

PEPE Evaluation

Endline Impact Evaluation

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Acronyms

AIG	Agro-industrial Group – one component of Enterprise Partners
AR	Annual Review
ARC	Agricultural Research Centre
BC	Business Case
BOTI	Bureau of Trade and Industry
CBE	Commercial Bank of Ethiopia
CGE	Computable General Equilibrium
CTA	Cotton, Textile and Apparel
DBE	Development Bank of Ethiopia
DCED	Donor Committee for Enterprise Development
DFID	Department for International Development
DFS	Digital financial services
ECF	Ethiopian Competitiveness Facility
ECIC	Ethiopia Climate Innovation Centre
EHPEA	Ethiopian Horticultural Producer Exporters Association
EIB	European Investment Bank
EIC	Ethiopian Investment Commission
EICP	Ethiopia Investment Climate Programme
EP	Enterprise Partners
EquALS	Evaluation Quality Assurance and Learning Service
ETIDI	Ethiopian Textile Industry Development Institute
FAV	Fruit and Vegetable
FCDO	Foreign, Commonwealth & Development Office
FDI	Foreign direct investment
FG	Finance Group – one component of Enterprise Partners
GHG	Greenhouse gas
GLP	Green Legacy Project
GoE	Government of Ethiopia
GTP	(The Government of Ethiopia's) Growth and Transformation Plan
HIPSTER	Hawassa Industrial Park Sourcing and Training Employees in the Region
IDC	Italian Development Cooperation
IDS	Institute of Development Studies
IFC	International Finance Corporation
IG	Intervention guide
ILO	International Labour Organisation
IM	Intervention Manager
JICA	Japan International Cooperation Agency
LAL	Leather and Livestock
LIFT	Land Investment for Transformation

M4P	Making Markets Work for the Poor
M&E	Monitoring and evaluation
MDI	Multi-donor initiative for private sector development
MFI	Microfinance Institutions
MoI	Ministry of Industry
MOU	Memorandum of Understanding
MRM	Monitoring and Results Measurement
MSD	Market systems development
MSME	Micro, Small and Medium Enterprise
MTR	Mid Term Review
NBE	National Bank of Ethiopia
PBR	Payment by results
PCAF	Private Capital Advisory Facility
PEPE	Private Enterprise Programme Ethiopia
PPP	Public-private partnership
PSM	Propensity scoring model
QSR	Quarterly Sectoral Review
SEQAS	Specialist Evaluation Quality Assurance Services
SME	Small and Medium Enterprises
SMEFP	Small and Medium Enterprise Finance Project
SRO	Senior Responsible Owner
TA	Technical Assistance
ToC	Theory of Change
VFM	Value for Money
WARC	Werer Agricultural Research Centre
WEDP	Women Entrepreneurship Development Project
WEE	Women's Economic Empowerment

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Executive Summary

In 2012, DFID (now FCDO) put together the Private Enterprise Programme Ethiopia (PEPE) to respond to the second growth and transformation plan of the government of Ethiopia. Within the focus areas of this growth and transformation plan, PEPE prioritised sectors where there were clear opportunities for job-creation, particularly for women, and green growth. PEPE focuses on horticulture, apparel and textiles, and leather sectors, integrating finance-related interventions to catalyse growth and job-creation in the selected, priority sectors. Finance was considered a cross-cutting issue in Ethiopia, seen from all levels – savings to increase liquidity, lending for small and medium enterprise (SME) growth, and the debt and equity investments to enable large scale and foreign direct investment – as an enabler.

PEPE's programmatic logic is that by working in support markets, largely with service providers, suppliers or 'rule setters' these support actors will 'crowd-in' similar actors to achieve scale. Also, support actors are those whose activities support the core market actors, from where the target group derive the desired benefits – employment or income from production. The theory here is that scale – and therefore sustainability – is achieved not by working with many factories or many smallholder farmers but by working with and facilitating support market actors, whose activities impact across these principal markets, thus achieving scale.

This evaluation is the culmination of eight years of analysis in Annual Reviews, and baseline, midterm and endline impact evaluation research. This evaluation is unique, both in its methodological design and duration. The impact evaluation is a mixed-methods, theory-based evaluation that is designed to assess the importance of the contribution of PEPE to job creation and smallholder incomes. It results in a reasoned, plausible estimate of the range within which PEPE created jobs in the Ethiopian economy. It is difficult to precisely estimate job-creation and the economy-wide effects for market systems development (MSD) programmes for numerous reasons. Often, the types of interventions that an MSD programme implements have a restricted sphere of direct influence, often the service providers in a sector, where job creation is not located in the supported firms but indirectly through increased innovation and investment in the sector. There are many factors that also influence innovation and investments, such as COVID-19, international trade dynamics and political unrest, which means it is not possible to directly attribute sector indicators of employment to the MSD interventions. The analysis needs to consider indirect processes of contribution by tracing the processes of change. To mitigate and respond to these challenges, the evaluation design relies on four interlinked research components:

- A review of the monitoring information provided by PEPE's result-based management system.
- A review of six markets (through process-tracing case studies) in which PEPE's interventions have reported significant outcomes and impacts.
- An assessment of the quantitative net-effects of service uptake among firms involved in the three priority sectors, through the PEPE programme. This assessment was done using a survey of firms.
- A model simulation (Computable General Equilibrium (CGE) modelling) to extrapolate the implications of these firm-level changes to sector effects on job creation.

On bringing these components together, this evaluation has tested a unique approach to attempt a rigorous evaluation of the impacts of a programme that intervenes to address systemic constraints in the market.

Key findings

Jobs

The target set by the PEPE logframe, for 2020, is the creation of 45,000 full-time jobs, which is what the endline evaluation is designed to estimate, using the case studies, firm survey, and CGE model. The firm survey, which contributes to the CGE model, shows that in two sectors there is an effect in firm performance that can reasonably be extrapolated to the sector level, and causally attributed to PEPE-support. First is the support provided by PEPE to export firms in the leather sector, where PEPE's interventions contributed to 1.5% growth in their exports. The 1.5% growth in export is primarily because of the stability created in input and labour sourcing. The second sector effect is seen in the support provided to the textile factories, where PEPE's support is associated with an annual growth of 2.0% on total sales, influenced by better access to finance. PEPE's support to the seedling and seed producers contributes to an annual growth of sales of 2.8% and an increase of 2.8 to 4.1% for annual profits, largely the result of better incentives provided to their workers/smallholders – but only on the firms in their distribution networks. There are no plausible sector effects, as the seedling-producer sector is only a small sector with very small firms. From the process-tracing case studies, we assessed that there are three interventions that have contributed to job-creation: Hawassa (HIPSTER), WEDP and SMEFP. For each of these interventions we estimated a low and high estimate of plausible effects, reflecting the uncertainty of the 'real' effect of MSD support on the wider economy. Bringing the survey and the case study information together helped us arrive at eight scenarios, which we would simulate in the Computable General Equilibrium (CGE) model of the Ethiopian economy.

TABLE 1: INDUCED EMPLOYMENT EFFECTS OF PEPE SUPPORT

	Hawa_Low	Hawa_High	WEDP_Low	WEDP_High	SMEFP_Low	SMEFP_High	Leather	Textile
	Paid-Full-Time Equivalent Jobs							
Agriculture	2,408	5,754	1,973	3,944	556	1,109	185	283
Industry	1,200	2,956	888	808	248	500	299	138
Services	2,065	4,703	2,716	5,430	2,317	4,620	491	250
Total	5,672	13,413	5,577	10,182	3,122	6,229	975	672
Priority Sectors	1,184	2,963	178	356	550	1102	147	135

Priority sectors

The firm survey asked firms about a range of constraints and the extent to which PEPE's interventions changed the nature/impact of the constraints. Overall, the contribution scores considered the change in exports, sales and/or profits, alongside the perceived influence of service providers (supported by PEPE) on this change. PEPE had the greatest influence on core market constraints in the Leather and Livestock (LAL) sector, followed by Cotton, Textile and Apparel (CTA), with very little in Fruit and Vegetable (FAV). In the LAL sector, there were several initiatives that appear to have contributed to the shift in constraints, including interventions that focused on access to export markets, workforce skills, human resource management, and the development of appropriate financial products. For the CTA sector, PEPE's contribution was much more clearly centred on the quality and quantity of labour supply (interventions in Hawassa). The textile firms indicated that the area of human resource management was the outcome where PEPE supported services had the most impact. For seedling firms, where PEPE helped to improve the propagation and distribution models, human resource management was perceived by supported firms as having been strengthened. These seedling firms did indeed see improved sales and profitability. In textiles, the improved financial procedures had the greatest impact on sales, while in the leather sector, the performance of input markets (e.g., raw hides and skins) contributed to an improvement in exports. Interestingly none of the PEPE interventions in these sectors can be associated with a change in direct employment (based on the data from firms that took part in the survey). However, the case studies note the indirect impacts that PEPE's interventions have had that has influenced sales and investments and the effect of these interventions on induced jobs in the wider economy. While there have been

results from these interventions, the impacts are modest, and lower than anticipated when the baseline was completed. Regrading direct jobs, a significant number of direct jobs are the result of the labour intervention in Hawassa (CTA-08), which provided soft skills training as part of a streamlined labour sourcing system. The nature of this intervention, however, with a high turn-over of workers, means that it is unlikely to become a sustainable service delivery modality in the long-term.

There is little evidence of wider uptake of PEPE interventions within the sector, with the notable exception being the financial services sector. Without the continuation of PEPE-like support to innovating firms in agro-industrial sectors, it is unlikely that these innovations will scale, making it very unlikely that the interventions will address critical constraints in the respective market systems in a sustainable manner. However, there are some notable exceptions. For example, PEPE's pilot FAV initiatives to promote quality seedlings and extension services also tell the story of a successful, innovative intervention. The work on quality seedlings and extension services gave birth to an innovative agent-based marketing model, which effectively addressed two perennial challenges facing the sector – (i) poor quality seeds/seedlings and (ii) poor extension systems. Along with the Government of Ethiopia's Green Legacy project (nation-wide planting of billions of tree seedlings), there has been a jump in the adoption of fruit tree seedlings, and the impact on job creation and income increases will be seen in several years' time when fruit trees mature. It is likely that this model will continue to deliver results in this market. The cotton sector has seen low uptake of the improved cotton seeds promoted by PEPE and the impact on jobs and income of smallholders supported by PEPE in the cottonseed multiplication intervention is still marginal. However, these interventions (CTA 04 – quality cotton seed, and CTA 19 – industry-led cotton farming) did evolve into an innovative and successful intervention that is sustainable and scalable, involving the agricultural research centre, commercial cotton farms acting as multipliers, and smallholder farmers buying seed and increasing their sales. By the end of the programme some 25 commercial cotton farmers were acting as seed multipliers. A further 10 firms were counted during the previous model through cooperative unions. As the model continues to work, more and more commercial cotton farmers become seed multipliers, more and more farmers buy improved seed from them and make additional revenue, these additional sales will be repeated on an annual basis and will continue to grow over time as adoption increases.

Overall, PEPE's work in the financial sector is more successful than its work in the priority sectors. And, indeed, the technical assistance provided to Women Entrepreneurship Development Project (WEDP) and Small and Medium Enterprise Finance Project (SMEFP) is considered high quality and clearly helped to improve access to investments for MSME. That said, most of PEPE's achievements in investment are direct interventions, not indirect MSD interventions. The PEPE support will no longer be available and will not continue to deliver results once the programme ends. For example, the Private Capital Advisory Fund (PCAF) programme that was initially designed to develop a market for investment brokers was revised to provide direct grants for consultants. Similarly, the turn-around strategy for the large textile factory and state-enterprise Ayka involved paying a turnaround manager to attract a loan to revitalise the textile company to save jobs.

Insights

MSD programmes are meant to be long-term, which sets them apart from more humanitarian and other development programmes. PEPE's initial seven-year timeframe is the ideal timeline for a MSD programme. The intent of the logframe was to respond to changes in context and dynamic adaptation in support modalities. However, the logframe and annual reviews, with a focus on outputs, diluted the MSD approach, which lost traction in the context, incentivising achievements in output numbers rather than focusing on picking the right interventions to lead to outcomes. The measurement approach for an MSD programme must ideally promote long-term development while allowing for changes in context. For example, if programmes were run with break clauses or redesign points every four years (to allow for substantive changes in context), which would allow realignment of the success criteria: targets and indicators, implementers would be more likely to pursue and deliver results that were not achievable within a four-year timeframe, yet would be given flexibility to be more nimble and agile.

All MSD programmes start slowly, and particularly those starting entirely from scratch in contexts in which MSD has not been prevalent. However, this cannot be seen as an interminable justification for

underperformance and PEPE would have benefitted from quicker recognition of failure. It took almost three years of implementation before the programme finally established a strong team with good sector analysis.

One of the innovative features of the PEPE programme was the performance evaluation and impact assessment contract, which ran parallel to the programme's implementation. The evaluation design also featured a five-year ex-post evaluation in 2024, to assess the sustainability and replication of interventions, scaling/crowding-in within respective market systems changes, and to gather outcome/impact data of PEPE's work, which has not yet come to fruition by the end of the programme. The ex-post is no longer being administered and it is worth noting that this endline evaluation assesses results only till the end of 2020 (with the exception of job-creation), and the endline does not capture the longer-term impacts of PEPE.

While all MSD programmes will have a 'hockey stick' trajectory for results, PEPE's hockey stick flatlined for longer than could be expected. It was no coincidence that with better, more analytically minded staff, came more and better interventions and more results. Initially, PEPE started with a team of great sectoral experience, political connections and long CVs. While these assets bought credibility and opened doors, it quickly became apparent that this was not the skillset necessary to drive innovation of firms in the programme sectors. Getting the right people in place and a system to incentivise and retain them became a key component of the results that PEPE was able to achieve.

SECTION 1: INTRODUCTION

01

1. Introduction and Programme Background

Ethiopia is a poor country that is still emerging from a communist legacy almost three decades since the revolution that nationalised most industries. It is largely agrarian in nature with around 80% of its 112 million people still relying on agriculture. But things have been slowly changing over the last 20 years as part of a cautious liberalisation and industrialisation process. The advantages of favourable growing conditions, a conducive investment climate and abundant low-waged labour provide an opportunity to create alternative livelihoods through formalising work and structural transformation while meeting the development imperative to generate incomes for the burgeoning young population. However, the private sector in Ethiopia is nascent in relative terms and still experiences poorly functioning financial markets, as well as heavy government involvement and regulation for the most part.

In 2012, DFID conceived of the Private Enterprise Programme Ethiopia (PEPE) to align with the Government of Ethiopia's second growth and transformation plan. Within this, PEPE prioritised sectors where job creation for women and green growth were clear opportunities – horticulture, textiles and leather – as well as looking at factor markets in finance. Finance was a clear cross-cutting issue in Ethiopia at all levels – savings to increase liquidity, lending for SME growth, and debt and equity investments to enable large scale and foreign direct investment.

