



Laura Noel / CARE

CASE STUDY

FAO's Scaling of CARE's Farmer Field and Business School Approach Globally

The Catalytic Impact of FAO's Integration of CARE's Farmer Field and Business School Approach into their Farmer Field Schools Globally

A Case Study

Introduction

CARE defines catalytic impact (CI) as the “sustainable impact through the independent adoption or ownership of solutions by governments, donors, the private sector, or civil society that originated with CARE and/or its partners”. This concept is presented in the context of the CARE 2030 Vision¹ that focuses on lasting impact at scale delivered across six impact areas that drive progress towards ending poverty. This report presents a case study applying the proposed method with the FAO Farmers' Field School (FFS) uptake of the CARE Farmers' Field and Business School (FFBS) model. It is the first of two case studies.

FAO's Integration of FFBS into FFS

CARE's proven, women-focused **Farmers' Field and Business School (FFBS)** approach helps small-scale farmers build the skills they need to increase production, improve resilience, adapt to climate change, diversify diets, and boost nutrition (Farmer Field Business School Innovation Brief, CARE 2021). CARE has implemented FFBS in 28 projects across 17 countries. Since 2014, FFBS has directly improved the lives of more than 500,000 households or 2.5 million farmers and their families². It also transforms the status and recognition of women by providing the support they require to be successful farmers, businesspeople, leaders, and agents of change.

Building on CARE's FFBS model, in 2022, the Food and Agriculture Organization (FAO) of the United Nations committed to ensuring that the 3,000 farmer field schools (FFS) they oversee across the world will promote gender transformative approaches. To achieve gender transformation, CARE partners with communities to challenge and transform inequitable gender norms that restrict women's and girls' ability to achieve their best possible health and lives. CARE will support FAO to ensure their FFS approaches are gender transformative.

Relatedly, with CARE's technical support, FAO also agreed to lead the [Making Food Systems Work for Women and Girls Coalition](#) that CARE launched during the UN Food Systems Summit (UNFSS) in Fall 2021. The goal of the coalition is to "ensure that women and men, boys and girls, and other groups have equitable roles, responsibilities, opportunities, and choices, and that countries, communities

and households, individuals are equipped to participate in local, global and regional food systems activities in a meaningful, dignified, and equitable way." The coalition will do this through a focus on 4 critical levers of gender equality and the empowerment of women and girls:

- 1) Expanding women's agency
- 2) Increasing access and rights to resources, services and opportunities with three priority actions
- 3) Eliminating systemic institutional and legislative biases against women
- 4) Shifting harmful and constraining gender and social norms.

This coalition matters because it is the mechanism through which key pieces of global agricultural guidance will get implemented at the national level.

The FAO FFS scaling of CARE's FFBS work is considered as catalytic impact because FAO is using the CARE FFBS innovation in 3,000 farmer field schools that FAO has developed with national government and NGO partners. CARE is therefore indirectly contributing to the broader impact of FAO's implementation of FFS. In this case, CARE is also providing limited direct support to FAO FFS on gender from 2022 – 2027 and some support to government partners. Hence some of the overall impact projected for this case study will be a direct contribution from CARE rather than simply CI. In practice, it is not possible to separate this out, and therefore, projected CI captures both direct and indirect CARE contributions.

FFS and projected catalytic impact

A summary of projected catalytic impact

Based on the estimates presented above, we can expect that the **catalytic impact of FFS on food security is to increase women's intra-household food access by 11% (over 2022 levels) by 2030 in 4.5 million households with a high degree of certainty**. We therefore expect to see the influence of CARE on intra-household food access in 4.5 million FFS households across 17 countries by 2030.

The catalytic impact of FFS on women's empowerment is projected to reach women farmers who make up 54% of all FFS farmers. This is estimated to increase the CARE WEI indicator score that captures five domains of empowerment from 0.6 in 2022 to 0.87 by 2030 for **2.4 million women with a fairly high level of certainty**. Moreover, the proportion of women who achieve a WEI score of at least 0.8 – an indicator of empowerment – rises from 27% to 60% by 2025 and 100% by 2030 for these **2.4 million women with a fairly high level of certainty**.

We make the case that CARE can claim a proportion of FFS income gains as CI, and these gains are forecast to be significant. FFS and CARE direct support to governments is expected to **raise the income of 10 million people by 2025 and 22.5 million by 2030 with a high degree of certainty**. **Monthly incomes are projected to rise substantially in constant USD terms (relative to 2022) by 105% by 2025 and by 158% by 2027 with a high degree of certainty**.

Overview of methods used

The starting point for any CI projection is to set out the impact pathways that make the link between what CARE did and the impacts we want to measure, including providing clear definitions of those impacts and their alignment to CARE's organizational measurement framework/impact indicators. Where possible, an existing theory of change should be used as this sets out the steps needed to get to projected impact and associated assumptions. This is particularly helpful in assessing the probability of achieving impact projections (discussed further below).

In this case study, we look forwards using the FAO FFS projections for who will be reached. We also look back to the actual experience of CARE with FFBS to understand what kind of difference we can expect to the lives of individuals as a result of the intervention. The key measures of this difference to individuals (the *depth* of impact discussed below) are taken from CARE's impact indicators used in the evaluation of FFBS. These relate to per capita household income, food security (women's intra-household food access) and women's empowerment (the CARE WEI index).

Turning now to how this evidence is used to project CI, the model of projected CI used here has three key components³:



We define each of these components as follows.

Breadth

numbers of targeted individuals reached

Depth

the difference made to each targeted individual using relevant CARE indicators

Certainty

the estimated probability of achieving projections on breadth and depth

The sources of data, assumptions and methods of projecting values for each of these components play a critical role in estimating values of catalytic impact. For this reason, these are set out transparently below and an annotated spreadsheet model that can be used by CARE going forward has also been produced.

There are two options in this model for comparing income, food security and gender dimensions of impact. The first, and the one used in this case study, is to treat each impact with **equal importance**. There is no attempt to compare the *relative* importance of improved gender indicators with improved income or food security. This means that CARE's CI will be presented as the impact on income, the impact on food security and the impact on gender outcomes – using CARE indicators. This approach can capture synergies between transformational improvements in gender equality and household incomes, for example, as the indicator values for gender equality and incomes will both be higher.

The second option is to compare the **relative importance** of income, food security and gender impacts by setting boundaries for levels of impact (transformational, significant, perceptible etc.). Again, synergies between indicators should be captured. This relative approach is used by the Global Innovation Fund (GIF) to estimate practical impact across income, health, and education⁴. Each impact is stated in terms of economic value (USD), allowing direct comparison

across each of these dimensions of impact. GIF find this useful when attempting to compare different proposed investments with different strengths and weaknesses in terms of income, health, and education.

This is **not** the approach taken for estimating the CI of FFS on incomes, food security and gender empowerment for two reasons. Firstly, because there is no agreed way of expressing all these dimensions of impact in comparable monetary values (as used by GIF). Consequently, CARE would need to decide what levels of change constitute transformational change for food security relative to transformational change for multidimensional gender empowerment. Yet, as improving gender equality is central to CARE's work and a driver of sustainable development, gender empowerment is a critical objective by itself. Hence it would not be realistic for CARE to identify a program as having transformative impact if it delivered large improvements for income and food security but very little empowerment. Making these kinds of decisions would certainly be a subjective choice. Secondly, other case studies may (and do) have different dimensions of impact and so there is no guarantee that different interventions can be compared using the same scale. However, if CARE did decide to use the second option (relative importance) in future and provides the boundary thresholds for each indicator, it would be relatively straightforward to re-state the CI projections using these thresholds.

