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Investing in rural people

Synthesis of lessons learned from the IFAD9 Impact Assessment Initiative

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Abbreviations and acronyms

IFAD9	Ninth Replenishment of IFAD's Resources
IFAD9 IAI	IFAD9 Impact Assessment Initiative
M&E	monitoring and evaluation
NRM	natural resource management
PCR	project completion report
RCT	randomized control trial
RIMS	Results and Impact Management System
RMF	Results Measurement Framework
SO	strategic objective

Executive summary

1. Over recent decades, IFAD has consistently increased its focus on achieving and measuring results. In 2011-2012 resources were invested in the IFAD9 Impact Assessment Initiative (IFAD9 IAI) to: (i) explore methodologies to assess impact; (ii) measure – to the degree possible – the results and impacts of IFAD-financed activities; and (iii) summarize lessons learned and advise on rigorous and cost-effective approaches to attributing impact to IFAD interventions. The initiative reflects a recognition of IFAD's responsibility to generate evidence of the success of IFAD projects so as to learn lessons for future ones. Overall, the approach to the IFAD9 IAI was scientific, systematic and comprehensive. It has provided IFAD with significant lessons that will help advance a results-based agenda.

2. The analysis shows that IFAD projects active during the 2010-2015 period have already reached 139 million beneficiaries and 24 million families, providing them with substantial services through a community-led approach. These include 18.0 million active borrowers and 26.6 million voluntary savers, highlighting IFAD's focus on financial inclusion. Numerous farmers have been trained in agricultural practices, including 4.4 million in crop production technologies, 1.6 million in livestock production and 1.4 million in natural resource management. Improvements in agricultural activities have been promoted, leading to 5.0 million hectares under improved land management practices.

3. The IFAD9 IAI has demonstrated that IFAD beneficiaries are, on average, better off in percentage terms when compared with a control group. IFAD's investments in rural people have generated returns in a number of critical areas, including assets, resilience, livestock ownership, agricultural revenues, nutrition and women's empowerment. Projections indicate that 44 million beneficiaries will see substantial increases in agricultural revenues, and 28.8 and 22.8 million beneficiaries will obtain significant gains in poultry and livestock asset ownership, respectively. More than 10 million beneficiaries will experience an increase in each of the following domains: overall assets, productive assets, gender empowerment, dietary diversity and reduction in shock exposure. Overall, the analysis paints a portrait of IFAD improving the well-being of rural people in terms of asset accumulation and higher revenue and income.

4. On methods, the clear challenges of designing data collection and conducting impact assessments ex post has been highlighted. The initiative also draws attention to the fact that using a representative sample of projects and focusing on one aggregate indicator ("people moved out of poverty") limit the potential for learning and are unnecessarily restrictive. Projects should be identified where learning will be the greatest, with indicators selected to comprehensively represent IFAD's success. Moreover, the initiative underlines areas where M&E and data collection should be strengthened.

5. The IFAD9 IAI provides some key considerations for assessing IFAD's impact. First, future impact assessments should be selected and structured to facilitate and maximize learning. Second, IFAD should focus on a comprehensive set of indicators that reflect the three strategic objectives as articulated in the IFAD Strategic Framework 2016-2025. Third, creating an impact assessment agenda requires systematically reviewing the portfolio to understand the impact potential of IFAD-funded projects and to identify where there are gaps in the evidence. Fourth, a framework for ensuring development effectiveness must be developed. Fifth, IFAD must focus on impact assessments designed ex ante to ensure adequate data collection. Sixth, the IFAD impact assessment agenda must reflect a multistakeholder and participatory process.

6. These lessons from the IFAD9 IAI have profound implications for IFAD and for the manner in which it measures the impacts of its investments in rural people. It requires a series of coherent actions that allow IFAD to continue the process it

began a decade ago of focusing on a results-based agenda. By taking these actions, not only will the impacts of IFAD's investment in rural people be better understood, but greater knowledge will be generated, which will allow IFAD and others to be more effective in promoting rural development.

Synthesis of lessons learned from the IFAD9 Impact Assessment Initiative

I. IFAD9 Impact Assessment Initiative

1. Throughout recent decades, IFAD has consistently increased its focus on achieving and measuring results. The Governing Council asked IFAD to create a comprehensive system for measuring and reporting on the results of IFAD-supported projects. Towards this end, the Results and Impact Measurement System (RIMS) was established in 2004. While the RIMS roll-out was gradual, with delays in projects becoming compliant and data quality being highly variable, RIMS greatly improved the capacity of IFAD to monitor its activities and to assess its contribution to improving the well-being of poor rural households. Moreover, RIMS was part of a broader effort to improve IFAD self-evaluation at the design, implementation and completion stages. In fact, an independent Peer Review of IFAD's Office of Evaluation and Evaluation Function, undertaken in 2010, noted that self-evaluation was significantly strengthened at IFAD during this period.[1]

2. While moving IFAD forward in achieving and measuring results, the RIMS data and self-evaluation system were limited in their ability to attribute higher-order impacts of IFAD-financed activities. In 2011-2012, when the IFAD9 Impact Assessment Initiative (IFAD9 IAI) was agreed on, including an "enhanced thrust on impact evaluation"[2] it imposed a substantial burden on existing systems, which at that time were not adequately equipped for the task. Thus resources were invested as part of the Ninth Replenishment of IFAD's Resources (IFAD9) to: (i) explore methodologies to assess impact; (ii) measure – to the degree possible – the results and impact of IFAD-financed activities; and (iii) summarize lessons learned and advise on rigorous and cost-effective approaches to attributing impact to IFAD interventions.[3]

3. The initiative by IFAD Management to push an impact assessment agenda reflects recognition of Management's responsibility to generate evidence of the success of IFAD projects so as to learn lessons for future ones – that is, to rigorously self-evaluate. The IFAD9 IAI represents IFAD's foray into the area of technically sound impact assessment, with the objective of learning lessons that allow IFAD to systematically generate and use evidence, along with available outside information, to design effective development projects.

4. The objective of this document, then, is to report the findings of the IAI while highlighting what has been learned from the experience. As this represents a scientific exercise, the document is organized along the following lines. Section II discusses the data and methods used, beginning with conceptual issues and then focusing on how concepts were put into practice. Section III reports results of the analysis, including insights acquired through the process and estimated and projected impacts. Section IV briefly summarizes the conclusions and discusses implications.

II. Data and methods: concepts and approach

A. Conceptual issues

5. Prior to discussing the data and methods used as part of the IFAD9 IAI, it is important to clarify the way in which impact can be attributed to IFAD-financed interventions. A hypothetical situation is illustrated in figure 1: suppose that a

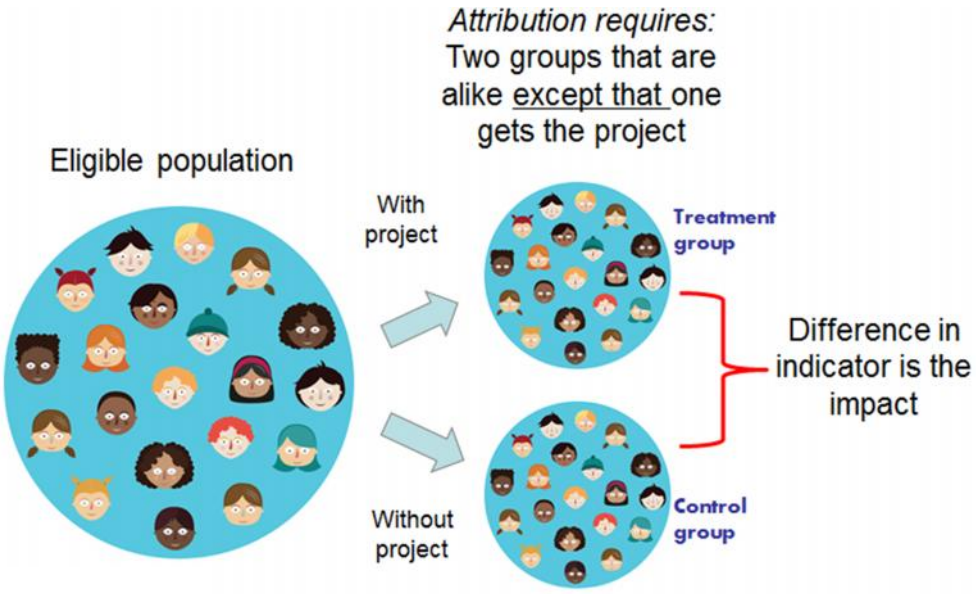
[1] See IFAD, Peer Review of IFAD's Office of Evaluation and Evaluation Function (EC 2010/62/W.P.2) (Rome, 2010) and IFAD, Action plan for strengthening the self-evaluation system (EC 2011/68/W.P.9) (Rome, 2011) for background on this period.