The main component of PEPE, Enterprise Partners (EP), representing about 70% of the programme, is structured as a market systems development (MSD) programme. Other PEPE components over its lifespan include reforming the enabling environment through the International Finance Corporation (IFC), a challenge fund run through the government, and a job quality programme run by the International Labour Organization (ILO). DFID also commissioned PEPE's sister programme Land Investment for Transformation (LIFT) to address issues in another crucial factor market. Throughout this evaluation report, the acronym PEPE will be used to talk about the largest component of the programme, Enterprise Partners (EP). Where we refer to the other components, they will be explicitly mentioned.

This comprehensive private sector development agenda was ambitious and high profile, with PEPE costing over GBP 70 million. Through the programme, DFID aimed to create jobs, increase incomes and improve the way financial systems functioned. These aims were further refined with a focus on increasing gender equality and the levels of household savings, as well as insulating poor households against shocks. Specifically, PEPE aimed to create 45,000 jobs (75% for women) and deliver a 20% increase in income for 65,000 households. There were also outcome level targets around the number of people with increased access to financial services.

PEPE was designed in a comprehensive way to respond to a specific set of conditions present at the time of launch. However, it is worth noting several changes that happened during the lifespan of the programme as they are relevant to many of the evaluation findings. When PEPE was designed, Ethiopia was a developmental state with a broadly supported government that had been in power with the same leader for two decades. The cycle of five-year plans and priority sectors around which PEPE was designed had been successful previously in the meteoric rise of horticulture. Soon after PEPE began, this leadership changed, and this was followed by time of turbulence and transition in which the power of government was continuously challenged. Although those challenges were rebutted, it was at the expense of stability and trust – costing investment and growth in the process. During PEPE's lifespan, three states of emergency were declared in Ethiopia. In the latter half of PEPE's implementation, the strong alignment behind the industrial policy (and industrial parks in particular)

that helped the programme during its first four years began to wane as domestic political concerns took precedence.

Finally, towards the end of the programme, in 2020, COVID-19 and the Tigrayan war presented further contextual challenges. The confidence in the investment-readiness of Ethiopia took 20 years to build but has seemingly taken just a couple to undermine. These internal and external factors to Ethiopia create the context in which PEPE was implemented.

1.1. PEPE's Theory of Change

PEPE's theory of change (see Fig 1) builds on the assumption that activities will lead to changes in the actors that support key markets (priority markets) and that these changes will lead to improved performance (sales and investments), finally, catalysing job-creation. Each sector in which PEPE delivers interventions has a unique set of results (see Fig 2). These sectors face critical constraints that PEPE aims to address and the results pathway (as mapped in Fig 2) is discussed in more detail in Section 3.

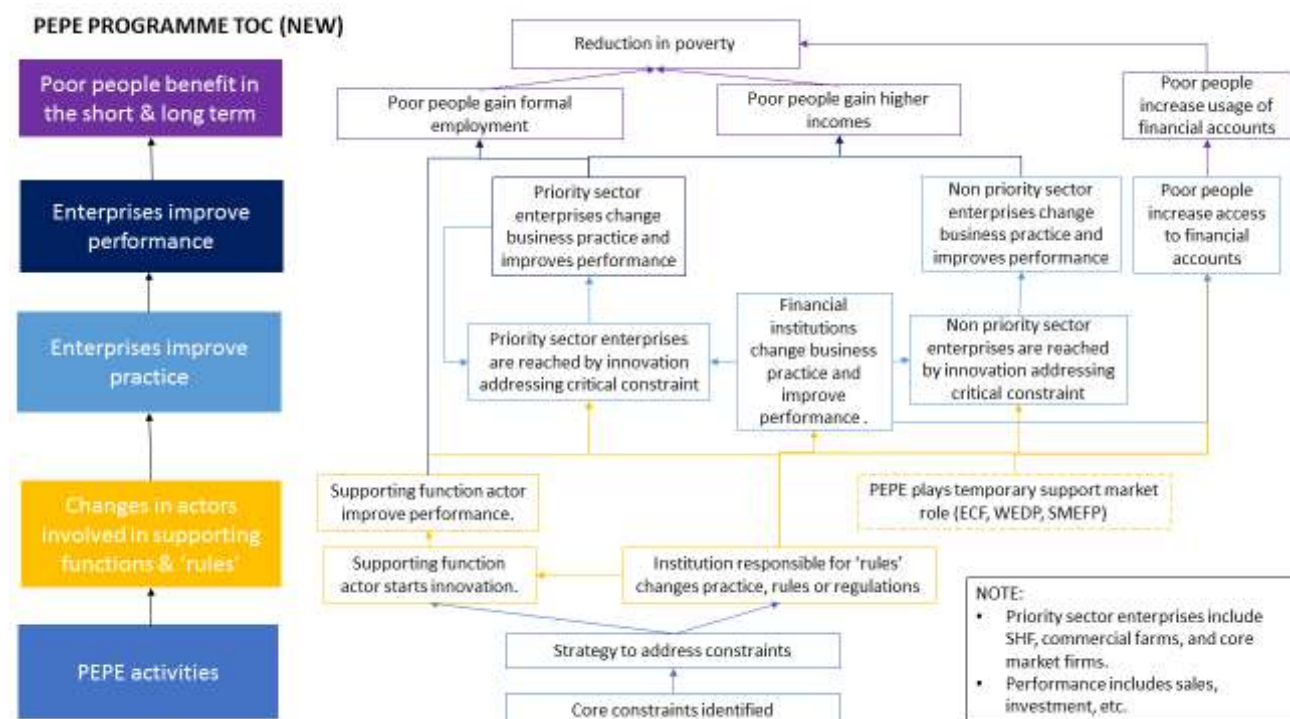


FIGURE 1: SIGNIFICANT OUTCOMES FOR INTERVENTIONS

INTERVENTION OUTCOMES

01	 FRUIT AND VEGETABLES	An improvement in the quality of the inputs in the fruit and vegetable (FAV) sector has increased the productivity of farms thereby leading to an increase in the quantity and quality of fruit and vegetables for both the domestic and export markets.
02	 COTTON PRODUCTION	EP's interventions have increased the quality, quantity, and productivity of cotton producers. These improvements have exceeded the requirements of the textile industry regulations and have now forged a unique international cotton brand.
03	 FINANCE	With an increase in financial service that are adapted to the needs of MSMEs, firms will see increases in sales and create more jobs
04	 PRIVATE CAPITAL MARKET	A vibrant investment advisory market increases investments in firms by improving deal-facilitation and raising awareness and appetite for private equity from both investors and firms. This increase in appetite and improvement in the facilitation of deals will result in the efficient deployment of foreign equity capital. ³
05	 LABOUR	Addressing labour shortages and the inadequate soft skills in labour parks (which limits productivity) will increase the share of Ethiopia's market share of FDI in Africa.
06	 LEATHER PRODUCTS	High-value leather product exports especially footwear for a global mass market, when manufactured using quality FDI and Ethiopian firms, has resulted in jobs created in factories, for both men and women.

FIGURE 2: SIGNIFICANT OUTCOMES FOR INTERVENTIONS

1.2. Evaluation Questions

The endline evaluation aims to answer 11 evaluation questions (see Fig 3). These evaluation questions have evolved since the original design of the evaluation. Figure 1 maps the endline evaluation questions against the programme theory, demonstrating how PEPE will deliver key changes in Ethiopian markets.

EVALUATION QUESTIONS

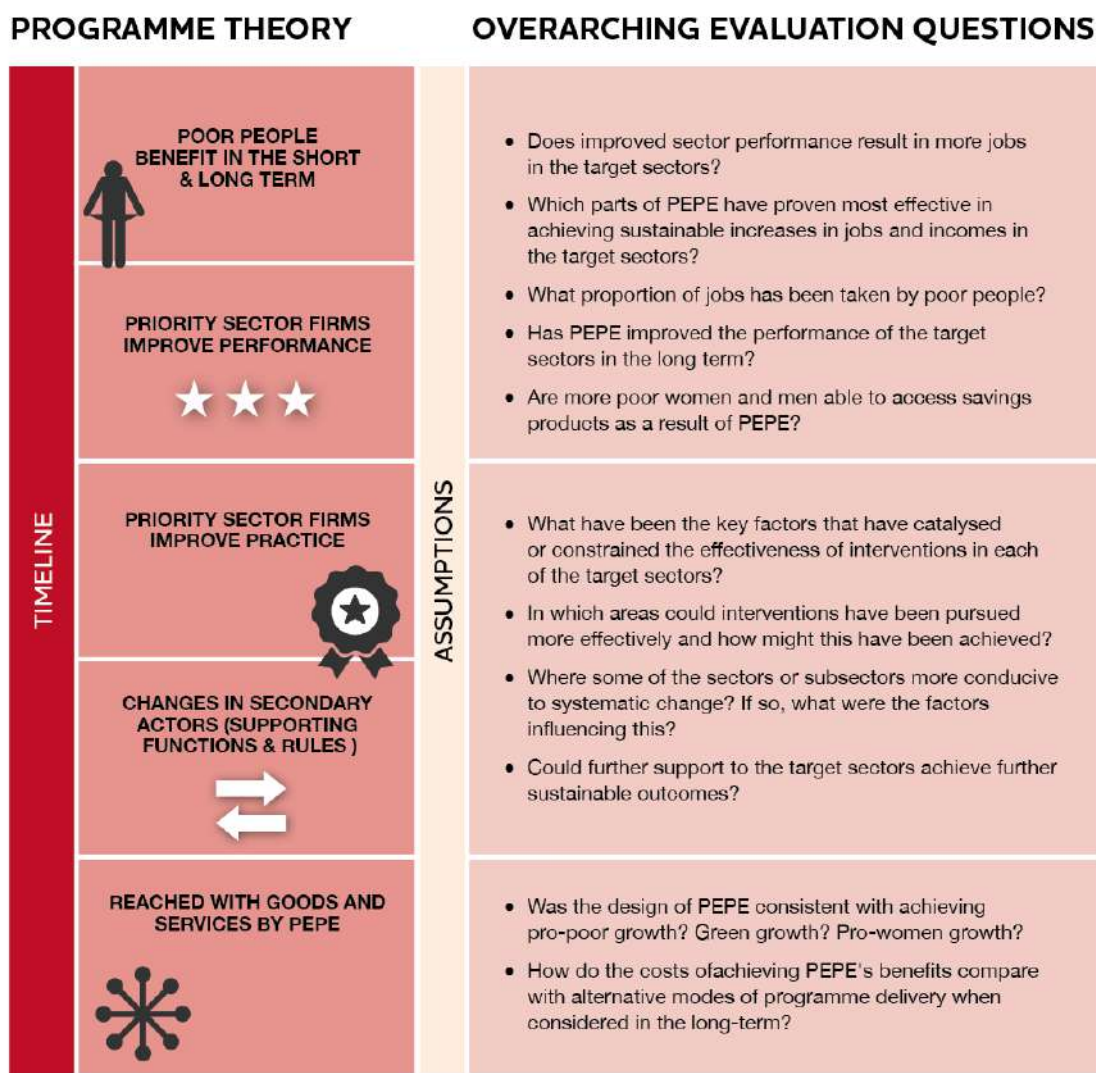


FIGURE 3: EVALUATION QUESTIONS MAPPED TO PEPE'S THEORY OF CHANGE

1.3. Audience for the evaluation

This evaluation was designed to provide an innovative, experimental methodology that evaluators could derive insights from. Evaluators will therefore find the methodological design, what the methodology can legitimately deliver in terms of the assessment of results, and the reflections of the evaluation team, useful for future evaluations of systems-change programmes. This evaluation also has lessons for donors who fund MSD programmes and are interested in how best to measure the efficacy of these programmes. More importantly, this evaluation delivers insights for donors on how best to manage expectations and support implementers to best deliver real impact. Finally, the evaluation is for implementers who are interested in delivering MSD programmes. The evaluation results and insights communicate where to expend resources and how best to manage programmes.

SECTION 2: APPROACH

02

2. Approach

The key methodology used in this evaluation is contribution analysis, which assesses the contribution made by the PEPE programme to jobs created and incomes generated. The evaluation team selected this approach in response to measurement challenges faced by previous MSD programmes and the complexity of the markets in which PEPE operates.¹ Where outcomes are more directly influenced by PEPE's interventions, the evaluation measures and validates the outcomes and impacts that can be attributed to PEPE.² Where outcomes and impacts cannot be directly attributed to PEPE's interventions, the evaluation team assesses how plausible it is that PEPE is a *necessary* contributing factor within a wider range of effects and other influencing factors that might explain the results. When the assessment determines that the intervention did not in fact deliver the result but simply improved the efficiency of the firm or agent, the methodology used to communicate the efficiency gains is to estimate a lower and higher range of the effect. The lower and higher estimates are based on expert judgement and should not be seen as an objective fact, rather, an indication of the extent to which PEPE's interventions have delivered results.

PEPE has three key components, each delivering interventions (including policy and advocacy) to influence key value chain actors. The three components are the Ethiopia Investment Climate Programme (EICP), the Ethiopia Competitiveness Facility (ECF) and the Enterprise Partners programme (referred to in this report as PEPE). Directly or indirectly, these components are designed to improve the competitiveness of the private sector and key actors within it. The EICP works at policy level, the ECF provides grants to private sector companies and the PEPE programme works with business service providers and others who create the enabling environment for private sector firms to increase sales and incomes. EP is the largest component and the only one that has continued to be funded for close to eight years. The impact evaluation focuses only on PEPE's interventions.

The case studies, firm survey and CGE model collectively answer the evaluation questions presented in Figure 3, and relate to key links in PEPE's overarching theory of change (ToC) (Fig 1).

2.1. Evaluation Design Process

¹ T Ruffer and E Wach (2013), Review of MSD Evaluation methods and approaches, DFID Working Paper 41. London: DFID.

² J Mayne (2001), 'Addressing Attribution through Contribution Analysis: Using Performance Measures Sensibly', *Canadian Journal of Program Evaluation* 16: 1–24.

DEVELOPMENT TIMELINE



FIGURE 4: EVALUATION TIMELINE

This independent evaluation was commissioned by DFID (now FCDO) as a response to the challenges faced by previous ex-post summative evaluations of MSD programmes. One of these challenges is that evaluations do not effectively capture sustainability or scale of impact. Since MSD programmes are, in fact, centrally concerned with sustainability and scale of impact, rather than effect size, traditional measurement approaches are ill-equipped to measure the value-add or impact of these programmes.

Another challenge around the effective measurement of MSD programmes is the need to measure the ultimate impact on target group members through assessing intermediaries and geographies of intervention/impact. These can shift over time, timing of treatment is not uniform for all interventions/activities, and the nature of the treatment also varies, with different levels and types of support. This means we have to find innovative ways to measure effects that are not directly within the influence of the MSD programme, where it is difficult to align treatment and control groups, and where interventions have different core aims (within their respective sectors) and are delivered over different periods of time.

