the usage of financial services, 97% also report an increase in revenue.

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline survey of (a sample of) MSMEs in the selected district shows that on average they earned 400 local currency units per week.
- “Income after”: a follow-up survey (potentially the same that collects information on the take-up of the financial services and on revenue) of (a sample of) MSMEs in the selected districts shows that on average they earn 480 currency units
- The before-after difference of 80 currency units per week average earnings increase measures the gross program effect on income
- And/or: the number (share) of respondents who report an increase in income in the follow-up survey relative to the baseline survey provide a gross measure for “the number of beneficiaries with income increase”

Remarks:

- Using the average full-time income for the typical MSME in this context, the 80-currency unit income increase can, in principle, be transformed into an “additional employment effect in FTE”.
- Note that in the case of investments (e.g. in labor saving technology) these may also result in negative employment effects (quantitative, i.e. concerning numbers for new or additional employment). Hence, it is key to provide plausible pathways when addressing the link to employment indicators in the first panel of the method map.
- Given that the survey indicates a take-up rate of the financial services of 30%, one could also calculate the average gross effect per beneficiary as $80 \text{ units} \times 0.30 = 24 \text{ currency units weekly}$. The above mentioned 80-unit effect would be based on the simplified assumption that the survey shows there is sufficient take-up of the financial services in the districts and thus all MSMEs can enter into the calculation

Net effects

- Required: Identify a suitable comparison group, e.g. a sample of MSMEs outside the districts selected for the program
- “Income before”: the baseline data of the comparison group shows that on average they earn 440 currency units per week
- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for MSMEs in the selected districts) shows that on average they earn 450 currency units per week
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case by 10 currency units per week
- => The difference of 80 units (before-after of MSMEs in selected districts) and 10 units (before-after comparison group) = 70 currency units would thus measure the net program effect on earnings
- One could also use the number (share) of comparison group MSMEs with increased earnings to calculate the net effect on „the number of beneficiaries with income increases“

Remarks:

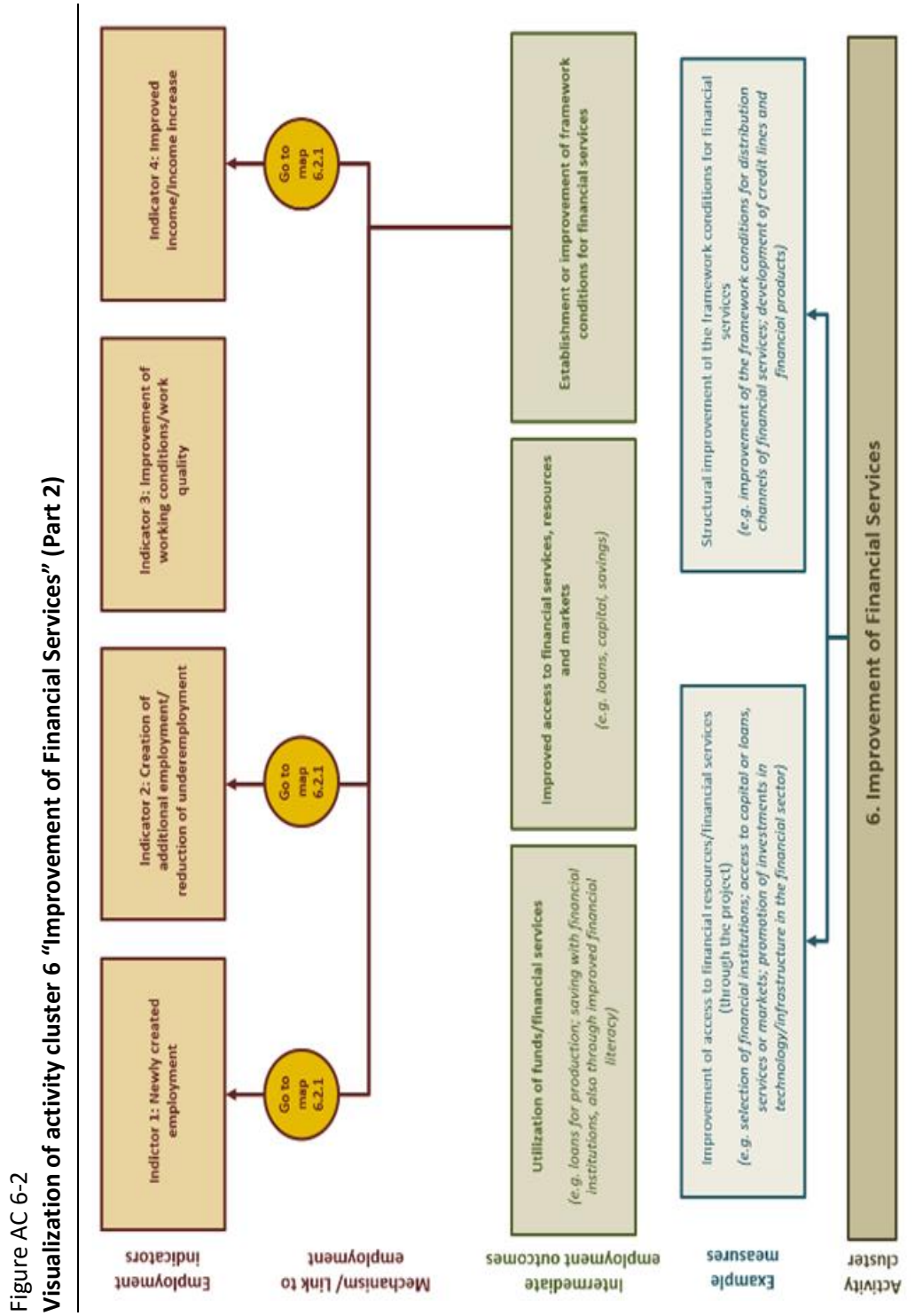
- Again, the 70-currency-unit weekly net effect per beneficiary can, in principle, be transformed into a “net additional employment effect in FTE” using the average full-time earnings
- As in the gross case, one can adjust the 80-unit before-after difference for the beneficiaries using the 30% take up rate of financial services

Third panel of method map – estimation

- Suppose there is no baseline survey among MSMEs in selected districts, i.e. no gross effect measurement is possible
- In a follow-up survey (representative sample of MSMEs in selected districts), 64% per cent of respondents say they earn more than before the program; this is the preferred approach – if no such survey is available, some other source of verification for this quota might be used
- One could then estimate the program effect on „MSMEs with income increases“ as 0.30 (take-up rate of financial services) * 0.64 (quota of beneficiaries for whom access to the financial services implies an increase in earnings) * $3,000$ (total number of beneficiaries) = 576 .
- A potentially improved estimate would also take into account the share of MSMEs that actually report an improvement in the intermediate outcome “increase in revenue” (see monitoring data gathered, above), that is: 0.30 (take-up rate of financial services) * 0.97 (share that also report a revenue increase) * 0.64 (quota of beneficiaries for whom access to the financial services implies an increase in earnings) * $3,000$ (total number of beneficiaries) = 559 .
- If the follow-up survey also enquires about the amount change in earnings, also the effect on average earnings could be estimated (and potentially transformed into FTE)

[Back to toolkit overview.](#)

Activity cluster 6 “Improvement of Financial Services” (Part 2)



Source: RWI

Method map 6.2.1

Activity 6 “Financial Services” – Intermediate Outcome “Improved framework conditions” – Key indicators “New employment / Additional Employment / Increased Income”

Intermediate Outcome	Improvement or establishment of framework conditions for financial services
Key indicator of employment effects	New employment, Additional Employment, Increased Income
Link between Intermediate Outcome and Key indicator	
Mechanism	Typical mechanism is that changes in the regulatory framework facilitate investments and business creation, which potentially leads to job creation or improved income
Measurement / monitoring requirements	Program activities that lead to changes in the framework conditions, e.g. #ministry officials trained, #regulations/ reforms implemented, changes in regulations, utilization of services etc.
Estimation	
	Institutional / macro level activities typically require a descriptive analytical approach, which plausibilizes each step / assumption in the results logic using corresponding data. That is, for instance, monitoring would need to collect data of the step-by-step approach in the results logic: (i) prove that output was attained (framework conditions changed), (ii) prove that outcomes were affected (#regulations implemented and used), (iii) combine with labor market data on connectable indicators: job growth in the economy, or #new businesses registered, business expansion, etc.

Example 6.2.1: measurement and estimation of employment effects in activity cluster “Improvement of Financial Services” (Part 2)

a) Activity

A rural and agricultural finance project, in cooperation with the KfW or other financial institutions, works on improving agricultural financing opportunities for the actors along agricultural value chains in the country. The project mainly targets an improvement through a change in regulatory framework conditions for financial services.

b) Indicators

Two corresponding indicators of the project are:

- Regulatory framework conditions have been created for the distribution channels of financial services via third parties (agent banking).
- Three financial institutions supported by the project have introduced four new agricultural credit products.

