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Women's Economic Security: A Study on Sustained Income for Farmers and Entrepreneurs

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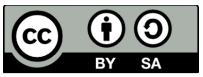

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4710 Kingsway, Suite 2500
Burnaby, British Columbia, Canada V5H4M2
Telephone: +1 604 775 8200
Fax: +1 604 775 8210
Web: www.col.org
Email: info@col.org

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1. Introduction

Establishing women's economic independence means expanding their capacity to make strategic choices in all spheres of their lives through full and equal participation in society. Improving women's economic participation is central to securing women's rights and gender equality and leads to better development outcomes (International Monetary Fund [IMF], 2018). That participation includes women's ability to find work, access economic opportunities and participate equally in existing labour markets, in addition to being able to access education and upskilling and reskilling opportunities. However, the evidence shows that economic growth does not automatically lead to a reduction in gender-based inequality. For most women and Significant gains in education have not translated into improved labour market outcomes, and many women are likely to face more disadvantages in their livelihood or employment than men (UN Women, 2018). It is therefore essential to ensure that economic opportunities created for women translate into a consistent improved income and increased economic security.

The Commonwealth of Learning (COL) conducted a post implementation study in 2023 on female farmers and female entrepreneurs who were trained as part of its development intervention in Malawi and Sri Lanka between 2019 and 2022. The results of this study will influence how COL approaches its future gender-based interventions on women's economic security. The intervention on which the study is based was designed to enable disadvantaged communities and partner organisations to effectively implement global commitments towards gender equality and women's empowerment (UNDP, 2007).

2. Purpose and Objectives

The purpose and objectives of the study were as follows:

1. Determine how farmers[1] who are aware of improved agricultural practices continue to adopt those practices and improve both their farm yields and farm incomes.
2. Examine whether women who are trained in skills that are in demand in the current labour market:
    a. are gainfully employed in non-farming jobs that use their new skills,
    b. have increased their productivity (number of days employed), and
    c. have improved their incomes.
3. Use the feedback collected from study participants to advocate for policy changes to address the current challenges in agriculture and non-farm sectors that limit opportunities for employment and/or self-employment for women from disadvantaged communities.
4. Apply the study outcomes to the GIRLS Inspire project to update its strategy and programme design and establish its contribution to the global agenda of achieving Sustainable Development Goals (SDGs) 5 and 8.

[1] All study respondents, farmers and entrepreneurs are female

3. Literature Review

Economic security refers to having a reliable income - or sufficient alternative - that allows people to access the resources they need for a decent standard of living and participate equally and with dignity in their communities both now and in the foreseeable future. When women have a stable income and are likely to have a good standard of living in the longer term, they invest in their families and communities. When they have economic security, they contribute fully, meaningfully and equally to society and benefit from economic growth and development (United States Agency for International Development [USAID], 2023; Women's Economic Council [WEC], 2023).

Essentially, economic independence relates to an individual's net income from all forms of employment and consumption. Women who have economic independence can access the full range of economic opportunities and resources that are available to shape their lives and meet both their own needs and their families' needs (Canadian Council on Social Development, 2002). Achieving economic independence for women has long been at the core of gender equality efforts around the world. United Nations Member States, for example, endorsed the provisions of the Beijing Platform for Action for advancing women's rights and committed to "addressing the structural causes of poverty through changes in economic structures, ensuring equal access for women, including those in rural areas [. . .] to productive resources and public services" (United Nations, 1995, p. 4). The extant research shows that achieving women's economic independence promotes both social transformation and sustainable development. For example:

- Better use of the world's female human capital increases economic growth and reduces the number of people living in poverty in all countries (Organisation for Economic Co-operation and Development [OECD], 2008)
- Pursuing women's economic empowerment makes a crucial contribution to sustainable development (IMF, 2018)

- There is a possible interrelationship between sustainable development as a human right and women's economic empowerment (Muniz, 2023).

Furthermore, the research also shows that new economic opportunities could enhance the status of women, although progress in this area continues to be slow (European Institute for Gender Equality [EIGE], 2020).

Gender inequality continues to present a major barrier to women's economic participation. Globally, fewer women than men participate in the labour force, and those who do participate earn less than their male counterparts. Women's participation tends to take the form of supporting household farming or generating income through informal employment or precarious employment — that is, low-paid work with little employment security (Revenga & Dooley, 2020). Social norms and gender stereotypes still affect women's economic participation: women's work is seen as less valuable, many women and girls experience early marriage and early pregnancy, and shoulder an unequal share of household chores. In addition, many women have no right to own or inherit land. All these situations impede women's ability to hone their skills and access stable livelihoods to gain economic independence and increase their vulnerability to discrimination, violence and poverty — hence the expression "the feminisation of poverty." Nearly two-thirds of women are classed as economically insecure, meaning they live under constant financial stress and must juggle the demands of feeding, clothing and otherwise taking care of the family. Furthermore, emerging evidence suggests that the consequences of the Covid-19 pandemic created new risks to and challenges for gender equality and women's economic independence. The pandemic-related restrictions meant that women were disproportionately prevented from continuing to participate in the labour force — primarily because the closure of schools and daycare services meant they had more childcare responsibilities — and were exposed to increased violence. Covid-19 provided proof, if any were needed, that women and girls continue to face barriers to equitable participation and advancement in the workforce (Clingain et al., 2021; Dempere & Grassa, 2023).

Since women make up the majority of the global population that is classed as "poor," their economic empowerment is vital if they are to achieve their full potential (Golla et al., 2011). To

do this, disadvantaged women must be equipped with the education, training and skills they need to earn an income and support themselves. This type of capacity building must accommodate the demands of both the agriculture and non-farming sectors. Economic empowerment in agriculture, for example, means equipping women with the knowledge, skills and experience they need to make their small plots of farmland viable and giving them access to financial resources. Capacity building in non-farming sectors means equipping women with skills that will allow them to participate in micro-enterprises with a focus on learning to take a business approach to managing micro-enterprises, adopting technology to aid production and engaging in digital trading. All forms of economic empowerment increase women's access to economic opportunities and productive assets, improve their income and economic security and ultimately contribute to securing women's rights, women's fundamental freedoms and gender equality (Network on Gender Equality, 2011).

Traditionally, women have played a pivotal, albeit often unseen, role in agriculture. The International Labour Organization (ILO) estimates that women make up 41 per cent of the world's agricultural workforce; that proportion is even higher in developing countries (ILO, 2018). However, cultural norms restrict many women from venturing into new, diverse and often more profitable forms of agriculture. Many experts suggest that when cultural barriers are removed, families and communities see a transformation in their food security and overall well-being (Cooper, 2018). A study from the Food and Agriculture Organization (FAO) (2017) noted that if women had the same access to productive resources as men, they could increase production on their farms by 20–30 per cent in developing countries, raising total farm output by 2.5–4 per cent. An increase in production of that extent could reduce the number of people who regularly go hungry by between 100 million and 150 million. Another report suggests that improvements in women's empowerment in agriculture are associated with higher increases in productivity and that when women have control over their productive assets and incomes, their families and communities benefit because they then have access to better food, education and healthcare (Mobarok et al., 2021).

Micro- and small enterprises offer ways for women to earn a decent living, but they need the right skills to actively participate in such endeavours. The combination of women's entrepreneurship and workplace skills has tremendous potential in terms of empowering women and transforming society. Several empirical studies show that when these enterprises flourish, so, too, do standards of living (Arul & Pakirisamy, 2015; Jacob & Munuswamy, 2022; Jaswal & Anjum, 2018).

Advancing women's economic security in farming and entrepreneurship can have positive effects on a range of intersectional issues. However, various barriers continue to hinder not only women's economic participation but also the sustainability of that participation (Blake, 2015). It is crucial that these barriers are addressed. Research has shown that when women from disadvantaged communities receive support to achieve and sustain economic security, they can maintain their independence and meet both their own needs and their households' needs (Mashapure et al., 2023).

4. Hypotheses and Research Questions

Hypotheses

This study was based on two hypotheses:

1. When farmers from disadvantaged communities have increased knowledge of and skills in improved agricultural practices, they are more likely to adopt those practices. This leads to enhanced yields and productivity and improves their farming income on a sustained basis.
2. When entrepreneurs receive technical and vocational training in skills that are in demand in the labour market, their employment opportunities expand, productivity increases and income from entrepreneurship improves on a sustained basis.

Research Questions

1. When farmers increase their awareness of improved agricultural practices, are they more likely to adopt those practices and are farm yields and productivity and farming income likely to improve as a result?
2. When entrepreneurs receive skills training and increase or improve their labour market–relevant skills, do their employment opportunities expand and do they see increased productivity and improved non-farming income?
3. When women's incomes increase, does their access to and control over resources also increase? What opportunities or difficulties do they encounter in finding or staying in employment? Do the women who are trained find employment in occupations relevant to their field of training? Do they experience occupational mobility?
4. When women's incomes increase, is the well-being of their families positively and significantly affected?
5. Does women's economic independence affect their involvement in family decision-making and their participation in the community?
6. When women's incomes increase, does their vulnerability to violence in the workplace and at home diminish?

5. Processes and Methods

Methods

This was a retrospective longitudinal study, locating the results in a three-year timeline, allowing us to observe the variation in results over time. This approach traced women trained in farming and non-farming skills to find out and understand what changed, when and why. The process involved comparing the pre-project status (the baseline) with post-project outcomes (changes from the baseline). Results were analysed with reference to the intervention, as other variables could also affect the outcomes.

The independent variables were:

a. increased knowledge and skills in improved agricultural practices
b. increased competencies in labour market–relevant livelihoods

The dependent variables were:

a. enhanced farm yields
b. increased number of days spent participating in entrepreneurship
c. improved farm and non-farm income

We used a tracer study because this method would provide us with quantitative structured data on the number of women who were employed, the ability of trained women to access available opportunities, and how confident the women felt about putting their training into practice (European Training Foundation [ETF], 2017; Millington, 2008) in both farm and non-farm work. We supplied the study researchers with a structured interview guide to collect both quantitative and qualitative information.

We also conducted case studies of the farmers and entrepreneurs for two reasons:

- They provided insight into the experiences of women as individuals to substantiate the data from the tracer study.

- The holistic case studies not only examined the problem and the solution, but also the context, the process, the outcomes, and the implications for women in farming and entrepreneurship. This means that the data has the potential to offer insights into the project's success and highlight particular challenges that COL and its partner organisations could consider addressing in the future.

Description of the Respondents

The respondents were female farmers and entrepreneurs who had received training in improved farming and livelihood skills from partner organisations. They attended this training at WDC in 2019/20, CYO in 2020 and CERADI in 2021 and were traced for two to three years afterwards. The respondents were categorised as working in farming, participating in supplementary economic activities in addition to farming, or working full-time as entrepreneurs. (See Table 1.)

Table 1. Sampling frame and sample size

Categories	Survey questionnaire						Case studies		
	Sampling frame			Sample size			CERADI	CYO	WDC
	CERADI	CYO	WDC	CERADI	CYO	WDC			
Farming with improved practices	0	70	1,483	0	23	91	0	1	2
Supplementary economic activities in addition to farming	18	47		6	0	12	0	2	
Skills-based full-time entrepreneurship	6	0	1,186	2	0	61	1		1

Description of Sampling

The sampling frame consisted of women trained in both farming and non-farming skills, further categorised based on current employment in farming, supplementary economic activities in addition to farming, and full-time entrepreneurship. This sampling frame was defined within each country's context. In the case of Malawi, the sample was stratified into farming or non-farming-related skills. Inclusion criteria was access to a mobile phone for interviews. A 30 per cent sample was randomly drawn from each of these strata in six Traditional Authorities of Mchinji District -Kapondo, Kazyozyo, Mduwa, Nyoka, Simphasi and Zulu. In the case of Sri Lanka, we used a cluster sampling procedure due to extended geographical coverage. The focus population in Kandy and Nuwara Eliya Districts was grouped into clusters, and eight clusters were selected for the sample. All the farmers and entrepreneurs in those clusters who had received the relevant training were included in the survey.