The independent evaluation is a longitudinal evaluation of a complex market system development programme (PEPE). Palladium, in partnership with Agora Global and the Institute of Development Studies, was awarded the evaluation contract in 2013. In 2013/14 the evaluation team held numerous activities with stakeholders to inform the evaluation design, including refining a cross-component programme theory of change. Based on the outputs of these activities, they produced an evaluation design document (inception report) in 2014. The inception report was quality assured, approved by DFID's Specialist Evaluation Quality Assurance Services (SEQAS) and cleared by DFID Ethiopia in June 2014.

Upon approval, the evaluation team implemented a baseline data collection exercise which comprised three interlinked surveys: a random sample of priority sector firm employees and suppliers, a census of financial institutions and a census of priority sector firms. Each survey collected data on each actor's economic practices and performance and their perceived constraints to change. A final baseline report was produced, quality assured and cleared by DFID Ethiopia in January 2017.

Since the initial evaluation design (2014) and the baseline exercise that followed (in 2015/16), the implementation of the PEPE interventions has shed light on nuances in the context. These insights affected aspects of the evaluation including large-scale data collection and assumptions in the theory of change, and

helped to further refine the evaluation design. With these insights, the impact evaluation team revised the original design in 2017 to respond more flexibly to emerging information and adapt to this fluid context. The new methodological framework was approved by Evaluation Quality Assurance and Learning Service (EQuALS) and DFID at the end of 2017 and implemented between 2018 and 2021.

2.2. Evaluation design, challenges and limitations

2.2.1. Interlinked research components

The impact evaluation is a mixed-methods, theory-based evaluation designed to estimate a plausible range (low and high) of jobs that the PEPE programme can claim to have created (see Fig 5 and Table 1 for more detail). Credibly estimating job creation and the economy-wide effects is a challenge for any MSD programme. The programme's sphere of direct influence on job creation is limited by the types of interventions targeted by the programme. As well as this, the targets in the results framework for job creation primarily reflect the importance of the PEPE interventions but don't consider that these impact-level changes (i.e., jobs) are also significantly influenced by macro-economic dynamics such as conflicts, pandemics and global economic growth. Therefore, to assess the importance of PEPE's contribution to job creation, we developed four interlinked research exercises, which we describe in more detail in Section 1: Approach.

These are:

- A review of the monitoring information provided by PEPE's result-based management system.
- A review of six markets (through process-tracing case studies) in which PEPE's interventions have reported significant outcomes and impacts.
- An assessment of the quantitative net-effects of service uptake among firms involved in the three priority sectors, through the PEPE programme. This assessment was done using a survey of firms.
- A computable general equilibrium (GCE) model simulation to extrapolate the implications of these firm-level changes to sector effects on job creation.

To select the case studies and firms for the survey, the evaluation team worked closely with the PEPE implementation team so that the interventions that most contributed to outcomes and impacts were integrated into the development of the case studies. Very importantly, the design of the firm survey and process-tracing case studies includes rigorous counterfactual reasoning to assess additionality, i.e. reflecting on what would have been the likely situation without PEPE's interventions.

IMPACT EVALUATION

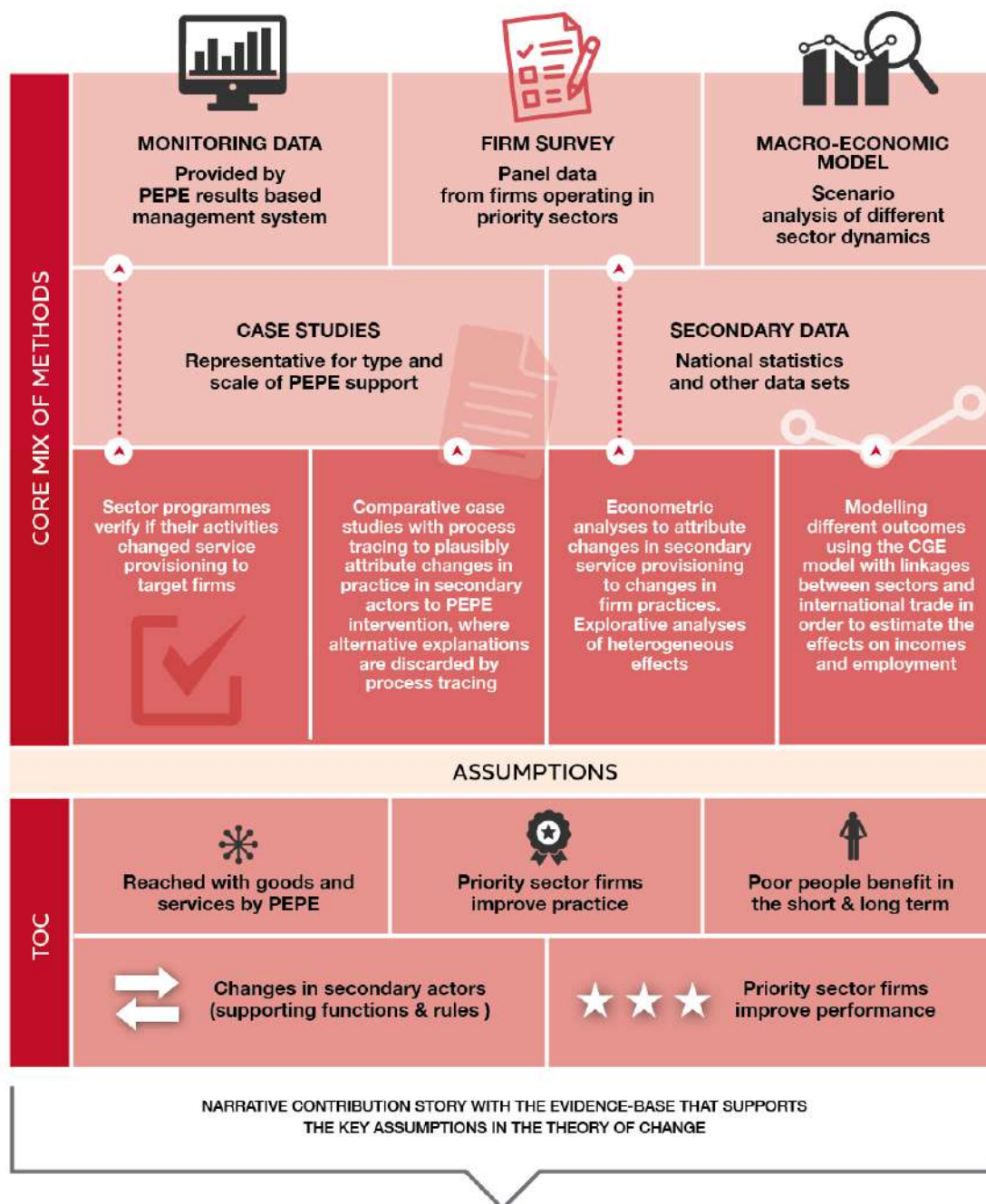





FIGURE 5: METHODOLOGICAL DESIGN OF THE IMPACT EVALUATION

TABLE 2: PEPE LOGFRAME INDICATORS

EP-SPECIFIC LOGFRAME INDICATORS

LOGFRAME INDICATOR	ROLES & RESPONSIBILITIES		DATA SOURCES
	PEPE	EVALUATION TEAM	
Number of formal jobs created in priority sectors and non-priority sectors 	Claims contribution on this impact indicator	Provides estimates of attributable jobs created in the priority sectors and the economy as a whole using the CGE model	<ul style="list-style-type: none"> Firm-level survey Comparative case studies CGE modelling EP monitoring information WB impact evaluation of WEDP and SMEFP
Smallholders with improved incomes in both priority and non-priority sectors 	Claims contribution on this impact indicator	Verifies the claims of the number of smallholders in the priority sectors that have improved incomes reported for specific activity areas	<ul style="list-style-type: none"> Firm-level survey Comparative case studies EP monitoring information
Amount (£m) of investment in priority sectors 	Claims contribution on this impact indicator	Verifies the estimates reported on this outcome indicator in the Project Completion Report	<ul style="list-style-type: none"> Comparative case studies EP monitoring information WEDP and SMEFP monitoring data

2.2.2. Challenges and COVID-19 adaptations

In 2020, due to the new COVID-budget re-prioritisation and creation of the FCDO (through the FCO and DFID merger), the budget for the ex-post evaluation was removed from the contract. Considering travel restrictions in 2020, the evaluation team anticipated that it would not be appropriate or feasible to collect data from the comparison group of firms, while beneficiary firms could still be covered. In response, the evaluation team refined the estimated value of the technical coefficient derived from the mid-term survey longitudinal panel. The evaluation team also chose to continue to use an analytical process previously used for the mid-term evaluation. This analytical process includes the use of contribution scores to measure the intensity of the treatment variable. Through this, the evaluation team is still able to estimate the plausible range of impact, and this was then used in scenarios for the CGE model.

In some sectors, the COVID pandemic also disrupted supply chains, and the evaluation team recognised the impact this had on PEPE's ability to deliver expected jobs and incomes. Because of this, the 2020 firm survey was revised from its mid-term design, and asked firms to reference their performance over two different time periods in 2020: specifically, performance just before the pandemic and performance in November/December 2020. This revised methodology was discussed with the Evaluation Quality Assurance and Learning Service (EQuALS), and subsequently given formal recognition by EQuALS and FCDO as a reasonable approach to address the impact of the pandemic on the measurement of results.

Finally, anticipating challenges with face-to-face interviews, the questionnaire was trimmed to a duration that was feasible for virtual interviews. Fortunately, though, most of the information could still be collected in face-to-face interviews (56 out of 74 interviews) as the lockdown in Ethiopia was discontinued. This meant the survey could be administered during a longer period (October to December), and this also helped in getting a high response rate, with only a few logistical challenges. For example, a team of enumerators who travelled from Sidama and SNNP regions to Hawassa had to wait for two days to get permission from the Hawassa Investors Association to start data collection in the industrial park. And the two firms that had previously confirmed participation chose not to be surveyed, because they were producing face masks for the Ministry of

Education at the time. Nonetheless, the endline survey work ran smoothly due to the ample experience of the data collection firm JarCo at midterm.

2.2.3. Limitations of the evaluation methodology

The impact evaluation attempts to deliver robust estimates of job creation and the sales and investments attributable to PEPE. However, it is inherently impossible to estimate the net-effects of MSD programmes at impact level (job-creation). The support provided by MSD programmes is systemic and not direct, which makes job-creation (impacts) beyond the sphere of direct influence of an intervention. This makes estimation of impacts methodologically problematic (Ton, Vellema et al. 2014) and not a good metric to use to assess the success of a programme. Recognising the inherent difficulty in measuring jobs directly created, other donors have focused on aggregate sales and employment figures from all firms that were reached by a private sector intervention with a 'significant' contribution (DGIS-RVO 2017). This inherent difficulty means it is close to impossible to deliver precise baseline-endline data with counterfactual designs. Therefore, for impact evaluations of MSD programmes, it is important to use research methods that can evidence the significance of contributions made by an intervention (Goertz 2006, Mayne 2019). We argue this is a better approach to evaluate the economic impact of indirect private sector development support, such as MSD programmes.

The use of a lower and higher estimate that this evaluation uses, is an attempt to address the contribution question that plagues indirect effects of MSD programmes. Using these maximum and minimum bounds is a way to communicate the inherent uncertainty in the analysis. This prevents readers from making strong inferences about impacts in MSD programmes like PEPE.

Our approach to assess a range within which the real effect is likely to lie, with a conservative minimum bound and an optimistic higher bound, is, we feel, an elegant way to limit the threats to validity of the net-effect estimates of impact. Whatever bias is inherent in the estimates will most likely have a downward pressure on the higher estimate of impact but will not affect the lower estimate of impact. As there is also a risk that firms differ on other characteristics that are unobserved, the coefficient in the regression is not precise but indicative. Together with the information from the process tracing case studies, the evaluation team estimated a range within which the real effect will lie. It also worth noting that while the logframe notes targets for job creation in the priority sectors, and not for the induced effects in the wider economy, this report estimates both the direct and the induced impact of the programme on job creation. The direct effects are estimated using the case studies, the World Bank's counterfactual research results, and the firm survey while the induced effects are estimated using the CGE-model.

Another issue that the endline has had to address is that improved sector performance may have unanticipated effects on employment, and on poor people, because sectors influence each other in the Ethiopian economy and within international markets. For example, growth in one sector may lead to a decline in another sector due to product or crop substitution. This evaluation reflects on the outcomes of different scenarios, using a multi-sectoral model of the entire economy, and estimates the general equilibrium effects on employment, incomes and other economic variables that affect poverty outcomes. The scenarios are based on the lower and higher estimate of the impact, which in turn draws on the cases studies that concluded that results could be attributed to PEPE support. Macro-economic models and input-output matrices are rough ways of estimating effects, but they are the widely used and the emerging best practice in estimating the induced effects of support in private sector development (CDC 2019, FMO 2018).

In some case studies normative decisions help us arrive at the scenarios. For example, we used normative decisions to arrive at figures for the efficiency gains of PEPE's support to labour sourcing in Hawassa. In this instance, it is highly unlikely that the efficiency gain is more than 10%, which is the reasoning behind the use of 10% as the higher estimate. Nonetheless, these normative decisions will not affect the main conclusions of the impact evaluation, rather the estimates offer a range of plausible impact rather than a definitive figure for job-creation, investments and sales. The direct job creation claimed by the PEPE programme is already well below target (PEPE's MRM data) and even the induced job creation as computed with the CGE does not add to the target agreed at programme inception.

2.2.4. Addressing bias, reflexivity, and conflicts of interest

The independent evaluation team is itself diverse and because a few team members have been involved in the evaluation since 2013, has a remarkable institutional memory. With diverse backgrounds and strengths, the team itself has a built-in challenge function which will limit bias in the evaluation tools and analysis. Individual team members have also served as critical friends when reviewing case studies. The survey instrument was also reviewed by non-core team members to ensure a degree of independence in the questions and, consequently, the quality of data.

Finally, the analysis from the case studies (a key component of the evaluation), which allowed us to attribute investment and sales to PEPE's interventions, was presented to the EP implementation team for feedback. The evaluation team also solicited written responses from the EP team, which we reflected in the final case studies.

2.3. Data collection methodology

Two components of the evaluation design – the case studies and the firm survey – involved gathering data from respondents across Ethiopia. The firm survey data was gathered by enumerators from the consulting firm JarCo in Addis Ababa in, late 2020. While the survey questionnaire was edited to suit virtual data collection, enumerators were in fact able to travel to interviewees to gather data so we were able to gather most data in person. We also piloted the initial survey questionnaire to ensure questions would translate appropriately into Amharic. A researcher from the London School of Economics, who is also Ethiopian, tested the questions and reviewed the length of the survey, after which the questionnaire was finalised.