Projected Breadth – Individuals Reached

CARE's existing experience with FFBS from 28 projects has reached approximately 500,000 farmers as of 2022 (in 17 countries). Based on evidence from these 28 projects, FAO and CARE estimate that FAO and CARE scaling with national governments across 18 countries will reach 3,000,000 farmers and 15,000,000 individuals in six years, with CARE support to FAO from 2022 - 2027. This expansion in reach is based on Table 1.

There are several factors that will determine progress towards the 15,000,000 people (3,000,000 farmers) reach

target. Some scaling initiatives (such as integration into national government policies are expected to take some years) whereas country programs that adopt first may be the most enthusiastic and scale faster than later adopters. For these reasons, and after consulting with an FFBS specialist, we **assume** growth in reach is linear, on average globally. As government adoption is a key objective for FFS, we also **assume** that **the same rate of growth is maintained by FAO from 2028 – 2030**. This is shown in Figure 1 and Table 2.

TABLE 1 - CARE ESTIMATES FOR FFBS EXPANSION UNDER FFS

Country	Expanding FFBS programing to new countries	Deepening FFBS Programing	Engaging FFBS farmers with global markets	Promoting the adoption by nat'l governments	Totals
Ethiopia		800,000		2,000,000	2,800,000
Kenya		100,000	50,000		150,000
Uganda		200,000		600,000	500,000
Somalia	500,000				500,000
Zambia	50,000				50,000
Burundi		200,000		1,000,000	1,200,000
Tanzania		200,000		300,000	500,000
Madagascar	200,000				200,000
Nigeria	450,000				450,000
Ghana		300,000			300,000
India		1,400,000		4,500,000	5,900,000
Nepal	450,000				450,000
Jordan	100,000				100,000
Turkey	50,000				50,000
Palestine	50,000				50,000
Haiti	250,000				250,000
Guatemala					650,000
Honduras		500,000	150,000		600,000
Totals	2,100,000	500,000	100,000	8,400,000	15,000,000

Source: Annex 1, CARE proposal to Sall Family Foundation, 2022

Other key assumptions in Table 2 below relate to the average family size – assumed to remain at 5 in CARE projections for FFS - and the % of farmers who are women. Evidence from the CARE FFBS work across 17 countries is that 54% of farmers reached were women. There is no guarantee this

will be maintained as the intervention is scaled by FFS and FAO have not committed to reaching a specific proportion of women. As the 54% figure is based on actual implementation across six countries, we take this as the base case and consider alternatives using sensitivity tests.

FIGURE 1 - FFS PROJECTED REACH (FARMERS AND HOUSEHOLDS)

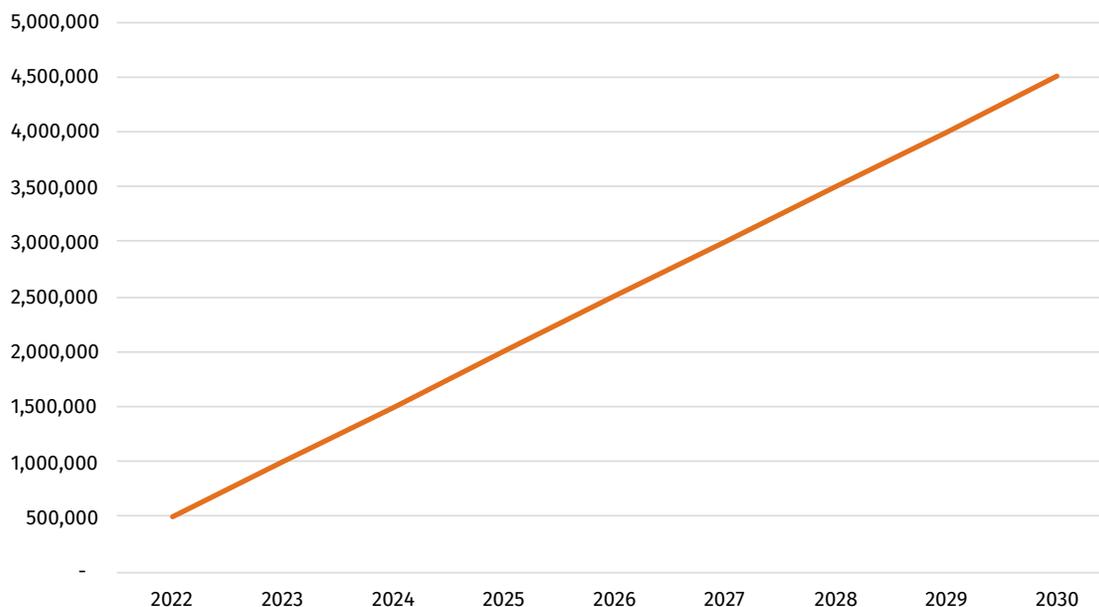


TABLE 2 - FFS PROJECTED REACH AND KEY ASSUMPTIONS

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Projected reach (farmers and Households)	500,000	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000	3,500,000	4,000,000	4,500,000
Projected reach (people in HH)	2,500,000	5,000,000	7,500,000	10,000,000	12,500,000	15,000,000	17,500,000	20,000,000	22,500,000
% of farmers who are women	54%								
Number of female farmers	270,000	540,000	810,000	1,080,000	1,350,000	1,620,000	1,890,000	2,160,000	2,430,000
Certainty	Very High	Fairly High	Fairly High	Fairly High					

Key assumptions/data sources	
Average family size (current)	5
Existing FFBS reach	500,000
Annual growth rate (linear)	2,500,000

Projected Depth – Income, Food Security & Women’s Economic Empowerment

The indicators we use to estimate the depth dimension of impact need to meet three conditions:

1. They need to capture **how much** changes – the intensity of change - for those reached (as distinct from just being reached by the program)
2. The type of change must be **relevant to CARE** (drawn from or closely related to the CARE 30 global core indicators that often provide ordinal measures of change).
3. **Evidence must be available** to support the projection.

In this case study, we **use data on income, food security and gender empowerment indicators** that is **drawn from the CARE Pathways final evaluation of FFBS in districts of five implementing countries** (Ghana, India, Malawi, Mali and Tanzania). Evidence is drawn from the global evaluation⁵ and country-specific evaluations noted below. This five-year program (and the associated 2016 final evaluation) funded by the Bill and Melinda Gates Foundation has generated primary survey data that is potentially a very useful input for the depth calculation. It covers a range of countries in sub-Saharan Africa and India that makes it more reasonable for projecting likely future impact for 17 FFS countries than evidence taken from one country alone. Nonetheless, the absence of a control group makes it very difficult to identify impacts from the project separately from external factors. Further, this data is six years old. This is a major limitation for projecting CI in this case, as the objective is to identify impacts that CARE can **credibly claim** to have contributed to in a meaningful way and into the future.

To illustrate the issue, consider using the evaluation reported project effects on per capita household income. There have been many macroeconomic and climatic changes over the CARE project implementation period in Ghana and Malawi (the two countries with the most complete income data) and these external factors may explain the observed changes in income.

For CI projections based past program or project data to be credible it is essential to identify program impacts that

are distinct from changes that would happen anyway. This presents a challenge when the program evaluation **did not use an experimental or quasi-experimental design**. However, we can interrogate this data to see whether there are credible arguments to **support using the data “as is”** and whether **other data sources can be used to triangulate** or improve the reliability of the evaluation data for projecting CI. Organizations such as the World Bank, FAO and other UN agencies have country level data that can be used to help understand what changes have occurred to agriculture and incomes in the country, independent of the project. This data must be applied thoughtfully as FAO scaling efforts may be focused in specific, subnational agro-ecological zones, whereas available data may only be at the national level.

A **second source of evidence** that we draw on for projected impact of FFS on income, food security and gender empowerment indicators **is an experimental evaluation** (randomised control trial) of FFBS “Win-Win” in six districts in Burundi, 2016-2019⁶. This gives us a much more accurate estimate of the change in income, food security and gender empowerment that results from participation in FFBS. However, data come from a specific country context and therefore it is more difficult to extrapolate to the proposed 17 FFS countries. To help strengthen the case for the assumptions we use for the chosen breadth indicators, we **compare the estimates from the Burundi RCT with those from the Pathways estimates** adapted to control for external changes where possible.