Description of the Instruments

The researchers used a questionnaire and structured interview guide. The questionnaire had two sets of questions — quantitative and qualitative — which were customised for each employment category.

The quantitative questions for the farmers collected data on which crops were grown, how much land was used for each crop, which sustainable farm practices were being applied, and yields and income for the pre-training year and for between two and three years after the farmers' training. Two to three crop seasons each year were included.

The qualitative questions asked about how increased farm yields and farming income had affected the respondents' standard of living; how increased farming income had affected women's household status and decision-making ability; what barriers the women faced in farming and how they overcame them.

The quantitative questions for the entrepreneurs collected data on the nature of the respondents' skills-based livelihoods, how long they had been in their work, the number of days

they worked and their income for the pre-training year and for two to three years after the skills training, with three reporting periods in each year.

The qualitative questions collected information about the factors that helped the women to access economic opportunities; how their increased non-farming income had affected their standard of living; how their increased income had affected their household status and decision-making ability; and what barriers the women faced in their non-farming work and how they overcame them.

The case studies included the experiences of typical farmers and entrepreneurs (one each from the three strata). The partner organisations first identified potential cases and then, in consultation with the researcher, chose which ones to follow up with, using the following criteria: typical performance (performance observed among the most members of target community), how representative the woman was in terms of the population served and whether she came from a marginalised community. The interview guide for the case study consisted of nine key questions that asked about the following five topics:

- measures taken through the project to address low farm yields and/or low productivity in non-farm work
- changes in the respondent's livelihood since she completed her training
- how the respondent's improved income had affected her life and her household status and decision-making ability
- scope of sustainability and lessons learned for future intervention
- what the experience of being involved in new employment, and the impact of the increased income, mean to each respondent

The researchers used probing to encourage respondents to expand their ideas and personal feelings about a specific response and to help the researchers better understand the women's experience. As a rule, all general statements about results and impact were probed to elicit specific details. However, the researchers respected the respondents' right to privacy and right to not respond to certain questions. Field staff's monitoring reports and project reports were

used to triangulate the interview responses. The approaches provided a solid mix of both quantitative (in terms of results) and qualitative (in terms of impact) information to paint a comparative picture of the women's lives before and after their skills training. All behavioural changes were illustrated with specific examples related to their own lives.

Limitations of the Study

- The value of farm yields varied within a year as well as across years. We therefore used the government market prices for various crops for each year as a reference, allowing for a 25 per cent margin of error.
- The length of time that elapsed between the survey being administered and actual activity may have influenced respondents' recollections about harvests, days employed and income for two to three years. During training, the partner organisations advised the women to maintain records of such information, but only a few acted on this advice. To help the women remember, the field research team started from the latest crop season or entrepreneurial cycle and worked backwards until the pre-project period. This helped to minimise the issue to some extent but did not completely address it.
- Governments in Malawi and Sri Lanka are heavily involved in the development of the agricultural and non-farming sectors, which makes it challenging to attribute any causal impact to project interventions. Furthermore, although the respondents did not receive special attention from government interventions during the training and post-training periods, state policies on extension services, land-use practices, microfinance and subsidies most likely influenced the changes in a variety of ways. For that reason, our focus was on contribution and not attribution.
- There was no systematic database of participants across partner organisations. This delayed the sampling and piloting procedure.

Measures of Reliability and Validity

The data collection tools - that is, the questionnaire and case studies - were pilot-tested, and their content,[2] construct,[3] predictive[4] and concurrent[5] dimensions were subsequently revised based on feedback. They were also translated into local languages. These processes ensured the validity of the instruments in measuring the impact of the training and changes in women's status within their households.

Two key processes were conducted to ensure the data collection tools' reliability in measurement. First, experienced researchers who are competent in conducting field work and administering the data tools were chosen. Second, local researchers received orientation on the study design, data collection instruments, ethical principles and probing questions, and they received reorientation after the pilot study. This dual orientation process contributed to their consistency in administering the instruments and enhanced inter-rater reliability.

The researchers shared the purpose and objectives of the research with all the respondents and encouraged the respondents' active participation. Respondents were also assured that they did not need to respond to any questions that made them feel uncomfortable. The researchers obtained written or verbal informed consent from each participant to record discussions, and the participants agreed to respect the privacy and confidentiality of other respondents' responses and contributions.

[2] Appropriate content: Items are fair and representative of the entire assessment purpose and are of adequate quality.

[3] Measures the underlying theoretical construct that it is supposed to measure.

[4] Measures forecasts about an individual's future performance. Such a measure must be technically adequate and of practical use.

[5] Accuracy of criteria for predicting a specific/concrete outcome.

Description of Analysis

The quantitative analysis involved descriptive statistics using distribution (simple frequencies) and central tendency (average scores) of the data to measure variables and describe correlations between increased knowledge of and skills in improved agricultural practices/labour market–relevant livelihoods and increased farm yields, enhanced productivity in entrepreneurship and improved farming and non-farming income. Outliers in the data were not included when calculating averages. The harvest data for different crops were, in most cases, recorded using standard measurements; where traditional measurements were used, they were converted to standard measurements. However, the yields of vegetables were reported in terms of baskets, ox cart or bunches, and fruits, flowers and plant nurseries in numbers or stocks. In Malawi, CYO later substituted traditional measurements with standard measurements through further discussion with local farmers. Similarly, the reported incomes were subject to inflation and converted using the exchange rate for each year drawn from official data from Malawi and Sri Lanka.

The qualitative analysis was inductive and involved a set of processes designed to help the researchers develop an in-depth understanding of women's economic security:

- Transcribing the data from the open-ended questions of the questionnaires and from case studies into a manageable form.
- Organising and categorising the data.
- Identifying key themes and patterns (from responses).
- Interpreting the inter-relationships between the variables determined by the purpose of this study that emerged from the data.

The research study used an epistemological social constructivism approach with an emphasis on how participants constructed shared meaning about what they learned and what they gained financially from improved farming practices and entrepreneurship. The content of the case studies was analysed and placed as a narrative construct that offers strong evidence that the training produced positive results.

Although the data were collected in pockets of districts — six Traditional Authorities of Mchinji in Malawi and Kandy and Nuwara Eliya in Sri Lanka — the analysis used country names in the comparisons. So, where Malawi is referenced, it means the Kapondo, Kazyozyo, Mduwa, Nyoka, Simphasi and Zulu Traditional Authorities in Mchinji District, and where Sri Lanka is referenced, it means Kandy and Nuwara Eliya Districts.

6. Findings and Discussion

The findings of this research are discussed in three sections, each of which has women's economic security as a core theme:

- Increased farm yields and incomes from improved agricultural practices
- Increased productivity and income from improved entrepreneurships
- Impact of increased income on the household and on women's status

Increased Farm Yields and Incomes from Improved Agricultural Practices

The farmers' training in improved agricultural practices was based on a set of eco-friendly sustainable production practices, including organic methods for cultivating crops using green manure and compost and natural, toxin-free techniques for pest control. Other topics included crop diversification, crop rotation, crop selection to suit soil types, environmental factors and market needs, and conservation of soil and rainwater. The overall aim of the training was to help the women optimise production in their small plots of land and approach agriculture as a business enterprise. Moreover, WDC's farmer training included learning about practices that reduce post-harvest losses, identifying and harnessing various marketing outlets to obtain fair prices for farm produce, promoting systematic floriculture and cultivating Chinese vegetables as a commercial crop, and budgeting and record-keeping. CYO used pig-farming as an integral part of its training on improved farming practices in Malawi, and farmers were encouraged to generate organic manure from pigs' waste to use in their farms and sell to earn supplemental income. Pigs were given to groups for collective rearing as a "pass-on programme." The members shared the piglets born to the initial stock of pigs.

The pattern of improved farming practices adopted by the farmers that emerged was a combination of crop rotation, conservation measures and use of organic manure. This pattern is consistent with the findings of Smale et al. (2018) and Battese et al. (2017), which note that women are more likely to combine improved practices to increase farm productivity rather than adopt only one improved practice. Moreover, there was an additional emphasis on mixed cropping and planting one seed per station (hole) in CYO (Malawi) and on compost-making and

its application in WDC (Sri Lanka). The adoption of improved farming practices involved a total of 128 acres (81 in Malawi + 47 in Sri Lanka). A large proportion of the farmers cultivated marginal or small land holdings (78% of respondents in Malawi cultivated between one and five acres, and 85% in Sri Lanka cultivated less than one acre). However, no significant trend was observed in terms of which improved farming practices were adopted. Furthermore, there was a diverse cropland pattern in each country. In Malawi, the study respondents reported cultivating only 29 per cent of their land in crop Season 2, and there was largely no farming in Season 3. In Sri Lanka, almost all the respondents (92%) cultivated land in both Season 1 and Season 3, but only 44 per cent cultivated crops in Season 2. (See Table 2.)

Table 2. Cropland patterns among the participating farmers

Season	Pre-project		Year 1		Year 2		Year 3	
	Farmers	Acreage cultivated	Farmers	Acreage cultivated	Farmers	Acreage cultivated	Farmers	Acreage cultivated
Malawi								
Season 1	23	77.5	23	81.0	23	70.7	12	39.0
Season 2	22 (96)	22.5 (29)	22 (96)	23.5 (29)	22 (96)	22.4 (32)	11	12.8
Season 3	4 (17)	2.5 (3)	4 (17)	3.5 (4)	4 (17)	2.75 (4)	0	0
Sri Lanka								
Season 1	89	45.2	89	44.8	91	45.0	89	47.0
Season 2	37 (42)	15.5 (34)	40 (45)	17.0 (38)	39 (43)	16.6 (37)	43 (48)	18.2 (39)
Season 3	82 (92)	40.3 (89)	84 (94)	42.8 (95)	82 (90)	41.2 (91)	87 (98)	43.5 (92)

Figures in parentheses are percentages.

Data from Table 3 indicates that approximately three-quarters of the respondents noticed an increase in farm yields in Year 1 after they adopted improved farming practices, but the increase was less than fifty per cent compared to the pre-project yields (32% of respondents in Malawi and 40% in Sri Lanka). Fourteen percent of the farmers registered more than a fifty per cent increase, while 27% of respondents in Malawi and 20% in Sri Lanka recorded more than one hundred per cent increase in yields. These findings resonate with the FAO (2017) study that noted a 20–30 per cent increase in farm production when women have access to the required resources and are directly involved in cultivation. However, the proportion of respondents who registered a decline in yields after adopting improved practices was substantial in Sri Lanka at 19% and is a cause for concern. The increase in farm yields was followed in subsequent years

with a decrease in yields for a high number of respondents in both Malawi and Sri Lanka. In the second year, 36–40 per cent of the farmers reported lower yields, and in the third year, this grew to 45 per cent of farmers in Malawi, while Sri Lanka remained steady at 36 per cent. An average of 18–28% of the farmers in both countries registered increased farm yields of more than 50 per cent in the second and third years compared to the first year, which is a positive indicator.