[2] IFAD, Report of the Consultation on the Ninth Replenishment of IFAD's Resources (GC 35/L.4) (Rome, 2012), para. 42.

[3] IFAD, Methodologies for Impact Assessments for IFAD9 (EB 2012/107/INF.7) (Rome, 2012), para. 6 of the Executive Summary.

group of poor rural people is deemed eligible for an IFAD project. To attribute impact to the project, ideally there would be two groups that are alike in all ways, except that one group receives the project and the other does not – this second group represents a control or "counterfactual" to the first group. These two groups are referred to in the impact assessment literature as the treatment group, which receives the project, and the control group, which, at least in the short run, does not. If these two groups can be created, the impact is the difference between these two groups in the indicators of interest, such as income, nutritional level, yield, resilience to shocks or other indicators that correspond to the anticipated impacts based on a project's theory of change. Attribution to the IFAD intervention is possible because the treatment and control groups are alike in all ways except that the treatment group received the project.

Figure 1
Attributing impact



6. As noted in the methodologies paper,[4] this is challenging, particularly for agricultural projects, and ensuring attribution requires obtaining the best data possible and then using statistical methods to address remaining data issues. Generally, the better the available data, the less complicated the required statistical procedures. Designing data collection for an impact assessment ex ante – that is, prior to project implementation – facilitates the process of creating a viable counterfactual, as a reasonable control group can often be identified. On the other hand, designing impact assessments ex post – that is, doing data collection after implementation – is more challenging, as the targeting of the project (if successful) often means that neighbouring households and communities (the potential control group) are not wholly like the beneficiaries (treatment group). This can lead to what is referred to in the impact assessment literature as "biased estimates of impact".[5]

7. With respect to the IFAD9 IAI, as noted in the methodologies paper,[6] the indicators selected to assess a given IFAD-funded project, and articulated in a logical framework, should reflect the project's theory of change, highlighting the impact pathway through which investments lead to results. The selected measures are

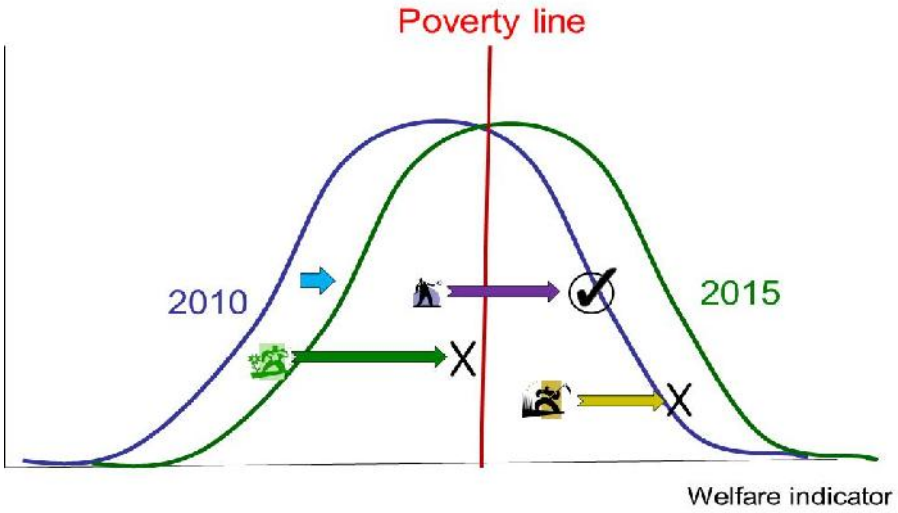
[4] Ibid., paras. 16-17 of main document.
[5] Statistical methods can be used to attempt to adjust for these problems under certain assumptions. See Paul J. Gertler, Sebastian Martinez, Patrick Premand, Laura B. Rawlings and Christel M.J. Vermeersch, Impact Evaluation in Practice (Washington, D.C.: World Bank, 2011) for an overview of potential approaches.
[6] See footnote 3, para. 18.

indicative of the specific objectives of that project and vary depending on them. Of course, the objectives should be consistent with the multiple objectives of the IFAD Strategic Framework.

8. While recognized in the methodologies paper, IFAD's Results Measurement Framework (RMF) narrowly focused on a single measure – "people moved out of poverty". This focus on a poverty line, especially if a money metric or assets-based measure is used, ignores the importance of other IFAD strategic objectives (SOs). For example, an intervention that improves a household's resilience by limiting exposure to risk and keeping a household from succumbing to poverty would not be captured, as it does not take a household out of poverty. Thus the 'out of poverty' measure fails to capture substantial and important welfare benefits to the poor and is an inadequate measure of IFAD's success. As noted below, a key lesson of IFAD9 IAI is that a more comprehensive set of indicators is needed, consistent with IFAD's SOs and the Sustainable Development Goals (SDGs).

9. There are other, specific issues with the measure "people moved out of poverty".[7] Poverty reduction is a discrete measure based on a clearly defined, yet somewhat arbitrary, poverty line that focuses on households being above or below this line. While it can be a useful indicator for cross-country comparisons and long-term time trends, a poverty line indicator has limited value for projects. For example, a poverty reduction indicator would fail to capture the doubling of income of extremely poor households if that income gain is insufficient to get them over a particular poverty line.[8] This can be seen clearly in figure 2. Suppose that the left distribution (the blue line) shows the initial conditions of a target population, based on a welfare indicator such as per capita income, expenditures or assets. The poverty line represents the point at which those below the line (to the left) are poor and those above the line (to the right) are not poor. The graph assumes that about 60 per cent of the recipients are poor by a conventional poverty measure and the rest, although not formally seen as poor, could be viewed as vulnerable. Suppose the project shifts the beneficiaries in a positive direction to the welfare distribution as shown by the green line. This should be considered a successful project in that, on average, the beneficiary population is better off.

Figure 2
Issues with "people moved out of poverty"



[7] The potential issues with this measure were noted in the IFAD9 Consultation report (see footnote 2, para. 45): "While the methodology that will be used to measure the number of 'people moved out of poverty' is still experimental and will need to be improved through experience, it represents a pioneering effort that could potentially yield a high return to the science of impact measurement in the field of poverty reduction."

[8] The issue of discrete indicators creating perverse incentives for policymakers is widely known, and was most recently articulated in a blog by Lant Pritchett for the Center for Global Development, published on 21 October 2014. See here.