DEPTH INDICATOR 1: HOUSEHOLD INCOME

Per capita household income was chosen as the income indicator as it is possible to generate an ex-post pseudo control group for this indicator. In doing this, note that the FFBS program focussed on rural incomes, of which agricultural incomes were particularly important. The UN Department of Economic and Social Affairs (UN DESA) 2021 report on reconsidering rural development also wrestled with the question of how to identify rural per capita household incomes and opted to use per capita agriculture value added (for the agricultural sector) as a proxy for per capita rural income⁷. **The accuracy of this proxy will**

depend to the extent to which project communities rely on agriculture as an income source. It seems very likely that FFS communities will rely heavily on agriculture, making this a good proxy.

The CARE Ghana (2016) and CARE Malawi (2019) end of project evaluation reports provide the data for the chosen indicator of per capita household income. The indicator values in USD 2015 prices together with proxy indicator values from the World Bank^{8 9} are shown in Table 3 below. Net effects are estimated for both countries, with the increase for Ghana being 152% over three years and for Malawi being 158% over six years. *We therefore start with an estimate of 158% achieved by linear growth over six years with no further increase from 2028-2030. Call this step 1.*

The key assumption here is that the CARE FFBS model for increasing farmer incomes is a direct contributor to the FFS model. That is to say that FFS without the CARE gender focus would not increase household incomes as much. The Burundi Win-Win evaluation provides some evidence to support this. This evaluation found that the gender transformative approach (that will be mainstreamed in FFS) generated significantly greater economic well-being than a “gender-light” intervention and relative to the control group. As livestock incomes were affected by a widespread plague, agricultural incomes fell in all groups. However, incomes from rice sales appear more comparable to the

Pathways results. These show an increase of 58.6 percent compared to 28.9 percent in Gender Light and only 8 percent in Control groups. *Given this evidence, we estimate the ratio of gender transformative to gender light income increase above ($28.9/58.6 = 49.3\%$). This is step 2.*

We make the argument that some of the increase in per capita income increase projected for FFS would be obtained by FAO using a gender light approach. The increase that is due to the gender transformative approach is the increase in projected household income (step 1) multiplied by the ratio of increased household income in gender transformative relative to gender light households found in the Win-Win evaluation (step 2). *The lower adjusted value that results from step 1 x step 2 we call step 3.*

The projection of FFS impact on per capita income (see Table 3 below) provides the data for step 1. The results of step 1 are shown in Table 4. The shaded cells in Table 5 (and in the accompanying spreadsheet) indicate that the author assumption of no further increase in income after the life of the program in year 7 – 10. It has not been possible to get external expert opinion on this in the time available and hence the most conservative assumption has been chosen. This is subject to modification if data or expert views support this. The results of step 2 and step 3 are shown in Table 5. This shows an increase of 158% in per capita income in constant prices by 2028 (year 6).

TABLE 3 - PER CAPITA HOUSEHOLD INCOME DATA (THE BASIS FOR CALCULATING STEP 1)

Ghana (2015 USD constant prices)					
	2012	2015		2012-15	2012-18
				% change	% change
Household mean per capita monthly income	3.41	9.9		190%	
Agriculture, forestry, and fishing, value added per worker	1862.9	2571.95		38%	
Net (intervention - “control”) change in mean per capita monthly HH income				152%	NA

Malawi (2015 USD constant prices)					
	2012	2015	2018	% change	% change
Household mean per capita monthly income (male HHH)	11.47	20.8	29.1		154%
Household mean per capita monthly income (All HHH)		15.67	29.09	86%	
Agriculture, forestry, and fishing, value added per worker	334.28	338.7	319.39	-6%	-4%
Net (intervention - “control”) change in mean per capita monthly HH income				91%	158%

TABLE 4 - PROJECTIONS FOR PER CAPITA INCOME INCREASE - STEP 1

Step 1	YEAR								
Projection (set at Malawi rate over 6 years as similar to Ghana over 3 years)	1	2	3	4	5	6	7	8	9
	2022	2023	2024	2025	2026	2027	2028	2029	2030
Household (HH) mean per capita monthly income (% increase)	0%	53%	79%	105%	132%	158%	158%	158%	158%

TABLE 5 - PROJECTED INCREASE IN ADJUSTED PER CAPITA MONTHLY INCOME – STEPS 2 & 3

Step 2	
Adjustment for gender transformative impact on income (from Burundi WinWin evaluation):	
a) % increase in revenue from household rice sales - gender transformative intervention	58.6
b) % increase in revenue from household rice sales - gender light intervention	28.9
Implied adjustment factor b)/a)	49.3%

Step 3 = Step 1 x Step 2	YEAR								
Projection	1	2	3	4	5	6	7	8	9
	2022	2023	2024	2025	2026	2027	2028	2029	2030
Household (HH) mean per capita monthly income (% increase) -Step 1	0%	53%	79%	105%	132%	158%	158%	158%	158%
Household (HH) mean per capita monthly income (% increase) - Step 3 = Step 1 x Step 2	0%	26%	39%	52%	65%	78%	78%	78%	78%

DEPTH INDICATOR 2: FOOD SECURITY (WOMEN'S INTRA-HOUSEHOLD FOOD ACCESS)

Food security indicators reported by the Pathways final evaluation are also likely to be affected by the broader macroeconomic, weather and climate environment. However, one project indicator appears more likely to reflect project specific impacts and this is the measure of **women's intra-household food access**¹⁰. The literature on the determinants of intra-household food allocation recognises the role of changes in economic circumstances and food availability as well as the significance of social norms and customs as determinants¹¹. To the extent that the latter influences intra-household access, it seems reasonable to assume few if any changes would be seen in a notional control group. That is because social and cultural norms typically change slowly¹². Clearly, evidence from an actual control group would be far better, but this food security indicator appears less subject to bias than the others reported by the evaluation. The data for all five Pathways countries is shown in Table 6 below¹³.

The mean of the effect across Ghana (-5%), Malawi (46%), India (36%), Mali (-5%) and Tanzania (-21%) is taken as the basis for the projection shown in Table 5. *This gives an increase of 4.8% over three years.* There is clearly a great deal of variation between countries. If the aim was to project FFS for one country, this variation would make it risky to assume this average applied to the specific country. However, we are looking at FFS adoption in 17 countries that are similar to the countries we have past evidence for. *Hence, it is assumed the trend growth (of 4.8% over three years) is maintained 2026 – 2030* – an assumption that can, of course, be modified if additional data or expert opinion suggests an alternative.

TABLE 6 - WOMEN'S INTRA-HOUSEHOLD FOOD ACCESS

	2012	2015	2012-2015 % Change
Ghana			
Mean women's intra-household food access (All HH)	4.2	4.4	-5%
Malawi			
Mean women's intra-household food access (All HH)	5.2	5.7	10%
India			
Mean women's intra-household food access (All HH)	3.9	5.3	36%
Mali			
Mean women's intra-household food access (All HH)	6.1	5.8	-5%
Tanzania			
Mean women's intra-household food access (All HH)	7	5.5	-21%

DEPTH INDICATOR 3: WOMEN'S EMPOWERMENT

The CARE WEI indicator is based on the women's empowerment in agriculture index (WEAI)¹⁴ with the addition of some dimensions of empowerment and some changes to the weighting of sub-indicators¹⁵. For this index, a score of 0.80 or more indicates empowerment¹⁶.