Table 3. Increase in farm yields after the farmers adopted improved farming practices

Crop	Year 1: Female farmers registering an increase/decrease in yield compared to pre-project					Year 2: Female farmers registering an increase/decrease in yield compared to first year						Year 3: Female farmers registering an increase/decrease in yield compared to first year					
	D	O	<50%	>50%	>100%	Same	Increase			Decrease		Same	Increase			Decrease	
							<50%	> 50%	>100%	<50%	>50%		<50%	> 50%	>100%	<50%	>50%
Malawi																	
Soil and water conservation, use of manure, planting one seed per hole with mixed cropping																	
S1 Soya		1	3		3	1	2	2		2			1	2		1	1
S1 Maize		1	1	2	3	1	1	3	1	1		2	2		1	1	
S1 Ground nuts		1			1		1			1							
S2 Maize	1	1	1	2			1	1		1	2	1	1	1		1	1
S2 Beans	1	2	2		1		1		1	3	1		1		1	1	
Soil and water conservation, use of manure, planting one seed per hole with crop rotation																	
S1 Soya	1	1	4	3	5	1	2	1	1	8	1	3			1	**3**	
S1 Maize	1	1	4	3	6		3	1	2	8	1	1		1	1	**4**	
S1 Groundnuts			3		3	1	1			3	1					1	
S2 Maize	1	1	2		2	4				2		1				1	
S2 Veg		2	3	1	2	1	1	1	1	3	1					2	
Overall	2 (9)	4 (18)	7 (32)	3 (14)	6 (27)	4 (18)	4 (18)	3 (14)	2 (9)	8 (36)	1 (4)	5 (23)	3 (14)	2 (9)	2 (9)	9 (41)	1 (4)
Sri Lanka																	
Using organic manure, drought-resistant/certified seeds, soil and water conservation																	
S1 Fruits		1	3		3		1		1	**3**	2			2	1		2
S2 Fruits	1			2	1	1			2	1			1	1	1		
S3 Fruits	2	1			1	2			1	1			2				2
Using organic manure, pruning, soil conservation																	
S1 Tea	3	4	8	1	1	2	5	2	1	6	1	1	5	3	2	6	
S2 Tea	2	2	10	2	1	3	5	1	1	5	2	2	6	3		5	1
S3 Tea	4	1	9	3	1	4	7	1	1	3	2	2	9	2	2	2	1
Using organic manure, crop rotation, soil and water conservation, certified seeds																	
S1 Paddy	5		6	2		2	2	1	2	4	2	1	1	1	1	3	4
S3 Paddy	4	3	22	3	2	7	12		1	11	2	2	21	2	4	4	1
Using organic manure and crop rotation																	

Crop	Year 1: Female farmers registering an increase/decrease in yield compared to pre-project					Year 2: Female farmers registering an increase/decrease in yield compared to first year						Year 3: Female farmers registering an increase/decrease in yield compared to first year					
	D	O	<50%	>50%	>100%	Same	Increase			Decrease		Same	Increase			Decrease	
							<50%	> 50%	>100%	<50%	>50%		<50%	> 50%	>100%	<50%	>50%
S1 BP		1								1						1	
S1 Beans	1	6	6	1	4	1	4	3	2	**7**	1	4	6	4	1	3	
S2 Beans	1				1		1				1		1				1
S2 Potato			1	2	1		1		2	1			1				3
S2 BP		1								1						1	
S3 Beans		1		1	1	1				2		1		1		1	
S3 BP		1				1						1					
Crop rotation and drought-resistant/certified seeds																	
S1 C veg	17	5	11	1	9	3	6	6	8	12	8	3	7	3	17	8	5
S1 Coffee		1	1						1	1		2					
S2 C veg					3		2				1		1		1	1	
S2 Coffee	1		1				1		1			1		1			
S3 C veg*	9	2	5	2	3		3	3	4	6	5		7	2	6	4	2
S3 Coffee		1		1		2									1	1	
Balanced use of organic and chemical fertilisers and soil and water conservation including water resources management with mi cro-irrigation																	
S1 Flori		1	2	1	1		2	1	1		1	1			2		2
S2 Flori	2				1	1	1		1					1	2		
S3 Flori		1	1	1	1	2		1			1			1	2		**1**
Overall	17 (19)	6 (6)	36 (40)	14 (15)	18 (20)	13 (14)	28 (31)	7 (8)	10 (11)	24 (26)	9 (10)	9 (10)	23 (25)	12 (13)	14 (15)	28 (31)	5 (5)

*BP = Black pepper C veg = Chinese vegetables Flori = Floriculture *Chinese vegetables grown include parsley, carrots, celery, butter leeks and broccoli.*
Figures in parentheses are percentages.

The increase in farming income in Year 1 following the adoption of improved farming practices was in the range of US$100–150 for 75 per cent of respondents compared to pre-project yields. Less than 10 per cent of respondents claimed they increased their earnings by US$200 or more. However, 18 per cent of respondents in Sri Lanka reported a decrease in farming income after adopting improved farming practices, which raises a concern. Moreover, in subsequent years, incomes dropped at alarming rates compared to the first year's income. In Malawi in the second year, 27 per cent of respondents reported a decrease in their income compared to their first-year income, with more casualties in Season 2, but this proportion decreased to 20 per cent in the third year. Sri Lanka registered greater declines. In the second year, 32 per cent of respondents reported a decrease in their income compared to their first-year income, and this proportion increased to 51 per cent in the third year. Only 22 per cent of respondents in Malawi and 8 per cent in Sri Lanka registered an increase in farming income by US$200 or more in the second year compared to the first year, but this increased in the third year to 33 per cent in Malawi and 10 per cent in Sri Lanka respectively as shown in Table 4.

Table 4. Increase in farm income after the farmers adopted improved farming practices

Season	Year 1: Women registering increase/decrease in income compared to pre-project							Year 2: Women registering increase/decrease in income compared to Y1							Year 3: Women registering increase/decrease in income compared to Y1						
									Increased				Decreased			Increased				Decreased	
	D	0	<$100	$101-150	$151-200	>$201-250	>$251	Same	<$100	$101-200	>$201-300	>$301	<$50	>$51	Same	<$100	$101-200	>$201-300	>S301	<$50	>$51
Malawi																					
Income earned from marketing the farm products																					
Season 1	1		14	4	1		2	1	10	3	1	4	1	2		4	2	1	4		2
Season 2	1		12	1			1	2	6		1	1	5		1	2				1	1
Overall	1 (4)	0	14 (64)	4 (18)	1 (4)	0	2 (9)	2 (9)	6 (27)	3 (14)	1 (4)	4 (18)	4 (18)	2 (9)	1 (7)	4 (26)	2 (13)	1 (7)	4 (26)	1 (7)	2 (13)
Value of farm production used for home consumption																					
Season 1	2		14	4	1	1			4	6	3	6	1	2		2	3	2	5		1
Season 2	2	1	8						7	1		1	2		1	1		2	1	2	1
Overall	2 (9)	1 (4)	13 (59)	4 (18)	1 (5)	1 (5)			4 (18)	6 (27)	3 (14)	6 (27)	1 (4)	2 (9)	1 (8)	2 (15)	3 (23)	2 (15)	2 (15)	2 (15)	1 (8)
Sri Lanka																					
Income earned from marketing the farm products																					
Season 1	17	5	56	8	2	1	3	10	40	5		7	20	9	1	29	6	1	8	31	21
Season 2	6	2	27	3	1		1	3	17	5			6	9	2	15	1			13	8
Season 3	14	3	61	7	4		2	9	37	2	1	5	21	14	2	30	2	1	4	30	21
Overall	16 (18)	5 (5)	56 (61)	8 (9)	2 (2)	1 (2)	3 (3)	10 (11)	40 (44)	5 (5)		7 (8)	20 (22)	9 (10)	1 (1)	29 (32)	6 (6)	1 (1)	8 (9)	28 (31)	18 (20)
Value of farm production used for home consumption																					
Season 1	1	1	64					2	60				4		1	61				4	
Season 2		1	23						22				2			21				1	
Season 3	2	2	55	1				4	46				10		1	37	1			15	6
Overall	2 (2)	2 (2)	61 (67)	1 (1)				2 (2)	60 (66)				5 (5)		1 (1)	61 (67)	1 (1)			5 (5)	6 (7)

In addition to increasing farming income from sales, the improved farm yields contributed to increased food security among the participating households. A sizeable proportion (30%) of farm produce — mainly in the form of maize and vegetables (Malawi), and paddy, coconuts and bananas (Sri Lanka) — was used for family consumption. Its value in monetary terms was about US$100–150 among 70 per cent of respondents. Despite the decline in yields in subsequent years, the proportion of farm produce used for family consumption remained constant in Sri Lanka among 68 per cent of respondents, while in Malawi it dropped from 77 per cent to 41 per cent and 38 per cent in the second and third years, respectively. This finding is in line with other empirical observations that sustainable agricultural practices increase food availability and, consequently, improve household food security (Colson, 2022).

The farmers noted other significant changes after they adopted improved agricultural practices. Their new practices led naturally to a shift from two-season cultivation with longer duration crops to three-season cultivation with shorter duration crops among 44 per cent of marginal farmers. Some farmers saved money by using organic manure instead of buying chemical fertilisers and were able to use that money to pay for other farm expenses. Farmers in Sri Lanka noted that making compost was a particularly helpful new practice given the ban on chemical fertilisers. In addition, when the ban was subsequently lifted, the cost of chemical fertilisers rose, but the women were not affected by that price increase because they were making compost.

The farmers agreed that the women's group meetings and interaction with other members through mobile phones allowed them to share information about potential solutions to various farming-related problems — for example, access to markets, pest control measures and seed security. Moreover, the producers' groups (vegetable growers) and sales outlet established by the women's network — which emerged in the process of practising improved farming techniques — acted as useful support mechanisms for marketing seasonal and organic products — for example, the women had access to organised marketing options or could get help if challenges arose with marketing their products. Given that most of the farmers had only small to marginal holdings, they could only increase their farming income through multi-cropping or

increasing the number of crops they grow in a year — for example, growing three crops instead of two. (See Table 5.) The technical knowledge imparted by COL and its partner organisations has facilitated such a change.

Table 5. Overall increases in farm yields and farming income

Crop	Female farmers	Yields in kilogrammes				Income in US$			
		2019	2020	2021	2022	2019	2020	2021	2022
Malawi									
Season 1									
Soya	21	7,925	14,275 **(80)**	12,850 **(62)**	9,450	1,422	2,822 **(98)**	4,750 **(234)**	3,347
Maize	23	16,350	24,125 **(47)**	23,100 **(41)**	14,300	2,293	3,690 **(61)**	8,432 **(268)**	5,391
Groundnuts	8	2,955	5,150 **(74)**	3,875 **(31)**	750	1,308	2,838 **(117)**	3,018 **(130)**	562
Season 2									
Maize	13	4,305	4,610 **(7)**	3,785 (-12)	3,800	508	658 **(29)**	1,372 **(170)**	1,394
Beans	7	1.625	1,445 **(-11)**	2,140 **(32)**	500	794	890 **(12)**	1,370 **(72)**	383
Other veg	7	6,530	4,960 **(-24)**	19,200 **(194)**	3,020	614	1,016 **(65)**	990 **(61)**	565
Season 3									
Maize	2	300	350 **(17)**	450 **(50)**	-	42	49 (17)	166 (295)	-
Sri Lanka									
Season 1									
Floriculture	6	850	1,075 **(26)**	1,680 **(98)**	1,000 **(18)**	156	223 **(43)**	328 (110)	164 **(5)**
Beans	17	3,515	5,885 **(67)**	5,935 **(69)**	6,945 **(97)**	1,344	2,845 **(112)**	2,672 **(99)**	3,684 **(174)**
Tea	17	4,325	4,435 **(2)**	3,810 (-12)	4,845 **(12)**	1,265	1,606 **(27)**	1,323 **(4)**	1,568 **(24)**
Chinese veg	41	22,013	25,235 **(15)**	20,075 (-9)	32,259 **(46)**	5,407	7,244 **(34)**	9,429 **(74)**	10,037 **(86)**
Fruits	5	1,440	2,335 **(62)**	1,523 **(6)**	1,363 (-5)	148	236 **(59)**	225 **(52)**	120 (-19)
Paddy, millet	13	2,394	3,198 **(33)**	2,671 **(11)**	1,844 (-23)	910	1,385 **(52)**	1,357 **(49)**	582 (-36)
Black pepper	1	50	50(0)	40 (-20)	35 (-30)	5	24 (380)	23 (360)	19 (280)
Coffee	2	50	60 (20)	65 (30)	60 (20)	10	9 (-10)	10 **(0)**	12(20)
Season 2									
Floriculture	4	540	415 (-23)	1,450 **(168)**	1,425 **(164)**	132	82 (-38)	215 **(63)**	283 (114)
Potatoes	4	7,100	11,300 **(59)**	18,750 **(164)**	5,480 (-23)	439	776 **(77)**	1,115 **(154)**	466 **(6)**
Beans	3	420	515 **(23)**	275 (-34)	320 (-24)	96	133 **(38)**	108 **(12)**	69 (-28)
Tea	17	3,555	3,995 **(12)**	3,480 **(-2)**	4,324 **(22)**	1,110	1,391 **(25)**	1,202 **(8)**	1,170 **(5)**
Fruits	4	696	1,265 **(82)**	1,320 **(90)**	1,770 **(154)**	70	168 (140)	91 (30)	125 **(78)**
C. Veg	5	370	1,175 **(217)**	840 (127)	1,375 **(271)**	211	940 (345)	497 (135)	673 (219)