The improvement of the regulatory framework conditions of financial services facilitates an investment climate and business creations, which potentially leads to employment effects such as improved incomes or new employment opportunities.

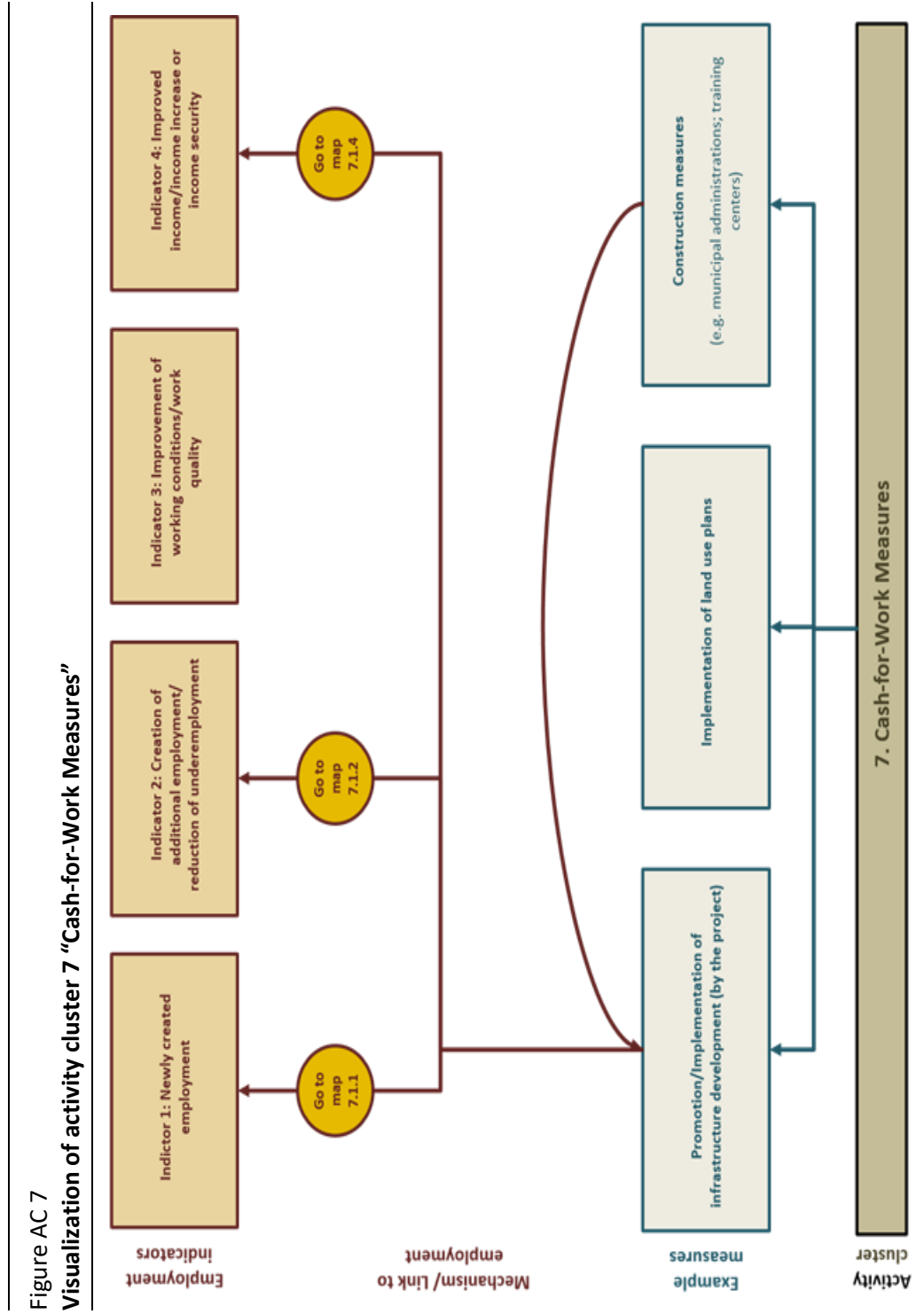
c) Using method map 6.2.1 to measure or estimate effects – all indicators

- As explained in the method map, overarching advisory activities and global (i.e. national-level) institutional changes are difficult to be assessed through measurement.
- An estimation approach typically follows the *stepwise logic linking the activity with the ultimate employment outcome, plausibilizing each step with some data*. In this case, for instance:
- Monitor and document that the overarching regulatory framework were actually devised
- Document that the three financial institutions have each introduced the four new agricultural credit products. In addition, document that these new products are actually used by clients of the bank. Monitor the number of clients of the bank using the products. (Bank-based data collection).
- In addition, survey a (sample of) the clients of the bank to confirm they actually use the products. Potentially ask them to confirm the usefulness of the products.

Then an estimation could look as follows: Given that there is monitoring evidence that (i) regulatory framework was reformed, that (ii) banks have introduced new agricultural credit products that are (iii) actually used by clients: suppose 2,000 target agricultural enterprises (according to bank data) use the products, and that these enterprise have employed a total of 5,000 individuals. If a survey of (a sample of) these enterprises shows that for 10% of the enterprises the business result has improved (revenue, sales, profit), then estimate the effect on additional employment by $5,000 * 0,1 = 500$.

[Back to toolkit overview.](#)

Activity cluster 7 “Cash-for-Work Measures”



Source: RWI

Method map 7.1.1

Activity 7 “Cash-for-Work” – Key indicator 1 “New employment”

Intermediate Outcome	n/a
Key indicator of employment effects	New employment
Link between Intermediate Outcome and Key indicator	
Mechanism	Cash-for-work measures directly affect employment indicators
Measurement / monitoring requirements	Monitor actual implementation of the activity
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with a job before/after * number of total beneficiaries • Net effects: Compare share of beneficiaries who found a job with control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • share employed before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: The number of beneficiaries in cash-for-work activities
Monitoring requirements	Number of beneficiaries, and their actual activity
Survey method for estimate	Not required

Method map 7.1.2

Activity 7 “Cash-for-Work” – Key indicator 2 “Additional employment”

Intermediate Outcome	n/a
Key indicator of employment effects	Additional employment
Link between Intermediate Outcome and Key indicator	
Mechanism	Cash-for-work measures directly affect employment indicators
Measurement / monitoring requirements	Monitor actual implementation of the activity
Measurement	
Example measurement	<ul style="list-style-type: none"> Gross effects: share of survey respondents with increased employment before/after * number of total beneficiaries Net effects: Compare share of beneficiaries with increased employment to control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> Working hours (working periods) before and after same for comparison group Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> Survey of beneficiaries (and comparison group for net effects) after participation Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: The number of beneficiaries in cash-for-work activities
Monitoring requirements	Number of beneficiaries, and their actual activity
Survey method for estimate	Not required

Method map 7.1.4

Activity 7 “Cash-for-Work” – Key indicator 4 “Income increase”

Intermediate Outcome	n/a
Key indicator of employment effects	Income increase
Link between Intermediate Outcome and Key indicator	
Mechanism	Cash-for-work measures directly affect employment indicators
Measurement / monitoring requirements	Monitor actual implementation of the activity
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with an income increase * number of total beneficiaries • Net effects: Compare share of beneficiaries with an income increase to control group that did not participate
Monitoring requirements	Variables: <ul style="list-style-type: none"> • income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: The number of beneficiaries in cash-for-work activities
Monitoring requirements	Number of beneficiaries, and their actual activity
Survey method for estimate	Not required

Example 7.1.4: measurement and estimation of employment effects in activity cluster “Cash-for-Work-Measures”

a) Activity

In the framework of a program for refugees, the construction of a water and sewage distribution system for the host community is scheduled through an amendment offer. The infrastructure measure is planned to be implemented through Cash for Work. (Other examples would be the building or rehabilitation of irrigation infrastructure, erosion control measures, or rural road networks).

b) Indicator

The corresponding indicator, which was additionally added on the output-level, is:

- Cash-for-work measures totaling up to 2,000 person-months have been implemented by the refugee and the local population together.

Thus, the addition of cash-for-works measures in the amendment offer explicitly targets employment effects in a project that otherwise has no employment indicator specified. Cash-for-work measures provide temporary improvements in income or employment opportunities for the beneficiaries.

c) Using method map to measure or estimate effects

for key indicator 4 “income increase”

First panel of method map – establish link between intermediate outcome and key indicator

- Plausibilization of the link: Cash-for-work (C4W) measures directly affect employment indicators while the program is active (i.e. while beneficiaries are in the program).
- Monitoring: Document the number of participants and their earnings before the program and while they are participating.