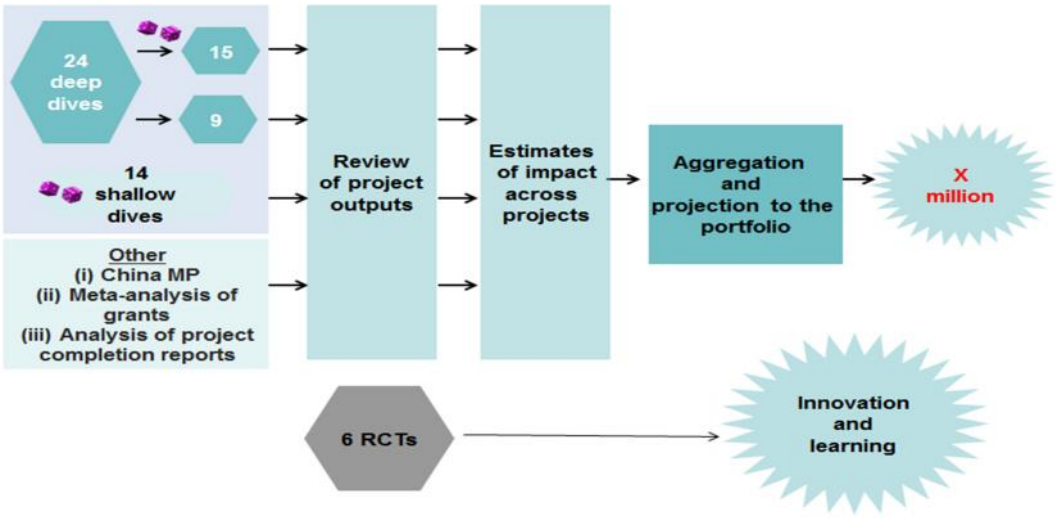
10. But consider three farmers. The purple farmer is considered as poor as she is below the poverty line. As indicated by the purple arrow, the project improves her well-being enough to move her above the poverty line and thus she is "moved out of poverty". This would be counted in a poverty measure. The green farmer is very poor, with a much lower income than the purple farmer. The project increases his well-being dramatically as seen by the green arrow – an increase in welfare greater than the first farmer. Yet this has not moved him out of poverty, as he did not cross the poverty line. He does not count in a poverty reduction measure. The yellow farmer is not considered poor by a conventional measure, but is clearly just getting by. As indicated by the yellow arrow, the project helps her as well, but she is not considered poor prior to the project, so her gains are not counted as "moved out of poverty". Clearly, the measure is flawed in that it fails to capture dramatic gains, as some farmers, even though they benefited from the project, did not cross an arbitrary poverty line. The "moved out of poverty" indicator is an inadequate measure of IFAD's success. Capturing the welfare benefits of IFAD's investment in rural people requires more appropriate measures.

B. Approach of IFAD9 IAI

11. With these issues in mind, an overall IFAD9 methodological approach was designed to assess impact and to learn lessons for determining impact. The overall strategy, summarized in figure 3, sought to select a sample of IFAD projects that could represent the portfolio of activities undertaken by IFAD. This sample is then used to estimate the overall impact of IFAD during a given period.

12. Of course, IFAD9 projects, funded in 2013-2015, will not be completed for years, so the IAI focused on projects closed or ongoing from 2010 to 2015. The analysis then focuses on projects initiated as early as 1999 and as late as 2009. As the selected projects were at the completion stage, all impact assessments were designed ex post and have the associated limitations in creating a counterfactual and obtaining reasonable data. Of approximately 200 projects anticipated to be completed during the 2010-2015 period, 122 had some data. Of those, 24 were selected for impact assessments by external partners (deep dives) and 14 for analysis by IFAD staff (shallow dives). The projects analysed were drawn in an attempt to be representative of the portfolio across regions and most were randomly selected (15 deep and 14 shallow dives), although in 9 cases projects were purposefully selected owing to practical constraints. Moreover, 2 of the 24 deep dives were not completed on time and are thus excluded from the analysis. Table 1 provides an overview of the projects analysed.

Figure 3
Overall methodological approach to IFAD9 IAI



Note: RCTs = randomized control trials.

Table 1
Projects analysed in the IFAD9 Impact Assessment Initiative

Country	*Project name*	*Project type*	*Project start*	*Project end*	*Selection*	*Data type*[a]	*Analyst*[b]
Bangladesh	• Microfinance for Marginal and Small Farmers Project	Credit	2005	2011	Random	Sec	IFPRI
	• Sunamganj Community-Based Resource Management Project	Agriculture	2003	2014	Random	Pri	IFPRI
Bolivia (Plurinational state of)	Management of Natural Resources in the Chaco and High Valley Regions Project	Research	2003	2010	Random	Sec	IFAD
Burkina Faso	Sustainable Rural Development Programme	Agriculture	2005	2013	Purposeful	Pri	KIT
Cambodia	Rural Livelihoods Improvement Project in Kratie, Preah Vihear and Ratanakiri	Agriculture	2007	2014	Purposeful	Pri	UEA
China	Inner Mongolia Autonomous Region Rural Advancement Programme	Agriculture	2008	2014	Purposeful	Pri	CAAS
China: multiple projects	Sichuan Post-Earthquake Agriculture Rehabilitation Project; Dabieshan Area Poverty Reduction Programme; Rural Finance Sector Programme; Environment Conservation and Poverty-Reduction Programme in Ningxia and Shanxi; South Gansu Poverty-Reduction Programme; and Xinjiang Uygur Autonomous Region Modular Rural Development Programme.	Rural	2009	2012	Purposeful	Pri	Wuhan
Colombia	Rural Microenterprise Assets Programme: Capitalization, Technical Assistance and Investment Support	Credit	2007	2013	Purposeful	Pri	ICF
Congo	Rural Development Project in the Likouala, Pool and Sangha Departments (PRODER 3)	Rural	2009	2015	Random	Sec	IFAD
Democratic Republic of the Congo	Agricultural Revival Programme in Equateur Province	Rural	2005	2012	Random	Sec	IFAD
Egypt	West Noubaria Rural Development Project	Settlement	2003	2014	Purposeful	Sec	ICF
Ethiopia	Participatory Small-scale Irrigation Development Programme	Irrigation	2008	2015	Random	Sec	PEP/EIAR
Gambia (The)	Participatory Integrated Watershed-Management Project	Agriculture	2006	2014	Random	Pri	KIT
Ghana	• Rural Enterprises Project - Phase II	Research	2003	2012	Purposeful	Pri	UEA
	• Northern Rural Growth Programme	Rural	2008	2016	Purposeful	Pri	UEA
Honduras	Project for Enhancing the Rural Economic Competitiveness of Yoro	Rural	2008	2015	Random	Sec	IFAD
India	• Livelihoods Improvement Project in the Himalayas	Credit	2004	2012	Random	Sec	IFAD
	• Mitigating Poverty in Western Rajasthan Project	Rural	2008	2016	Random	Sec	IFAD
	• Tejaswini Rural Women's Empowerment Programme	Credit	2007	2017	Random	Sec	IFAD
Jordan	Yarmouk Agricultural Resources Development Project	Agriculture	2000	2008	Random	Sec	IFAD
Lao People's Democratic Republic	Rural Livelihoods Improvement Programme in Attapeu and Sayabouri	Rural	2006	2014	Random	Pri	UEA
Lesotho	Sustainable Agriculture and Natural Resource Management Programme	Agriculture	2005	2011	Random	Pri	IFAD
Malawi	Rural Livelihoods Support Programme	Rural	2004	2013	Random	Sec	IFPRI
Mali	Sahelian Areas Development Fund Programme	Rural	1999	2013	Random	Sec	IFAD
Mongolia	Rural Poverty Reduction Programme	Rural	2003	2011	Random	Sec	IFAD
Nicaragua	Programme for the Economic Development of the Dry Region in Nicaragua	Rural	2004	2010	Random	Sec	ICF
Pakistan	• Programme for Increasing Sustainable Microfinance; and • Microfinance Innovation and Outreach Programme	Credit	2008	2013	Purposeful Random	Pri	ACTED
Peru	Market Strengthening and Livelihood Diversification in the Southern Highlands Project	Rural	2005	2014	Random	Pri	IFPRI
Philippines	• Rural Microenterprise Promotion Programme	Credit	2006	2013	Random	Pri	DLSU
	• Second Cordillera Highland Agricultural Resource Management Project	Rural	2008	2015	Random	Sec	IFAD
Senegal	Promotion of Rural Entrepreneurship Project – Phase II	Credit	2006	2013	Random	Sec	IFAD
Sri Lanka	Post-Tsunami Coastal Rehabilitation and Resource Management Programme	Agriculture	2006	2013	Random	Sec	IFAD
Sudan	Western Sudan Resources Management Programme	Rural	2005	2016	Random	Sec	ICF
Uganda	Community Agricultural Infrastructure Improvement Programme	Rural	2008	2013	Random	Pri	KIT
Yemen	Al-Dhala Community Resource Management Project	Rural	2007	2014	Random	Sec	ICF
Zambia	Rural Finance Programme	Credit	2007	2013	Random	Pri	KIT

[a] Pri = Primary data, Sec = Secondary data.