As with women's intra-household food access, many of the WEI components depend on social and cultural norms that would not change rapidly without active community-level intervention or policy change. However, there is considerable NGO work on gender equality in Ghana and Malawi and there have also been policy changes likely to impact WEI. For this reason, it seems important to try and identify an ex-post pseudo control group estimate for this indicator. To do this, we have used one minus the UN Gender Inequality Index (GII) - a composite index with health, empowerment and labour market dimensions¹⁷. This, of course, is a far from perfect match with the WEI but it does generally follow the same trend, with much more progress in Ghana 2012-2015 than in Malawi, for example¹⁸.

The (1-GII) measure is used to create two "net" WEI indicators:

1. Net WEI% change = WEI% - (1-GII)%
2. Net 0.80WEI% change = (WEI0.80% x (WEI% - (1-GII)%)/ WEI

The Burundi Win-Win evaluation uses a slightly different measure of WEI, they refer to as Pro-WEAI, that reflects the original women's empowerment in agriculture index (WEAI). The threshold for empowerment is 0.75 in this evaluation. It seems reasonable to argue that the FAO FFS without CARE influence on gender empowerment would include standard gender sensitive interventions. This would be similar to the "gender light" intervention considered by the Burundi Win-Win evaluation. The role of CARE is to help FFS incorporate the gender transformative approach developed by FFBS. Hence, the projected additional impact on WEAI is the difference found by the evaluation on groups receiving the gender transformative and gender light interventions. These are shown in Table 8.

The effect of adding the pseudo-control group is to reduce the estimated increase in the Ghana by nearly 30% (4/13) and to have little or no effect in Malawi, Mali and Tanzania. In India, the GII improved more than the WEI 2012-15 – producing a negative net project impact. *Overall, there is a strong upward trend for both gender indicators over the period.* In Burundi, there is a significant additional gain in WEAI scores and % of women reaching the empowerment threshold as a result of the gender transformative approach. This slightly increases the average increase in the indicators when Burundi is added to the other five countries.

TABLE 7 - PROJECTED INCREASE IN WOMEN'S' INTRA HOUSEHOLD FOOD ACCESS

Projection - set at mean across countries*	2022	2023	2024	2025	2026	2027	2028	2029	2030
Mean women's intra-household food access (All HH)	0.0%	2.4%	3.6%	4.8%	6%	7%	8%	10%	11%

* All countries over 3 years except Malawi (6 years)

TABLE 8 - GENDER EMPOWERMENT INDICES

	2012	2015	2012-15 % change	2015-21 % Change	2021	2022
Ghana						
Women's 5 domains of empowerment - mean score for all women in sample	0.52	0.59	13%		0.62	
% of women achieving empowerment (.80 or greater)	8%	16%	113%		0.17	
1- Gender inequality index	0.429	0.446	4%	6%	0.471	
"Net" Women's 5 domains of empowerment - mean score for all women	0.52	0.57	9%		0.60	0.61
"Net" % of women achieving empowerment (.80 or greater)	8%	14%	80%		0.15	0.15
Malawi						
Women's 5 domains of empowerment - mean score for all women in sample	0.6	0.66	10%		0.71	
% of women achieving empowerment (.80 or greater)	21%	29%	38%		0.31	
1- Gender inequality index	0.415	0.415	0%	7%	0.446	
"Net" Women's 5 domains of empowerment - mean score for all women	0.6	0.66	10%		0.71	0.72
"Net" % of women achieving empowerment (.80 or greater)	21%	29%	38%		0.31	0.32
India						
Women's 5 domains of empowerment - mean score for all women in sample	0.48	0.52	8%		0.56	
% of women achieving empowerment (.80 or greater)	4%	11%	175%		0.12	
1- Gender inequality index	0.43%	0.48%	11%	7%	0.51	
"Net" Women's 5 domains of empowerment - mean score for all women	0.48	0.47	-2%		0.5	0.51
"Net" % of women achieving empowerment (.80 or greater)	4%	6%	50%		0.06	0.07
Mali						
Women's 5 domains of empowerment - mean score for all women in sample	0.31	0.45	45%		0.51	
% of women achieving empowerment (.80 or greater)	3%	6%	140%		0.07	
1- Gender inequality index	0.331	0.341	3%	13%	0.387	
"Net" Women's 5 domains of empowerment - mean score for all women	0.31	0.45	42%		0.51	0.52
"Net" % of women achieving empowerment (.80 or greater)	3%	6%	131%		0.07	0.07
Tanzania						
Women's 5 domains of empowerment - mean score for all women in sample	0.59	0.71	20%		0.72	
% of women achieving empowerment (.80 or greater)	20%	43%	113%		0.43	
1- Gender inequality index	0.43	0.43	0%	2%	0.44	
"Net" Women's 5 domains of empowerment - mean score for all women	0.59	0.71	20%		0.72	0.73
"Net" % of women achieving empowerment (.80 or greater)	20%	43%	113%		0.43	0.44
Burundi (Win-Win evaluation)						
	2016	2019	% change	2019-21		
Pro-WEIA score - control	0.41	0.44	7%			
Pro-WEIA score - gender light intervention	0.39	0.52	33%			
Pro-WEIA score - gender empowerment transformative intervention	0.34	0.65	91%			
% women achieving empowerment - control (>=0.75)	27%	34%	26%			
% women achieving empowerment - gender light (>=0.75)	34%	53%	56%			
% women achieving empowerment - gender transformative (>=0.75)	22%	68%	209%			
Pro-WEIA score (GT - GL)			58%			
Pro-WEIA score (GT - GL)	0.34	0.54			0.54	0.54
% women achieving empowerment (GT - GL) (>=0.75)	22%	56%	153%		0.56	0.56
1- Gender inequality index		0.493		0.4	0.4995	

Unlike the per capita household income and women’s intra-household food access indicators, the gender indicators are expressed as point values each year rather than a percentage increase. This requires us to identify a 2022 starting value for each indicator, as the CARE Pathways evaluations only provide values for 2015 (and the Win-Win evaluation for 2019). This has been done based on two alternative assumptions in the spreadsheet with the second assumption below used to produce the results in Table 9:

1. No improvement post Pathways or Win-Win projects (2015 starting point and projected improvements in line with the average of Table 8); and

2. Post Pathways project, the average WEI increased in line with the GII 2015-22 (for Pathways countries) and 2019-22 for Burundi and then projected improvements in line with the average of Table 8. **This leads to WEI projected to reach 0.87 in 2027 (and hence 100% of women reaching the 0.80 threshold).** This is far higher than the 0.60 average starting point in 2022. We therefore assume no further increase 2028-2030. *This is the base case assumption.*

The projections for the base case assumption are illustrated in Figure 2 below.

FIGURE 2 - PROJECTED EMPOWERMENT INDICATORS FOR THE BASE CASE ASSUMPTION



TABLE 9 - GENDER INDICATOR PROJECTIONS

Projection (Average across 6 countries)									
	2022	2023	2024	2025	2026	2027	2028	2029	2030
“Net” Women’s 5 domains of empowerment - mean WEI score [2015 starting point + 2019 for Burundi]	0.57	0.61	0.66	0.71	0.76	0.82	0.82	0.82	0.82
“Net” % of women achieving empowerment (WEI >=0.80) [2015 starting point + 2019 for Burundi]	26%	34%	44%	58%	76%	100%	100%	100%	100%
“Net” Women’s 5 domains of empowerment - mean WEI score [(1-GII) trend] - base case	0.60	0.65	0.70	0.75	0.81	0.87	0.87	0.87	0.87
“Net” % of women achieving empowerment (WEI >=0.80 or 0.75 for Burundi) [(1-(GII) trend] - base case	27%	35%	46%	60%	79%	100%	100%	100%	100%

Certainty

The third pillar of CI is the certainty we have that the results of a CARE program will be replicated and replicated with sufficient fidelity as it is scaled by partners. For the FFS case study, no formal scaling model has been produced, although estimates of scaling by program area and country have been produced and reviewed by donors. These have informed the certainty estimates below. In the absence of a formal assessment of scaling (as for FID), we would have systematically analysed the FAO FFS theory of change to **identify major assumptions and risks** to scaling. Program staff could then broadly quantify how certain we should be in using past evidence as a guide to the future. We know from good practice in Theory of Change design that implementors and partners delivering the intervention are the key sources of information on assumptions and risks. Participatory work with this group **has not been possible in the time available for this case study, and consequently, the assumptions below will need to be reviewed and revised by CARE in discussion with FAO.**

The FAO FFS program is scheduled to run to 2027 and, given CARE’s past experience and involvement in supporting FFS, a **fairly high** degree of certainty is assumed for reach (breadth) estimates until then. Post 2027, government partners are expected to continue with FFS but there is arguably less certainty over who will be reached. Despite this, the extensive FAO and CARE experience in working with government partners suggests we retain a **fairly high** certainty for 2028 – 2030.