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline data of (a sample of) C4W participants shows that on average they earned 120 local currency units per week.
- “Income after”: a follow-up survey of (a sample of) C4W participants while in the program shows that on average they earn 500 currency units
- The before-after difference of 380 currency units per week average earnings increase measures the gross program effect on income
- And/or: the number (share) of respondents who report an increase in income in the follow-up survey relative to the baseline survey provide a gross measure for “the number of beneficiaries with income increase” (which is very likely close to 100% in this particular activity).

Net effects

- Required: Identify a suitable comparison group, e.g. individuals in theory eligible for C4W who are living in nearby regions not served by the program, or individuals who applied to the C4W program but could not be served due to a limited number of slots available.

- “Income before”: the baseline survey of the comparison group shows that on average they earn 140 currency units per week
- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for C4W participants - see first panel) shows that on average they earn 180 currency units per week
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case slightly by 40 currency units per week
- => The difference of 380 units (before-after of C4W participants) and 40 units (before-after comparison group) = 340 currency units would thus measure the net program effect on earnings
- One could also use the number (share) of comparison group individuals with increased earnings to calculate the net effect on „the number of beneficiaries with income increases“

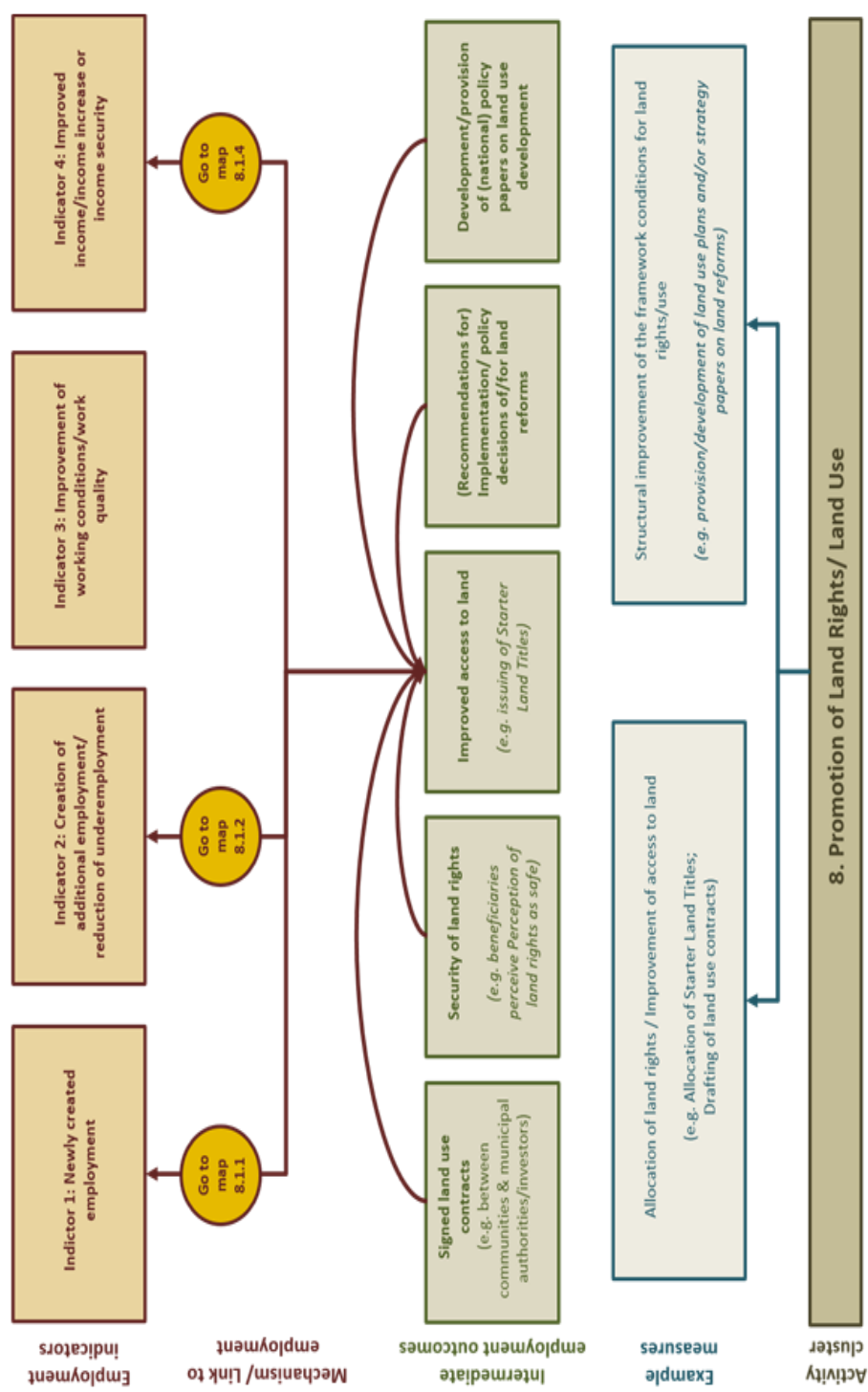
Third panel of method map – estimation

- Suppose there is no baseline survey among MSMEs in selected districts, i.e. no gross effect measurement is possible
- The sample average of the earnings of C4W participants gives a direct estimate of the earnings effect
- The number of C4W participants gives a direct estimate of either the effect on new / additional employment or the effect on “number of individuals with increased earnings”

[Back to toolkit overview.](#)

Activity cluster 8 “Improvement of Land Rights/Land Use”

Figure AC 8
Visualization of activity cluster 8 “Improvement of Land Rights/Land Use”



Source: RWI

Method map 8.1.1

Activity 8 “Land use” – Intermediate Outcome “Improved access to land” – Key indicator 1 “New employment”

Any of the intermediate outcomes:

- a) Security of land rights
- b) Signed land use contracts
- c) (Recommendations for) implementation / policy decisions of/for land reform
- d) Development / provision of (national) policy papers on land use development

sequentially all feed into the intermediate outcome "Improved access to land", which is the intermediate outcome that is practically relevant for a link to employment outcomes. That is, the employment effect measurement in each of these four cases can be summarized using the path through the improved access to land, and only the link of each of the intermediate outcomes to improved access to land needs to be verified in the monitoring system.

Intermediate Outcome	Improved access to land, potentially via a) security of land rights, b) signed land use contracts, c) land reform, d) policy considerations
Key indicator of employment effects	New employment
Link between Intermediate Outcome and Key indicator	
Mechanism	Any of the four intermediate outcomes can be plausibly linked to “improved access to land”. Improved access to land in turn leads to production expansion and/or crop expansion leads to increased output leads to increased revenue leads to potentially increased or new employment
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Measure of access to land. By intermediate outcome: a) Measure of security of land rights b) Land use contracts c) + d) actual decisions and recommendations and that they were put into practice In addition: monitor revenue and sales
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with a job (or jobs created) * number of total beneficiaries • Net effects: Compare share of beneficiaries who found a job (created jobs) with control group that did not participate
Monitoring requirements	<ul style="list-style-type: none"> • revenue and sales • share employed before and after; number of employees before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with increased access to land, potentially via any of a) – d), have also created (or found) new employment
Monitoring requirements	Quota of beneficiaries for whom an increase in access to land implies finding a job or creating a job
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 8.1.2

Activity 8 “Land use” – Intermediate Outcome “Improved access to land” – Key indicator 2 “Additional employment”

Any of the intermediate outcomes:

- a) Security of land rights
- b) Signed land use contracts
- c) (Recommendations for) implementation / policy decisions of/for land reform
- d) Development / provision of (national) policy papers on land use development

sequentially all feed into the intermediate outcome "Improved access to land", which is the intermediate outcome that is practically relevant for a link to employment outcomes. That is, the employment effect measurement in each of these four cases can be summarized using the path through the improved access to land, and only the link of each of the intermediate outcomes to improved access to land needs to be verified in the monitoring system.

Intermediate Outcome	Improved access to land, potentially via a) security of land rights, b) signed land use contracts, c) land reform, d) policy considerations
Key indicator of employment effects	Additional employment
Link between Intermediate Outcome and Key indicator	
Mechanism	Any of the four intermediate outcomes can be plausibly linked to “improved access to land”. Improved access to land in turn leads to production expansion and/or crop expansion leads to increased output leads to increased revenue leads to potentially increased or new employment
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Measure of access to land. By intermediate outcome: a) Measure of security of land rights b) Land use contracts c) + d) actual decisions and recommendations and that they were put into practice In addition: monitor revenue and sales
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with increased employment * number of total beneficiaries • Net effects: Compare share of beneficiaries with increased employment to control group that did not participate
Monitoring requirements	<ul style="list-style-type: none"> • revenue and sales • working hours (or working periods) before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with increased access to land, potentially via any of a) – d), have also increased their employment
Monitoring requirements	Quota of beneficiaries for whom an increase in access to land implies increased employment
Survey method for estimate	Survey among a sample of program beneficiaries

Method map 8.1.4

Activity 8 “Land use” – Intermediate Outcome “Improved access to land” – Key indicator 4 “Income increase”

Any of the intermediate outcomes:

- e) Security of land rights
- f) Signed land use contracts
- g) (Recommendations for) implementation / policy decisions of/for land reform
- h) Development / provision of (national) policy papers on land use development

sequentially all feed into the intermediate outcome "Improved access to land", which is the intermediate outcome that is practically relevant for a link to employment outcomes. That is, the employment effect measurement in each of these four cases can be summarized using the path through the improved access to land, and only the link of each of the intermediate outcomes to improved access to land needs to be verified in the monitoring system.