[b] IFPRI – International Food Policy Research Institute; KIT – Royal Tropical Institute; UEA – University of East Anglia; CAAS – Chinese Academy of Agricultural Sciences; Wuhan – China University of Geosciences; ICF – ICF Macro Incorporated; PEP – Partnership for Economic Policy; EIAR – The Ethiopian Institute of Agricultural Research; ACTED – Act for Change Invest in Potential; DLSU – De La Salle University.

13. These projects were reviewed to determine outputs, and impact on relevant indicators was then assessed using non-experimental methods appropriate for ex post data collection. Unfortunately, the available project data even for these projects was inadequate for impact assessment, requiring primary data collection in a number of cases and, where possible, secondary data from sources other than IFAD.[9] While the deep dives were analysed by external teams, the results were systematically replicated by IFAD to ensure accuracy and consistency. The analyses used approaches similar to those of the Independent Office of Evaluation of IFAD in their two impact assessments.[10] Specifically, analysis of the deep dives used cross-sectional data and matching procedures to identify impact, with multiple procedures used to ensure robustness.[11] The shallow dives were analysed by IFAD using pseudo-panel techniques combined with matching.[12] The final results are estimates of the average effect of the projects on given indicators when the treatment group is compared with the control group (the difference noted in figure 1).[13]

14. These project-level impact estimates were then aggregated to estimate overall effects, excluding those studies found to have high bias.[14] This aggregation was systematically done through a meta-analysis, a two-stage process involving the estimation of standardized impact estimates (referred to as the "effect size") for each set of studies, followed by calculation of a weighted average of these effect sizes.[15] This approach assumes that the projects selected and analysed are reasonably representative of the portfolio. The end result is the estimated impact of IFAD projects on key indicators, both overall and by IFAD-defined project type. This is then used to estimate the overall number of recipients benefiting from IFAD-supported projects.

15. In addition to these studies, a series of complementary analyses was completed. It includes a China multiple-project study, which assesses six IFAD projects using retrospective cross-sectional data. This study is noted in table 1 and is included in the aggregate impact estimates.

16. Beyond the impacts arising from IFAD-supported loan projects, the IFAD grants programme has historically supported agricultural research and technology promotion, particularly through the Consultative Group on International Agricultural Research (CGIAR). A literature review of the impact of agricultural research and technology promotion found a critical mass of studies on the uptake of improved seed varieties, a key part of IFAD grant funding. Studies selected for inclusion in the review satisfied a number of criteria, including: targeting of smallholder farmers; interventions aimed at adoption of improved crop varieties; evidence generated through counterfactual-based impact assessments; and inclusion of measures such as income, expenditure, assets and wages. A meta-analysis was

[9] The term 'primary data' refers to collection of data by the research team, while 'secondary data' refers to the use of existing data.

[10] See the impact assessments of the Dry Zone Livelihood Support and Partnership Programme in Sri Lanka and the Jharkhand-Chhattisgarh Tribal Development Programme in India.

[11] Five approaches were used for analyses of both deep-dive and shallow-dive impact assessment studies, specifically: (i) regression-adjustment, (ii) propensity score matching, (iii) covariate matching, (iv) inverse propensity weighting and (v) the doubly robust estimator.

[12] A. Garbero, Estimating poverty dynamics using synthetic panels for IFAD-supported projects: a case study from Vietnam. Journal of Development Effectiveness, Volume 6, Issue 4, (2014): 490-510.

[13] In addition to quantitative analysis, 10 of the deep-dive studies also included a qualitative component, specifically key informant interviews and focus group discussions. While this proved valuable in understanding individual projects, aggregating these into a comprehensive measure is not possible.

[14] Individual impact assessments were appraised to determine the extent of bias, using criteria such as quality of attribution methods, extent of spillovers, outcome and analysis reporting biases. A low, medium or high risk of bias score was assigned accordingly, and those with high-risk scores were excluded from the aggregation. For the detailed evaluation criteria, see Hugh Waddington, et al., Farmer Field Schools for Improving Farming Practices and Farmer Outcomes in Low- and Middle-income Countries: A Systematic Review (Oslo: Campbell Systematic Reviews, 2014).

[15] J.J. Deeks, D.G. Altman and M.J. Bradburn, Statistical methods for examining heterogeneity and combining results from several studies in meta‐analysis. In: *Systematic Reviews in Health Care: Meta-Analysis in Context*, 2nd ed., 285-312 (2001).

conducted, similar to that described above, to estimate the overall impact of improved seed varieties on income.[16]

17. To determine what impacts are being reported by IFAD, an analysis was conducted of project completion reports (PCRs) for 70 projects completed in 2010-2015. PCRs are the standard reports used at IFAD and elsewhere to provide a project story – what happened, what was learned, what went well and what didn't, and measurements of the process and the product. For these 70 projects, content analysis was conducted (using QSR International's NVivo application) to systematically assess PCR content and the claims for project success made in those documents. Content analysis is a research technique for systematically interpreting and coding textual material such as PCRs. For the IFAD9 IAI, content analysis has been used to determine: what benefits are perceived; what evidence exists in project documentation of IFAD's contribution; and what sources of evidence are used to support claims for IFAD project results.[17]

18. Finally, looking forward, six impact assessments using randomized control trials (RCTs), or reasonable substitutes, are being undertaken.[18] These are ex ante impact assessments, so data collection strategies are being designed prior to implementation to facilitate the creation of a control group. These cannot provide results on impact at this time, but are useful for IFAD10 and beyond. They also help derive lessons on methodology, the potential of using these approaches and the challenges of implementing ex ante impact assessments.

19. Overall, the approach to the IFAD9 IAI was systematic and comprehensive. Of course, much of the assessment of impact is backward-looking, as data were collected ex post, which presents significant challenges. Moreover, prior to this initiative, IFAD had limited experience with analysis designed to attribute impact to IFAD-funded projects. As such, the process was intentionally designed for lesson-learning.

III. Results: lessons, estimates and projections

A. Lessons on methods

20. Prior to providing estimates of impact and portfolio projections of those receiving benefits, the methodological lessons of the process are noted. This is critical for improving impact estimates for IFAD10 and beyond, but also in putting results in the context of methodological challenges. Lessons are learned through: reflection on the process of setting up the methodological approach; efforts to administer ex post and ex ante (the additional RCTs) impact assessments in the field; analysis of data coming out of the exercise; and discussions with IFAD staff and others on the exercise's merits.

21. First, random project selection to represent the portfolio is difficult to implement and limits learning. Projects were selected to be representative of IFAD's portfolio and to respond to the need to measure aggregate impact. This process is potentially advantageous for arriving at aggregate figures, but is difficult to implement. Even in this exercise, 9 of the 24 deep dives were purposefully selected, as not all projects were suitable for assessment. This is an even greater issue with ex ante impact assessments, as it is hard to predict a future portfolio. Moreover, random selection limits learning, as this selection procedure responds to an accountability mandate and does not focus on where learning might be the greatest.