How this process is turned into certainty projections for CI depends on the detail and quality of the available evidence. As CARE has not undertaken a detailed scaling assessment for FFS and we have not undertaken an assessment with FAO of their theory of change, we rely on broad categories of certainty as shown in Figure 3 below.

FIGURE 3 - CERTAINTY AS BROAD CATEGORIES

Certainty level		Certainty level	
Breadth	High > 75%	Depth	High > 75%
	> 50% Fairly high <=75%		> 50% Fairly high <=75%
	> 25% Fairly low <= 50%		> 25% Fairly low <= 50%
	Low <25%		Low <25%

TABLE 10 – BREADTH AND DEPTH INDICATORS AND CERTAINTY ASSUMPTIONS

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Projected reach (farmers and Households)	500,000	1,000,000	1,500,000	2,000,000	2,500,000	3,000,000	3,500,000	4,000,000	4,500,000
Projected reach (people in HH)	2,500,000	5,000,000	7,500,000	10,000,000	12,500,000	15,000,000	17,500,000	20,000,000	22,500,000
% of farmers who are women	54%								
Number of female farmers	270,000	540,000	810,000	1,080,000	1,350,000	1,620,000	1,890,000	2,160,000	2,430,000
Certainty	Fairly High								

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Household (HH) mean per capita monthly income (% increase)	0%	26%	39%	52%	66%	78%	78%	78%	78%
Certainty	Fairly High								

	2022	2023	2024	2025	2026	2027	2028	2029	2030
Mean women's intra-household food access (All HH)	0.0%	2.4%	3.6%	4.8%	6%	7%	8%	10%	11%
Certainty	Fairly High								

	2022	2023	2024	2025	2026	2027	2028	2029	2030
"Net" Women's 5 domains of empowerment - mean WEI score [(1-GII) trend] - base case	0.60	0.65	0.70	0.75	0.81	0.87	0.87	0.87	0.87
	27%	35%	46%	60%	79%	100%	100%	100%	100%
Certainty	High	High	High	High	Fairly High				

In principle, there is uncertainty associated with the projections of breadth (reach) *and* each of the depth indicators. For example, climate shocks may limit the ability of FFS to deliver improved farmer incomes even though the target number of farmers are reached¹⁹. This is illustrated by separate certainty projections for breadth and depth in the highlighted cells in Table 10.

As catalytic impact is the product of breadth, depth and certainty, the projected CI value for each dimension of impact in this case study (income, food security and gender) must be stated with its associated certainty. For example, we estimate for 2024, FFS will reach 7.5 million people with a fairly high degree of certainty. The income of these people is estimated to increase by 79% by 2024, again, with a fairly high degree of certainty.

The projected increase in gender empowerment is based on past, successful FFBS experience. Nonetheless, it seems reasonable to argue that it will be easier to move from

gender sensitive to responsive practice than from gender responsive to gender transformative practice. If so, there should be greater certainty of the WEI increasing from 2022 levels in the next few years, than in reaching 0.8 (an indicator of full empowerment) in later years. For this reason, the certainty factor for improved WEI is shown as “high” for 2022-2025 and then “fairly high” from 2025 – 2030.

Overall projected catalytic impact of FFS

CARE’s contribution to projected FFS will reduce multidimensional poverty and gender inequality.

Based on the estimates presented above, we can expect the **catalytic impact of FFS on food security is to increase women’s intra-household food access by 11% (over 2022 levels) by 2030 in 4.5 million households with a fairly high degree of certainty**. This is illustrated in Figure 4 and Figure 5 below. We therefore expect to see the influence of CARE on intra-household food access in 4.5 million FFS households across 17 countries by 2030.

FIGURE 4 - FOOD SECURITY REACH (NUMBER OF HH BENEFITING)

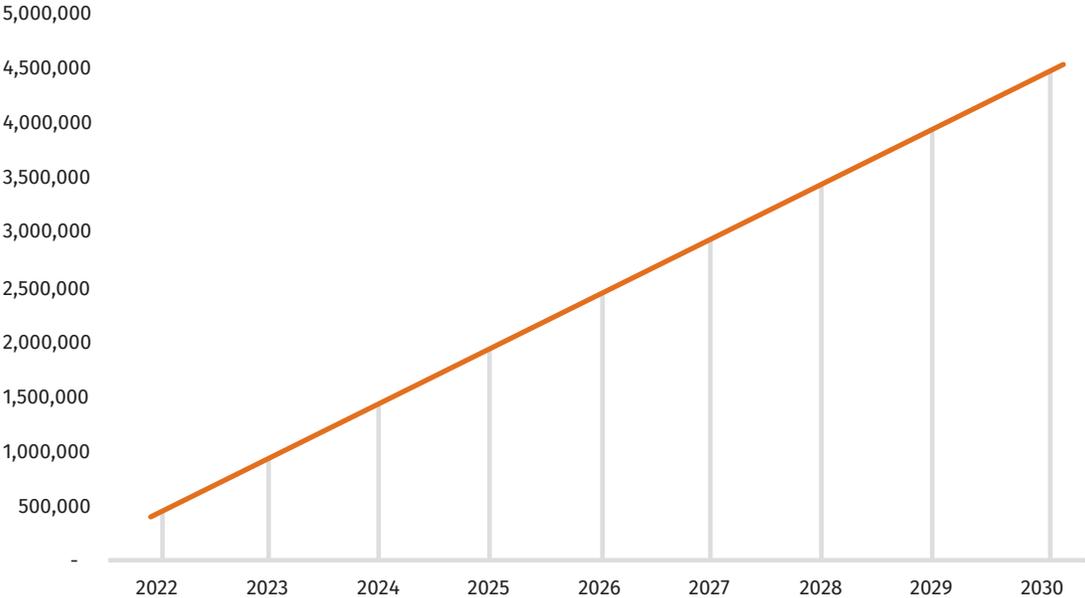


FIGURE 5 - WOMEN'S IMPROVED INTRA-HOUSEHOLD FOOD ACCESS (ALL HH)