Intermediate Outcome	Improved access to land, potentially via a) security of land rights, b) signed land use contracts, c) land reform, d) policy considerations
Key indicator of employment effects	Income increase
Link between Intermediate Outcome and Key indicator	
Mechanism	Any of the four intermediate outcomes can be plausibly linked to “improved access to land”. Improved access to land in turn leads to production expansion and/or crop expansion leads to increased output leads to increased revenue leads to potentially increased income
Measurement / monitoring requirements	<ul style="list-style-type: none"> • Measure of access to land. By intermediate outcome: a) Measure of security of land rights b) Land use contracts c) + d) actual decisions and recommendations and that they were put into practice In addition: monitor revenue and sales
Measurement	
Example measurement	<ul style="list-style-type: none"> • Gross effects: share of survey respondents with increased income * number of total beneficiaries • Net effects: Compare share of beneficiaries with increased income to control group that did not participate
Monitoring requirements	<ul style="list-style-type: none"> • revenue and sales • income before and after • same for comparison group • Number of beneficiaries
Survey method for measurement	<ul style="list-style-type: none"> • Survey of beneficiaries (and comparison group for net effects) after participation • Selection of comparison group e.g. eligibles from other regions who did not participate, or who could not be admitted due to space constraints
Estimation	
Example for estimate	Gross: Y% of beneficiaries with increased access to land, potentially via any of a) – d), have also increased their income
Monitoring requirements	Quota of beneficiaries for whom an increase in access to land implies increased income
Survey method for estimate	Survey among a sample of program beneficiaries

**Example 8.1.4: measurement and estimation of employment effects in activity cluster
“Improvement of Land Rights/Land Use”**

a) Activity

A project, under the program wing of sustainable land management, focuses on the promotion of participatory forest management for the rural population. One activity area of the project promotes the establishment of land utilization agreements between the rural community and forest owners.

b) Indicator

The corresponding indicator is:

- Land utilization agreements have been signed between the village community and forest owners for a total of 12,000 ha per region.

Land utilization agreements ensure access to land for the community, which provides economic prospects for the village community. Agricultural production can, for example, be expanded which provides employment opportunities for agricultural workers and improves incomes for the land holders.

**c) Using method map 8.1.4 to measure or estimate effects
for key indicator 4 “income increase”**

First panel of method map – establish link between intermediate outcome and key indicator

- The example concerns method map 8.1.4, in which signed land use contracts lead to improved access to land which leads to production expansion (and/or higher investments / intensification, additional labor on the plots) leads to increased output leads to increased revenue leads to potentially increased income.
- Plausibilization of the link: see intervention logic above, and under b) Indicator.
- Monitoring: The number of land use contracts signed is monitored.
- The program’s M&E team also conducts a survey among the village communities and finds that due to the land use agreements the agriculturally usable area has been increased by 10%.
- In addition, to underscore this monitoring effort and provide evidence for the link with the “increase in profit/revenue/sales”, it would be useful to collect information on profits, revenue or sales for a sample of smallholder firms in the village communities.
- For this example, suppose the latter effort has been made, and the data collected show that among the respondents 20% also report an increase in revenue.

Second panel of method map – measurement

Gross effects

- “Income before”: the baseline data of (a sample of) smallholders in the community villages shows that on average they earned 700 local currency units per week.
- “Income after”: a follow-up survey of (a sample of) smallholders shows that on average they earn 850 currency units

- The before-after difference of 150 currency units per week average earnings increase measures the gross program effect on income
- And/or: the number (share) of smallholders who report an increase in income in the follow-up survey relative to the baseline survey provide a gross measure for “the number of beneficiaries with income increase”

Remarks:

- Using the average full-time income for the typical smallholder in this context, the 150-currency unit income increase can, in principle, be transformed into an “additional employment effect in FTE”
- Given that the survey indicates an increase in usable land area of 10%, one could also calculate the average gross effect per beneficiary as $150 \text{ units} \times 0.10 = 15 \text{ currency units weekly}$. The above mentioned 150-unit effect would be based on the simplified assumption that every smallholder in the community would benefit from the land expansion and thus all can enter into the calculation

Net effects

- Identify a suitable comparison group, e.g. a sample of smallholders in other communities.
- “Income before”: the baseline survey of the comparison group shows that on average they earn 750 currency units per week
- “Income after”: a follow-up survey of the comparison group (ideally aligned in calendar time with the follow-up survey for smallholders in the beneficiary villages) shows that on average they earn 820 currency units per week
- => The before-after difference for the comparison group shows that also without the intervention the (non-treated) target population increases their labor earnings, in this case by 70 currency units per week
- => The difference of 150 units (before-after of smallholders in beneficiary villages) and 70 units (before-after comparison group) = 80 currency units would thus measure the net program effect on earnings
- One could also use the number (share) of comparison group smallholders with increased earnings to calculate the net effect on „the number of beneficiaries with income increases“

Remarks:

- Again, the 80-currency-unit weekly net effect per beneficiary can, in principle, be transformed into a “net additional employment effect in FTE” using the average full-time earnings
- As in the gross case, one can adjust the 150-unit before-after difference for the beneficiaries using the 10% rate of land expansion

Third panel of method map – estimation

- Suppose there is no baseline survey among smallholders in community villages, i.e. no gross effect measurement is possible
- Recall the monitoring follow-up survey (representative sample of smallholders in beneficiary communities) according to which 20% per cent of respondents say they earn more than before the land expansion

- One could then estimate the program effect on „smallholders with income increases“ in beneficiary communities as 0.10 (land expansion rate) * 0.20 (assumed quota of beneficiaries for whom land expansion implies an increase in earnings) * $4,000$ (example of total number of smallholders in beneficiary communities) = 80 .

[Back to toolkit overview.](#)

4 Conceptual considerations for an overarching employment-focused results logic for agricultural and rural development projects

The previous chapter presents a toolkit designed to provide agricultural and rural development programs with guidelines on how to measure or estimate their employment effects in three steps. The development of the toolkit reflects the current project realities in the field as well as the heterogeneous activities and the diverse paths towards employment through which the activities influence several dimensions of employment results.

Evidence from the field visits as well as the heterogeneous project realities across the GIZ rural development portfolio suggest that it might be fruitful – in addition – to consider outlines of an overarching approach towards measuring employment effects in this area. This chapter will therefore provide a few such considerations. As a main part of this, an **overarching model for a generalized results logic** with a streamlined theory of change towards employment is conceptualized, essentially **nesting the visualization graphs** presented in chapter 3. This might be especially useful in the **process of project planning and designing**, to select and integrate employment-focused activities and their measurement from the beginning in the project concept.

Since the systematic impact assessment of employment effects is a relatively new phenomenon for rural development interventions, there are several challenges for the design of an overarching framework. For instance, the portfolio analysis of the rural development portfolio as well as discussions with project staff and M&E experts during the field visits revealed that the way in which employment effects are assessed or even before that are *approached during the implementation* phase is very heterogeneous. This is largely due to the fact that employment generation so far is naturally not the main objective of rural development projects, a fact which e.g. the toolkit in chapter 3 takes into account by outlining pathways of linking already existing intermediate (non-employment) outcomes to final (potential) employment outcomes. In addition, this rural development portfolio covers a vast variety of project types, which have obviously all very specific and diverse objectives and unique settings that are sometimes not easily applicable to the hitherto dominant logic of the employment-intensive settings of economic development promotion.

Therefore, it is not surprising that the existing guidelines for employment- and income-related indicators do not always reflect the labor market realities of rural areas and are often not completely suitable for the goals of GIZ rural development projects (see also the discussion concerning the key employment indicators in chapter 2). Additionally, the varying ways through which employment is targeted so far in the practice of rural development interventions suggests some potential for a clear results logic blueprint towards employment that can guide projects and that outlines which intermediate and final outcomes they can expect and hence should monitor. Such a results logic model that displays typical intermediate outcomes, through which rural development project activities lead to the four key employment indicators, is presented below.