Crop	Female farmers	Yields in kilogrammes				Income in US$			
		2019	2020	2021	2022	2019	2020	2021	2022
Black Pepper	1	55	55 **(0)**	50 (-9)	35 (-36)	7	15 (114)	18 (157)	19 (171)
Coffee	2	30	35 (17)	65 (117)	40 (33)	4	8 (200)	11 (175)	7 (75)
Season 3									
Floriculture	4	600	775 **(29)**	775 **(29)**	1,025 **(71)**	168	311 **(85)**	234 **(39)**	285 **(70)**
Tea	18	4,030	4,015 **(0)**	4,505 **(12)**	4,970 **(23)**	1,350	1,646 **(22)**	1,705 **(26)**	1,493 **(10)**
Paddy	36	13,294	15,502 **(17)**	14,273 **(7)**	19,835 **(49)**	4,888	6,335 **(30)**	8,774 **(79)**	9,531 **(95)**
Beans	4	900	1,100 **(22)**	1,125 **(25)**	1,325 **(47)**	660	844 **(28)**	1,649 **(150)**	861 **(30)**
C. Veg	20	19,495	16,880 (-13)	14,290 (-27)	20,975 **(8)**	2,119	3,215 **(52)**	4,288 **(102)**	5,496 **(159)**
Fruits	6	697	1,866 **(168)**	2,083 **(199)**	2,010 **(188)**	61	186 (205)	192 (215)	116 **(90)**
Black Pepper	1	25	25 (0)	25 (0)	25 **(0)**	14	18 (28)	20 (43)	19 (36)
Coffee	2	50	70 (40)	70 (40)	70 (40)	7	11 (57)	13 **(86)**	7 (0)

Figures in parentheses are the percentage change in farm yields and farm incomes compared to the baseline (2019).
Ten (43%) of the 23 farmers in Malawi did not cultivate any crops in the third year.

Opportunities and threats

Natural and external factors adversely affected farm yields and farming incomes during the three years in which the project ran. There were natural disasters in the form of drought or low rainfall (2020) and cyclones or heavy rainfall (2021, 2022), and the Covid-19 pandemic resulted in restrictions and lockdowns that affected the economic operations of farming. The disruption to supply chains and transportation that resulted from those restrictions worsened the existing situation and contributed directly to a decline in yields, despite the adoption of improved agricultural practices. Sri Lanka faced two additional and unique challenges: the Easter Sunday terror attack (2019), which heightened ethnic tensions, and the national economic crisis (2022), which triggered unprecedented devaluation and inflation, resulting in a sharp rise in the cost of raw materials.

In addition, the major challenges reported by the farmers in both countries were poor access to and high cost of farm inputs — for example, machinery, tools, seeds — (15 respondents in Malawi, 22 in Sri Lanka), small size of landholdings (13, 27), limited capital (7, 39) and incidence of pests and poor access to pest control measures (10, 17). Low prices for farm produce because of market volatility were a constant challenge. In Malawi, specific challenges that negatively affected yields and income were access to land regulated by cultural practices —that

is, tribal chiefs sometimes take land away from individuals — reductions in government subsidies and post-harvest handling losses. In Sri Lanka, the specific challenges were scarcity of water and crop damage by wild animals, such as wild boar, porcupines and macaques. Most of these challenges resonate with other empirical results that women do not have the same opportunities as men to participate in economic activities (IMF, 2018). The farmers undertook several protective measures — for example, they erected fences or solar panel protective nets, used guard dogs, promoted community night watch programmes — to prevent crop damage by wild animals but could not mitigate it completely, and 60 per cent continue to suffer from this challenge. This issue merits the attention of government and civil society.

Almost all the farmers attribute their increased farm yields and improved farming income to the training they received from CYO (Malawi) and WDC (Sri Lanka) in partnership with COL, which enabled them to improve their farming with eco-friendly farm practices and organic cultivation methods. The knowledge they acquired from the communities of practice (CoPs) on crop diversification created a huge opportunity for them to make their small plots of land viable. Moreover, the WDC/COL rural water supply scheme, which used a gravity irrigation system and was offered on a user-fee basis, helped farmers immensely, not least to change their land-use patterns for different crop seasons. They were also able to access government extension services and previously unavailable economic opportunities.

The case studies from Malawi and Sri Lanka reinforce the positive trends that emerged from the quantitative study on farm yields and farm incomes. They suggest that respondents seem to have managed to minimise the adverse impact of the pandemic, drought, floods and the economic crisis.

Achieving economic independence by using improved farming practices

Stella from Malawi was trained in improved agricultural practices in 2021 using a demonstration plot. She applied what she learned in her own farm and adopted crop rotation and mixed cropping practices, used organic manure generated from pigs' waste, applied minimal tillage, planted one seed per hole, and practised soil and water retention measures. Stella recorded increased yields and income from her soya, vegetable and other crops. In 2023, she earned US$4,430/year from the sale of soya, US$21/month from supplying vegetables to a local school and US$3/week from the sale of other crops. The impact on her status within the family and on their standard of living was immense. Her change in circumstances is reflected in her sense of economic independence because she earns her own money, her confidence that she can manage to look after her family by herself, her freedom to make choices about matters that affect her and her overall self-esteem. Stella is relieved that the training COL offered has enabled her family to have food available throughout the year and that she is able to meet her children's school needs. She is keen to regularly upgrade her farming knowledge and skills.

Compost-making: A viable economic activity and cost-saving measure

Ramani from Sri Lanka learned about improved farming methods and compost-making from COL and about soil conservation from people in her neighbourhood. She used to apply cow dung directly to the vegetables in her home garden. But since she completed her training, she has been making compost with cow dung, waste from other cattle, plant material from her homestead land and other domestic waste. She has reached the point where composting is a viable economic activity. She believes that composting has helped her to recycle a great deal of waste material in an environmentally sound manner. In the past three years, she has established six pits, each of which can make 500–600 kilogrammes of compost and earned about US$100 from selling the compost from each pit — making a total of US$600. She supplies compost to local farmers through her contacts and local women's groups and advocates for the use of compost wherever possible. Ramani claims that the demand for compost among small farmers remained steady even after the fertiliser ban was lifted because the price of chemical fertilisers increased.

In Ramani's household farming, compost has been effectively integrated into seasonal crop cultivation of vegetables (including tomatoes) and coconuts. In 2022, one acre of tomatoes grown with the help of compost produced 5,000 kilogrammes of produce and earned Ramani US$1,200. In 2023, she produced 1,500 kilogrammes of beans and 1,200 kilogrammes of aubergines, which gave the household a net income of US$350 after they paid the lease on the land and production costs, including farm credit. She has reduced her dependence on chemical fertiliser for home gardening and vegetable cultivation, but she has not given it up completely, partly because its practice is so entrenched. However, Ramani recognises that using compost can reduce production costs, increase food safety and reduce environmental pollution. Therefore, she wants to progressively replace chemical fertilisers with compost and alternative methods of pest control. Furthermore, Ramani acknowledges the cost benefits of using compost. She spent US$120 on chemical fertilisers in 2020, but she spent only US$35 in 2021 and 2022, thus saving US$85 in each of those years. Ever since she completed training by COL

on household economic management, she has kept a record of all her household expenses and income. She and her husband select crops for home gardening and vegetables for commercial farming jointly by considering various factors, including market trends. Their household consumption patterns have improved. A considerable proportion of the food they produce is for their own consumption.

Both Ramani and her husband value their daughter's education. Ramani and her family have become aware of women's rights and women's role in decision-making through COL training.

Pig-rearing: A source of organic manure and supplementary household income

Bester in Malawi received training in pig-rearing and running a small business from COL in 2021. She learned skills such as ration management, herd health management, weaning piglets, disease control, weaning feeder pigs and finishing pigs (feeding them to reach their market rate). She received one male and two female piglets from her group, and between them they produced 10 piglets in Year 1, and 8, followed by another 11, in Year 2 (two reproduction cycles in a year). Eighteen of the piglets died. However, Bester sees the benefits of pig-rearing in three ways: First, she earned US$350 from selling five pigs in Year 1 and US$200 from selling three in Year 2. Second, she gave three pigs (two females and one male) to another member of the community to start a piggery. Third, she applied pig waste as organic manure in her family's farm, which had a twofold benefit. She saved US$134, which she would otherwise have spent on 50 kilogrammes of chemical fertiliser and was able to use that money to pay for other farm expenses. Another benefit of pig-rearing, according to Bester, is that she was able to protect the environment — including the structure and texture of the soil in her farm — by not using chemical fertilisers. She claims that her crops were healthier when she used pig manure, and the yields were greater.

The increased income from pig-farming resulted in household food security and the ability to pay school fees of US$25 per term per child for her two children. She no longer struggles to meet her family's basic needs. Bester feels a sense of economic independence and considers herself a breadwinner who contributes directly to her family's well-being. She is confident about sustaining her farm business as the knowledge she has gained will remain with her and help her to move forward. She acknowledges that the group members help each other address the challenge of vaccines for pigs to protect them against diseases or worms. She plans to diversify her business by rearing other animals like goats to mitigate risk.

The consolidated data on the yields and incomes reported by all the farmers revealed other trends. In Season 1 of every year the project ran, Malawi had three crops and Sri Lanka eight.

The first-year farm yields after improved farm practices were adopted registered an increase of more than 70 per cent for soya and groundnuts in Malawi and more than 60 per cent for beans and fruits in Sri Lanka. The increase in yield for other crops ranged widely, from 2 per cent to 47 per cent. However, in subsequent years, only beans continued to show an increase in yield; all other crops registered a substantial reduction. One exception to this pattern was an increase in floriculture from 26 per cent in Year 1 to 98 per cent in Year 2, but it fell again in Year 3 to 18 per cent.

The increase in income from improved yields was more than 90 per cent for soya, groundnuts (Malawi), beans and black pepper (Sri Lanka); 50–60 per cent for maize, paddy and fruits; and 27–43 per cent for the other three crops – floriculture, Chinese vegetables and tea — in Year 1 compared to pre-project. Coffee registered a decline. In subsequent years, only Chinese vegetables maintained a progressive increase in income generated, from 34 per cent in Year 1 to 74 per cent in Year 2 and 86 per cent in Year 3, while paddy and fruits registered a progressive decline to the point where the income, they generated in Year 3 was less than the income they generated before the project began. In Year 2, soya, groundnuts, beans, black pepper and maize produced an increase in income of more than 100 per cent, and floriculture showed a growth of more than 50 per cent. This was an encouraging trend, with six of the 11 crops showing 50–100 per cent growth in income. In all three years, all other crops registered less than a 50 per cent increase, and tea and coffee showed an increase of less than 5 per cent. In Year 3, all crops, except for beans and Chinese vegetables, registered a decline in the revenue they generated (see Table 5). The respondents attribute these trends in decreasing revenue to the challenges discussed above.