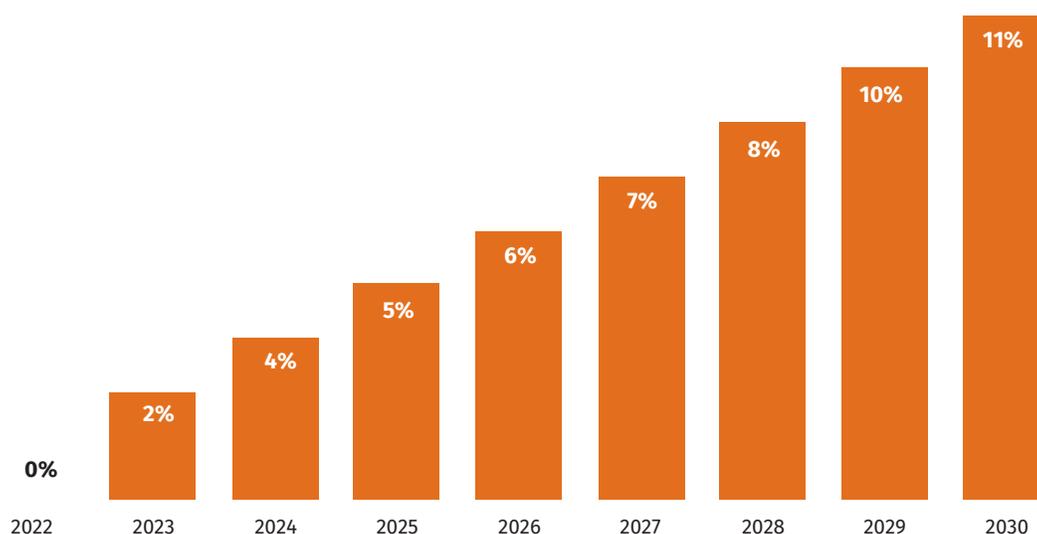
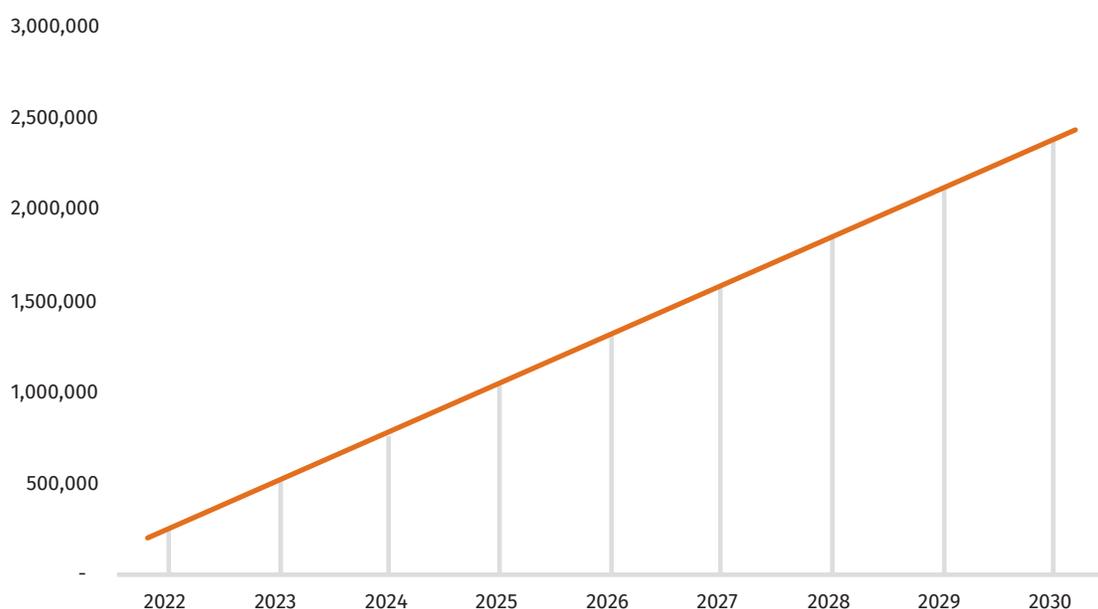


FIGURE 6 - BREADTH OF EMPOWERMENT (NUMBER OF WOMEN BENEFITING)



The catalytic impact of FFS on women's empowerment is projected to reach women farmers who make up 54% of all FFS farmers. This is estimated to increase the CARE WEI indicator score that captures five domains of empowerment from 0.6 in 2022 to 0.87 by 2030 for **2.4 million women** with a fairly high level of certainty. Moreover, the proportion of women who achieve a WEI score of at least 0.8 – an indicator of empowerment - rises from 27% to 60% by 2025

and 100% by 2030 for these **2.4 million women with a fairly high level of certainty**. This is illustrated in Figure 6, Figure 7 and Figure 8. Given the very significant projected increase in the proportion of women empowered by the end of the FFS direct intervention in 2027, we assume that there are no additional gains during the scaling by government phase from 2027 – 2030.

FIGURE 7 - PROJECTED WEI INDICATOR SCORES

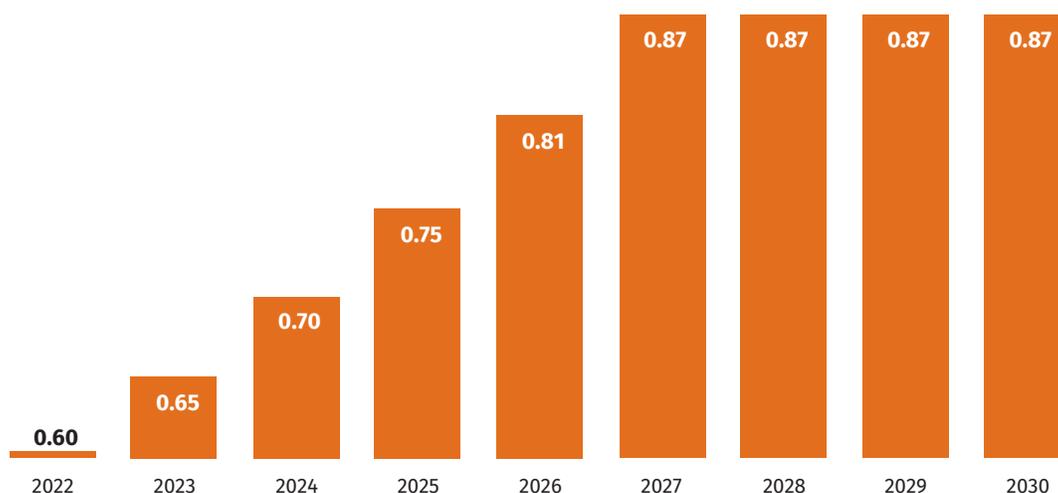
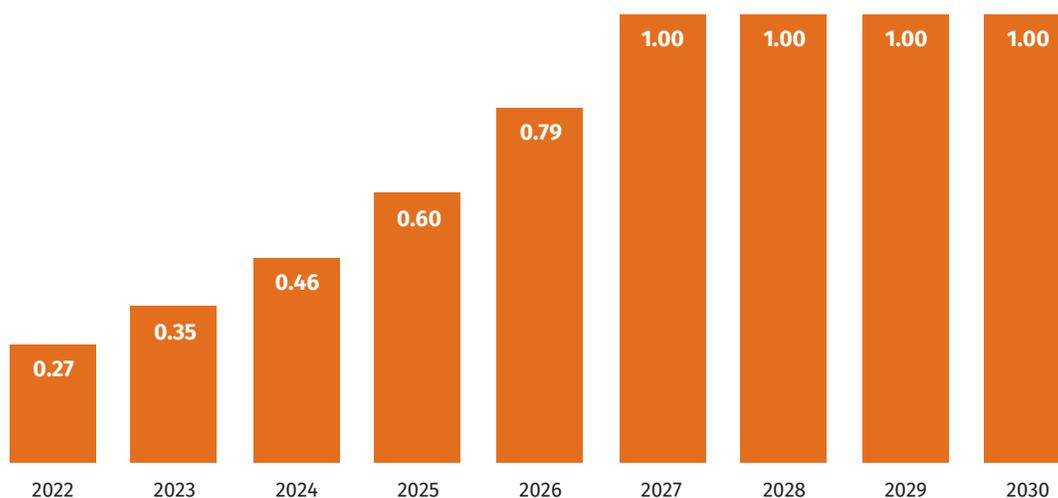


FIGURE 8 - PROJECTED % OF WOMEN WITH WEI AT LEAST ≥ 0.8



We have made the case that CARE can claim a proportion of FFS income gains as CI, and these gains are forecast to be significant. FFS and CARE direct support to governments is expected to raise the income of 10 million people by 2025 and 22.5 million by 2030 with a **fairly high** degree of certainty. Monthly incomes are projected to rise substantially in

constant USD terms by 105% by 2025 and by 158% by 2027 again, with a **fairly high** degree of certainty. This is shown in the Figures below. As noted in the section on incomes above, the intervention is expected to raise incomes in line with past experience for the six years it operates and maintain these gains after that.