Whereas this chapter 4 briefly conceptualizes a blueprint for the results logic for project design, it also relates to a corresponding M&E framework for assessing employment effects.. The latter requires a stringent terminology and conceptual definitions, which are provided in **Annex A.2** focusing on the following three types of key concepts in connection with employment effects:

- **Concepts that define the main project approach and goals** (e.g. what constitutes an activity, what distinguishes a beneficiary groups from the target group, ...)
- **Concepts that define the mechanism** through which the project expects to attain its goals (e.g. levels of the results chain, difference between impacts and effects, ...)

- **Concepts that define the intended and unintended consequences** of the project (e.g. direct and indirect effects)

These conceptual explanations in Annex A.2 are underlined with a detailed hypothetical example of a rural development project with the objective to improve employment prospects for its beneficiaries.

Given the sequential approach of the research project, the activity clusters at the heart of the toolkit in chapter 3 reflect to a large extent the results of the portfolio analysis and the current results logics identified therein. They also reflect the fact that many of these results logics are defined up to the point of reaching the intermediate outcomes (from an employment perspective), without specifying links to the key employment indicators.

Based on the activity clusters and this process of the research project, **Figure 5** presents a blueprint for an overarching results logic towards employment indicators for agricultural and rural development programs. This blueprint could serve for GIZ staff as a guideline to think through the mechanisms and assumptions of their project design and approach. It can also help project planners and designers to identify and select employment-relevant intermediate and corresponding employment indicators.

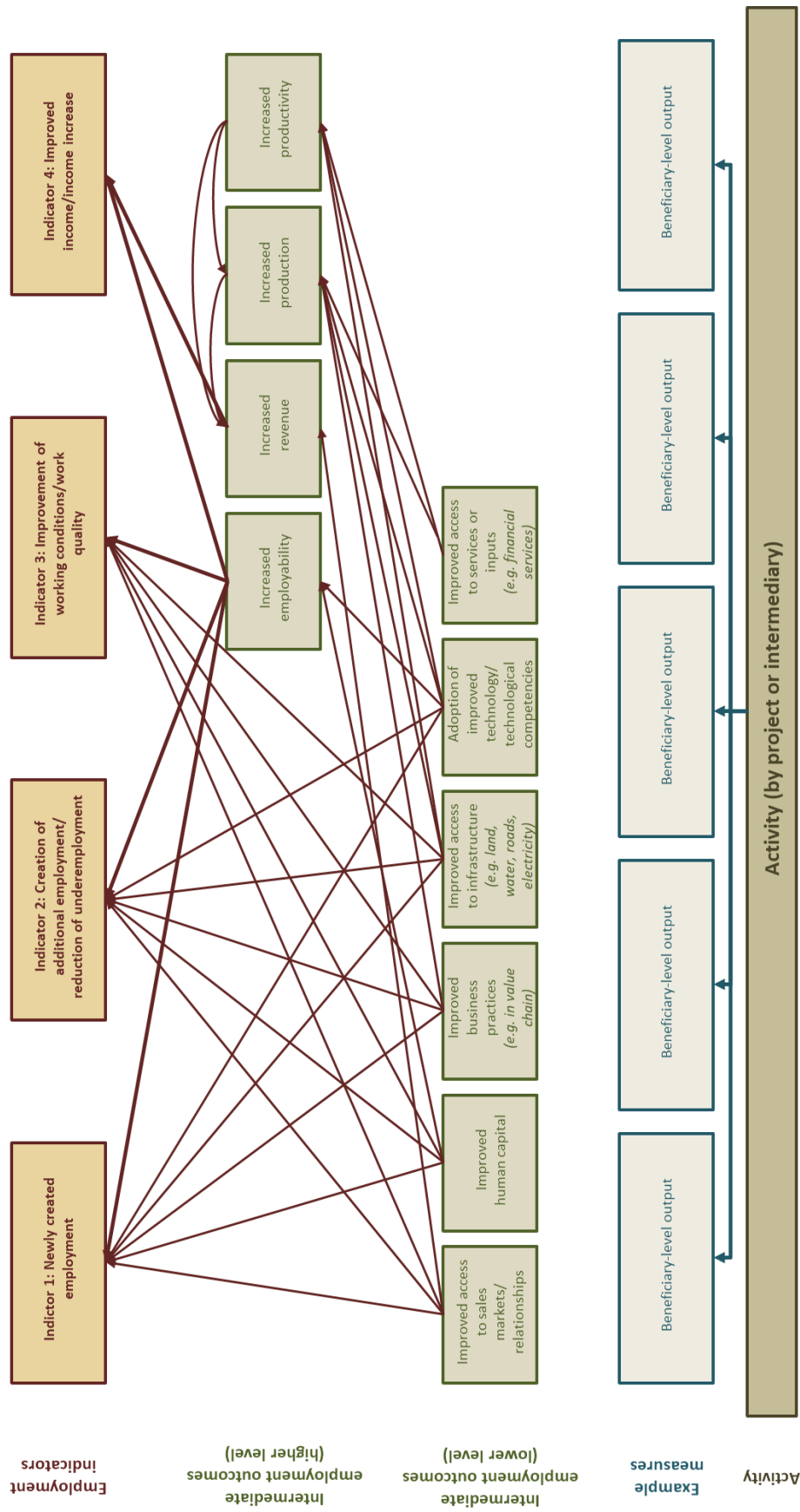
In constructing this blueprint, the research team first extracted the existing results chains (whether implicitly or explicitly stated) and harmonized their structure. Accordingly, underlying constructs of typical output and outcomes were carved out and taken into account. The initial draft was discussed with GIZ project staff, partners as well as external experts and refined based on their feedback. It became clear that the overarching results logic follows a two-level structure with regard to intermediate outcomes. Specifically, lower-level intermediate outcomes can be directly affected by the outputs of projects. Higher-level intermediate outcomes are usually achieved through changes in lower-level outcomes. **Figure 5** illustrates this.

Consider, for example, the specific case of “productivity”: The activities and outputs of a project cannot directly affect productivity among beneficiaries, but rather need to address lower-level intermediate outcomes (e.g. improve technical knowledge) which, in turn, lead to the targeted productivity increases. At the same time, final outcomes are often only achieved through changes in second-level outcomes. That is, second-level outcomes are a key mechanism in between lower-level intermediate indicators and final employment indicators. In the case of productivity increases: increased technological skills of farmers in itself will not lead to an increase in total incomes. Rather, productivity, production and/or sales will need to increase in order to also affect income increases of farm households.

The results logic hence provides the guideline for selecting an initial set of *indicators* from the array of potential indicators. Subsequently, measurements for these indicators are defined following a more detailed project analysis and, ideally, the development of a full Theory of Change.

Attempting to design one generalized method map to go with the blueprint model results logic is not too informative, because such a resulting method map would be too generic in describing general approaches to monitoring employment links and measuring gross and net effects, and such general approaches are described elsewhere (e.g. Kluve 2011, Kluve and Stöterau 2014, Gertler et al, 2016). However, note that any specific path(s) selected in the blueprint model – e.g. in the process of planning and designing a project – is/are represented in the method maps in the toolkit above, such that these can be consulted to also design the corresponding approaches to measuring and estimating the employment effects.

Figure 5. Blueprint for a generalized results logic towards employment indicators in agricultural and rural development interventions



Source: RWI

5. Outlook

It was the task of this research project to develop guidelines – and, in particular, a practical toolkit – that can help interventions in the agricultural and rural development context to measure (or estimate) and report their employment effects. Besides the general methodological challenges that arise with any attempt at measuring impacts, the specific challenge for such a toolkit in the rural development context arises from the fact that many interventions likely have employment effects, but that these are often not explicitly specified, nor linked with the intermediate outcomes defined in the interventions' results matrix.

The toolkit presented here – and developed on the basis of a comprehensive portfolio analysis and project field visits – provides such a practicable approach in three straightforward steps: (1) for a project to identify its activities among a set of eight activity clusters (spanning the full range of agricultural and rural development programs), (2) to find the path linking their specific activities to one or more of the four key employment indicators, and then (3) use the method map for that specific path that gives instructions on how the corresponding employment effects can be measured or estimated.

The toolkit contains a large set of illustrative, detailed examples that the research project encountered in the field (and adapted and expanded for the measurement example), and is thus closely linked to the project reality in rural development interventions. Moreover, the toolkit through its activity clusters and the pathways to employment effects captured therein provides guidance for program design and the formulation of results logics towards employment indicators, accompanied by practical suggestion how to collect the data required for measurement (gross and net) or estimation.