In Season 2 of all three years, the number of crops remained the same, but in Sri Lanka, paddy was replaced by potatoes and the proportion of participants cultivating it was reduced to 40 per cent. In Year 1, only Chinese vegetables showed an increased yield of more than 100 per cent; potatoes and fruits had an increased yield of more than 50 per cent, and beans and vegetables (in Malawi) and floriculture (in Sri Lanka) registered a decline in yield. Five crops — maize in Malawi; beans, black pepper, tea and coffee in Sri Lanka — had an increase of less

than 24 per cent compared to pre-project yields. In subsequent years, only fruits maintained a progressive increase, from 82 per cent to 90 per cent and 154 per cent, while two other crops in Sri Lanka — beans and black pepper — registered a progressive decline. In Season 2 of Year 2, five crops — vegetables in Malawi; floriculture, potatoes, Chinese vegetables and coffee in Sri Lanka — recorded growth with an increase of more than 100 per cent — most notably, vegetables in Malawi and floriculture in Sri Lanka registered an increase, having previously shown a decline in yields. However, in Year 3, only floriculture, fruits and Chinese vegetables had increases in yields of more than 100 per cent. Potatoes, beans and black pepper registered a decline, and coffee and tea had an increase of less than 30 per cent. However, an increase in income of more than 100 per cent was noticed in four crops — Chinese vegetables, fruits, black pepper and coffee — and more than 50 per cent in two crops — potatoes and other vegetables. Maize, beans (Malawi) and tea (Sri Lanka) registered an increase in income of less than 30 per cent increase in Year 1. Floriculture registered a decline in income. In Year 2 and Year 3, there was a progressive increase in the income generated by maize, beans (Malawi) and floriculture (Sri Lanka)— which previously had a reduced income — and black pepper maintained a progressive increase in income from Year 1 to Year 3. There was a progressive decline in the incomes from vegetables (Malawi), beans, tea, coffee and fruits (Sri Lanka). The income from potatoes increased in Year 2 but declined in Year 3.

In Season 3, while most respondents (93%) in Sri Lanka had cultivation (eight crops — beans, black pepper, Chinese vegetables, coffee, floriculture, fruits, paddy and tea) for all three years, in Malawi only 9 per cent of respondents were involved (one crop — maize) for two years. In Year 1, fruits registered an increase in yields of more than 100 per cent, and other crops — maize in Malawi; paddy, beans and floriculture in Sri Lanka — had an increase in yield of 17–29 per cent. Tea and black pepper showed no growth, and Chinese vegetables showed a decline compared to prep-project yields. Most crops — maize in Malawi; floriculture, beans, tea and fruits in Sri Lanka — also showed a consistent increase in yield in Year 2 and Year 3, except for paddy, black pepper and coffee, which had either varying increases in yield or no increase. The increase in income in Year 1 from increased farm yields was more than 100 per cent from fruits and more than 50 per cent from floriculture, Chinese vegetables and coffee. Other crops

produced an increase in income of only 17–30 per cent. In Year 2 and Year 3, there was a consistent increase in the income generated by paddy and Chinese vegetables, while other crops — beans, fruits, black pepper, tea and coffee in Sri Lanka — registered growth in Year 2 but a decline in the following year.

Increased Productivity and Income from Improved Entrepreneurships

Livelihood skills training for the women involved either upgrading their existing occupational skills or learning new skills to take up skills-based employment as a supplementary economic activity to farming or as full-time entrepreneurship. Each of the three partner organisations had a specific approach to achieving their shared goal. In Malawi, the focus was on introducing new skills. CYO taught participants new skills — pig-rearing and tailoring — that would allow them to earn money in addition to their current farming income; CERADI introduced the participants to motorcycle mechanics, welding and fabrication to earn a full-time income and basket-weaving to earn supplementary income. In Sri Lanka, WDC focused on both upgrading existing skills and introducing new ones, although the emphasis was on the former. It offered a total of 19 different skills to participants.

The training in all three settings had a business focus to teach the women the skills they would need to manage their ongoing or new self-employment or micro-enterprises. In Sri Lanka, the women also learned about designing and producing market-oriented products, increasing the quality of products through improved techniques and designs, and adopting technology for processing, preserving, packaging and labelling to improve sales of food products (e.g., sweets, vegetables and fruits). They also learned about online options for selling and advertising their products to reach out to new markets, including international markets. Other skills training included efficient management of available resources, networking, dealing with challenges and staying in business, accounting and bookkeeping, and household financial management. The content and design of the training is in line with the skills identified by Jacob and Munuswamy (2022) as essential for creating and running a successful business. Some women accessed formal training from their local Vocational Training Authority (VTA), and a few learned their

trade from their mothers (3) or community members (3) in addition to participating in the training offered by COL and the partner organisations.

The research on non-farming economic activity for women had two categories:

- Women engaged full-time in skills-based entrepreneurships.
- Women engaged in skills-based employment as a supplementary economic activity in addition to their farming.

The participants were tracked for two years in Malawi and three years in Sri Lanka.

Women engaged full-time in skills-based entrepreneurships

In Malawi, the sample for this category consisted of two respondents: one was employed in a welding firm, and another was self-employed as a mechanic. The former used to sell fish before she participated in the training and registered an increase of less than 50 days of employment in Year 1. The latter was in school before she joined the skills training and had no economic activity in the pre-training period. She became self-employed 300 days after completing the training programme. In terms of income, the welder had a marginal increase in income, and the mechanic, who previously had no income because she was in school, earned US$170/month. There was no further growth in income in Year 2 compared to Year 1. Welding and mechanics are both considered to be men's jobs, but the community is slowly accepting the services of these female entrepreneurs. However, because these skills are more in demand among the urban population, both women had to move away from their villages. Despite these challenges, the case study presents an encouraging trend in terms of getting closer to gender equality by breaking stereotypes.

Welding: Breaking gender stereotypes

Following five months of training in welding, Mervis borrowed US$500 from the National Economic Empowerment Fund (a government scheme) to buy the equipment she needed to work as a welder. She moved from her village to an industrial centre, rented a workspace and set up her self-employment unit in October 2022. She earns US$100/month, pays US$40 towards her loan repayment and US$6 for rent on her workspace, and saves US$10. Mervis noted that she can now provide food for the whole family every day — previously, food was available only for six or seven months a year — and is confident about growing her business and dealing with its challenges. She is determined that her two children will continue their schooling — one in primary and the other in secondary — and that she will meet their educational needs. Mervis experienced some resistance when she first set up her business, but she was able to gradually attract more customers with her high-quality work. She is confident that those customers will encourage others to seek out her welding services. She is keen to be a role model to inspire others to break gender stereotypes on jobs. "COL's training in welding skills left me on a greener pasture and [helped me] manage my business."

In Year 1 in Sri Lanka, 61 respondents had 17 non-farming skills: 12 women learned new skills and 49 enhanced their existing skills and were subsequently able to upgrade their enterprises by increasing their productivity or the number of days they worked. In the latter case, seven of the women have shifted to new skills after upgrading their existing skills.[6] Of the 61 respondents, 41 (67%) recorded an increase in the number of days they worked, ranging from less than 50 to more than 100 days; the rest of the respondents (33%) recorded either no increase or a decline in the number of days they worked compared to their pre-training status, with women who worked in dress-making recording the greatest decline or no increase in days worked.

[6] From making flowerpots to cake-making (1), dress-making to batik (2), dress-making to making handbags (2), making handbags to batik (1) and catering service to cake-making (1).

The data for Year 2 and Year 3 reveal some interesting trends and changes. First, the proportion of respondents who saw either the same level of increase as registered in Year 1 or a further increase in their number of employment days increased to 74 per cent in Year 2 but dropped to 66 per cent in Year 3; the proportion who reported a decrease in the number of days worked grew to 24 per cent in Year 2 and 33 per cent in Year 3. This trend was noted across all skills categories, except handbag production and floriculture. However, 15 respondents (24.5%) seemed to maintain a range of 50—100 workdays, and more than 101 in all three years, which is a positive trend. (See Table 6.)

Table 6. Increase in employment days from full-time entrepreneurship among entrepreneurs

Nature of full-time entrepreneurship	Year 1: Women registering increase/decrease in employment days compared to pre-training					Year 2: Women registering increase/decrease in employment days compared to Year 1						Year 3: Women registering increase/decrease in employment days compared to Year 1					
	D	O	<50 days	51 - 100 days	>101 days	Same	Increased			Decreased		Same	Increased			Decreased	
							<50 days	51-100	>101 days	<50 days	>51 days		< 50 days	51-100 days	>101 days	< 50 days	>51 days
Malawi																	
Welding			1			1											
Mechanic					1	1											
Sri Lanka																	
Cake-making (1)	1		3			2	1			1			1				3
Candle-making (1)					1			1							1		
Make/sell sweets (1)	1		4	3		2	2	1	2	1		1	2	3			2
Make/sale snacks #		1	2			1	1			1		2					1
Floriculture	1		1					1			1		1	1			
Dress-making*(2)	3	5	3	1		5	1	2	1	2	1	2	2	3	1	1	3
Beauty parlour$	1			1				1		1		1			1		
Batik/embroidery (2)	1		5	1	2	3	3	1	1		1		5	1		1	2
Making handbags@	1		3	2		3		1	1	1		1	3	1	1		
Incense sticks1		1					1								1		
Cloth carpets			1				1						1				
Dishwashing powder		1								1			1				
Small trading	1			3				2			2	1		1			2
Childcare worker (1)		1				1						1					
Flour/spice mill			1	1		2										1	1
Flower nursery		1	2			2					1	1				2	
Wall hangings			1								1					1	
Overall total	10	10	26	12	3	21	10	10	5	8	7	10	16	10	5	6	14
Percentages	16	17	42	20	5	34	16	16	8	13	11	16	26	16	8	10	23

**Some combined it with textiles, craft work, mosquito nets and bobbin lace, and some combined it with pillow covers and greeting cards.*

 # Includes package/sell food. $ Includes hair dressing. D= Declined from pre-project status.

Figures in parentheses are percent increase/decrease calculated for 2020 against 2019 (pre-project), and for 2021 and 2022 against 2020 to examine the change after the first year.

We noted a direct correlation between increased income and increased number of days worked in Year 1 after women completed the livelihood training and set up a business. Forty-two out of a total 61 respondents (68%) experienced an increase in income from their entrepreneurships ranging from less than US$100 to US$200–300 compared to the pre-training period. Twenty-seven respondents (44%) registered an annual increase of US$200–300. In Year 2, the number of respondents who saw either the same level of increase in income as registered in Year 1 or further growth grew to 47 (77%). However, in Year 3, this number dropped to 37 respondents (61%). Moreover, there was a decrease in income among 23 per cent of respondents in Year 2, and this went up to 40 per cent in Year 3. This decline was across all skills except for floriculture, which experienced a decline in Year 2 but an increase in Year 3, while dressmaking and batik maintained the same level of decrease across all three years.

Two more income-related trends were significant. Twenty respondents (33%) registered an annual increase in income of US$300 and above in both Year 2 and Year 3, and the entrepreneurships based on making and selling traditional Sinhala sweets and batik showed a sustained increase in income, with at least 75 per cent of these enterprises coping competently with challenges and maintaining their economic activity (see Table 7).

Table 7. Increase in income from full-time entrepreneurship among entrepreneurs

Nature of full-time entrepreneurship	Year 1: Women registering increase in income compared to pre-training					Year 2: Women registering increase/decrease in income compared to Year 1							Year 3: Women registering increase/decrease in income compared to Year 1						
							Increased				Decreased			Increased				Decreased	
	D	0	<$100	$101-200	$200-300	Same	<$100	$101-200	$201-300	>$301	<$50	>$51	Same	<$100	$101-200	>$201-300	>$301	<$50	>$51
Malawi																			
Welding			1			1													
Mechanic				1		1													
			1	1		2													
Sri Lanka																			
Cake-making		1		1	2		2			1		1		1					3
Candle-making					1				1										1
Making sweets	1		1		6	1	1	2		3	1			1	2	1	2	1	1
Make/sell snacks			1		2		1			2			1				1		1
Floriculture	1				1							1			1		1		
Dress-making	3	5	1	1	2	1	2			5		4	1	1			6	1	3
Beauty culture	1				1	1				1							1		1
Batik/embroidery	2			1	6	1		1	1	5		1	2			1	5		1
Making handbags	1	1	1	2	1			1	2	2		1			1		3	1	1
Incense sticks		1				1									1				
Cloth carpets				1					1						1				
Dishwashing power					1			1						1					
Small trading		1			3	1		1				2			1				3
Childcare worker					1	1													1
Flour/spice mill				2		1						1							2
Flower nursery		1	1	1				1		1		1					1		2
Wall hangings				1								1						1	
Overall	9	10	5	10	27	8	6	7	6	20	1	13	4	4	7	2	20	4	20
Percentages	15	16	8	16	44	13	10	11	10	33	2	21	7	7	11	3	33	7	33

Increase/decrease for 2020 was calculated against 2019 (pre-project), and for 2021 and 2022, it was against 2020 to examine the change after the first year.