[16] A. Garbero, et al., Meta-Analysis: The Impact of Agricultural Research on Poverty. Statistics and Studies for Development Division (SSD) Working Papers (Rome: IFAD, 2014).
[17] B. Carneiro and A. Garbero, The State of Evidence in IFAD-Supported Projects Documentation. Forthcoming.
[18] Financing for these ex ante impact assessments comes from the Bill & Melinda Gates Foundation and the United Kingdom's Department for International Development under the auspices of the International Initiative for Impact Evaluation (3ie).

22. Second, focusing on a poverty line, or any individual indicator, inadequately assesses IFAD's investments and fails to carefully analyse a project's theory of change – that is, the causal chain or pathway through which impact occurs. The focus, then, is potentially on indicators that may not be the most relevant to a given project or to IFAD's portfolio as a whole. Greater consideration is needed of IFAD's portfolio of interventions, the theory of change of those interventions, and the corresponding set of anticipated aggregate impacts.

23. Third, designing impact assessments ex post is challenging and reduces the value of impact assessments. As IFAD9 IAI assessed impact through ex post approaches, analysis required collecting data on projects that were no longer operational in a context in which documentation was scarce. In many cases, the existing project information was very limited and project teams were no longer available. Identifying beneficiaries within a targeted region was tricky, as was accessing adequate project data. Creating a reasonable counterfactual after project completion is demanding, at best, and impossible, at worst. There is generally a tendency to underestimate impact if projects are poverty targeted, as control groups may be better off than the treatment groups. This creates a situation in which a successful pro-poor targeting strategy can lead to the appearance of limited benefit.

24. Fourth, impact assessments are most effective when they are built on strong logical frameworks (logframes) and monitoring and evaluation (M&E) systems, and generally must be developed in the project design stage. When done properly, logframes articulate a clear theory of change for the project, highlight the impact pathway, and note the means by which these are to be measured. When well designed and executed, an M&E system allows for clear identification of beneficiaries and provides a sense of what outputs have been provided to beneficiaries in a project. The timing of baseline and follow-up data collection also affects the ability to adequately assess impact and the questions that can be answered. Thus it is crucial that impact assessments be designed ex ante and in conjunction with project design.

25. Lastly, buy-in by IFAD staff and government is critical in implementing impact assessments and enhancing the learning generated. Those who specialize in impact assessment are often not specialists in certain thematic areas or countries, and do not have the necessary experience to understand the details of project implementation. They also do not always know what compelling policy questions must be addressed. On the other hand, IFAD and government staff often do not understand the technical basis of impact assessment and the requirements for achieving attribution. Given these potential issues, the quality of impact assessments is limited by a lack of buy-in and communication among key actors.

B. Estimates and projections of impact

26. Given the focus on aggregate rather than project-level analysis, results are projected for the portfolio of projects closed and ongoing during 2010-2015.[19]

27. In order for a project to have an impact, it is critical that its key outputs are delivered – and considering these outputs is the logical point of departure. From an analysis of IFAD's project portfolio, numerous critical outputs emerge (see table 2).[20] For all closed and ongoing projects during the 2010-2015 period, 139 million people and 24 million families have currently been reached. The range of activities targeting these beneficiaries was designed to broadly improve the well-being of poor rural people. Beneficiaries include 18.0 million active borrowers and

[19] The Results Measurement Framework 2013-2015 ('Level 2: IFAD's contribution to development outcomes and impact', page 22) associated with IFAD9 notes that impacts should be measured cumulatively from 2010 onwards – thus the focus on projects closed and ongoing during this period.

[20] The numbers reported are obtained from RIMS data for closed and ongoing projects and cover the reporting period through to the end of 2014. Clearly, these ongoing projects will add more beneficiaries in the future; thus the total beneficiaries anticipated to be reached for projects closed and ongoing in the 2010-2015 period is 240 million.

26.6 million voluntary savers, highlighting IFAD's focus on financial inclusion. Numerous farmers have been trained in agricultural practices, including 4.4 million in crop production technologies, 1.6 million in livestock production and 1.4 million in natural resource management. Improvements in agricultural activities have been promoted, leading to 5.0 million hectares under improved management practices. This has largely been accomplished through strengthening farmers' organizations and thousands of community groups, including market, productive, infrastructure, agricultural and livestock groups. Many of these have been created with women in leadership positions. The data suggest that IFAD's investment in rural people is leading to significant outputs.

Table 2
Current outputs for closed and ongoing projects 2010-2015

Categories	*Number in each category* [a]
Recipients of project services	
Individuals receiving project services	139 231 083
Households receiving project services	23 874 666
Groups receiving project services	390 073
Communities receiving project services	184 637
Savings, credit and financial services	
Voluntary savers[b]	26 612 835
Active borrowers[b]	17 990 300
People in community groups formed/strengthened	2 864 701
People accessing development funds	2 623 855
Savings/credit groups formed/strengthened	370 594
Savings/credit groups with women in leadership positions	176 599
Training	
People trained in crop production practices and technologies	4 375 710
People trained in community management topics	2 582 310
People trained in livestock production practices and technologies	1 570 904
People trained in business/entrepreneurship	1 466 719
People trained in income-generating activities	1 441 877
People trained in natural resource management	1 357 361
People trained in financial services	1 170 432
Agricultural activities	
Land under improved management practices (in hectares)	4 998 714
Households receiving facilitated animal health services	1 379 740
Farmers adopting recommended technologies	1 331 709
Households receiving animals from distribution/restocking	942 448
People in agricultural/livestock production groups	516 022
Agricultural/livestock production groups formed/strengthened	24 655
Agricultural/livestock production groups with women in leadership positions	9 603
Community-level activities	
Community groups formed/strengthened	169 555
Community groups with women in leadership positions	47 625
Marketing	
People in marketing groups formed/strengthened	1 172 045
Natural resource management (NRM)	
People in NRM groups formed/strengthened	632 248
Groups involved in NRM formed/strengthened	41 933
NRM groups with women in leadership positions	9 405
Productive Infrastructure	
People in groups managing productive infrastructure	1 151 628
Groups managing productive infrastructure formed/strengthened	23 736
Groups managing productive infrastructure with women in leadership positions	11 639

[a] Of the projects included here (158 from 2010-2015 and 320 from 2010-2023), not all projects have full RIMS datasets. As such, figures for some of the above outputs may not be available.

[b] Using Report on IFAD's Development Effectiveness (RIDE) criteria which reports cumulative figures for borrowers and savers.

Table 3
Percentage of estimated impacts (average effects) on beneficiaries compared with the control group, overall and by project grouping

			Project type			
Impact domain	*Outcome*	*Overall %*	*% Agriculture*	*% Credit*	*% Irrigation/ Research/ Settlement*	*Rural development*
Economic mobility	Overall asset index	**6.6**	6.6	5.5	1.9	13.3
	Durables asset index	**2.7**	4.0	2.0	11.0	-7.1
	Productive asset index	**5.6**	7.5	3.8	4.0	4.4
	Income	**4.0**	8.3	0.4	8.3	1.4
Resilience	Ability to recover	**1.5**	6.3	N/A	1.1	-3.1
	Reduced shock severity	**1.8**	3.6	0.4	2.8	1.4
	Reduced shock exposure	**4.5**	2.7	N/A	11.1	4.7
Nutrition	Dietary diversity	**4.6**	6.2	0.3	13.9	1.7
Agriculture	Agricultural revenue	**18.0**	10.3	N/A	34.0	19.8
	Yields	**3.8**	1.5	N/A	8.8	-0.3
Livestock	Livestock asset index	**9.5**	5.5	25.4	2.6	19.4
	Poultry count index	**12.0**	3.9	11.0	21.1	17.6
Gender	Gender dimensions	**4.8**	5.1	-1.6	-1.8	22.5

Note: N/A signifies an estimate is not available due to data constraints.