Some next steps are evident: first, to continue testing the toolkit with an increasing number of programs as well as project planners and designers to see how applicable the toolkit is, how fast and how easy effects can be measured or estimated, and to correspondingly calibrate the three steps of the toolkit. Second, to ponder the most accessible and usable way for the toolkit to be applied in practice, be it as a print manual as developed here, or, for instance, as an interactive digital tool. Good practice examples on indicator formulation, improved monitoring approaches, practical survey templates, etc. could be added gradually to the toolkit. Third, as programs apply the toolkit more broadly, it will be interesting to see to what extent measurement (estimation) results can be drawn together to form a systematic picture of the employment effects of agricultural and rural development interventions.

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Annex:

A.1 Portfolio analysis of rural development interventions:

A1.1 Methodology & Scope

For the purpose of this project a comprehensive portfolio analysis of the GIZ rural and agricultural development portfolio in sub-Saharan Africa and the MENA region has been conducted. The original objective of the portfolio analysis was a systematic overview over the state of employment references in rural development projects as well as the identification of further ideas how rural development projects potentially contribute to employment outcomes. After narrowing down the eligible projects, both existing and potential employment references in active projects in these regions were identified.

The identification of the employment references was based on the concept of **key employment promotion indicators** that encompass both the quantitative and qualitative dimension of employment, respectively.

- 1) **Quantitative dimension:** The number of persons (additionally) in employment, including X women and Y young people (whose employment relationship lasts at least 6 months).
- 2) **Qualitative dimension:** The number of employees whose employment or income situation has improved due to the following factors:
 - improved working conditions
 or
 - an increase in income (at least at or above the national minimum wage or at the threshold of US\$ 3.1 per capita per day).

METHODOLOGICAL APPROACH FOR CASE SELECTION

Using the SAP system of GIZ, active rural and agricultural development projects in Africa with a rural development identifier (LE) were identified (reporting date: 01.02.2018). The LE identifier is based on the national cross-sector "BMZ identifiers", which include the LE label: "Rural Development and Food Security".

Generally, *all* projects where rural development and food security was a main objective (**LE2**) and, after closer examination, several more projects where rural development was a secondary objective (**LE1**) were selected. Through the application of these selection criteria a total of **123 projects** were identified in SAP and examined in greater detail. **Twenty-nine** of those projects were **not included** in the portfolio analysis due to the following exclusion criteria:

- audit projects, expatriation of experts, contract volume under 200,000€, InS, no BMZ commission, modified indicators in the amendment offer without an LE identifier or
- a duplication of indicators or projects, which were therefore only counted once

Procedure of the portfolio analysis

The portfolio analysis covered **94 eligible projects**, which were analyzed in detail in relation to their employment references. Project proposals (PV), results matrixes (WiMa) and progress reports (PFB) were sighted and meticulously worked through to determine already existing employment relations and to identify potentials to further integrate employment outcomes in rural development projects. The identification of employment relations in each project was specifically based on the outcome indicators, outputs and module objectives. Moreover, each offer was

screened according to keyword searches such as income and employment. For those projects with existing (explicit) employment relations the results matrixes and progress reports were searched with a focus on already applied monitoring and evaluation techniques (i.e. measurement practices and sources of verification)

Structure of the portfolio analysis

The portfolio includes for each of the projects core data on the project frame and on the most important details from the project proposal, such as:

- project number, project name, country, region, AV, volume, project phase, service description, technical and product assignments, BMZ/DAC identifiers (LE & TD identifiers), target groups and DMS links to the project proposal and results matrix
- the most important data from the project proposal i.e. module objective, all outcome indicators, all output indicators and employment-relevant references

Employment references for each project include respectively:

- a summary of the employment references for each project
- a listing of all employment-related indicators and components of the proposals and results matrixes for each project
- an allocation of each employment related indicator to one of the four key indicators of employment promotion
- a classification of the employment effect for each employment related indicator
- explicit or non-explicit
- direct, indirect or induced
- an allocation of each employment related indicator to a prototypical impact logic coded according to typical intervention areas where employment plays a relevant role
- Information on monitoring and evaluation techniques for measuring employment effects (i.e. data bases and sources of verification)

A.1.2 Overview of the Main Findings of the Portfolio Analysis

Explicit and non-explicit employment references

A total of **94 projects** were examined for the portfolio analysis out of which **24 projects had no detectable employment references** in the documents available. These projects often had the primary focus on food security, climate change adaption or drought resilience. Interventions at the macro policy level or on transitional aid measures were often not related to employment.

Eventually the portfolio analysis contained **70 projects** for which the indicators either **explicitly** or at least **non-explicitly** related to employment.⁹ A project has an **explicit employment relation** if that project explicitly *mentions* and therefore *targets* quantitatively or qualitatively employment in its outcomes, outputs or sometimes even module objective. The portfolio analysis however showed that only a few of the active rural development projects have **explicit** quantified employment references in their indicators.

⁹ The resulting portfolio in MS Excel Format is available upon request.

However, many of the rural development projects that were analyzed in the portfolio analysis target employment **non-explicitly**, meaning that these projects have the *potential to create employment* or already do so but without reflecting it in their indicators or activities. Thus, the potential remains implicit meaning that employment is *not intended* as an effect and is, therefore, not monitored or measured. In some cases of non-explicit employment effects in rural development projects, it is possible, that employment effects are mentioned in the project proposal under wider macroeconomic, socio-economic and political considerations. However, these ‘further effects’ are not sufficiently integrated into M&E system (i.e. no specific indicator) that they could be considered as measurable effects.

Another finding of the portfolio analysis was that several projects have **intermediate outcomes** concerning employment. This means that these projects follow the same results logic or theory of change in their interventions as projects with explicit employment targets but **stop at an intermediate level** where the link between the (intermediate) outcome and the eventual employment effect remain **non-explicit**. In short, this means that the link is not established (see the example box in Chapter 1.1 for further details). This finding implied on one side that these rural development projects have a huge potential to achieve employment effects if the links towards employment are made explicit. However, on the other side, it suggested that there is often a lack of a results chain and theory of change towards employment, or that the impact model in its interactions with different results chains is not consistent (towards employment objectives). It became clear that there is a necessity to outline considerations of a more consistent framework and model results chain towards employment in rural development projects.

Simplified impact logics of employment effects in rural development projects

During the analysis, it became apparent that that most of the outcomes, which stop at an intermediate level in relation to employment, appear in various repetitive areas typically undertaken by rural development projects. The same became clear for already existing employment references. If employment effects are articulated in the project documents, usually they lie in certain fields of activities. Since the purpose of the analysis was not only to determine if and to what extent rural development projects already contribute to employment, but the objective was also to develop a systematic understanding of pathways through which rural development projects can address employment outcomes more explicitly.

To this end, various fields of activities were summarized into **simplified impact logics** according to the frequency with which explicit and especially non-explicit employment references occurred. After various rounds of constructive feedback and subsequent adjustments **eight impact logics**, which comprise the usually undertaken intermediate steps from the activities of the project to the various employment dimensions, were identified. The actual analysis of the impact logics is based on an analysis of all indicators and activities with employment relevance for the 70 projects analyzed for the portfolio analysis. Bilateral projects contained on average one or maybe two employment references in their indicators or activities (not yet distinguished between explicit and non-explicit employment references). Whereas regional projects not only displayed on average more stringent results matrixes and indicator systems but also contained on average more than two employment references. This summed up to **158 outcomes that were analyzed in regard to their employment relation** and clustered according to the eight impact logics.

Main findings of the portfolio analysis

The following section will elaborate the findings for each of the eight impact logics only very briefly, because the detailed findings were processed to set up the activity clusters displayed in Chapter 2.

- **Education/Vocational Training/ Skills Development**

The portfolio analysis revealed that **37 indicators** of the analyzed rural development projects focused on the area around education, vocational training and skills development. Exemplary measures, mechanisms and outcomes in this area are outlined in the activity cluster in Chapter. Only **two times explicit employment references** were made where it was stated that the indicator directly targets employment either qualitatively or quantitatively. Therefore, it can only be assumed for these two cases that the employment effect is measured in the M&E system. However, activities surrounding education still have a great potential for creating employment because education in its widest sense improves through various means employability and can thus contribute potentially to new or additional employment (here: 12), increased income (here: 8) or both (here: 14). If for example better skills are acquired better working conditions (1), can be achieved. Education therefore bears the potential to create both quantitatively and qualitatively employment if the outcomes that are intermediate in regard to employment are linked to employment outcomes.

- **Promotion of Production and Innovation**

Indicators and output activities concerning the area of the promotion of production or innovation in the widest sense appeared **41 times** in the portfolio analysis. **Sixteen times** an employment outcome was **explicitly mentioned** with the focus on income increase. The remaining **twenty-five non-explicit references** contribute likely enough also to an increase in income because of the way the indicators are set up and because of the data that are available for them. Nonetheless, if all of the projects working in this area would target an income increase explicitly much could be gained for reporting reasons.