The six case studies were written by four researchers. The researchers worked closely with EP to gather a longlist of interviewees. From the longlist, the researchers independently contacted as many respondents as possible. All interviewees were verbally informed of their role in providing information, and all quotes attributed to individuals (for the longer case studies in Annex 3) were authorised with the verbal consent of the interviewees, at the start of the interviews. Once the case studies were written, they were reviewed by other researchers for quality assurance and to ensure criticality.

SECTION 3: Evaluation Findings

03

3. Evaluation Findings

This section summarises the findings from the case studies, firm survey and CGE model. Section 3.1 presents findings for each of the key sectors in which PEPE's interventions have claimed to have significant impacts on sales, investments and jobs. This is done through distilling the process-tracing case studies included in Annex 3. Section 3.2 discusses the results of the firm survey and assesses the extent to which firm performance has facilitated growth in business performance at the sectoral level. Finally, Section 3.3 describes the results of the CGE scenarios that translate the direct and indirect employment effects into induced employment effects at macro level.

3.1. Process tracing case studies to assess direct effects of PEPE's interventions on results

The six cases studies presented below assess the extent of the contribution made by PEPE's interventions to the performance of the priority sectors. This assessment uses in-depth process-tracing case studies and the analysis from the firm survey. The detailed case studies are in Annex 3 and provide a more comprehensive analysis. These case studies are summarised below, to primarily note the extent to which each sector delivers direct jobs, sales, and investments. The annexes also refer to the documents and evidence that supports the inferences made in these summary case studies.

3.1.1. Case Study: Labour Sourcing in Industrial Parks

Background

The Government of Ethiopia has been a vocal proponent of industrial transformation, with industrial parks as a key lynchpin of its strategy. Ethiopian factories are currently underperforming, in part due to an inadequate supply of suitable workforce, and the capacity utilisation of these factories is significantly below the industry average. PEPE's HIPSTER intervention consists of a public-private partnership (PPP) model working with brands, factories, private service providers and federal/regional government agencies. The intervention intended to have greater outreach than sourcing conducted by factories alone. Soft skills training and gender support services were also provided to new recruits. PEPE mobilised workers through the local Bureau of Trade and Industry (BOTI), screening them at the local level and grading them when they arrived at industrial parks. Towards the end of this phase, there was a move to integrate this with improved soft skills training within factories. PEPE also worked with central government to ensure that an improved model for sourcing was integrated with their industrial parks around the country. The HIPSTER intervention introduced a technology provider to digitise job seeker tracking and improve monitoring, as well as an additional sourcing channel outside of the government system to further increase labour sourcing capacity. This system is now also used in other industrial parks.

LABOUR MARKET THEORY OF CHANGE

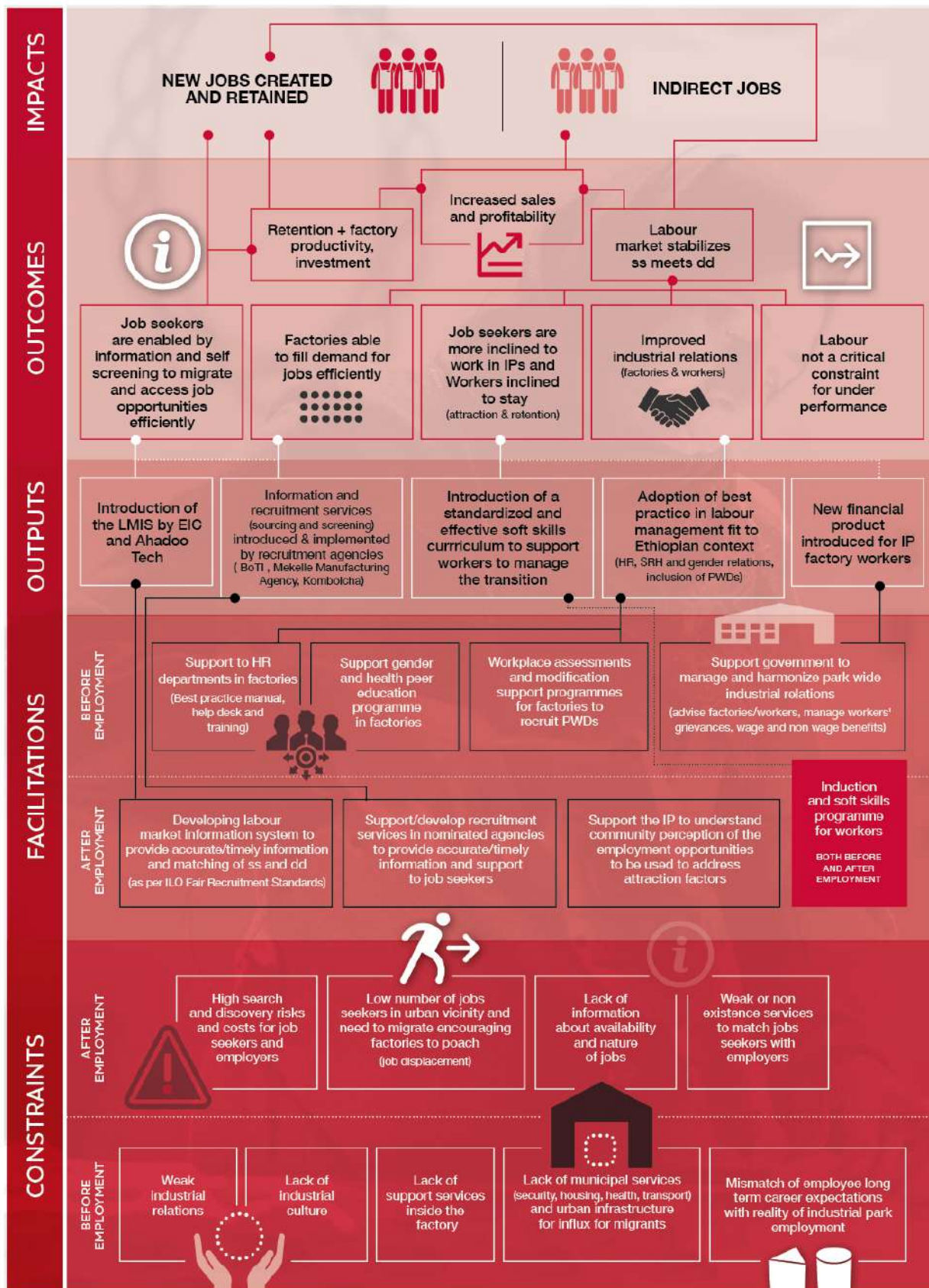


FIGURE 6: LABOUR SECTOR THEORY OF CHANGE

Assessment of contribution claims

PEPE claims that its work in the labour sector had a quantifiable positive net impact on job creation. The HIPSTER theory of change states that firms' increased productivity will lead to job creation. The evaluation identified three interlinked contribution claims on which the job-creation is contingent. The following section, verifies each of these contribution claims.

A. PEPE contributes to the development of an effective and efficient sourcing system, integrating recruitment, grading and soft skill training (output level contribution claim)

The primary sourcing system supported by PEPE works through the regular governmental channel of the Bureau of Trade and Industry (BOTI). HIPSTER had an influence on sourcing, especially by including the explicit category of Industrial Parks in the BOTI system in SNNPR. The addition of this specialist category in job seeker registration resulted in more people being listed as available for employment in Hawassa Industrial Park. PEPE admits that its influence on the recruitment of workers through HIPSTER was limited. The balance of evidence suggests that labour sourcing strategies, whether public or private, are not as significant in a factory's ability to source labour as other underlying factors, such as availability of good quality labour. PEPE has effectively become part of the problem-solving task force (with technical assistance, research and advocacy, and capital) trying to address issues with labour in Hawassa.




B. The sourcing system contributes to increased productivity and improved sales (outcome level contribution claim)

If executed well, there is a clear rationale for effective screening and grading to increase the quality and productive capacity of the workforce. According to PEPE, 72,138 workers in Hawassa were screened and 42,269 were also graded. However, factories said that they did not receive the grading scores and that workers failed exams that they were deemed to have passed at the grading centre. Further evidence of issues around grading is that factories in other parks do not take up the grading service even when offered. Kombolcha and Mekelle industrial parks, which are reported to have copied the Hawassa model, do not use grading before allocating workers to factories but, as in Hawassa, they do carry out combined sourcing and screening through local government departments. It is likely that this is due to the specific requirements of each factory, which need to be included in their assessment. Grading workers within the factory, after some weeks of training, is likely to yield a far greater efficiency gain than decontextualised grading before they start work. As reported in the case study at mid-term, despite the mandatory grading process, some companies have developed their own grading centre, calling into question the additionality of the grading system. There is, however, evidence of some added value from the grading system, but this is mixed and, for experienced investors, is of limited value.

C. Improved sales generate more jobs (impact level contribution claim)

The sourcing, screening and grading process can be seen to have contributed at impact level. The screening and grading process is the component in which PEPE has made significant investments. It is, however, also the component that does not appear to have worked particularly well in Hawassa and has not been scaled up to the other parks. Varied reasons were given for this, but primarily the limitations concern factories' need to screen and grade workers in their own systems and after a short amount of time to get used to the task. The consistent factors across all HIPSTER areas that PEPE claims have been copied are local government promotion and sourcing, and a centralised allocation system.

TABLE 3: SUMMARY OF ASSESSMENT OF LABOUR SECTOR

INTERVENTION	ASSESSMENT
 <p>The soft skills training led to increased quality of workers (increased likelihood of retention).</p>	<p>Soft skills deficits undoubtedly increase labour turnover and decreases productivity. Evidence is needed as to whether soft skills training does indeed improve soft skills. However, EP is not claiming any results from the initial model where factories did not demand soft skills training and therefore it is unclear whether soft skills do indeed lead to increased quality of workers.</p>
 <p>The inclusion of workers in savings schemes increased worker retention.</p>	<p>It is, in theory, very early to assess the impact of savings schemes (the TATARI intervention) on retention, absenteeism, and ultimately productivity of workers. This is because the savings and the loans that workers can leverage won't being accessible for another year or so. However, initial data suggests that this is a promising intervention, which may have a positive impact on worker retention.</p>
 <p>The improvement of Human Resource Management (HRM) in factories increased worker retention</p>	<p>There is no identifiable evidence of increased worker retention or productivity from the new HRM procedures.</p>

Conclusions

The HIPSTER intervention is set up to create jobs through increased productivity. This means it is inappropriate to suggest that the number of workers that went through the HIPSTER system are jobs that HIPSTER created. In the absence of PEPE's support, factories would still have engaged in a range of other sourcing and retention strategies. However, PEPE support has undoubtedly increased the effectiveness of the addition/preferential promotion of HIP, centralised sourcing and grading and centralised soft skills training. This improved efficiency would not have happened without PEPE support. Because of this, the endline findings still hold to the method applied at mid-term where we argue that PEPE can claim an efficiency gain of between 4% and 10% of the jobs in Hawassa. This normative estimate was deemed appropriate for the midterm (see Section 2 for detailed methodological approach used in assigning higher and lower estimates). This is estimated between 1,213 and 3,032 workers, with 93% of these being female workers. PEPE played a key co-ordination and facilitation role in Hawassa and was instrumental in helping to learn and adapt to contextual challenges: PEPE's intervention was necessary and timely to support acute labour challenges. HIPSTER's activities account for an increase in the numbers of workers recruited, a result of the digitisation (post midline) which led to improvements in allocating and tracking workers. If PEPE intends to extend these claims to other industrial parks, once significant job creation has taken place, then these should be at a far lower level than in Hawassa.