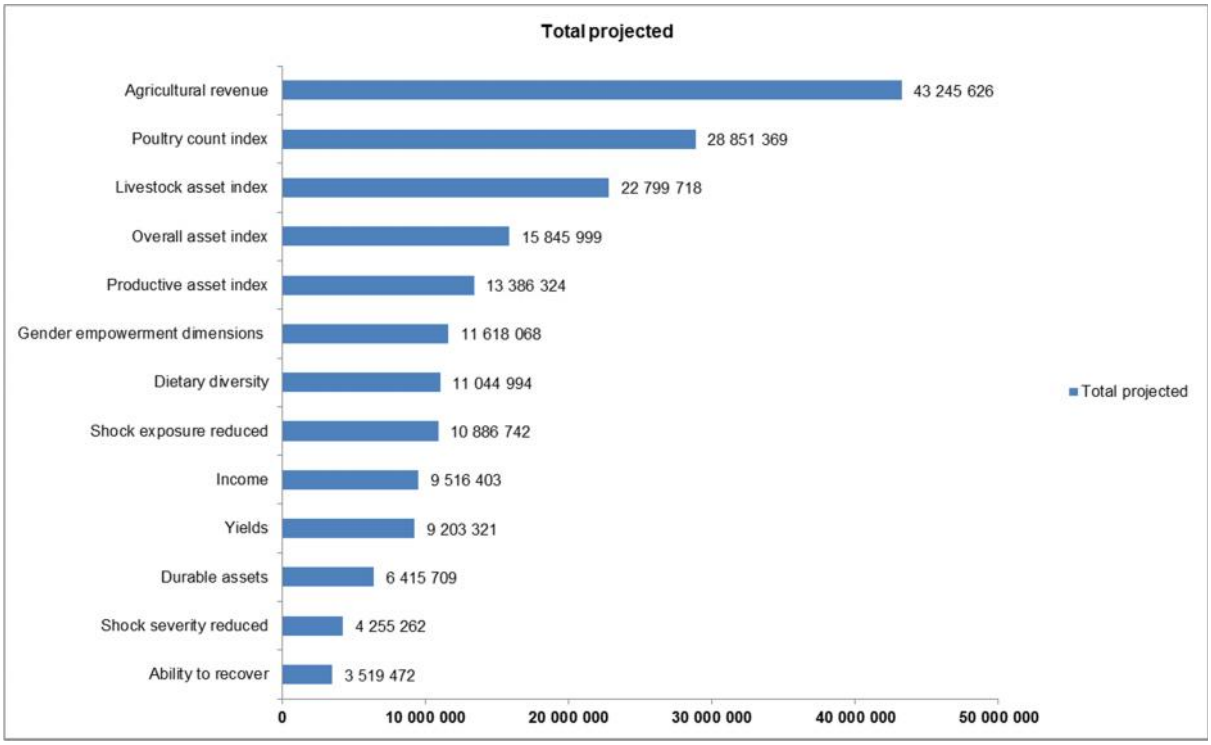
28. As noted, assessing impact requires identifying whether, on average, IFAD beneficiaries are better off than they would be in the absence of an IFAD project – that is, to obtain the difference highlighted in figure 1. Table 3 shows areas in which IFAD beneficiaries are, on average, better off in percentage terms compared with the control group. Results are presented for projects overall, as well as for individual project categories comprising credit, agriculture, rural development and irrigation/research/settlement projects. The results show, for example, that IFAD projects are increasing the economic mobility of recipients by increasing assets and income. Projects are building resilience, improving nutrition and expanding agricultural production and livestock ownership. Many beneficiaries of credit projects are significantly increasing their livestock holdings. Irrigation, research and settlement projects are dramatically increasing agricultural revenues and improving dietary diversity, while reducing exposure to shocks. Rural development projects are expanding poultry ownership and improving agricultural diversity and revenue, while greatly enhancing empowerment of women. Overall, the analysis paints a portrait of IFAD improving the well-being of rural people in terms of asset accumulation and higher revenue and income.

29. These are average effects and represent the impact on recipients reached when compared with the control group. Actual impacts on individual beneficiaries will vary, with some receiving greater benefits than the average and others receiving less. Precisely calculating those who benefit is not possible given the available data and requires making some assumptions about the amount of benefit. A conservative estimate is to assume a doubling of benefits for some and zero for the remaining population – and extrapolating this to the projected population of beneficiaries.[21] Note that the impact projections refer to an overall population of expected direct and indirect beneficiaries for the whole portfolio of projects closed and ongoing from 2010 to 2015, which is some 390 projects for a total of about 240 million projected beneficiaries.[22] Of course, this number differs from the

[21] In effect, this is multiplying the percentage of estimated benefits in table 3 by the number of projected beneficiaries. For discrete variables, this is going from zero to one.
[22] These projections come from the Grants and Investment Projects System (GRIPS).

estimates of actual beneficiaries reached at present for the same projects (139 million as reported in table 2), as these are calculated up to a certain point in time (end-2014) and only for the projects that have initiated activities on the ground.

Figure 4
Projections of beneficiaries impacted, by indicator



30. Figure 4 shows this extrapolation. Looking at the estimates, 43.2 million beneficiaries exhibited a significant and substantial increase in their agricultural revenue, 28.8 million a rise in poultry ownership and 22.8 million an increase in livestock assets. For overall assets, productive assets, gender empowerment, dietary diversity and reduction in shock exposure, the evidence shows that over 10 million beneficiaries felt substantial gains in these areas. Of course, there is some overlap of benefits across individuals, with some achieving multiple benefits – both for impacts noted in the figure as well as impacts that were not measurable. But the results suggest that benefits are substantial and widespread, with a high likelihood that nearly all projected recipients will receive some benefits.

31. The results show clearly that IFAD's investment in rural people is leading to substantial returns by helping millions of rural people improve their livelihoods. However, these results do not include the "people moved out of poverty" indicator noted in the IFAD9 RMF. The limitations to measuring the number of people moved out of poverty have been carefully articulated earlier in this report. In fact, a clear outcome of the IFAD9 IAI was the recognition that the technical definition of moving people out of poverty will automatically underestimate IFAD's impact for reasons described previously. For this reason, the focus of this report is on the broader set of indicators that provide a comprehensive assessment of the returns to IFAD. Of course, as the people out of poverty indicator was included in the IFAD9 RMF, poverty reduction impacts have been estimated and are reported here, despite the limitations of the measure.

32. As indicated in the update on the methodology,[23] poverty is measured using an asset-based approach. While income data were collected in a few studies, the data

[23] See An update on the methodology for estimating the number of people moved out of poverty and preparatory work for the impact assessment exercise during IFAD10 (EB 2015/114/INF.3).

were insufficient, and not suitable for the computation of poverty dynamics. In contrast, asset-based poverty measures were widely available and deemed of higher quality since their collection is more straightforward and less prone to measurement error, particularly when using recall methods.[24] Following the methodology, for each country relative poverty lines were employed and defined using the fortieth and sixtieth percentile cut offs[25] of the asset index distribution of the control group, as the latter represents the counterfactual, i.e. the reference point. Once movement out of poverty had been calculated for individual country studies, the results were projected to the portfolio to obtain an estimate of the potential poverty impact of IFAD investments. It should be recalled that these are projections based on projects initiated between 1999 and 2009 and do not necessarily reflect projects that are currently being designed.