- **Product Diversification**

Similarly, indicators and activities focusing on the diversification of products or production systems also contributed in the analysis **three times explicitly** to an increase in income and **six times non-explicitly** over outcomes that stopped at an intermediate level with regard to employment. Even though this impact logic appears to be less common than other interventions areas, one should not underestimate the impact it can have for employment.

- **Value Chain Promotion**

Value chain promotion on the other hand with all the areas it encompasses was a topic appearing very often with a total of **39 times**. Seventeen times was either a quantitative increase in employment (**9**) or qualitative improvements such as an increase in income (**8**) or the improvement of working conditions (1) **explicitly** targeted. **Twenty-one times** employment was targeted **non-explicitly** over various outcomes dealing with improved cooperation, participation or access to value chains. The quantity of the appearance and the diversity of the employment dimensions targeted shows that value chain promotion is one of the most important areas to be enhanced if employment outcomes are to be increased.

- **Improvement of Sales/Marketing Strategies**

Regarding the intervention area of improvement of sales or marketing structures the qualitative employment dimension of income was again dominant. **Five times** in the analysis was income

targeted **explicitly** and **three times non-explicitly** where outcomes stopped at an intermediate level without explicitly stating that an improvement of sales and marketing structures also has the potential to create increased income for individuals.

- **Improvement of Financial Services**

Other than the impact logics explained above, indicators concerning broadly the improvement of financial services all do so **non-explicitly** in this analysis (8).

- **Cash-for-Work Measures**

Contrary to that Cash-for-Work (CfW) measures were counted exclusively as explicit employment references to either improved income (5) or to new or additional employment (4). Even though these measures are only temporary and mostly applied for a short period of time they can boost employment in the short-run and can mean a relief hardship for many people. The CfW measures analyzed in this portfolio were mostly included as part of an additional proposal to the projects within contexts where an influx of refugees or returnees was apparent.

- **Improvement of Land Rights/Land Use**

Similarly, as the improvement of financial services were the indicators and activities (7) regarding land rights and access to land also exclusively **non-explicit** in regard to employment. All seven indicators can potentially over, i.e. an improved access to land, contribute the economic opportunities of the target group, which can potentially lead to better incomes or even the creation employment.

A.2 Terminology of main concepts underlying M&E frameworks

This annex presents a definition of the main concepts that determine a M&E framework, specifically:

- Concepts that define the main project approach and goals
- Concepts that define the levels of the mechanism through which the project expects to attain its goals
- Concepts defining the intended and unintended consequences of the project
- Concepts regarding indicators and measurements (e.g. what constitutes a good indicator formulation, what are good measurements,...)

Throughout the explanations of the concepts, the example of a training project that has the goal to improve employment prospects of rural women in some country is used to clarify the ideas. The hypothetical project implements two activities: (i) it supports a regional ATVET institution in developing improved training curricula for vegetable production and processing , and (ii) it funds trainings of these ATVET institutions for 200 women in 3 selected rural areas.

A.2.1 Concepts defining the project approach and goals

In the beginning of the design phase, a project¹⁰ will need to define the (overarching) goal, the target group and a group of eventual beneficiaries. In addition, some projects work with intermediaries to implement their activities. The definition and delineation of a target and beneficiary group is of particular importance to develop a results chain and evaluation design.

Project objective: Objectives are a description of the desired situation the project expects to have changed after the project has ended – i.e. the overarching project goal. Objectives are typically derived from a specific problem the project addresses. Objectives should be mutually agreed between the projects and the political partners. Objectives are rather loosely defined and do not yet include concrete (quantitative) numbers or measurements. However, the specified goal should be able to guide the project design, target groups and beneficiary types (see below).

Activity: Activities are actions taken or work performed by the GIZ or partners through which inputs, such as funds, technical assistance and other types of resources are mobilized to produce specific outputs. Hence, each project may have multiple activities.

Intermediaries: Are typically partner institutions (public/private entities) that GIZ supports and advises on implementing their activities. Commonly, GIZ projects empower, finance or support intermediaries in their activities to achieve the final outputs. In some cases, intermediaries can be service providers that act on behalf of GIZ. In these cases, output and outcomes of the GIZ project need to be defined both on the intermediary level and on the beneficiary level, as explained in more detail below.

Beneficiary type: Later, for the measurement of outcomes, a description of the beneficiary type is necessary. The reason is that the combination of beneficiary type and expected impacts defines whether employment-related outcomes also should be measured for hired labor or only for the individual beneficiary. Against this background, one can distinguish three types of beneficiaries:

- 1) **Individuals:** All individual project beneficiaries who seek a job or aspire to improve their employability or earnings. This also includes own-account workers and subsistence farmers. In certain circumstances, households can be captured as individual beneficiaries. With respect to measurement only individual-level outcomes need to be captured.
- 2) **Nascent entrepreneurs and self-employed:** These relate to projects that support individuals in starting their own business. Individuals are typically self-employed and have no intention to engage further labor, while entrepreneurs see themselves as a business that employs further labor. Typically, individual-level outcomes for the individual entrepreneur should be captured (e.g. business survival and incomes/profit derived). If further employment generation for workers is expected, some (limited) employee outcomes should be captured as well.
- 3) **Existing firms/establishments/business:** If an establishment is part of a larger firm, the data collected should correspond to the specific establishment receiving support by the intervention. If the firm has already existed before the project started, the employment effects should be irrelevant for the entrepreneur or firm owner himself. Thus, employ-

¹⁰ Within GIZ, one may further differentiate between programs and projects (c.f. Kluge and Stöterau 2014). As it will become clear in the following, for the development of M&E systems, the activity is the main level that defines subsequent steps. Hence, this section (loosely) refers to a project as the overarching administrative entity (e.g. field of activity, "Handlungsfeld").

ment and earnings outcomes in this case refer to the firm level (e.g. number and composition of employees, retention rate, wages and job-quality) and should be measured at this level.

Target group: The population for which the project aims to improve the level of a specific employment-related outcome.

Beneficiaries: The group of individuals that **is actually affected** by the final outputs of the project. This is typically a subset of the entire target group. In most cases, GIZ projects have a single target group, but the group of beneficiaries depends on the activity.

Example:

The example of the training project has the **goal** to improve the employment prospects of rural women in country X (**target group**). The project implements two **activities**: (i) it supports a regional ATVET institution in developing improved training curricula for vegetable production and processing, and (ii) it funds trainings of these ATVET institutions for 200 women in 3 selected rural areas. Hence, the ATVET institution is the **intermediary** through which final outputs are achieved. For activity (i), the **beneficiary group** are all young women in the region that (eventually) participate in a course of this ATVET training. For activity (ii) the beneficiaries are the young women that actually participate in the training funded by GIZ. Consequently, the **beneficiary-type** are individuals.

A.2.2 Concepts defining the project mechanism

Output: Each activity of a project has a specific output. Outputs can be products, capital goods and services, which result from an activity that is relevant to the achievement of outcomes. Some modules may produce outputs that do not directly affect the ultimate beneficiary groups (usually because they work with intermediaries). In this case, it is important to differentiate between intermediate outputs and beneficiary-level outputs of an activity.

- **Intermediary-level outputs:** Outputs that affect the project intermediaries (e.g. political partners or implementation agencies, etc.)
- **Beneficiary-level outputs:** Program outputs that directly affect the target group for which the employment indicator is formulated.

Outcome: This is the level of a specific characteristic/variable among individuals *at one point in time*. Since this assessment is focused on employment- and income-related outcomes, two sub-types of outcomes are defined:

- **Intermediate outcomes** are levels of a specific variable (e.g. a characteristic) of an individual that does not directly describe the employment or income situation. They are hence on the path between project outputs and final employment-related outcomes.
- **Final outcomes** are all outcomes that describe the employment or income situation of individuals. This could be, for example, the individual employment situation or the number of employees at the firm-level.

Effects: *Changes* in the level of outcomes over time. It is important to differentiate between gross- and net effects:

- **Gross effect** is the change in an (intermediate or employment-related) outcome before and after the project's beneficiary-level outputs.
- **Net effect** is the change before and after the intervention net of the change that would have happened in the absence of the intervention (e.g. relative to a comparison group).

Depending on the quality or adequacy of the comparison group, this typically reflects the impact that is attributable to the GIZ program.

Example:

In the training project example, **beneficiary-level outputs** of activity (i) are the new curricula that are used in the regional ATVET institution, and outputs of activity (ii) are 200 (partially) funded trainings offered and delivered to women. The respective **intermediate outcome** is the post-project level of a characteristic of beneficiaries, which adequately reflects the expected change (to be defined based on the results chain). In this case, the intermediate outcome could be the knowledge of a specific technical skill. The **final outcome** is the post-project level of a labor-market related variable (employment- or income-related) of beneficiaries. In this example, a relevant final outcome could be the absolute net-income level. The **gross effect** on final outcomes is the difference in income for each beneficiary before and after the project. The **net effect (or impact)** could be measured by comparing the average change in incomes among beneficiaries to that of a group of (comparable) non-beneficiaries – e.g. from a neighboring region.