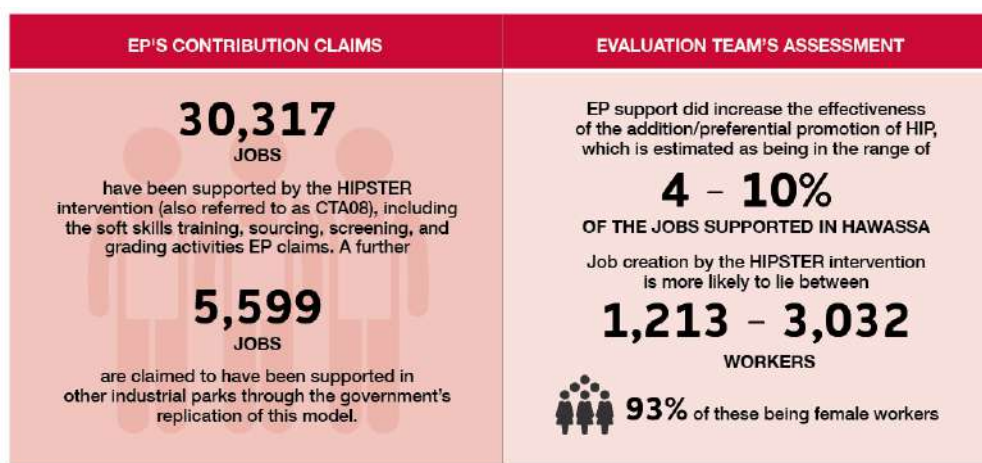


FIGURE 7: ENDLINE FINDINGS ON JOBS CREATED IN HAWASSA

3.1.2. Case Study: Private Capital Advisory Fund (PCAF)

PCAF THEORY OF CHANGE

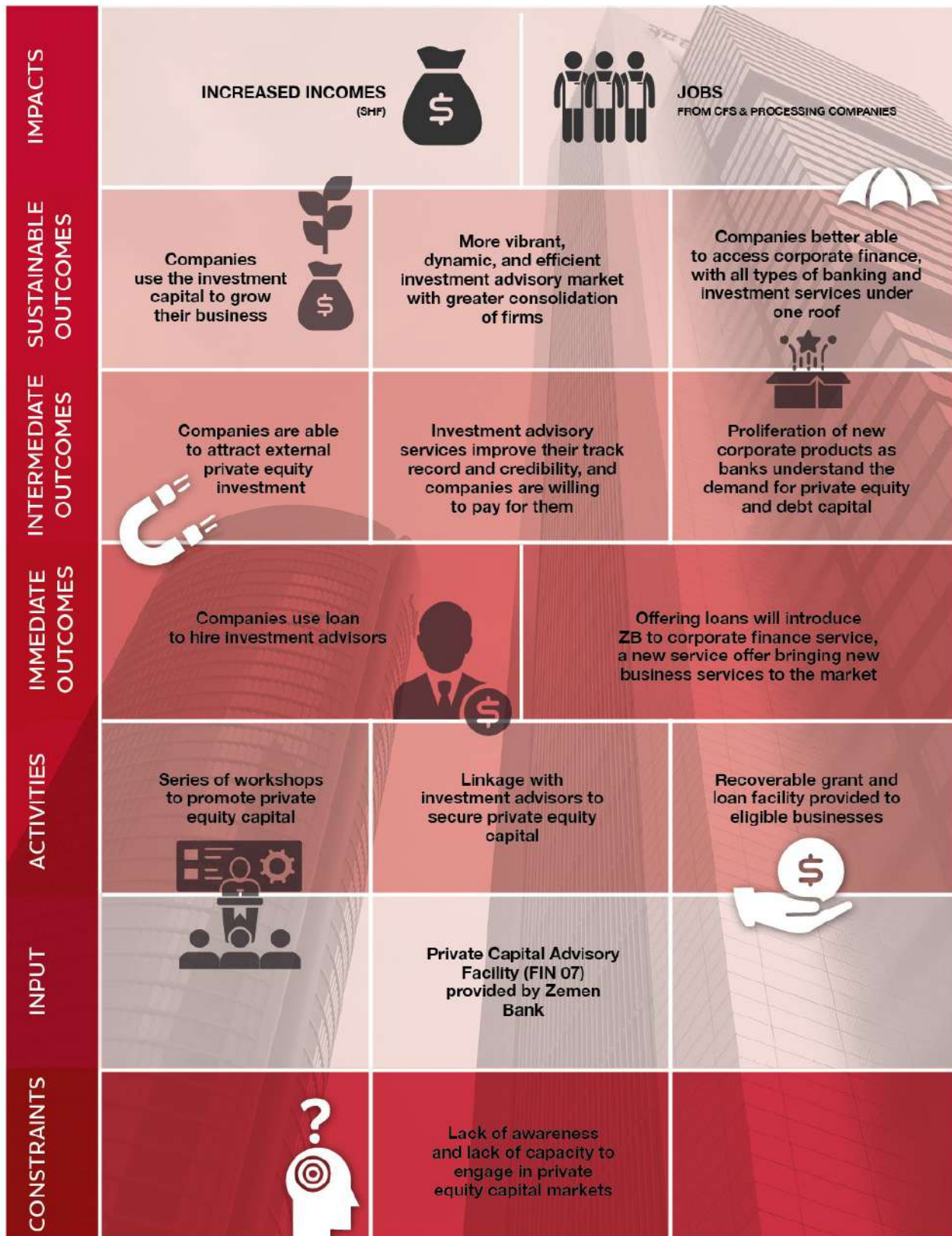


FIGURE 8: PCAF THEORY OF CHANGE

Background

The Private Capital Advisory Fund (PCAF) is a PEPE intervention (also known as FIN-07) that aims to develop private capital markets in Ethiopia. PCAF is designed to encourage more private investment in Ethiopian companies by improving their awareness of private equity and addressing the lack of professional expertise available to companies seeking investment. The programme provides education to local investors to help them understand the potential benefits of financing other local companies, and to create networking opportunities between companies, advisors and private equity investors. PCAF also provides funding for companies to hire investment advisors, who would help facilitate transactions by ensuring they meet the requirements of private equity investors in areas such as business plans, financials and valuations. PEPE organised education workshops and partnered with Zemen Bank, a local commercial bank responsible for managing and disbursing private capital to local companies.

Assessment of contribution claims

The theory of change on which PCAF is based links several factors to job creation: awareness-raising, networking, investors' demand for investment opportunities and supply of good quality firms. So far, PEPE has not recorded any results towards job or income creation. Nevertheless, based on the information from PEPE and interviews conducted for the case study, the evaluation team is able to verify the causal logic underpinning the theory of change and discuss the likelihood that jobs will be created in future that can be attributed to PEPE's intervention (see Table 4 below).

A. Additional investment capital that companies used to grow their business

In total, this intervention involved 31 companies and 21 consultancy firms. Only four of the 31 companies received an actual investment. The other companies were able to create improved business propositions to attract a business partner. However, without any deals, none of the results from PCAF can be seen as contributing to incomes or sales. In Table 4, we take a closer look at three of the four investment deals that are attributed to PCAF.

TABLE 4: PCAF'S INVESTMENT DEALS

COMPANY	DESCRIPTION OF DEAL	ASSESSMENT OF CONTRIBUTION	CONCLUSION
CLS Logistics	Entered into a joint venture with a French firm, Bolloré Logistics, in a deal (size of deal undisclosed)	<ul style="list-style-type: none"> The two companies had a relationship of around 10 years, and this transaction would allow them to make their operations in the region more efficient (CLS Logistics 2020). The length of the relationship with their joint venture partner and investor, CMA CGM, shows that PCAF was not decisive in introducing the two parties to each other. One of the triggers for the deal taking place was the relaxation of regulations in Ethiopia restricting foreign investment into the logistics sector, with foreign firms allowed to take up to a 49% stake in Ethiopian logistics firms as of 2018. CLS felt the need to hire legal advisors for this transaction, but that they did not feel that Ethiopian investment advisors had sufficient experience for a foreign investment of this nature. As such, they hired a foreign advisor, the Kenyan firm Anjarwalla & Khanna. 	<ul style="list-style-type: none"> PCAF appears to have made the transaction easier for CLS Logistics, although given the length of the two parties' relationships and recent regulatory changes, as well as CLS Logistics' ability to cover a portion of the costs of the legal advisor, it feels as though PCAF was a helpful but not essential factor in making the deal happen. The hiring did not create investment service delivery capacity in Ethiopia
Maccfa Logistics	Sought to enter into a joint venture with a foreign partner to expand operations	<ul style="list-style-type: none"> Cost of full due diligence, both operational and financial, for a transaction of this nature was at least twice as much as the amount of the grant offered. As such it appears that Maccfa Logistics were able to pay at least half of the amount of the investment advisory services from their own funds. 	<ul style="list-style-type: none"> Whether or not the grant was a necessary trigger for the transaction or simply a way of lowering their costs is difficult to ascertain.
Sahle & Family	Debt financing for the completion of a hotel development project.	<ul style="list-style-type: none"> Sahle & Family already had a relationship with Lucy Partners (adviser), and they would have continued to work with them regardless of being able to obtain a PCAF grant. The advisor was used to source debt financing rather than equity, seeking to take a loan rather than finding a co-investor in their project. The company being funded was a special purpose vehicle set up for the completion of a hotel project. The Sahle & Family transaction was different from other PCAF transactions, and different from the types of transaction which EP described as the target for PCAF. 	<ul style="list-style-type: none"> Some level of additionality for the completion of this transaction could be ascribed to PCAF, since after obtaining the PCAF grant from Zemen Bank, Sahle & Family obtained the domestic portion of their debt requirements from Zemen Bank. It is hard to fully attribute this to PCAF, given that it is possible that even if they had not engaged with Zemen Bank through PCAF, they could well have sourced financing from elsewhere, or could have built a relationship with a bank anyway through their existing arrangement with Lucy Partners.

B. A more vibrant, dynamic, and efficient investment advisory market with greater consolidation of firms

Many of the advisory firms that PEPE supported and catalysed through PCAF already had experience and technical knowledge prior to PEPE's support. In some instances, these advisors also had existing working relationships with companies prior to PEPE's intervention. For example, Sahle & Family hired Lucy Partners, an experienced advisor that was already partnering with the company so might have benefited less from exposure to the transaction than another, less well-established advisor. CLS Logistics hired a Kenyan advisor, on the basis that Ethiopian firms are not sufficiently experienced in advising on large foreign investments. Maccfa Logistics' advisor was Ethiopian and had previous experience in the logistics sector. In this case, the work done by the advisor was on business plan elaboration, not DFI facilitation. These examples demonstrate that PEPE was not necessary in improving the services provided by these advisory firms and in some instances not necessary in facilitating introductions between companies and advisors.

There is also no evidence that PCAF made the market for investment advisory services more sustainable. PCAF was a donor-funded mechanism for stimulating demand for investment advisory services, and the evidence shows that the programme was changed from a revolving fund that had a long-term role in promoting these services into a grant facility that was short-term. It was not able to ensure that this function remained naturally sustainable beyond the end of the programme. PCAF saw uptake from companies only when it offered funds in the form of a grant rather than a loan, implying that there was no appetite for taking on the risk of hiring an investment advisor (either with companies' own funds or through a loan) where there was no guarantee of a return on the investment to help pay it back. The programme effectively removed all risk from all parties. Zemen Bank was funded by PEPE, the facility became a grant so there was no risk to companies using it, and investment advisors had certainty of payment for their services. This removal of all risks is not conducive to creating a functioning market-based business support service.

C. Companies are better able to access corporate finance, with all types of banking and investment services under one roof

Zemen Bank indicated that they would not continue the programme in its current form. They felt it had helped them to better identify the problems in the Ethiopian private equity market, but that offering grants was not a sustainable way for them to address these issues because, as a commercial bank, they had a requirement to make profits. There is some evidence that PCAF led to Zemen Bank gaining more experience in the corporate finance market, with the bank describing it as a 'learning experience'. It was also clear that Zemen Bank did not offer investment advisory services, by leveraging what they had learnt. Their corporate finance services remained unchanged from before their involvement with PCAF, continuing to operate as a commercial lending bank.

Conclusion

To date, PEPE has claimed USD 35,853,000 of investment for four companies (Enterprise Partners 2019b). This is the amount that was invested, rather than the total of USD 76.25 million committed by investors for five companies through MoUs. Overall, PCAF helped companies to hire advisors, and played an active role in sourcing investment capital. However, in each of these cases, the weight of evidence tends to imply that these deals would most likely have happened anyway. In two cases the companies had pre-existing relationships with their advisors and in a third PCAF leveraged relationships that already existed. In the three cases studied, the transaction was already in the pipeline before PCAF started. PCAF helped cover costs but cannot claim to be a critical contributor to the investment deals. While the 31 participating firms did hire investment advisors where they might not otherwise have done so, there is little evidence that this activity will be sustained beyond PCAF. While PCAF certainly helped to cover some of the costs associated with these deals, the deals themselves did not rely on PCAF. Finally, regarding the advisory services that PEPE supported and catalysed through PCAF, many of these advisory firms already had experience and technical knowledge prior to PEPE's support. In some instances, these advisors also had existing working relationships with companies, prior to PEPE's intervention. This does mean that given existing evidence it is unlikely that the market of advisory services has been established, rather that advisory firms already in existence have been given additional clients. It is also too early to ascertain whether the market of advisory services has been made sustainable.

3.1.3. Case Study: Seed and Seedling Propagation Model (fruit and vegetable sector)

FRUIT & VEGETABLE THEORY OF CHANGE

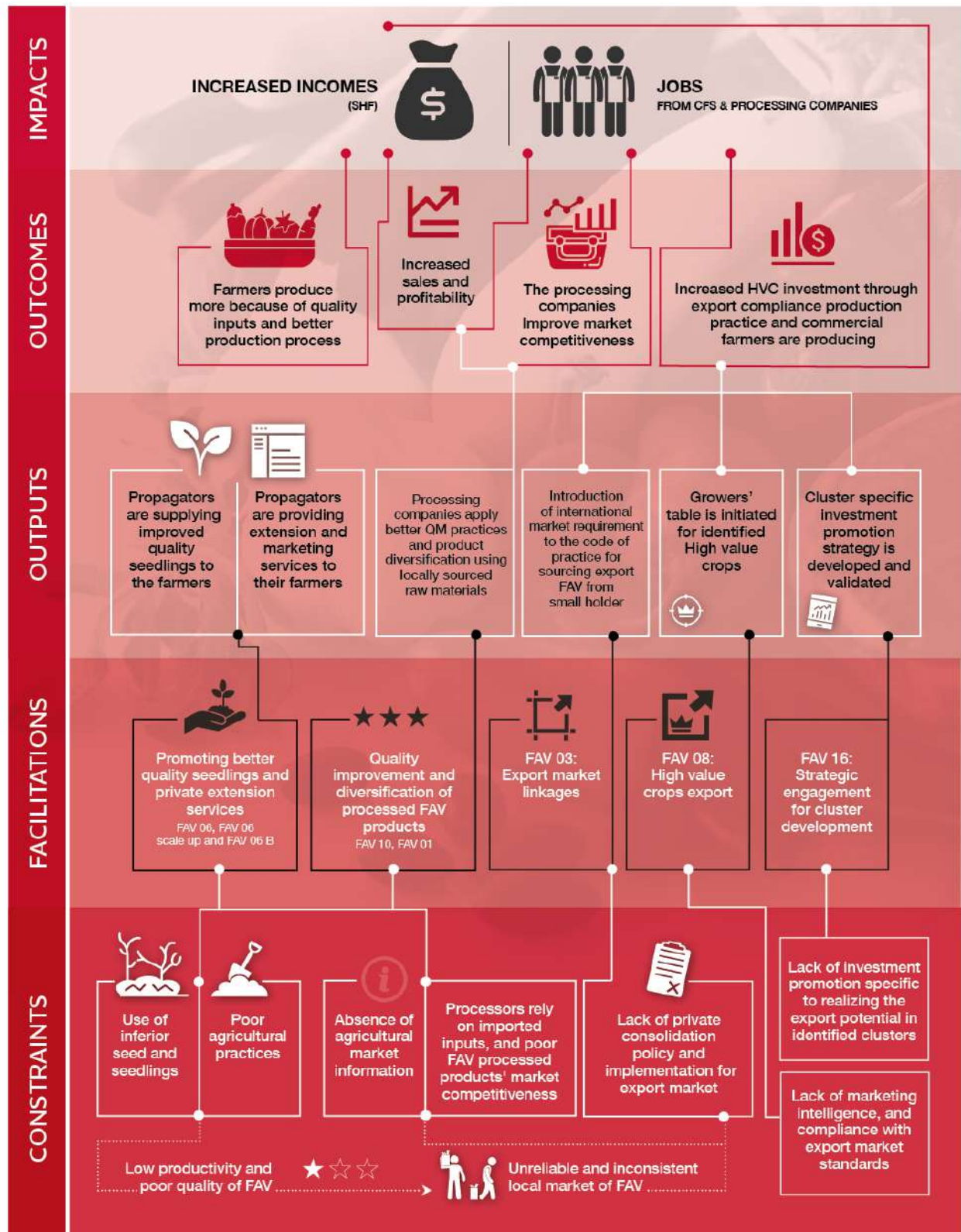


FIGURE 9: FAV THEORY OF CHANGE

Background

Ethiopia has a diverse agroecology, and abundant land to support a thriving fruit and vegetable sector. Despite huge potential, the sector faces major challenges. While over 90% of national production comes from smallholders³, smallholder production is characterised by low quality. Productivity of fruit and vegetables is also low, standing at only 63% of the average for commercial farms⁴. At the heart of this is poor access to, and use of, good quality inputs. Supporting the efforts of the government and other donors in Ethiopia, PEPE's interventions in this sector aimed to catalyse the sustainable development of fruits and vegetables, focussing on smallholder farmers, who, by definition, are poor. Numerous interventions were tested by PEPE and not all initiatives were scaled up as planned.

Interventions were a response to the critical challenges facing the sector, such as the supply chain from input to sales (including export market links) and the sustained provision of good quality seedlings. PEPE's interventions supported processing industries, built export market links, catalysed strategic engagement with farmers and seedling developers for cluster development, and provided quality seeds and seedlings.