FIGURE 9 - PEOPLE BENEFITING FROM INCREASED INCOMES

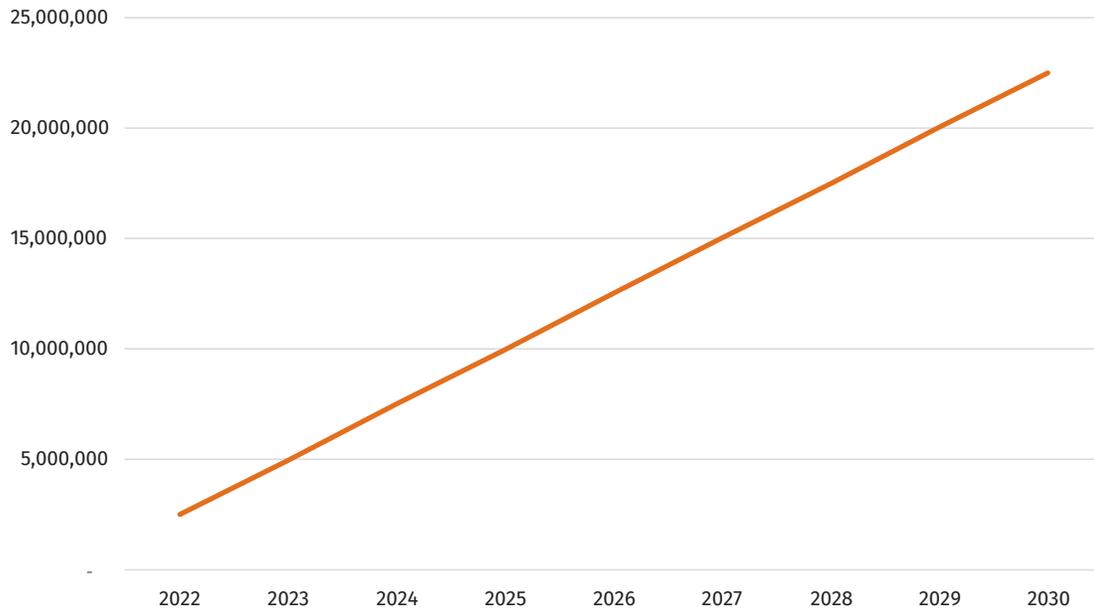
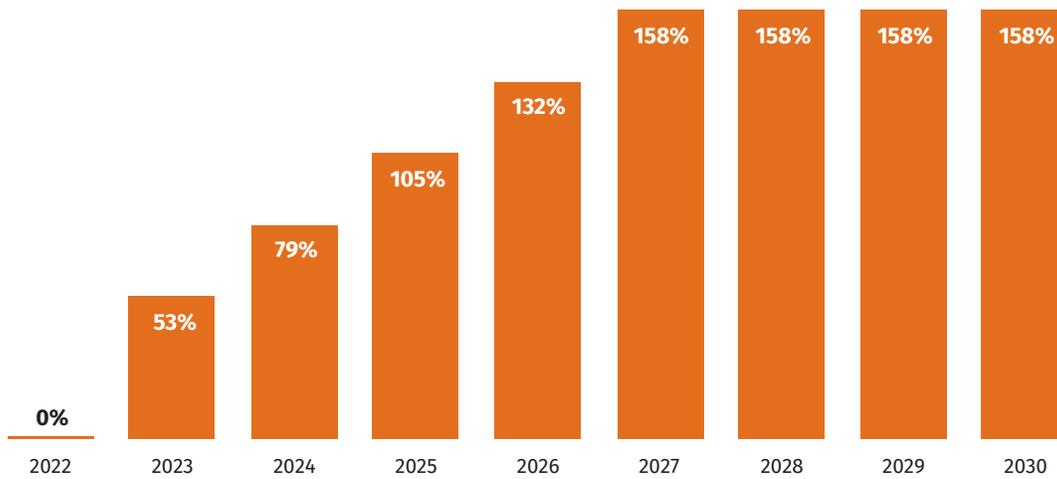


FIGURE 10 - PROJECTED MONTHLY INCREASE IN INCOME IN CONSTANT USD (%)



Lessons, conclusions, and recommendations

This case study has shown how uptake of CARE's gender transformative FFBS by FAO and partner governments in their FFS program is expected to generate catalytic impact. The projected CI is significant and there is good evidence that CARE's contribution to projected FFS will reduce multidimensional poverty and gender inequality.

The method used for projecting CI is conceptually straightforward, building on an approach used by the Global Innovation Fund and by the CGIAR to estimate ex-ante project impact. In our approach:

$$\text{CI} = \text{Breadth} \times \text{Depth} \times \text{Certainty}$$

The challenge lies in finding robust evidence for each of the components of CI. It has proved relatively easy to find evidence on breadth – the expected reach of FFS as it scales. This is where projections of impact (often in bidding for donor funding) have traditionally gone.

The innovative aspect of CI mainly relates to the “depth” component of CI. The indicators we use to estimate the depth dimension of impact have had to meet three conditions:

1. They need to capture **how much** changes – the intensity of change - for those reached (as distinct from just being reached by the program). This is outside the comfort zone of many practitioners, used to thinking of impact solely in terms of numbers reached (breadth).
2. The type of change has to be **relevant to CARE**. To do this, indicators have been drawn from the CARE 30 global core indicators – many of which provide the measures of change we need.
3. **Evidence has to be available** to support the projection. In this case we have used evaluation evidence on FFBS from six countries. Evidence from changes arising from past implementation is a good starting point for projecting future impacts in similar countries. The difficulty has been in finding evidence that is likely to be accurate (using rigorous methods) -meeting the evaluation objective of “internal validity” and relevant to new countries and context as FFS scales (the evaluation objective of “external validity”).

The best approach to using available data depends on **what data is actually available**. In this case study, a combination of approaches has been used to improve the accuracy and relevance of the data on depth of impact. **Firstly, discussions with CARE staff that had experience of the FFBS work and how this had influenced the FAO FFS work was essential to provide context and identify potential sources of evidence.** However, identifying the relevant staff and securing their engagement to support CI with multiple meetings when they are already fully committed to project work is a non-trivial exercise. These discussions and support from the CARE MEL team identified the Pathways and Win-Win evaluations as useful source material.

The Pathways evaluations on FFBS in four countries in Africa and India was the first major source of evidence. The Pathways coverage of five countries that resemble the 17 FFS countries is helpful. The Pathways evaluations, however, did not include control groups and hence the documented increases in depth indicators could well be due to effects that have nothing to do with the intervention. They would therefore overstate the likely impact from FFS we could expect in future. To address this, proxy control groups have been created using publicly available datasets (from UN agencies and the World Bank) to capture changes that occurred in the areas relevant to each indicator. This reduces the net effect of the indicators we use for projecting depth and hence CI. **This is a recommended approach where relevant evaluation data that lacks control groups exists.**

The second source of depth indicator evidence was the Win-Win randomised control trial of three arms (control group, gender light and gender empowerment transformative interventions) of an FFBS project in six districts in Burundi. This is more likely to produce accurate data, but it is less likely to be relevant to 17 countries. The design of this evaluation (that tested a gender light approach that is similar to that used in many donor-funded projects against the CARE EKATA gender empowerment transformative approach) provided an opportunity to identify any *additional* gains that the gender empowerment transformative approach yielded for the depth indicators. We can consider this additional effect as a good approximation of the CARE contribution to the FAO FFS program if this was just in Burundi.