33. Using this approach, IFAD investments are projected to reduce poverty by between 5.6 and 9.9 per cent using the fortieth and sixtieth percentile cut offs of the durable assets distribution. The positive results for each measure suggest that there is a general increase in durable assets similar to the shifting distribution noted in figure 2 and that these measures only highlight which beneficiaries are projected to move past each arbitrary line. The results are consistent with poverty impacts estimated by the Independent Office of Evaluation of IFAD, which found poverty reduction impacts of 5 to 7 per cent for the Jharkhand-Chhattisgarh Tribal Development Programme in India.[26] The results are also similar to those found for the poverty-alleviating impact of cash transfer programmes, which were in the range of 3 to 7 per cent.[27] Applying these impact estimates to IFAD projects, the aggregate results show that when using durable assets as an underlying indicator, projected impacts are 23.8 million people moved out of poverty, using the sixtieth percentile relative poverty line (9.9 per cent of the projected beneficiaries).[28]

34. To estimate the role played by IFAD grants in generating tangible benefits for smallholder farmers, figure 5 presents the results of the meta-analysis conducted to identify the impact of improved seed varieties on beneficiary income. The figure shows the studies considered and their range of impacts on income, with precise estimates noted in the shaded region. A number over one implies a positive income effect, with the magnitude over one indicating the percentage of additional income compared with those not benefiting from the technology. For example, 1.1 would translate to a 10-per-cent rise in income as a result of the technology. The results are positive, ranging from slightly over 1 to 1.8 and show that agricultural technology and research projects resulted in an overall 25-30 per cent income gain for beneficiaries when compared with the control group. Of course, this analysis represents one portion of IFAD grant funding and a limited set of studies, but the results clearly point to overall income gains.

[24] See Filmer, D., and Pritchett, L. H., Estimating wealth effects without expenditure data – or tears: An application to educational enrollments in states of India, *Demography*, Population Association of America, volume 38, number 1, pages 115-132 (2001).

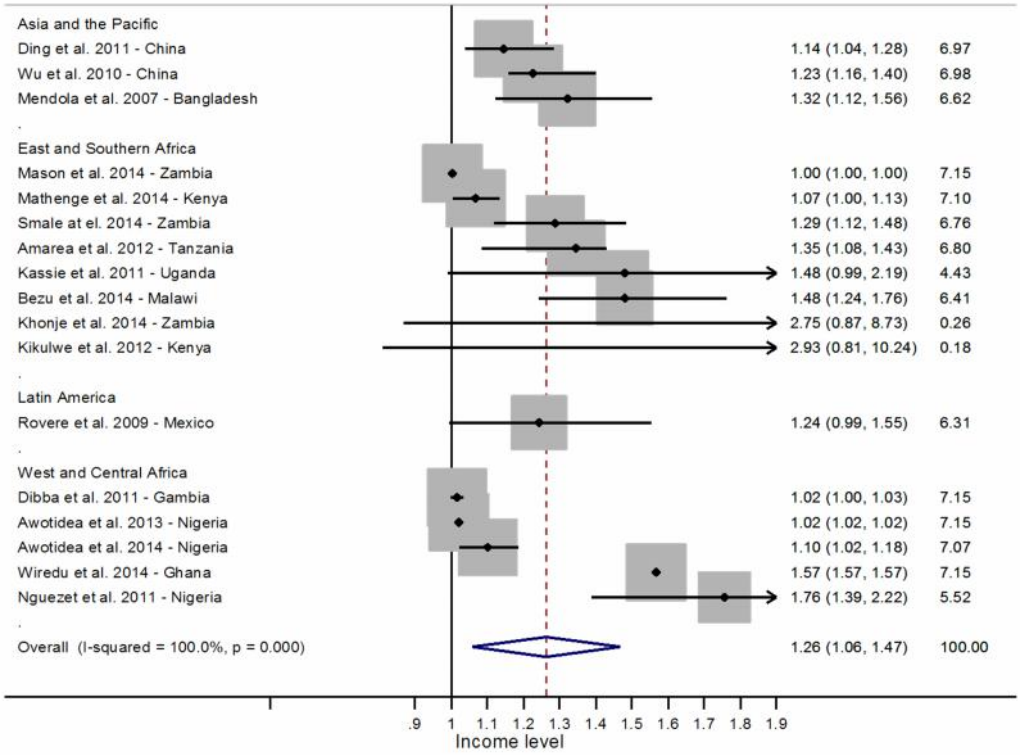
[25] To check whether results would differ if an income-based poverty line were used, an analysis of poverty dynamics was completed for four countries for which income data and a national poverty line were available. In two cases results were similar; in one case the poverty impact was estimated as higher, and in the other case the estimate was lower. This is not surprising given that results are likely to change based on where a line is placed. Overall, the expectation is that an income-based poverty line would end up with a similar aggregate impact.

[26] See table 18 in the impact assessment of the Jharkhand-Chhattisgarh Tribal Development Programme in India.

[27] See table 4.2 in Fiszbein, A. and Schady, N., Conditional Cash Transfers: Reducing Present and Future Poverty (Washington, D.C.: The World Bank, 2009).

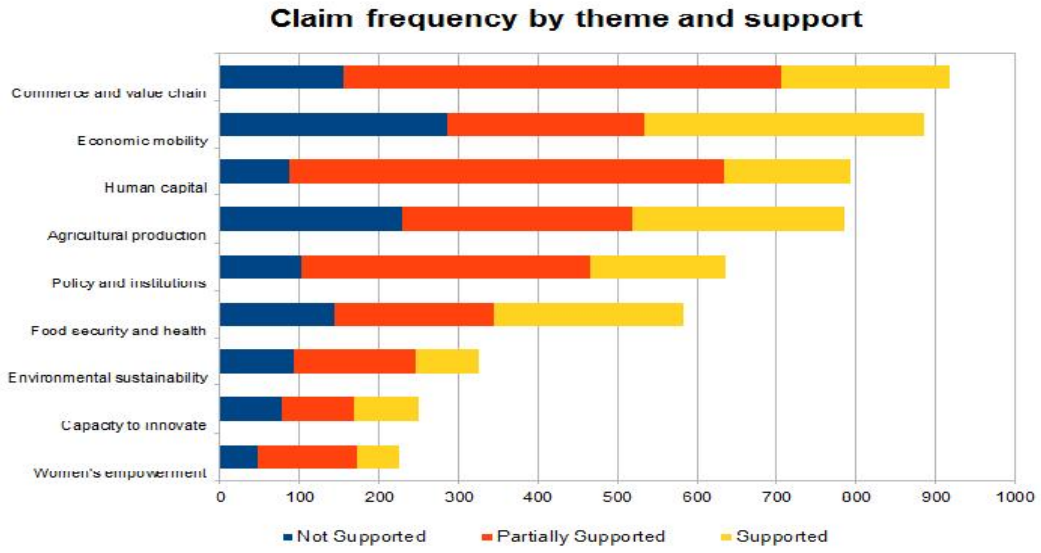
[28] Based on a descriptive analysis of baseline asset index distributions using available RIMS data, the bulk of IFAD beneficiaries were found to be below the sixtieth percentile cut-off, particularly in the second and third quintiles. Further, when comparing baseline and endline distributions using the same data, upward shifts in economic mobility were more likely to be observed at the sixtieth percentile cut off of the country-specific baseline asset index distribution. Therefore, the poverty threshold set at the sixtieth percentile cut off is deemed the most appropriate.