Assessment of contribution claim

We reviewed the contribution claims made by key interventions: (i) improving the quality of fruit and vegetable seedlings and (ii) private extension services. We used EP's monitoring, reporting and measurement (MRM) system to identify key interventions that have significantly contributed to the outcome and impact results. Our assessment draws on PEPE's primary documentation and interviews conducted with three commercial farm staff: two owner-managers of commercial farms (seedling buyers and propagators) and a consultant/agent of a propagator.

A. PEPE support helps to develop a new propagator model

A key challenge that PEPE identified in this market was that smallholder farmers struggle to consistently procure good quality seeds and seedlings. This insight led to the creation of an agent-based marketing (ABM) approach to promote quality seedlings through private extension support. In this model, agents provide farm extension services (use of inputs, agronomic practices) as well helping smallholders access input and output markets. The agents receive training and technical backup from propagators. The model that evolved has two features. Firstly, some existing propagators set up satellite nurseries in remote locations and provided on-farm extension support to farmers, who developed seedling production as part of their business. Satellite nurseries serve as a market outreach strategy that reduces inefficiencies in delivering seedlings, and also act as stations for acclimatisation or hardening to keep seedlings sturdy before reaching farmers. The second feature was the development of a temporary seedlings storage facility, where agents temporarily store or hold seedlings prior to collection by farmers. Farmers who took up these activities served as distributors.

B. Propagators supply quality seedlings to farmers, and provide extension and marketing services to the farmers

Two firms were involved in the pilot. Jeju was already supplying products to the consumer market and continued this service after PEPE completed the intervention support. JoyTech has also continued to distribute mango and orange tree seedlings (and allied practices), using state of the art technology. As the intervention scaled up, propagators were spread across three production corridors in four major regions: in Northern Ethiopia (mainly in Raya Valley, Tigray), in Northwest (mainly in the Amhara region) and in the Central and Southern regions (in Oromia and in the Southern regions, encompassing the Rift Valley and Arba Minch areas).

Progress on the piloting and scale-up initiatives was mainly in onion and tomato seedlings and made a slow start: PEPE signed agreements with the pioneer commercial farms (JoyTech and Jeju) in April and May 2017, but only completed agent recruitment, training and setting up satellite nurseries in September 2018. The

³ NPC National Plan Commission (2016). Growth and Transformation Plan-II of Ethiopia: Volume I Main Text. Addis Ababa

⁴ Enterprise Partners (2019a). EP Ref 20190328: SHF Production Market Strategy

propagation of fruit tree seedlings only gained importance from 2019, and interviewees noted that its quick adoption was helped by the Green Legacy Project (GLP), an initiative of Prime Minister Abiy Ahmed to combat the effects of deforestation and climate change. Though the quality of the extension is good, the number of farmers supported by private firms is limited. On average, around 3,500 farmers were reached by each propagator. This is far more than the target in the government-run extension system, which aims to have an agent for every 500 farmers.

C. Farmers produce more because of quality inputs and better production practices

The ABM model reached the vegetable farmers mainly through lead, or model, farmers. Each of these is assumed to reach around five fellow farmers, who learn through demonstration effects. PEPE engaged at least 14 propagators, who in turn engaged at least 406 agents, and reached directly reached 11,832, who indirectly have reached a larger number of smallholders. Model farmers account for about a fifth of the total number of farmers reached. They are more likely to receive training and technical support, and to have established strong market linkages. We estimate that the total number of farmers reached in vegetable production is between a minimum of 3,416 famers and a maximum of 17,082.

D. The interventions increase income for smallholder farmers

PEPE commissioned an impact evaluation of the vegetable seed intervention, which showed that 88.7% of the sample vegetable seedling users (97 in total) increased their production by more than 30% (compared to 11.3% of non-adopter seeing an increase in production of 12% over 2018 to 2020). Similarly, 87.6% of the sample vegetable seedling users also increased their sales revenue by more than 20% (compared to 12.4% non-adopter who registered growth by 12.9% over 2017 to 2020). This suggests that seedling users in the treatment group of the impact evaluation saw yields increase by at least 30%.

Poor smallholders in Ethiopia are defined as those owning and operating on less than one hectare of land⁵. PEPE survey data (Abay, 2020) indicates that its beneficiaries, on average, own 0.93 ha of land. Even when these farmers are marginally better off than others regarding access to irrigation and land, they still fall into the category of smallholders. For the fruit tree seedling interventions, it is too early to determine the income effects, as these trees still need to mature. On a positive note, the nationwide planting of billions of tree seedlings for the past two main rain seasons (under the rubric of the Green Legacy Project) had a huge impact, leading to a jump in the adoption of fruit tree seedlings. News reports⁶ suggest that 84% of the seedlings planted in 2019 have grown into trees. As and when these young fruit trees begin to bear fruit, smallholders are likely to see more benefits.

Conclusions

Our assessment shows the PEPE-supported propagators supplied a significant amount of improved quality seedlings to smallholders, using a more efficient private extension and marketing model. The pilot FAV initiatives to promote quality seedlings and extension services used an innovative agent-based marketing model that effectively addressed two perennial challenges to the sector – poor quality seeds/seedlings and poor extension systems. The agent-based marketing approach was also inclusive, involving smallholders, and poor farmers. While farmers who adopted improved seedlings of onions and tomatoes could grow and sell produce more than once a year, the time for a newly planted fruit tree seedlings to begin to bear fruit takes much longer. Hence, at this point, it is not yet sure whether these farmers will have an income increase of 20% in the future, the income rise is contingent on the harvests made by farmers from the trees. Considering all this, we estimate that the vegetable seedling programme improved the income of a minimum of 3,416 famers and a maximum of 17,082. The difference is due to the uncertainty in spread of the innovation beyond the model farmer in part of the interventions.

⁵ Dorosh, P. and S. Rashid (2013). Food and agriculture in Ethiopia: Progress and policy challenges, University of Pennsylvania press.

⁶ <https://ethiopianmonitor.com/2020/05/18/upto-84-of-tree-seedlings-planted-last-year-grown-pm-abiy/>

3.1.4. Case Study: Cotton Contract Farming

COTTON MARKET THEORY OF CHANGE

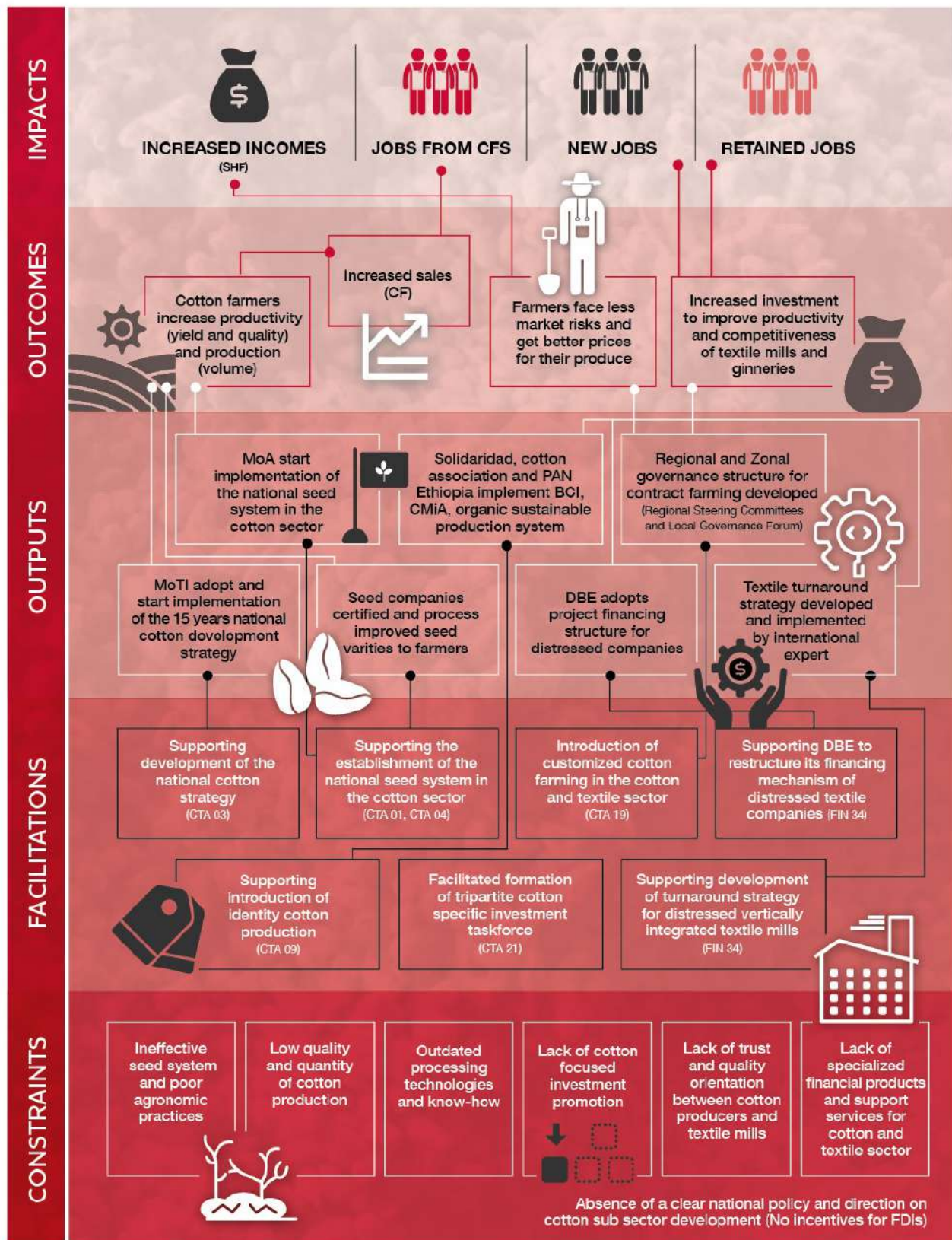


FIGURE 10: COTTON THEORY OF CHANGE

Background

PEPE's interventions (also referred to as CTA-04 and CTA-19) in the cotton contract farming sector were designed to help Werer Agricultural Research Centre (WARC) consistently develop improved seeds. The CTA interventions also included developing good agricultural practices needed to complement seed innovation. PEPE facilitated public-private partnerships in the seed industry to improve agricultural practices. In these partnerships, seed companies pay agricultural researchers for the breeder seed that it develops, and farmers pay the seed companies for the improved varieties they multiply, certify and supply. This commercial collaboration between the research organisation, seed companies and farmers was designed to ensure a sustainable way to deliver improved seed supply and to build the capacity of farmers in good agronomic practices. PEPE posited that this would lead to improved productivity and quality of cotton farming, and this would then lead to increased household incomes.

Assessment of contribution claim

A. PEPE support improves the availability of basic quality seeds

PEPE initiated a functional seed multiplication system. Seed was a major constraint facing the sector and the Ethiopian Institute for Agricultural Research faced a number of constraints, notably the lack of research capacity for seed multiplication and the lack of finance to purchase land. EP's seed multiplication pilot and scale-up interventions addressed these issues by kick-starting a public-private partnership in the seed industry.

The evidence confirms that PEPE contributed to the improvement of Werer Agricultural Research Centre's capacity to supply basic seeds of the DP 90 variety. It also contributed to new policies (the National Cotton Strategy) that could make cotton a more prominent crop for farmers and extension support staff. As a result of this process, cotton became one of the priority sectors for the Ethiopian government.

However, the new strategy has not yet been implemented, and cotton is not yet a strategic crop or well embedded in the regular activities of agricultural extension workers.

B. EP support supplied farmers with improved quality seeds

PEPE interventions were aimed at improving functional seed multiplication through distributing basic seed to cotton seed multipliers, reaching smallholder farmers via unions and co-operatives.

The multiplication by smallholder farmers was disappointing, and the main reason for this was the late delivery of the seeds. The commercial farmers who received basic seed from WARC multiplied only part of the basic seed to produce improved planting seed (IPS), instead selling cotton seed directly to an oil factory. One specialised seed multiplier company, AfriSeed, outperformed the others in terms of the volume and value of IPS sold. The company reported that the demand and the market opportunity encouraged them to develop a long-term plan to work with Werer Agricultural Research Institute to improve their processing system.

One issue identified in reviews is that seed multiplication requires certain agronomic practices and commitments that might be hard to achieve. Another is the availability of forex to purchase the chemicals needed to dress the seed. This means it is likely that the main channel for seed multiplication will be a more select group of firms that have the capacity to effectively implement these practices.

The evidence confirms that EP contributed to growing the capacity of improved seed production using basic seeds. EP initiated a significant change in the cotton seed sector, which led to improved accessibility to cotton seed for farmers. The initial assumption that smallholders could multiply the seed as an economic activity that would raise their incomes, however, turned out to be false. The multiplication work is done by commercial farmers, and especially by one specialised seed production firm that managed to develop a commercial line of cottonseed to sell to farmers. The generation of jobs or higher income for smallholder farmers by multiplying basic seeds seems an unlikely pathway to impact. However, this does not necessarily contradict the EP

intervention logic because this indicates that the main mechanism for raising farmers' income is through the use of improved seeds, not by having seed multiplication as an on-farm activity.

C. Smallholder farmers increase the use of improved cottonseed

The evidence confirms that PEPE contributed to improvements in seed production, building on the use of basic seeds. PEPE initiated a significant change in the cotton seed sector which has helped farmers more easily access cotton seed.

However, cotton is a new crop for many farmers (although they may have grown it in the past) and the uptake of improved cottonseed by smallholder farmers is still low. The cost was cited as an impediment, along with other factors such as weather, flea beetle and market issues.

D. Contract farming permits scaling of improved cotton production

Because smallholder farmers were not wholly adopting the use of improved seeds, PEPE started to facilitate contract farming arrangements in three areas of Ethiopia with the companies Gendawuha Ginnery, Hiwot Agriculture Mechanization and MNS Manufacturing. The process began by getting buy-in from the federal government and three regional governments, then establishing a sustainable organisational structure that actively engaged the recommended implementation partners: National Advisory Group, Regional Steering Committees and Zonal Governance Forums. While experiences vary across the different regions, the evidence suggests that all stakeholders delivered on the commitments in the MoU they signed (technical advice or training/steering/co-ordinating platforms). These arrangements resulted in 1,620 hectares cultivated as cotton, producing 3,430 tons of seed cotton, by the end of the programme. In 2020/21 the contract farming was expected to expand into new areas in 2021/22 and involve other ginneries, following a new legal framework to facilitate contract farming arrangements. We were unable to verify whether this did indeed happen with the conflict in Tigray and inability to travel during the pandemic.

E. The improved cotton seed increases productivity and profitability of cotton production.

Up to May 2020 a total of GBP 5 million worth of cotton was produced by 3,000 smallholders. The pre-harvest contracting for the 2020/21 cycle involved 12,000 farmers, each with one hectare, producing cotton using improved seeds. This number of 12,000 smallholder farmers is certainly significant, given that the entire cotton sector in Ethiopia is estimated to employ only about 52,754 smallholder farmers. Only 33% of the cotton produced in Ethiopia is derived from smallholders, compared to 45% produced by private commercial farmers and 22% by state-owned farms (Zelege, Adem et al. 2019). We are unable to verify whether the new cycle of contract farming is going as planned, especially considering the political troubles in Tigray, one of the areas where contract farming was expected to expand. Given the evidence, our estimate of the number of smallholder farmers increasing cotton productivity is 10,000 smallholder farmers at the higher end of the impact, with the lower estimate being 3,000 farmers.