To sum up, there was a positive increase in both employment and income in Year 1, with varied trends in Year 2 and Year 3. These findings reflect other empirical findings that micro-enterprises contribute to economic growth, employment opportunities and income generation for local communities (Getachew et al. 2022) and that female-owned micro-enterprises generate the total family income (Enterprise Development Consultants, 2002).

The overall data on employment and income across three years in Sri Lanka present some major trends. Among them was a marginal increase in the number of employment days (3–10%) and a moderate to high increase in income (27–64%). However, when we break this down by skills, four skills sectors (floriculture, dressmaking, beauty culture and making incense sticks) produced fewer employment days in Year 1 than in the pre-training period. Moreover, none of the skills sectors registered a consistent increase in employment for all three years except carpet-making, batik and handbag-making, and only cloth carpet-making registered an increase of more than 50 per cent in Year 1 and more than 100 per cent in the subsequent two years. Conversely, ten skills sectors registered an increase in income of more than 50 per cent in Year 1 compared to the pre-training period.

The varying performance of each skills sector across the years included:

- An increase in employment days and income in Year 1 and Year 2, and then an increase in employment days but a decrease in income in Year 3 (batik, handbags, candle, cloth carpet-making).
- An increase in Year 1 but decline in Year 2 and Year 3 in both employment days and income (cake-making, small trading, flour mill, snack-making, wall hanging). Exceptions are cake and snacks making with income increase in Year 2.
- A decline in employment days in Year 1 and Year 2, followed by an increase in employment days in Year 3, but consistent increase in income across years (floriculture, beauty culture).
- An increase in both employment days and income in Year 1 and Year 2, followed by a decline in Year 3 in both employment days and income (Sinhala sweets, plant nursery).

- A decline in employment days and income in all three years (dressmaking, making incense sticks), with the exception of dress-making, which provided increased in income in Year 3.

The fluctuations and varying situations suggest that a few entrepreneurs were able to make the best use of the available opportunities, despite the challenges. (See Table 8.)

Table 8. Total increase in employment days and non-farming income from full-time entrepreneurship

Supplementary economic activity (in addition to farming)	Women	Days employed in the year				Income earned in the year in US$			
		2019	2020	2021	2022	2019	2020	2021	2022
Malawi									
Welding	1	216	240 (11)	240 (11)		240	257 (7)	25 7(7)	
Mechanic	1	0	312	312		0	170	170	
Sri Lanka									
Cake-making	4	848	900 **(6)**	876 **(3)**	608 (-28)	3,900	6,541 **(68)**	6,742 **(73)**	2,872 **(-26)**
Candle-making	1	0	102	168	220	0	700	1,000	853
Making sweets	8	1,108	1,204 (**9**)	1,592 **(44)**	1,452 **(31)**	2,784	4,684 (**68**)	12,097 **(334)**	6,207 **(123)**
Make/sell snacks	3	656	728 (11)	736 (12)	600 (-8)	2,790	4,470 (**60**)	5,936 **(113)**	4,427 **(59)**
Floriculture	2	340	240 (-29)	180 (-47)	404 (19)	1,577	3,278 **(108)**	1,916 **(21)**	3,758 **(138)**
Dress-making*	12	2,908	2,572 (-11)	2,420 (-17)	2,716 (-7)	13,709	12,974 (-5)	13,037 (-5)	18,985 **(38)**
Beauty culture	2	400	292 (-52)	340 (-15)	464 (16)	1,208	1,574 (**30**)	2,600 **(115)**	2,633 **(118)**
Batik/embroidery	9	1,464	1,708 **(17)**	1,888 **(29)**	1,896 **(29)**	8,762	10,801 **(23)**	18,380 **(110)**	15,758 **(80)**
Making handbags@	6	1.048	1,080 **(3)**	1,276 **(22)**	1,548 **(48)**	3,879	3,400 (-12)	5,097 **(31)**	6,239 **(61)**
Making incense sticks	1	288	176 (-39)	220 (-24)	292 **(1)**	1,978	878 (-56)	858 (-57)	1,018 (-48)
Cloth carpet-making	1	60	100 (67)	144 (140)	152 (153)	198	384 (94)	595 (200)	559 (182)
Dishwashing powder/soap	1	268	248 (-7)	180 (-33)	192 (-28)	253	491 (94)	698 (176)	583 (130)
Small trading	4	720	860 (19)	660 (-8)	644 (-10)	3,637	5,894 **(62)**	3,581 **(-1)**	2,798 (-23)
Childcare worker	1	288	280(-3)	272(-5)	280(-3)	494	1,181 **(139)**	1,124 **(127)**	811 (64)
Rice/flour/spice mill	2	320	420 (31)	348 (9)	340 (6)	528	834 (58)	701 (33)	406 (-23)
Flower/plant nursery	3	560	600 (7)	59 2(6)	568 (1)	1,537	1,698 (10)	3,359 (118)	2,349 (53)
Wall hangings	1	120	180(50)	88 (-27)	140 (17)	286	437 (53)	359 (25)	390 (36)
Overall	61	11,396	11,690	11,980	12,516	47,520	60,219	78,080	70,646
Percentages			3	5	10		27	64	49

Figures in parentheses are percentage increase/decrease in employment days and non-farming incomes compared to the baseline (2019).

Women engaged in skills-based employment to supplement their farming activity.

The 6 respondents for this category from CERADI (Malawi) were all trained in basket-making. None of them registered any impact from their training and they are all finding it difficult even to sell the products they made during their training. This economic activity suffered from two challenges. First, the trainees were expected to raise capital and start their own business using their newly learned skills, but most of them could not do this. Second, they need to procure raw material from a company in Blantyre (about 400 kilometres away from their village) because the local material is stiff and not suitable for weaving. CERADI also relies on the company for marketing finished products. The distance between the village and the company proved to be a huge challenge for the women. CERADI encouraged the women to form collectives to help with the procurement of raw material and marketing, but there was little uptake of this suggestion. Thus, the new skills did not generate employment for these women and never took off as a productive economic activity: only 24 out of the 92 women trained in vocational skills were active in the economic activity relating to their training. This outcome requires serious reflection. However, the case study from CYO offers a more optimistic outlook on the scope of skills-based economic activity in terms of supplementing farming income for women.

Tailoring: A feasible and viable way to earn supplementary income

In 2022, Noria received training in tailoring, textiles, fashion design and bookkeeping. She is now self-employed and rents a sewing machine. Noria buys fabric to make dresses, which she sells in the market, and makes clothes to order for customers. She earns an average of US$15–20/week and pays US$4/week rent to the sewing machine owner. Her aim is to earn US$50/week. She has bought a goat from her income and is keen to begin goat-rearing. Noria acknowledges that the training offered by COL has contributed to significant changes in her life. She feels a sense of purpose now that she has the skills to earn money and supplement her family's income. She also enjoys a sense of economic independence and freedom of choice through buying things with her own money. Thanks to her income, her household has food security, and she can regularly buy soap and meat — which was previously not the case — as well as farm equipment. Her challenge is raising enough capital to buy her own sewing machine and fabric for making dresses. But she is positive and continues to work hard and focus on achieving her dream of running a viable enterprise.

The 12 respondents in Sri Lanka learned six different skills to help them earn income in addition to their farming income. Nine of the 12 respondents (75%) saw an increase in employment in the range of less than 50–100 days (five respondents) and more than 150 days (four respondents) in Year 1 compared to the pre-training period. The other 25 per cent registered either a decline or no increase. However, the proportion of respondents who saw an increase in their number of employment days dwindled in Year 2 and Year 3 (59% and 33% respectively). Nonetheless, the proportion of respondents who reported a drop in the number of employment days fell to 16 per cent in Year 3 from 25 per cent in both Year 1 and Year 2. Moreover, the trend in floriculture is promising, with a consistent increase in the number of employment days. Compost-making has emerged as a viable economic activity, registering progressive growth in employment days from a decline in Year 1 to an increase of 51–100 days in Year 2 and more than 100 days Year 3. (See Table 9.)

Table 9. Increase in employment days from supplementary economic activity

Nature of livelihood (supplementary to farming activities)	Year 1: Women registering increase/decrease in employment days compared to pre-training					Year 2: Women registering increase/decrease in employment days compared to Year 1					Year 3: Women registering increase/decrease in employment days compared to Year 1					
	D	O	<50 days	51-100 days	>151 days	Same	Increased		Decreased		Same	Increased			Decreased	
							<50 days	51-100 days	<50 days	>51 days		<50 days	51-100	>101 days	<50 days	>51 days
Malawi																
Basket-making	5	1														
Sri Lanka																
Making handbags				1	2	1	1		1		2				1	
Compost-making	1							1						1		
Floriculture		2	3			1	2	1	1		3		1			1
Batik dressmaking					1				1		1					
Candle-making					1		1					1				
Ornamental greetings cards			1				1					1				
Overall total	1	2	4	1	4	2	5	2	3	0	6	2	1	1	1	1
Percentages	8	17	33	8	33	17	42	17	25		50	17	8	8	8	8

D = Declined from the pre-project status. There are no data in the 101-150 days of employment for Y1 and no data in more than 100 days for Y2 (no respondents saw an increase in workdays in those ranges).

Ten of twelve respondents (83%) registered an increase in income in Year 1 compared to their pre-training income. The increase fell within the range of US$<100–300, with 41 per cent of the total number of respondents reporting an increase of US$200–300. However, income rates in Year 2 and Year 3 were a cause of concern for two reasons. First, the proportion of respondents who saw an increase in their income dropped to 67 per cent in Year 2 and 41 per cent in Year 3. Second, the proportion of respondents who registered a drop in income rose substantially, to 50 per cent in Year 3 from 17 per cent in Year 1 and 8 per cent in Year 2. Most casualties were in floriculture. However, the proportion of respondents whose income increased by more than US$300 grew to 25 per cent in Year 3, which is a promising sign. (See Table 10.) These findings on the number of days worked and income reflect the findings of other research that found that micro-enterprises play a role in reducing unemployment and generating income (Hassan & Ahmad, 2016).

Table 10. Increase in income from supplementary economic activity among entrepreneurs

Supplementary economic activity	Year 1: Women registering increase/decrease in income compared to pre-training					Year 2: Women registering increase/decrease in income compared to Year 1							Year 3: Women registering increase/decrease in income compared to Year 1						
							Increased				Decreased			Increased				Decreased	
	D	0	<$100	$101-200	>$201-300	Same	<$100	$101-200	>$201-300	>$301	<$50	>$51	Same	<$100	$101-200	>$201-300	>$301	<$50	>$51
Malawi																			
Basket-making	5																		
Sri Lanka																			
Making handbags			1	1	1	1	1		1				1	1			1		
Compost-making	1							1								1			
Floriculture	1		1		3	2			1	1		1					1		4
Batik dressmaking				1				1									1		
Candle-making					1			1											1
Ornamental greetings cards				1			1												
Overall total	2		2	3	5	3	2	3	2	1		1	1	1		1	3	1	5
Percentages	17		17	25	41	25	17	25	17	8		8	8	8		8	25	8	42

The overall data on employment and income from six supplementary economic activities across the project years in Sri Lanka present some major trends. For example, in Year 1, the number of employment days grew by 89 per cent and income by 110 per cent as compared to pre-training period. There was a marginal increase/decrease in employment in Year 2 and Year 3, but income continued to grow and was threefold in Year 3 compared to Year 1. Five of the women had never previously participated in any economic activity, and their move from unpaid, supportive farming work to paid entrepreneurship has a significant gender aspect. The shift from working as a dependent to earning an independent income has had a significant influence on gender roles and gender relations in the household and has unarguably contributed to women's economic independence. Among the skills that the women learned or upgraded, batik and handbag-making registered progressive growth in income in all three years compared to the pre-training period, although the latter recorded a declining trend in employment days. Floriculture and ornamental greeting cards experienced initial growth but registered a decline in Year 3 in both employment days and income. Conversely, compost-making experienced a decline in Year 1 and Year 2 and then showed growth in Year 3 in both employment days and income. Overall, the results indicate the potential viability of all these skills as economic activities, despite various challenges. (See Table 11.)