A.2.3 Concepts defining the project consequences

Summarizing the above explained concepts shortly means that each activity of a project will have an output, which in turn induces a specific outcome among beneficiaries. The induced change from the pre-project outcome level is called the **effect**. Effects are hence a consequence of a specific output that directly affects beneficiaries (e.g. anyone who is directly affected by the output of an activity is a beneficiary). However, outcomes for one individual may affect the outcomes of other individuals (within or outside the target group). This may be an **intended or unintended consequence** of the activity.

The definition and discussion of (potential) indirect and induced effects is important in order to inform the adequate unit of measurement for the outcome, as well as a valid comparison group if the impact of the project should be estimated (see below). Therefore, the following provides a conceptual framework of what constitutes direct, indirect and induced effects, with the goal to guide which of these should be part of the M&E framework. Two main aspects that underlie this definition of direct/indirect and induced effects need to be clarified first:

First, employment effects are defined and measured on the final beneficiary level – not for intermediaries. While building the capacity of local partner institutions (intermediaries) is a central objective of GIZ work, and hence should be part of the M&E system, the employment and income-related indicators need to be formulated on the final beneficiary level. Judging from the stakeholder consultation of this project, this has caused ambiguities across GIZ projects until now – e.g. direct effects were considered at the intermediary level, and hence beneficiary level changes were termed indirect effects.¹¹ Nonetheless, all aspects that are an integral part of the expected results chain towards employment should be measured as well (including changes in outcomes among partner institutions).

¹¹ Although some employment effects may be achieved at this level, they are generally negligible and not a primary goal of the intervention (e.g. training individuals at institutions as part of an institutional development program). In some instance, outcomes among intermediaries could be considered an important mechanism on the way to beneficiary-level outcomes (e.g. the knowledge/skill of partner institutions). Hence, one could, also introduce intermediary-level outcomes into the conceptual framework. This is not recommended, however, in order not to introduce further complexity.

Second, effects can be defined and measured for intermediate and final outcomes. Effects on intermediate outcome variables often only trigger final effects. Only in specific instances activities have an immediate direct final effect. It is therefore important to emphasize that here all effects on employment outcomes of beneficiaries are considered as direct employment effects, whether achieved through intermediate outcomes or not. Apparently this has also caused confusion in the past – e.g. that changes intermediate outcomes among beneficiaries were considered to be direct effects, and hence changes in employment- or income outcomes were termed indirect effects.

Direct effects are all changes in outcomes that are caused by the outputs of the intervention **among its beneficiaries**. Direct effects are usually considered a primary goal of the intervention and should hence be part of any M&E System. Ideally, direct effects are measured for final outcomes and key intermediate outcomes, as the latter are a key to understand why (or why not) final outcomes were achieved.

Indirect effects are changes in outcomes among individuals that **are part of the target group** of the project, **but which are not directly affected by the outputs of the project**. Indirect effects are triggered by direct effects on the beneficiaries of the project. Similar to the above discussed case of direct effects, indirect employment effects are often also mediated by changes in intermediate outcomes. This also includes multiplier effects along the value chain, in case these individuals are considered to be part of the target group.

Induced effects are all changes in outcome variables among individuals that are **not part of the target group** of the intervention. Similarly, to indirect effects, they are typically triggered by the direct effects of an intervention on beneficiaries. In addition, they can be a consequence of indirect effects of an intervention. Finally, and in contrast to indirect effects, induced effects can also be a consequence of the (direct) outputs of an activity.¹² These effects are sometimes referred to as “externalities”. Induced employment effects are generally not a goal of the intervention; they can be acknowledged as an (intended or unintended) consequence.¹³

Example:

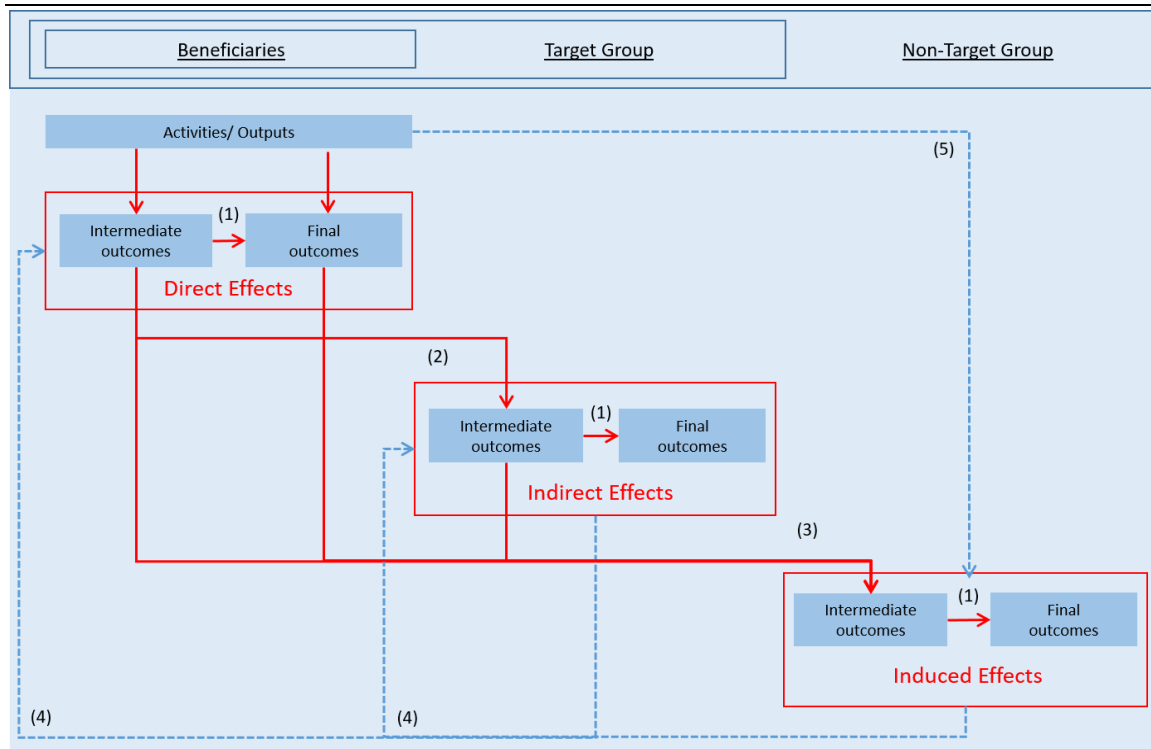
To illustrate how each of these effect levels could be defined in the training project example, it is assumed in this case that the non-target group are older women or men in the intervention region. The non-target group may similarly be also young women outside the intervention area.

¹² To clarify why indirect effects cannot be a consequence of the outputs of an intervention: Since indirect effects are defined for the target group, individuals from the target group that are affected by the output should be regarded as beneficiaries. In this case, one would refer to the effects as unintended direct effects. Since induced effects are defined for individuals outside the target groups, they cannot become part of the beneficiary group.

¹³ A final mechanism that could be integrated into this terminology are so-called “feedback loops” or third-order effects: The recurrent effects of induced effects on outcomes among beneficiaries or the target group. However, these are generally almost impossible to track as part of M&E systems, as they are small in nature, long-term and slow-changing.

Figure A.1

Graphical illustration of the types of effects of rural development interventions



(1) Mediatory mechanisms (c.f model results chain) (2) Indirect Effects: (e.g.) Spillover effects, improved inputs, substitution, multiplier effects... (3) Induced Effects: (e.g.) Spillover effects, business environment effects, displacement (4) Feedback loops: Second- or Third-Order Effects (5) Externalities
Source: Based on Kluge and Stöterau (2014).

1) Direct effects:

- **Intermediate effects:** An increase in technological skills among young women that participated in a training course that was offered by the ATVET institution.
- **Final effects:** An increase in the probability to be employed among young women that participated in a training course that was offered by the ATVET institution (e.g. through increased employability or the signaling of the certificate).

2) Indirect effects

- **Intermediate effects:** An increase in technological skills among young women in the same region that did not participate in a training course by the ATVET institution (e.g. through knowledge spillovers).
- **Final effects:** A decrease in the probability to be employed among young women in the same region that did not participate in a training course by the ATVET institution (e.g. through displacement effects).

3) Induced effects:

- **Intermediate effects:** An increase in technological skills among (e.g.) older men in the same region that participated in a training course by the ATVET institution.
- **Final effects:** A decrease in the probability to be employed among men in the same region that did not participate in a training course by the ATVET institution.

The discussion shows that a precise definition of the target and beneficiary group is crucial to determine what the project and the M&E design regards as direct, indirect and induced effects.