We took a closer look at the impact evaluation data to verify whether the income increase represents more than 20% of smallholder income. The impact evaluation compared regions but has a low sample size so any conclusions need to be cautious. The data shows that the treatment group outperformed the comparison group, showing increases in productivity and income. The comparison group suffered a slight decline in cotton income (around GBP 15) between baseline and endline, while the treatment group improved the average cotton income by GBP 287. The main reason for this difference seems to be the increase of productivity per hectare. The comparison group changed from 1.3 ton/ha to a low value of 0.7 ton/ha, while the treatment group improved from 1.2 to 1.7 ton/ha. The comparison group consisted of 14 farmers and the treatment group of 30 farmers. This inhibits a more sophisticated analysis because of the influence of factors other than the seed. Moreover, these farmers will have had other income sources. The data does not provide information about alternative crops that farmers have grown (or could have grown) on the land dedicated to cotton. This could have helped verify whether the income increase of GBP 287 was more than 20% of their total income or not.

Conclusions

The case study shows that PEPE contributed to the improvement of the market system for quality seed in cotton. The results chain is convincing, and the monitoring of outcomes and impacts through PEPE's user tracking assessment shows reasonably credible and robust data. However, due to logistical and climatic factors, the availability of quality seed in the market is far from the anticipated result. We do not see, either the involvement of smallholder farmers as multipliers and as users of the improved seed. The uptake of improved seeds is low, meaning the impact on jobs and income in the cottonseed multiplication case is still insignificant. The contract farming remediated this low uptake. The evaluation could not verify whether the contract farming in 2020/21 indeed took place and therefore, decided to use a lower and a higher bound for the impact. It seems plausible that, for between 3,000 (lower end of estimate) and 10,000 (higher end of estimate) farmers, the improved seed and input package did indeed increase the productivity of cotton cultivation by more than 20%.

3.1.5. Case Study: Financial services for small and medium enterprises

FINANCE SECTOR THEORY OF CHANGE

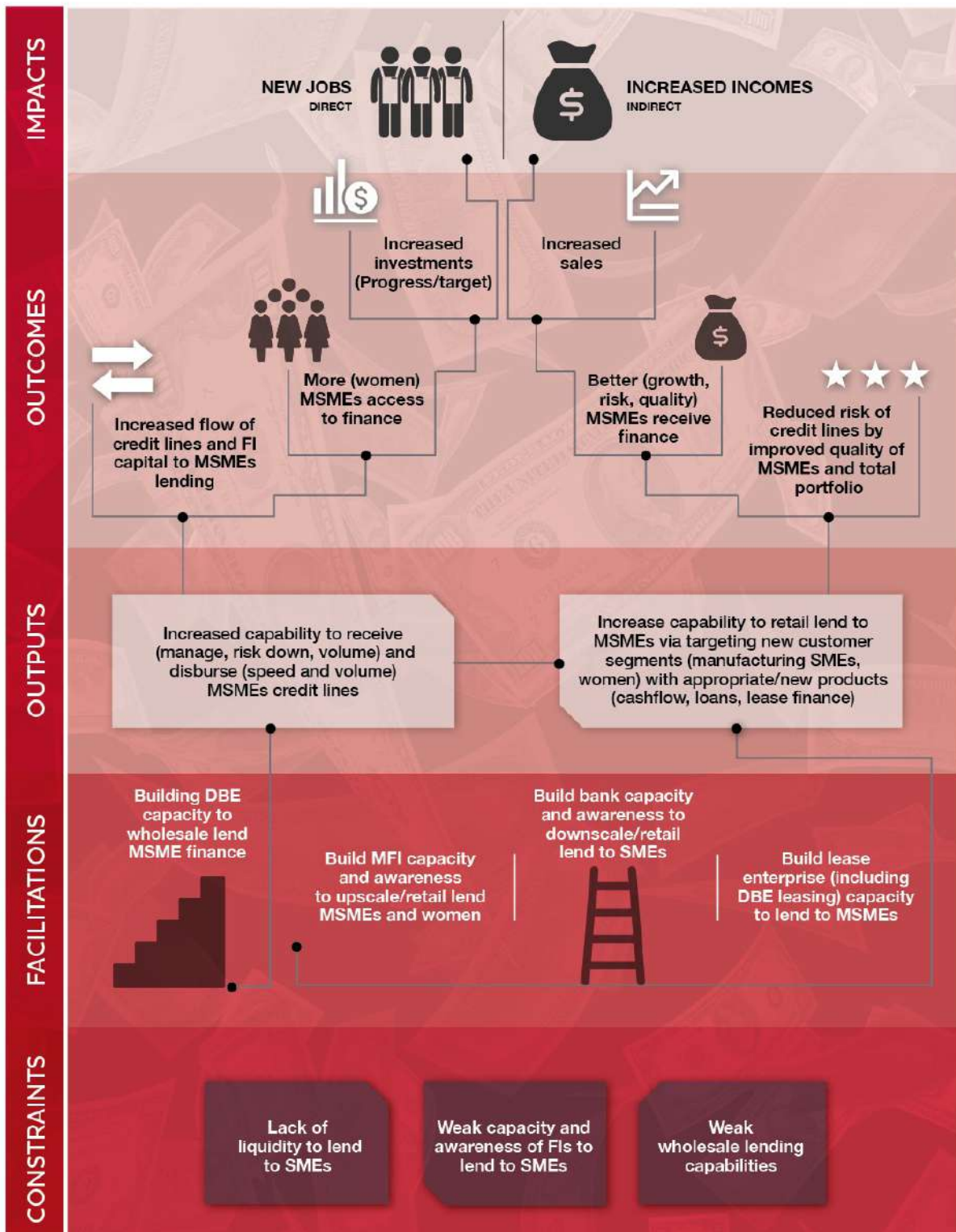


FIGURE 11: FINANCE SERVICES THEORY OF CHANGE

Background

The terms of reference for this evaluation made explicit that the impact of the financial components would use the parallel World Bank research. At midterm, PEPE did not put forward the financial interventions as cases studies because they were not considered the most significant interventions in view of the logframe targets of job creation. At endline, however, PEPE noted the financial interventions as having contributed significantly to their impact targets and this sector was consequently included in the cases studies.

Two of PEPE's interventions: Small and Medium Enterprise Finance Project (SMEFP) and Women Entrepreneurship Development Project (WEDP) develop access to financial services for the 'missing middle' of micro, small and medium enterprises (MSME).

WEDP, launched in 2012, was directed to the missing middle in financing women-owned enterprises. It targets micro and small enterprises (MSEs), which traditionally only had access to small loan amounts through group lending schemes and had no access to formal bank credit lines. (SMEFP targeted small and medium enterprises (SMEs) with specific products that were not contingent on collateral, so addressing a constraint in this market. It also supported the Development Bank of Ethiopia (DBE) and microfinance institutions (MFIs) with tools to appraise SMEs at different steps in the loan process.

TABLE 5: WEDP AND SMEFP BACKGROUND

WEDP	SMEFP
<p>Initial Technical Assistance (TA) was provided to 12 MFIs from 2012 to 2016. The training was to strengthen the individual women-specific lending operations of the MFIs.</p> <p>Other, more broad-based, TA assignments regarding institutional development touched all the MFI departments – planning, operations, finance, internal audit, and risk management. It also reached all levels of the MFI from the board to the branch staff.</p>	<p>PEPE provided the TA (business development services) in SMEFP, both to the DBE and the MFIs that received capital to provide loans to SMEs. PEPE contributed significantly both to the presence and the design of SMEFP, especially the leasing product.</p> <p>PEPE was involved directly in negotiating with stakeholders and facilitating the development of the credit line in Ethiopia, and PEPE encouraged the MOI to focus SMEFP on manufacturing rather than trade and retail.</p>

PEPE claims that both WEDP and SMEFP generated additional funds, which created additional investments and then created jobs.

Assessment of contribution claim

A. PEPE support enables financial institutions to offer more and higher-quality financial services for MSMEs.

For WEDP, technical assistance provided by PEPE is highly regarded. One financial institution states that PEPE's support was special because the PEPE team knew how the DBE functioned as well as about international best practice (Development Bank of Ethiopia Technical Assistance assessment). WEDP even won the World Bank Vice President Award. PEPE's technical and implementation support was considered critical to the success of SMEFP and the TA was one of the major factors that made the project stand out among others. The WEDP financial funds will eventually translate into a revolving fund in DBE, or a revolving part of the banks' and MFIs' overall funding portfolio.

Though some MFIs reduced the use of their own internal funds for the SMEFP loans, in general, MFIs increasingly contributed their own resources toward MSME lending, especially in WEDP. This shows the willingness of the banks and MFIs to reinvest repayments into the same fund and is a promising indicator of sustainability. Nevertheless, the lending to MSMEs, although growing, is still a minor component of the portfolio of the financial institutions. For banks, the reinvestment represents a tiny fraction of their total allocated loan portfolio. For MFIs, the reinvestment represents a tiny fraction of the number of customers as well. Both observations indicate the potential for growth but also raise concerns about the sustainability of the service. This limited impact and prevalence in the 'normal' work of the banks and MFIs has a risk for sustainability.

The special procedures needed for SME working capital and leasing loans need an investment of time. Staff need to be trained in the procedures and, especially when the leasing is non-performing, processes involve far more human and legal costs than 'normal' non-performing loans. The financial institutions seem especially interested in providing working capital loans. The additional costs associated with managing a non-traditional financial product is faced by both MFI and the DBE. The CEO of SMEFP indicated in an interview that the monthly reports prepared by the team are very important for decision making by senior management. In the absence of this support, the DBE is planning to build a larger team in the lease follow-up directorate to monitor arrears and non-performing loans. Every member of that team will be accountable for default cases in the number of districts (Development Band of Ethiopia Technical Assistance assessment). The SMEFP programme has continued to function after the end of the programme. The non-performing loans percentage on the leasing portfolio seems to have decreased, which may help to convince the MFIs to consider it a worthwhile loan modality.

B. The financial services are used by MSMEs for investments

The MFIs continued to serve a significant number of new borrowers. On average, over 56% of WEDP borrowers were new to the MFIs. This figure remained above 50% over the life of the project to date with only a slight decrease. The slight decrease could be explained by MFIs choosing to remain with existing clients when the MFIs face shortage of funds. Evidence for this is that they increased the use of own sources to provide WEDP loans. These figures support the hypothesis that WEDP loans are opening up a new market for participating MFIs and creating more access to finance for women entrepreneurs with growing businesses. To calculate the total amount of investment mobilised by the TA, PEPE adds up new funding provided by Italian funding, the additional funds that MFIs contribute to the credit line from their own resources, and funding provided by DBE putting repayments back into the credit line. PEPE claims (in its monitoring systems) that all these funds were invested because of their technical assistance support, and that 7.13% of this investment is in priority sectors.

In setting up SMEFP, PEPE was involved directly in negotiating with stakeholders and facilitating the development of the credit line in Ethiopia. For this reason, PEPE claims that all SMEFP funding, once it is disbursed to SMEs, is attributable to their work. However, this does not account for the fact that the banks and MFIs would have disbursed (some) working capital loans to SMEs, asking for traditional guarantees/collateral. It is also clear that many other actors, most notably the World Bank, can be credited for this result, especially the working capital loans. Because of this, we apply a partial contribution coefficient of 50% on the working capital portfolio managed in SMEFP. From SMEFP's disbursed investment, 46% is through lease financing and the remaining is through working capital. In lease financing, investment is counted from the time a Letter of Credit is opened by DBE for the lease financing equipment. We find an investment mobilisation of GBP 83,147 with 13% in the priority sectors and reaching 1,043 SMEs.

C. The supported MSMEs create jobs, especially for women

For WEDP, we accept that the investment mobilised does target women based on the very nature of the women-focused fund. However, it is incorrect to apply the same reasoning to estimating how many additional jobs are attributable to PEPE's technical assistance. WEDP would have happened anyhow, even without PEPE support. The support is an efficiency gain, not a necessary condition. We suggest the use of a minimum and maximum percentage of leveraged capital that can be attributed to PEPE's interventions, which better reflects PEPE's partial contribution to the impact on job creation. The lower and higher estimates were derived

using a normative decision, because this efficiency gain is impossible to measure precisely, primarily because the impact evaluation was designed to measure the impact of a MSD programme and not direct support to market actors.

Job creation in WEDP is calculated using a coefficient derived from an (ongoing) impact evaluation of WEDP undertaken by the World Bank. Using a quasi-experimental design based on propensity score matching, it found that 1.19 jobs were created as a result of the WEDP loan per MSME (Alibhai et al 2020). The World Bank coefficient is based on a two-stage econometric regression. The first stage uses a model (a combination of variables) that looks at two groups with similar characteristics and then calculates the difference between their baseline and mid-term values. This Probit analysis shows a marked difference in the Household Asset Index between borrowers and non-borrowers. The authors do not use the Household Asset Index in the propensity scoring model (PSM) as part of a robustness check. We offered to replicate the analyse with a PSM that includes the Household Asset Index at baseline, but unfortunately, we did not get access to the data. In absence of this robustness check on the coefficient computed by the World Bank we had no choice than to use the coefficient in good faith. Thus, we estimate that PEPE's TA in WEDP contributed to a maximum of 6,124 and a minimum of 3,062 additional jobs up to September 2020. Of these additional jobs, between 218 and 436 are in priority sectors.

For SMEFP, PEPE's TA was important for the fund to materialise. To calculate job creation due to SMEFP, we propose that only half of the SMEFP working capital loan and all of the leasing finance be attributed to PEPE's interventions. PEPE translates the investment mobilised into job creation estimates based on a two-pager based on IFC's Development Outcome Tracking System, which suggests that one job is created for every USD 25,000 of IFC investment made. This two-pager provides no supplementary evidence that we have been able to review, and the table is not included in the main study (IFC 2013a). It is unclear whether this estimate is calculated based on SMEFP-like investments, includes repayment circulation, applies to specific contexts/regions/sectors or has other key assumptions that might affect its relevance in assessing the jobs created by SMEFP. Unfortunately, the authors of the two-pager could not be reached to provide more information about the estimate. Therefore, we have chosen to use this estimate in this impact evaluation.