Table 11. Total increase in employment days and non-farm income from supplementary economic activity

Supplementary economic activity	Women	Days employed				Income earned in US$			
		2019	2020	2021	2022	2019	2020	2021	2022
Malawi									
Basket-making	6	1036	172 (-83)			2,056	52 (-97)		
Sri Lanka									
Making handbags	3	0	504	496	472	0	513	800	1,005
Compost-making	1	132	36 (-73)	120 (-9)	140 (6)	396	218 (-45)	395 (0)	477 (20)
Floriculture	5	756	832 (10)	820 (8)	684 (-9)	1,802	3,153 (75)	3,685 (104)	2,207 (22)
Batik/Dressmaking	1	0	180	184	188	0	175	468	612
Candle-making	1	0	160	160	148	0	524	718	484
Ornamental greetings cards	1	48	60 (25)	60 (25)	64 (27)	77	197 (156)	258 (235)	170 (121)
Overall total	12	936	1,772	1,840	1,696	2,275	4,780	6,324	9,311
Percentages			89	96	81		110	178	309

Figures in parentheses are percentage increase/decrease in employment days and non-farm incomes to baseline (2019).

Pearl Creations: Emerging as a profitable women's enterprise

Madhu from Sri Lanka was involved in creative work, providing paper-based interior decoration to hotels and shops. When she realised that demand for this type of decoration was limited, she explored other types of craftwork. Madhu received training from COL in jewellery-making using low-cost materials. She searched for information about potential demand for this craft on the Internet and then took it up as her livelihood. Madhu started making jewellery using blue butterfly pea flowers, which are available locally, and made contact with buyers in the United States, Germany, France, Canada and New Zealand. She sells her products through a vendor in the United States, and in other countries she gets orders through her advertisements on social media, her own website and the online platform Stree ("women") which the WDC promoted . She is now a resource person and a trainer in this craftwork.

Madhu does not face many challenges, as she is the only producer of this product and flower plants are available in many home gardens in Sri Lanka. She rents a dehydrator from WDC on an hourly basis. She displays her products in craft exhibitions and tourist hotels to attract buyers. The local market has been a challenge and was volatile during the pandemic. Nonetheless, the orders from other countries are encouraging. This is an environmentally friendly and economically viable activity. Her earnings in 2022 were US$260, and in 2023, US$890. Her enterprise has huge scope for sustainability because the plants she uses are widely grown in Sri Lanka and tourism offers a promising market. Her products are gaining popularity and demand for them is likely to increase.

A further reflection on entrepreneurship and supplemental economic activity provides insights into qualitative changes associated with this intervention. One of the key dimensions of the project that deserves acknowledgement was its targeting and inclusion of single women and women with a disability (seven and four respondents, respectively, in the sample). Their employment and income had a huge positive impact on their self-esteem and helped to mitigate their vulnerability to some extent (ILO & Enterprise Development Consultants, 2002).

Among the total full-time entrepreneurs, six embarked on skills-based work as a hobby to use their inherent artistic skills and over two years converted it into an income-generating activity. Another eight enterprises became household-based, with the owners' husbands or other family members either providing financial support (three participants) or becoming involved in the operations (five participants). Moreover, in five cases, husbands lost their jobs during the pandemic and the enterprises provided them with a livelihood before they found replacement employment. The skills training and entrepreneurship development seem to have facilitated occupational mobility among the women — from supporting their families through their own farming to setting up a business, or from working for others (employed) to being self-employed in their own business. The various skills the women learned opened up different options for them to make choices, diversify their economic activity and build a business that responded to market needs and seasonal demands.

The respondents noted that the local women's organisations, made up of members from the same socio-economic background, helped nurture a sense of togetherness and were a source of inspiration to face the challenges of employment, learn good practices and stay in business. Other studies have recognised the critical role that women's organisations can play in driving women's economic opportunities (Brody et al., 2017; UN Women, 2017). The entrepreneurs demonstrate resilience in managing their micro-enterprises under adverse conditions; expanding their networks of craftswomen, growers and suppliers; and harnessing their own contacts to increase business and develop new markets for their products. They have engaged with formal and informal markets — for example, local shops, wholesale traders, mobile vendors, event organisers, open markets and tourist hotels/shops — and have interacted with government institutions by participating in exhibitions organised by them. Their experiences have led them to offer quality products and packaging and to maintain good relationships with buyers. Some enterprises were registered with the local authority in Sri Lanka that officially recognises businesses and gives owners legal and tax benefits, and access to protection from liability. However, a few participants found the complicated registration procedures to be a challenge.

Opportunities and threats

Almost all the entrepreneurs attribute their success in skills-based work to the training from COL in collaboration with CYO, CERADI and WDC. They claimed that the training has enhanced their ability to access economic opportunities and set up/run their own viable, sustainable businesses. The village savings and loan schemes are a useful resource that provides an opportunity for the women to apply their newly learned or upgraded skills in micro-enterprises and improve their earnings. Further, the Stree platform offers a huge opportunity for the entrepreneurs to market their products.

> *Although I have not benefitted economically from basket-weaving, this new knowledge is an asset, and I am positive [I will] earn money once the market for baskets is opened. — Entrepreneur from Malawi.*

Three factors — Covid-19, the Easter terrorist attack and the national economic crisis, the latter two specific to Sri Lanka — were reported to be responsible for declines in employment and income. The pandemic had a devastating effect on society and the economy, with restrictions on movement that caused the breakdown of supply chains, market disruptions and a halt on tourism. Many businesses were forced to close because of these circumstances. The Easter terrorist attack and the economic crisis in Sri Lanka compounded this situation, creating economic uncertainty through a decline or fluctuations in demand for the women's products and damage to perishable products (flowers, food items).

Other major challenges that the entrepreneurs in Malawi and Sri Lanka faced were:

- lack of capital, which limited the expansion of an enterprise or scale of operations (3 respondents in Malawi, 13 in Sri Lanka)
- shortage of, poor availability of and rise in cost of raw materials, which restricted procurement and growth opportunities (3 in Malawi, 35 in Sri Lanka)

- limited or ineffective marketing (19 in Sri Lanka)
- proliferation of enterprises and indiscriminate importing of products, which created competition among local producers (6 in Sri Lanka)
- defaulted or delayed payment of purchases on credit, the latter due to procedures (7 in Sri Lanka)
- reduced work hours because of a need to care for elderly or sick members in the household (6 in Sri Lanka)

These factors seem to have contributed to reduced levels of productivity among the entrepreneurs. They also mirror the barriers identified in other research women face with respect to access to finance, markets and digital infrastructure; disproportionate responsibility for caring for family members and for household work; and Covid-19 and natural disasters (El Achkar, 2023; UN Women, 2023).

Some of the actions taken to mitigate the reported challenges were:

- maintaining the quality of products
- reducing profit margins and keeping the cost of goods affordable
- adapting products to reflect changing demands
- harnessing available market outlets
- cutting costs without compromising on the quality of their products
- bulk-buying raw material
- moving to e-marketing
- using social networking to retain regular buyers

Impact of Increased Incomes on the Household and on Women's Status

The impact of increased income was examined from two dimensions:

- well-being of the household
- women's status and dignity

Impact of increased income on well-being of the household

Table 12 shows a summary of responses to open-ended questions about the impact of increased income on the well-being of the household. Multiple responses suggest that the increased income improved their family's well-being or standard of living.

Table 12. Impact of increased income on well-being of the households

Impact on family well-being	Female farmers		Female entrepreneurs	
	Malawi	Sri Lanka	Malawi	Sri Lanka
Enhanced food security (a)	21 (91)	37 (41)	2 (25)	26 (36)
Accessing education for children (b)	5 (22)	32 (35)	2 (25)	29 (40)
Accessing good healthcare (c)	11 (48)	5 (5)		4 (5)
Meeting basic household needs. (d)	5 (22)	8 (9)		21 (29)
Investment to strengthen farming/enterprise (e)	3 (13)	7 (8)	5 (62)	4 (5)
Savings for/meeting emergencies	1 (4)	4 (4)		3 (4)
Improvements in housing (f)		12 (13)		8 (10)
Additional household assets (g)		5 (5)		1 (1)
Employed husband in their business (h)		5 (5)		3 (4)
Care of elderly, sick, children with disabilities				4 (5)
Repayment of loan		2 (2)		2 (3)
Not much improvement and fluctuating	1 (4)		2 (25)	9 (12)
Already have secured/stable living standards		6 (6)		2 (3)
Total respondents	23	91	8	73

Figures in parentheses are percentages.

(a) Food available through the year, improved levels of consumption and diversity of diet (includes fruits).
(b) Secondary, higher and special education, and nursing training, including fees, books and transport costs.
(c) Care of child with a disability, husband's treatment expenses for paralysis, surgery for a child's congenital heart disease.
(d) Buying soap for bathing, clothes, groceries (Malawi), paying utility bills, maintenance of vehicle (Sri Lanka).
(e) Farm equipment and supplies for next season, farm implements (spraying machine), expanding farm by leasing additional land, purchasing equipment or vehicle for the enterprise, supporting daughter to start candle-making business, investing in own batik business.
(f) Upgrading, renovating and expanding the family home, including toilets, electricity connection.
(g) Buying furniture, TV, motorcycle.
(h) Lost job or could not find work or earnings affected during the pandemic.

The most common impacts of the increased income noted were household food security and an ability to pay for their children's education. Respondents noted that they had "peace of mind as now there is no worry to go hungry." This shift away from vulnerability is a significant achievement. Some respondents also mentioned that their household now had a more diverse diet because they were farming different crops, including vegetables and fruits. Their commitment to provide their children with a quality education was clear and solid —and this will have an additional impact on society, as research strongly suggests that giving girls an

education can contribute to women's economic empowerment and sustainable economic growth (UN Women, 2016).

The findings of our study are in line with other research findings that show that when women have control over their productive resources and incomes, their families and communities benefit through access to better food, education and healthcare (Mobarok et al., 2021). Many of the entrepreneurs found that operating a micro-enterprise, as opposed to a larger business, gave them the freedom to operate their business from home when it was convenient for them, which meant they could earn a living while taking care of elderly family members.

Many respondents recognised that although the increases in farm yields and employment days were not steady and the income from farming or entrepreneurship was variable, these economic activities gave them a livelihood and helped to address their low income to some degree. They further acknowledged that their increased income helped them and their families to maintain a moderate standard of living, even under adverse conditions, and prevented them from going into debt. These findings confirm findings from other research on the impact of increased productivity and improved income through women's economic activity on households. Furthermore, micro-enterprises both use and develop women's entrepreneurial potential, and the survival and growth of such enterprises ensure better standards of living for them and their families (Jaswal & Anjum, 2018).