As we are interested in scaling to 17 countries, we **combine** the evidence from Burundi with the evidence from the Pathways evaluation. **Comparing and combining multiple evidence sources is also a recommended approach.**

Both Pathways and Win-Win evidence sources capture how CARE projects dealt with challenges to FFBS implementation. The scaling of FFBS by FAO and government partners is likely to present new challenges that will ideally be captured in their program theory of change (ToC) and potentially in country-specific ToCs. The risks and assumptions that should be embedded in these ToCs will determine the certainty component of CI. It has not been possible to explore these in the time available for this case study and there is no guarantee that FAO staff would find the time to do this. **However, participatory discussion with those involved in delivering the program driving CI is recommended to quantify the certainty associated with the breadth and depth projections.** For the purposes of illustrating the method, uncertainty has been expressed as specific percentage values in this case study. Going forward, certainty may well be expressed in broad ranges such as very likely through to unlikely. Discussion with implementors should allow these ranges to be associated with percentages e.g. very likely as 75% plus. In this case, projected CI values can either be expressed as ranges or using the mid-point of these ranges.

This case study presents a snapshot of CI using the evidence currently available. As FFBS gets underway, new evidence will be generated. FAO FFBS program reporting should allow an annual check of breadth (reach) projections against what has been achieved and an associated restatement of breadth projections. This should be a low cost and straightforward exercise provided CARE has access to this data. Review of the assumptions and risks in the FFBS ToC should be done by FAO as part of their monitoring, evaluation and learning cycle – at least at mid-term in the six year program. This provides a relatively low cost opportunity to review the certainty projections (again, assuming CARE has access to this reporting and potentially to discuss implications with FAO). Periodic review of the depth indicator projections will depend on the evaluation evidence produced by FFBS. **If CARE aims to influence FAO (and others) to adopt transformative gender empowerment interventions, CARE has an interest in seeing rigorous evaluation that includes gender indicators that matter to CARE. It may be possible to secure this by**

influencing planned FFBS evaluation at the same time as influencing program design or it may require CARE to co-fund components of evaluations to produce this evidence.

In summary, the key recommendations from this case study are:

- 1. CI estimates will be easier to make if the relevant data are collected at the time of program evaluation.** This is much more likely to happen if the program reports on and evaluates CARE Global 30 impact indicators that capture the extent of change resulting from the intervention. Having consistent CARE impact indicators (that capture the extent of change for targeted individuals) across multiple countries implementing FFBS strengthened the program evaluation but also was very helpful for the projection of CI.
- 2. Make the best of existing secondary evidence** that is relevant to the intervention and scaling context by:
 - a. Drawing on evaluation evidence and the literature on this intervention in similar contexts (if the latter exists).
 - b. Combining evidence on multiple countries where possible to make projections for scaling to additional countries more reliable.
 - c. Strengthening evaluation evidence without control groups using data from public databases (e.g., from the World Bank and UN agencies) to give a better picture of what would have happened without the intervention. This allows better identification of the net effect of the intervention.
- 3. CARE needs to allocate time and human resources for conducting CI estimates.** This applies to country offices, with MEL teams able to plan CI into work schedules. If CI is to be used across a number of CARE programs, it is not realistic to rely on the good will of country teams that are already fully committed to other tasks to find a couple of additional days to support CI work by digging out relevant secondary data and to answer multiple questions as the external CI analyst turns this into a detailed spreadsheet model over a couple of weeks. Working virtually is low cost and resource efficient but it is likely to be less effective than working with a country MEL team to produce CI estimates from their data – particularly if the country team is expected to take over the model in future.

4. Participatory discussion with those involved in delivering the program driving CI is recommended to quantify the certainty associated with the breadth and depth projections.

5. CARE should partner with organizations ‘taking over’ and scaling CARE interventions, to ensure that relevant data are captured, tracked and analysed. This would allow improved CI projections to be periodically produced with updated breadth, depth and certainty estimates.



Tania Gomez / CARE

Endnotes

- 1 https://www.care-international.org/files/files/Vision_2030.pdf
- 2 Figures provided by CARE, October 2022
- 3 This section follows the model of CI set out in the June 2022 report to CARE
- 4 <https://www.globalinnovation.fund/practical-impact-assessment/>
- 5 https://www.careevaluations.org/wp-content/uploads/evaluations/pathways_endline_global_report.pdf
- 6 <https://www.careevaluations.org/evaluation/a-win-win-for-gender-and-nutrition-testing-a-gender-transformative-approach-from-asia-in-africa/>
- 7 <https://www.un.org/en/desa/world-social-report-2021>
- 8 World Bank data - see [Agriculture, forestry, and fishing, value added per worker](#)
- 9 World Bank data - see [Agriculture, forestry, and fishing, value added per worker](#)
- 10 The Pathways Ghana (2016) evaluation defines this as “The main food preparer (typically the sampled CARE member) is asked to report on 12 different food groups consumed by any household member over a 24-hour period (the day and night prior to the interview). The responses produce a HDDS between 0 and 12, with the higher score demonstrating access to diverse food groups. After determining whether any household member consumed each of the 12 food groups, the main food preparer is asked if all, some, or no female household members over the age of 15 ate the food item. The responses for “all women” or “some women” produce an intra-household access (IHA) score between 0 and 12, with the higher score indicating greater access to diverse food groups.”p16
- 11 Harris-Fry, H., Shrestha, N., Costello, A. *et al.* Determinants of intra-household food allocation between adults in South Asia – a systematic review. *Int J Equity Health* **16**, 107 (2017). <https://doi.org/10.1186/s12939-017-0603-1>
- 12 Inglehart, R. (2018). Cultural Change, Slow and Fast: The Distinctive Trajectory of Norms Governing Gender Equality and Sexual Orientation*. In *Cultural Evolution: People’s Motivations are Changing, and Reshaping the World* (pp. 77-101). Cambridge: Cambridge University Press. doi:10.1017/9781108613880.006
- 13 This indicator is not reported by the WinWin evaluation.
- 14 Alkire, S., Meinzen-Dick, R., Peterman, A., Quisumbing, A., Seymour, G., Vaz, A. (2013). The women’s Empowerment in Agriculture index. *World Development*, (52), 71–91.
- 15 These differences are described in Annex 5, CARE Global Pathways Evaluation Report (2016).
- 16 As described in the Global Pathways Evaluation Report (2016), the WEI includes the “Five Domains of Empowerment (5DE) index and Gender Parity. The 5DE reflects the percentage of women who are considered empowered, based on their empowerment score. This score is calculated from 13 weighted indicators within five domains: production, resources, income, leadership, and autonomy.... CARE’s WEI includes 9 of the 10 indicators that comprise the WEAI, as well as indicators for political participation, mobility, self-confidence, and attitudes on gender, for a total of 13 indicators distributed among the five domains. A woman who achieves an empowerment score of 0.80 or greater is considered to be empowered. To allow for country-specific improvement, baseline values were adjusted to country-specific thresholds.” p25
- 17 <https://hdr.undp.org/data-center/thematic-composite-indices/gender-inequality-index#/indicies/GII>
- 18 As CARE works with the poor, this will underestimate the impact of the CARE intervention to the extent that GII falls with income in each of the five countries considered.
- 19 The OECD-FAO Agricultural Outlook 2022 - 2031 does suggest that per capita agricultural and fish income will decline for sub-Saharan Africa over this period - see https://www.oecd-ilibrary.org/sites/f1b0b29c-en/1/3/2/index.html?itemId=/content/publication/f1b0b29c-en&_csp_=866270b5f683db9d176e7208bc48c151&itemIGO=oecd&itemContentType=book#section-d1e11302