Figure 5
Impact of improved seed varieties on beneficiary income



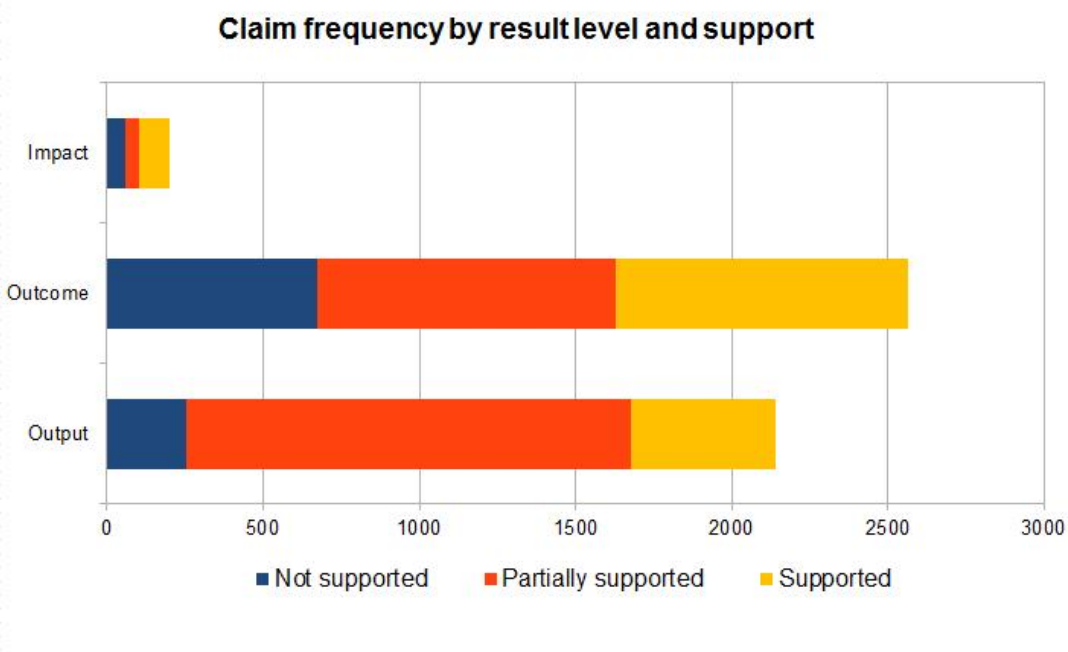
35. Moving on to the assessment of the 70 PCRs, figure 6 presents results of the content analysis, summarizing the number of claims in the PCRs by theme. Recall that PCRs are designed to tell the story of what happened as a result of the project. In the 70 PCRs, 4,000 unique claims of project success are found. Among these claims, as seen in figure 6, improvements in commerce and the value chain are the most-often reported, with economic mobility ranking second. Unfortunately, 78 per cent of these claims are not explicitly supported by a source of evidence, suggesting that inadequate evidence is available. In fact, across all thematic areas, there is little evidentiary support for the reported claims.

Figure 6
PCR claims by theme



36. Ideally, claims would focus on different levels of an impact pathway in order to provide a clear project theory of change, highlighting where effects are found and whether they match what was anticipated in the logframe. Figure 7 presents the number of claims by output, outcome and impact to verify the incidence of claims in each area. If a clear impact pathway is articulated, the expectation is that more claims would be stated at the output and then outcome and impact levels, but there would be a critical mass at each level. Yet this is not the case. Of the total claims, outputs and outcomes represent more than 95 per cent of all claims, indicating a general lack of reporting on impact. Moreover, more outcomes than outputs are noted, suggesting that the impact pathway is not well articulated. Overall, this PCR analysis confirms the broad perception of benefits of IFAD-supported projects, but highlights that claims of impacts are insufficient and evidence is lacking to underpin them.

Figure 7
PCR claims by output, outcome and impact



IV. Conclusions and proposals for moving forward

37. The IFAD9 IAI has provided IFAD with significant lessons that will help advance a results-based agenda. On methods, the clear challenges of designing data collection and conducting impact assessments ex post have been highlighted. The initiative draws attention to the fact that using a representative sample of projects and focusing on one aggregate indicator limits the potential for learning and is unnecessarily restrictive – projects should be identified where learning will be the greatest, and indicators need to be selected to comprehensively represent IFAD's success. Moreover, the initiative underlines areas where M&E and data collection should be strengthened.

38. The analysis shows that IFAD projects active during the 2010-2015 period have already reached 139 million beneficiaries, providing them with substantial services through a community-led approach. The IFAD9 IAI has demonstrated that IFAD's investments in rural people have generated returns in a number of critical areas, including assets, resilience, livestock ownership, agricultural revenues, nutrition and women's empowerment. Millions of rural people have benefited in a variety of ways from IFAD investments. Projections indicate that 44 million will see substantial increases in agricultural revenues and significant gains in poultry asset (28.8 million) and livestock asset ownership (22.8 million). More than 10 million beneficiaries will experience an increase in each of the following domains: overall

assets, productive assets, gender empowerment, dietary diversity and reduction in shock exposure.

39. The IFAD9 IAI provides some key considerations for IFAD in assessing the impact associated with IFAD10 investments and beyond.

40. First, future impact assessments should be selected and structured to facilitate and maximize learning. This implies purposefully selecting projects where learning is likely to be the greatest – rather than randomly selecting projects to represent the global portfolio. Projects should be selected for inclusion by regional division, in consultation with the technical divisions and with respect to content and feasibility. Criteria for selection should include: (i) innovative approaches; (ii) potential for scaling up; (iii) existence of a clear evidence gap; and (iv) projects that are widely supported.

41. Second, IFAD should focus on a comprehensive set of indicators that reflect IFAD's three SOs as articulated in the IFAD Strategic Framework. These indicators should be carefully defined in future RMFs to sufficiently encompass all IFAD investments in poor rural people. In impact assessment, learning must be emphasized, which requires selecting and analysing indicators along the project causal chain, thus reflecting the theories of change of individual projects.

42. Third, creating an impact assessment agenda requires systematically reviewing the portfolio to understand the impact potential of IFAD-funded projects and to identify where there are gaps in the evidence of the success of those projects. To clearly articulate potential impacts of investments involves understanding the portfolio, so that it is clear where impacts are likely, given the types of investment being undertaken. A systematic analysis of elements of the portfolio will also help design projects that can be effective in bringing about development and will identify where lessons can best be learned.

43. Fourth, a framework for ensuring development effectiveness must be worked out. Projects designed by IFAD must be evaluable – that is, able to be evaluated in a credible and reliable fashion. This is only possible if logframes and M&E systems are systematically strengthened at the project design stage. This is critical in ensuring that a project's theory of change is articulated, that the proposed indicators of that theory are identified, and that the means of verification are noted. It also requires that a project's logic is maintained and reconsidered during implementation, and assessed through project completion reports. This agenda for improving development effectiveness is already underway at IFAD and its activities need to be continued, strengthened and consolidated.

44. Fifth, IFAD must focus on ex ante impact assessments. The IFAD9 IAI highlights the significant limitations of ex post impact assessments. Ex ante impact assessment increases the likelihood of accurately attributing impact to IFAD investments and enhances learning. The ideal is to evolve towards a system under which development effectiveness is at entry and not at exit – that is, a system that allows one to design sound development projects, monitor their progress, and measure their results and impact across the project life cycle. In this way, impact assessments can be more easily designed to learn relevant lessons, particularly in the medium term, which allows for project adjustment.

45. Sixth, the IFAD impact assessment agenda must reflect a multistakeholder and participatory process. Collaboration among research teams, project management units, IFAD staff and, more broadly, implementers must be established ex ante. Shared commitment is a crucial aspect in guaranteeing successful, effective execution of both the project and the impact assessment. Close integration of implementers, researchers and IFAD staff, from the beginning of the process, generates spin-off effects that: facilitate the policy relevance of impact assessment; help identify potential users of the results; and produce relevant learning crucial to future project selection, design and implementation. Of course,

this will not be possible if IFAD staff and governments are not trained to understand the value and usefulness of impact assessment and to manage those conducting these assessments. This is a process IFAD is already beginning – the development of a curriculum on M&E and impact assessment is currently underway.

46. The lessons of the IFAD9 IAI have profound implications for IFAD and for the manner in which it measures the impacts of its investments in rural people. It requires a series of coherent actions that allow IFAD to continue the process of focusing on a results-based agenda that it began a decade ago. By taking these actions, not only will the impacts of IFAD's investment in rural people be better understood, but greater knowledge will be generated, which will allow IFAD and others to be more effective in promoting rural development.