Impact of economic independence on women's status

The respondents cited several changes in their status in their households because of their economic independence. Only seven (4%) respondents indicated there had always been mutual consultations between spouses against a total of seventy-six (40%) after gaining economic independence, representing a significant and perceptible change in the level and extent of their participation in household decision-making. (See Table 13.) Twenty-five (13%) respondents stated they now actively participate in decision making. Overall participation in decision making remains low. This is mirrored in the low percentages in change of status. Only 29% of the respondents agreed that their spouse acknowledges her economic contribution and only 10% feel a sense of respect.

The low levels of freedom to spend their earnings (37%) and to expand their farming or business without spousal permission (22%) are indicators of lack of control over resources. These findings underline the role that women's economic empowerment needs to go hand in hand with gender empowerment (Golla et al., 2011, Australian Human Rights Commission, 2008). Furthermore, in Sri Lanka, some respondents stated that decision-making must be within a culturally defined framework and not presented as a right. This raises a concern if the framework endorses male dominance and female subordination.

Table 13. Impact of economic Independence on women's status

Factors related to women's status	Female farmers		Female entrepreneurs			
	Malawi	Sri Lanka	Malawi	Sri Lanka		
Involvement in decision-making						
Always been mutual consultations*	1	5	0	1	7	4
Joint decision-making	6	30	1	39	76	40
Actively participate in decisions	4	12	2	7	25	13
Consultative/shared decision-making (a)	5	20	2	12	39	20
Main decision-maker (b)	1	12	0	16	29	15
	17	79	5	75		92
Change in Status						
Spouse acknowledges her economic contribution	7	33	2	14	56	29
Sense of respect	4	9	0	7	20	10
Freedom in the spending of own earnings	9	37	3	23	72	37
Freedom in expanding farming/enterprise	6	5	0	32	43	22
Total respondents (195)	26	84	5	76		

** All figures refer to post-project, except the response "always been mutual consultations."*

(a) Each spouse is the main decision-maker for their individual livelihood activities and consults their partner for input before making decisions.
(b) The woman is a widow or the husband works away from home, returns home late from work, is sick, or respects her knowledge and experience.

In interviews with successful entrepreneurs and farmers, there was higher self-perception of capacity to navigate crises and overcome challenges to effectively manage their farming or entrepreneurship responsibilities. In the process of dealing with the demands and responsibilities associated with their economic activities, these women have developed an ability to make choices, and a sense of economic independence as was evident from their reduced dependence on their partners' earnings and their freedom and ability to meet both

their own needs and their households' needs from their own earnings. Moreover, they display a sense of identity that has developed from public appreciation for their products and a sense of dignity from the community's recognition of their self-sustaining initiatives. These findings resonate with research results that show that as women gain the necessary skills to produce a product, manage resources and organise their economic activities, their position in the family and society improves (Rajapriya, 2008). They also reflect findings that show a corelation between women's entrepreneurship and economic independence and improved social capacities and well-being in disadvantaged communities (Alemu et al., 2018; Sujisha & Biju, 2019).

Both farming and entrepreneurship paved the way for respondents to break gender stereotypes. There were significant changes in the women's interactions with external actors, for example, markets and business networks, that were previously considered to be male domains. Muslim women in Sri Lanka set a trend in their community by establishing their own enterprises and have mobilised positive community support for the unconventional role that their enterprise demands from them. This is a particularly significant gender-related impact. Despite low or erratic performances, the women demonstrated resilience in continuing their economic activities with renewed confidence to rebuild them as viable livelihoods. All these changes vividly reflect an emerging degree of empowerment, although there is still much to achieve in this context. Our findings on the impact on women's status reflect those in other research studies that suggest that improvements in women's empowerment in agriculture are associated with higher levels of productivity, (Mobarok et al., 2021) and that there is a strong correlation between the performance of micro-enterprises and women's empowerment (Jacob & Munuswamy, 2022; Revenga & Dooley, 2020; Senapati & Ojha, 2019).

7. Lessons Learned and Pointers for Action

Valuing Women's Work

The empirical results reveal the contribution that women in farming and entrepreneurship have made to the value assigned to women's work. All levels of society need to recognise that women's work has immense value in its contribution to both household and national economies. Civil society organisations have a significant role to play in harnessing the empirical evidence generated from systematic studies and in convincing governments to formulate gender-inclusive policies and regulatory frameworks that value and celebrate women's economic security. Such policies and frameworks can dismantle and remove the barriers, including adverse and limiting social norms, women face when trying to access employment and entrepreneurship opportunities. These barriers include limited access to capital, credit and ownership; limited access to inheriting resources; and a disproportionate responsibility for domestic and care work that restricts their access to economic opportunities (UN Women, 2023). It is essential to recognise that without addressing specific gendered constraints, any interventions to improve farming and entrepreneurship among women may not prove helpful in the long run.

Breaking Gender Stereotypes

Promoting women's economic security can be a powerful way of breaking gender stereotypes. Although CERADI offered some training in welding and mechanics, most participants (both in Malawi and Sri Lanka)were trained in traditionally female-dominated skills such as food processing, batik work, dressmaking, floriculture, and in tea and vegetable cultivation. In the process of managing those economic activities, some participants may have had to perform non-stereotypical roles, but it was more by chance. Given that male-dominated skills usually have higher income returns, women should be encouraged to take up non-traditional roles as an integral part of the skills training. This transition would be greatly aided by calling attention to women who participate in non-stereotypical livelihoods and how they manage the challenges that come with such roles.

Engaging Men in Women's Economic Security

Men's participation in promoting women's economic security was largely left to chance, as it was not a focus of the project. However, engaging men in changing discriminatory gender norms is a core part of the GIRLS Inspire project design which recognises that gender equality initiatives can only succeed when they are involved. We acknowledge that this approach brings its own challenges and requires dealing with particular gender dynamics. Nevertheless, the researchers noticed the positive role played by men and collaboration between spouses was found to be organic as they shared work-related tasks, and men offered financial support, acknowledged women's economic contribution to the household and respected their equal role in the household. These results could inspire a conscious and focused strategic engagement in future interventions.

Gender-Based Violence

There is much evidence that women's economic independence can worsen gender-based violence for a variety of reasons. Some women are therefore dissuaded from participating fully in economic activity and experience an erosion of their confidence and sense of security. However, we did not examine this critical aspect of women's economic security and participation due to limitations in the data. It is a particularly difficult issue to investigate because women who are affected by it often resort to denial or under-reporting. Given its prevalence, we believe that ending gender-based violence should be a standard goal of any gender-focused intervention.

Inclusive Approach

Our project approach must be constantly and consistently monitored to ensure that no one is left behind. The partner organisations specifically target and include the most vulnerable girls and women and people with disabilities in rural communities for development interventions. Inclusivity needs to be scaled up to harness the available collective efforts of individuals, communities and governments to promote and encourage women's economic independence. Leaving no one behind must mean applying a gender lens to business development, addressing

the underlying gender constraints that women face and tailoring content to reflect women's needs to speed up economic security and gender quality (UN Women, 2018).

Economic Feasibility and Viability

It is widely recognised that feasibility and viability studies allow us to visualise the real potential of the return on investment of any project and to identify all critical factors and possible constraints that can influence the success of any proposed economic activity. However, putting this understanding into practice is a very different matter. Consequently, there was no follow-up to address barriers or identify new opportunities. This omission is particularly serious because women may be put off trying to take on non-traditional roles if they see other women failing in their attempts to do so.

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Annexure 1: Data Collection Tools

Lime Survey Questionnaire for Female Farmers

Name of enumerator _____ Date _____

Name of farmer: Location:

Focus area	Pre-training			Year 1			Year 2			Year 3		
	S1	S2	S3	S1	S2	S3	S1	S2	S3	S1	S2	S3
Crops grown												
Extent (area)												
Sustainable farm practices												
Yields												
Income												

S1 = Crop Season 1; S2 = Crop Season 2; S3 = Crop Season 3

Qualitative questions

a. How did the improved farm yields and farm income impact your life or standard of living of the family?
b. How did this economic independence impact your status in the family and confidence in decision making?
c. What were the constraining forces for farm work? How did you overcome them?

Lime Survey Questionnaire for Female Entrepreneurs

Name of enumerator _____ Date _____

Name of entrepreneur: Location:

Type of entrepreneurship: (a) Supplemental to farming. (b) Full-time entrepreneurship

Focus area	Pre-training			Year 1			Year 2			Year 3		
	Apr	Aug	Dec	Apr	Aug	Dec	Apr	Aug	Dec	Apr	Aug	Dec
Skills-based livelihood*												
Self-employed or employed**												
Days employed in month												
Income earned in month												

*Specify the nature of skills. **Self-employed including own business = SE; Employed by others = E

Qualitative questions

a. What has contributed to enhancing your ability to find work or access economic opportunities?
b. How did the improved income impact your life or standard of living of the family?
c. How did this economic independence impact your status in the family and confidence in decision making?
d. What were the constraining forces for non-farm work? How did you overcome them?

Guidance notes:

1. Please include only those respondents, who were trained in improved farming or livelihood skills in the following reference years (pre-project) and trace only them in the subsequent years:

Partner organisation	Pre-project	Year 1	Year 2	Year 3
WDC	2019	2020	2021	2022
CYO	2020	2021	2022	-
CERADI	2020	2021	2022	-

2. Specify the name of crops and nature of sustainable farm practices adopted by the farmer.
3. Provision for three crop seasons provided but this number could vary by context.

4. For entrepreneurs, please tick either of the types – supplemental or full-time.
5. Please convert local measurements into common standards:

   Area - hectares or acres
   Weight - Kilo grams
   Money - US $(for all 3 years use the current value and at the time of analysis, we will factor in value that prevailed in 2020 and 2021)
6. In terms of crop yields used for home consumption during a season, rely on best estimate of the value by respondent.
7. Please record reasons for discrepancies either in livelihood or income to yields or products.
8. Please ensure that no field in the questionnaire is left blank.

Case Studies

This includes an intensive study of 1-2 typical farmers and entrepreneurs from each partner organisation (WDC, CYO, and CERADI).

Name of the Interviewer _____ Date _____

Name of farmer/entrepreneur: Habitation:

Type of entrepreneurship: (a) Supplemental to farming. (b) Full-time entrepreneurship

Key Questions:

a. What was the problem addressed? (Low farm yields or low productivity in non-farm work)
b. What steps were undertaken to address this problem? What was done? (intervention/inputs)
c. What changes did this intervention bring in your livelihood? (Significant or unique results)
d. How did this improved income impact your life?
e. How did this economic independence impact your status in the family/household?
f. What challenges were encountered? How did you overcome them?
g. What does this whole experience mean to you?
h. How do you sustain these results? What opportunities or obstacles exist?

i. What lessons could be drawn from this case for the partner organisation?

Guidance notes:

1. Case study must present a holistic account that offers insights into project's success or bring attention to a particular challenge for further action.
2. Please use other sources of evidence to triangulate or substantiate the responses from an interview (field staff monitoring visit reports, project reports).
3. If respondents show resistance to any of the probing questions, we will go by their choice and respect their privacy.
4. Outcomes and impact information must be strengthened by a comparative account of before and after situation. Thus, any case study must be a good mix of both quantitative (in terms of results) and qualitative (in terms of impact) information.
5. All behavioural changes must be illustrated with specific examples.
6. It is essential to draw lessons from the case studies for future intervention of the organisation and could include reflection at community and project staff levels.
7. Case studies must present qualitative information on the changes from an intervention. Probing is an effective tool to elicit such an information, where relevant. The topics that require probing in our case studies are:

    a. What were the changes in their livelihood? How did those changes happen?
    b. How did the improved income impact their life or in their standard of living? Responses such as child education, better health, improvement in housing – all need more details to understand the effect.
    c. How did this economic independence impact their status in the household? Responses such as husband respecting, access to control over and ownership of resources, confidence in decision making, reduction in violence, sharing responsibility – all these need probing to understand the dynamics.

d. What does this whole experience mean to women? Meaning for each woman could be different and potential for diversity of ideas. An opportunity for us to understand that uniqueness.

e. How did their ability to find work or access economic opportunities enhance?

f. How did they overcome the challenges? What has contributed for that?