The interviews with the financial operators that use the leasing product clearly indicate that the leasing was already in place before PEPE intervened with TA and would have been implemented either way (though likely to have been less successful). This implies that we need a coefficient to account for efficiency gains and a partial attribution of jobs created by PEPE's TA support. For SMEFP, much like we did for WEDP, we apply a minimum and maximum contribution percentage that reflects the efficiency gains due to SMEFP's TA assistance. Our normative assessment led to a minimum of 25% and a maximum of 50% to convert the investment that is mobilised into the estimates of jobs created. Attribution of more than 50% of the impact of an investment fund to the technical assistance provided would unlikely reflect the real effect, even with the high quality technical support provided by PEPE. With a total investment of GBP 83,147 with 13% in the priority sectors, and GBP 19,876 per job, this implies that we consider as a plausible estimate the range of minimum 1,046 and maximum 2,092, with 13% in priority sectors. According to PEPE's estimate, 67% of these are female workers.

Conclusions

The technical assistance provided to WEDP and SMEFP is considered high quality and clearly helped to improve access to investments for MSMEs. The TA was funded directly by PEPE, and involved people formerly employed in World Bank programmes. The experts involved are likely to continue their role in the future, benefitting from the experience gained through PEPE. The estimate of job creation is based on two coefficients derived from the best evidence we have (IFC and World Bank studies) to estimate the additional effect of this technical assistance, but the assessment is not ideal. Therefore, the intervals used to estimate job creation need to be interpreted with caution. The combined job creation from both programmes due to PEPE's support is estimated to lie between 4,250 and 8,500 jobs, and only between 400 and 750 are jobs created in the priority sectors.

3.1.6. Case Study: Leather sector development

LEATHER SECTOR THEORY OF CHANGE

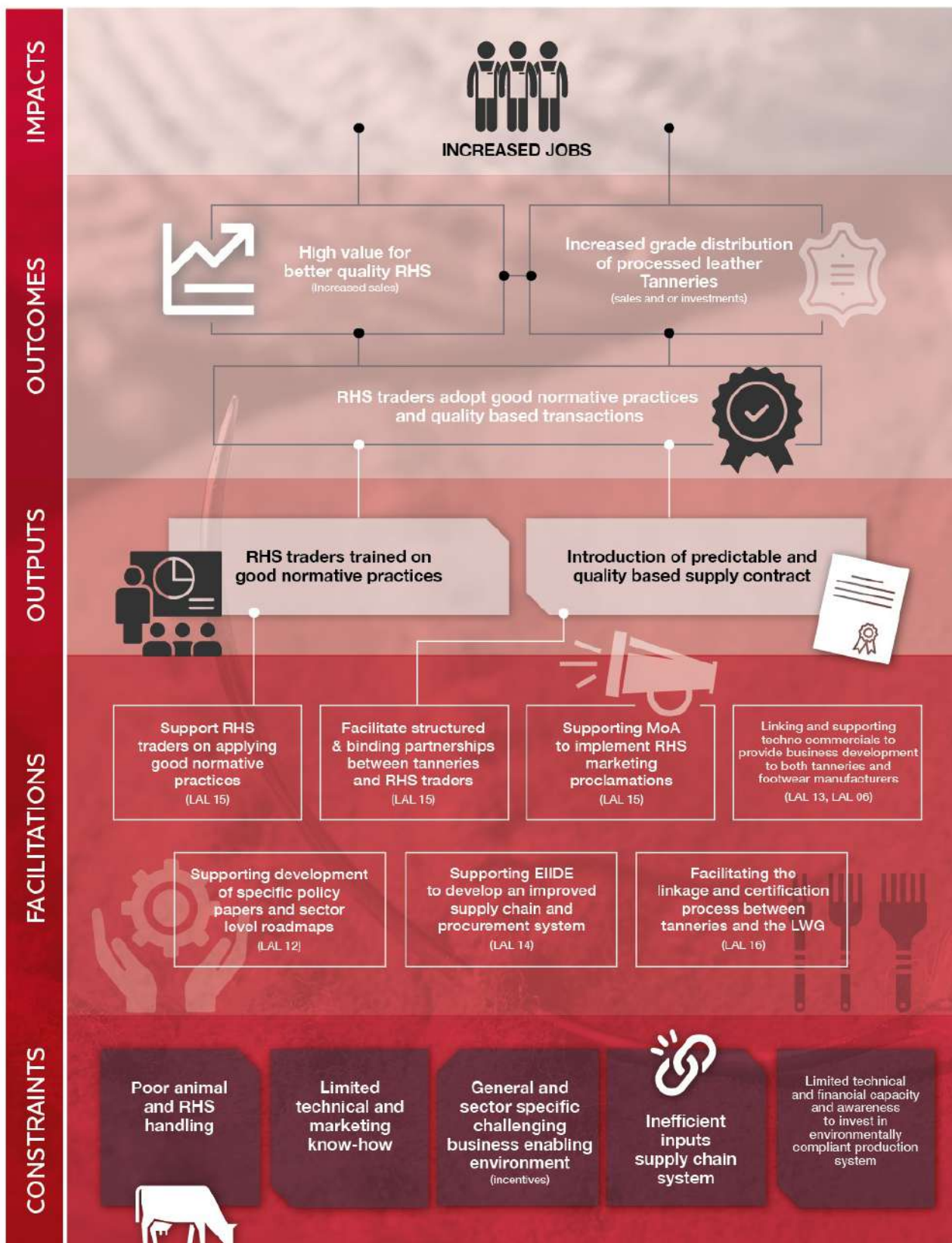


FIGURE 12: LEATHER SECTOR THEORY OF CHANGE

Background

With over 59.5 million cattle and 60.8 million sheep, goats and other animals, Ethiopia is believed to have the largest livestock population in Africa.⁷ This gives it a comparative advantage in the leather sector. To capture a larger part of the added value from the sector, the Government of Ethiopia imposed 150% tax on raw hides and skins (H&S) exports while encouraging the processing and export of finished H&S and leather products. Ethiopia's second *Growth and Transformation Plan (GTP II)* also stipulated H&S to grow from 22.4 million pieces in 2014/15 to 35.6 million by 2019/20.

Despite the huge potential, the livestock and leather sector are beset with challenges. Production of high-quality hides and skins is one of the major problems. Factors that contribute to quality deterioration are endemic, particularly upstream in the value chain. These include slaughtering in backyards, which often results in damage by knife cuts, and low carcass weight. Raw hides and skins (RHS) then have to pass through multiple channels and travel long distances to reach tanners, with collection and bulking processes that are barely regulated.

PEPE's interventions were designed to improve tannery finishing capacity by supporting chemical companies and tanners. The International Finance Corporation/Ethiopian Investment Climate Programme (IFC/EICP), the third component of PEPE, aimed to bring about changes to the overall business enabling environment by supporting key Government of Ethiopia (GoE) counterparts to enact pro-business regulations. These regulatory reforms were intended to address business-level constraints to growth. The intention was to first allow the Ethiopian Competitiveness Facility (ECF) interventions to address constraints to export-led growth in the sector. Matching grants provided to firms were intended to assist them in overcoming some of their internal obstacles to export-led growth, such as improving technical know-how on production and marketing, and improving access to critical equipment for exporting. Later, the support moved to the design of leather products that met the standards of international buyers. This shift meant that PEPE supported the activities of two firms that provided business support services. This support was intended to allow tanneries to improve their production and marketing practices.

The leather sector best exemplifies the MSD approach taken by PEPE, even if the results were less impressive than expected. The tepid results were largely due to negative dynamics in the market because of the falling demand for leather in the global market leading to weaker demand from tanneries. As tannery exports dropped, tanneries' relationships with their suppliers weakened, leading to an increase in purchases made through credit. This led to delayed payments and working capital problems, which had a trickle-down effect from tanneries to traders. In turn, raw hides and skins traders could not pre-fund their collectors, which led to lower collection rates as well as poor quality preserving procedures.

Assessment of contribution claim

In terms of accessing quality inputs domestically, about 75% of tanneries participating in the midline firm-level survey agreed that this is a constraint to business growth. Firm-level interviews conducted as part of the mid-term review also confirmed that access to quality raw hides and skins (RHS) is a critical constraint for the sector to grow.

A. Tanneries take up green leather technology innovations

Pilot chemical companies and industry actors noted that sales were made to only three pilot tanneries, and none to other pilot tanneries, let alone the rest of the tanneries in the country. Programme monitoring data confirmed that only three of the ten pilot tanneries bought, and used, chemicals. Of these, just two successfully completed the full pilot phase, buying the new chemicals and receiving technical assistance to integrate them into their production system.

⁷ <http://www.fao.org/3/ca4807en/ca4807en.pdf>

Although procuring chemicals is part of the core business of chemical suppliers in Ethiopia, they had not previously provided support to finished leather processes and were not working with any tanneries in the country around chrome-free leather tanning processes. Limited connections with tanneries had prevented them from implementing this new business model. PEPE played an important role in facilitating improved business relations between chemical suppliers and tanneries. The evidence at mid-term showed that chrome-free tanning materials were successfully introduced in three (out of ten) pilot tanneries. Those who successfully adopted the interventions have committed to produce 'green leather', but systemic change has barely happened. Ethiopia has a long way to go before it can see a sufficient improvement in RHS to meet the quality requirements for high value leather products. From the pilot learnings, it became clear that tanneries needed more intensive, tailored support than they could get from chemical companies alone. Weak marketing capacity was also a major constraint for the tanneries.

B. Tanneries take up new innovation to improve access to RHS supply

PEPE worked with the Ethiopian Industrial Input Development Enterprise (EIIDE), to design a business model in which PEPE would act as a facilitator between RHS suppliers and tanneries. The business model had two main objectives. The first was to help with financing transactions, addressing the shortage of working capital in tanneries. The second was to resolve the mismatch of supply and demand of hides. According to EIIDE, the pilot was successful in meeting both objectives, but there are some concerns about the overall viability and profitability of this business model.

Approximately GBP 1.09 million of ECF funding was committed to tanneries, but only about 37% of these funds were disbursed. In terms of core areas of support, 96% of all dispersed ECF funding was spent on three main activities: purchasing critical equipment, hiring industry experts and facilitating meetings with potential international buyers. However, the figures suggest that a few of the bigger, more profitable tanneries used the lion's share of matching resources. Therefore, we determined that ECF made a small contribution to tanneries taking up innovations to address their constraints to export-led growth.

Overall, we assessed that PEPE made a significant contribution to the introduction of new innovations within the system and a small contribution to tanneries taking up these new innovations.

C. Tanneries manage to buy higher quality skins and hides

PEPE piloted a second intervention in partnership with individual industry experts who had extensive experience in the sector and understood buyer requirements for finished leather. These individuals started working as market agents, providing both technical assistance and marketing support to four tanneries. In 2018 the second pilot brought in two new tanneries, making a total of six.

The market agents succeeded in helping tanneries to secure commercial orders for finished leather. PEPE supported these service providers by paying for half of the consultancy fees that they charged to the tanneries. If they succeeded in securing an order, agents also charged a 3% commission on the total sales. The two marketing agents have since adopted this new 'sales plus service' as their core business model and continue to work with the six tanneries with no support from PEPE. The price change of leather produced by the tanneries that can be attributed to PEPE support is reflected in an estimated 25% change in average price of the RHS. In addition to leather sales, the tanneries also saw a reduction in wasted skin and hide because of better processes.

D. Leather policies and regulations are improved

The GoE's policy of using prohibitively high export taxes to incentivise tanneries to shift their business model from price to quality was not delivering the expected results (greater value addition and forex earnings). PEPE's offer of technical assistance and marketing support was not intended to address these goals. Instead, PEPE convened key actors and government to revoke the 150% tax on semi-processed leather. This enabled tanneries to leverage their strengths (producing semi-finished leather), while building technical capacity, with the support of the market agents, to gradually move to finished leather production. PEPE engaged with key government stakeholders to develop a long-term roadmap for the leather sector, hired international leather

sector experts to support the process, and facilitated multiple government-led stakeholder discussions. PEPE worked closely with the Ministry of Industry, presenting technical evidence to support the need for a policy change regarding the export tax, as well as promoting ownership over this change. The 150% tax on semi-processed leather exports was subsequently lifted in January 2020.

Conclusions

There was limited uptake among tanneries for PEPE's two main innovations: improved market linkages between chemical suppliers and tanneries, and improved financing models for RHS. Although there was positive feedback and satisfaction from the few tanneries who successfully completed the pilots, there was little evidence of wider uptake of these innovations within the sector. This suggests that the few tanneries that successfully finished the pilot may have a different risk profile and appetite for innovation than those who did not take part. Moreover, the limited success of both pilots provides only some evidence for the continued sustainability of these innovations. Without the continued uptake of tanneries of these innovations, there is no strong evidence that they will continue and thus address these critical constraints in a sustainable manner. However, the success of PEPE's engagement must be approached from a longer-term perspective: the introduction of the market agent model and changes in the rules of the game will have sustainable positive effects on the Ethiopian leather tanning industry.

The sector's performance diminished since the start of the programme. In addition, the programme does not claim that this sector has led to significant job-creation or smallholders with higher incomes. Nevertheless, the survey results (see section 3.2) indicate that some change in performance in the sector is perceived to be the result of PEPE support. Therefore, we estimate the impact on job creation of the leather sector development at a minimum of zero and use the sector impact coefficient (based on the firm survey results) to model the higher bound of the range of job creation, within which we posit the real effect will lie.

3.2. Firm survey to assess indirect effects

3.2.1. Overview

The firm survey results feed into the CGE model. The CGE model estimates the wider employment effects of PEPE's interventions (including the WEDP component), provides insights into what drives change in the performance of firms, and identifies changes to constraints that firms face in increasing incomes and creating jobs. The endline survey collected data from 74 firms, only 32 of these firms were also surveyed during the midline data collection, and 30 of these firms had all the data required to answer the complete survey. The endline sample included 18 respondents from the leather, 35 from the textile and 21 from the horticulture sectors. The following section notes disaggregated data, showing the spread of firms across regions:

- The Addis Ababa enumerators interviewed a total of 28 firms.
- The Amhara team collected data from 14 firms.
- The Oromia Team collected data from nine firms.
- The Tigray team collected data from four firms.

After data collection, the extended responses, which were collected in Amharic, were translated into English. The data management team received the final data from ten personal devices (PDAs), merged the data, exported to SPSS and split the multiple responses. Data cleansing focussed on looking at whether appropriate skip patterns were followed and checking the presence of contradictory responses. The data quality assurance started early, piloting and testing the survey questions and length with Ethiopian colleagues at the Institute for Development Studies (IDS). This pilot helped refine the framing of the questions (including how they would be understood when translated), and the length of the survey, given the remote data-gathering exercise that we would sometimes be undertaking. The training of enumerators was also refined by the evaluation team to ensure enumerators understood the nature of the assessment and how best to use the PDA. Finally, during data collection, supervisors checked whether enumerators followed the right procedures, checked the data in the PDA and sent the data that was gathered, consistently, to the data management team in the JaRco office at Addis Ababa for further quality control.

3.2.2. Contribution scores

The firm survey includes 'perception' questions which help the evaluation team assign contribution scores. The survey questions included asking the treatment group of firms about constraints on numerous, relevant business practices, whether they experienced a reduction in these constraints and whether they thought that the reduction was because of the work undertaken by an actor supported by PEPE's interventions. The evaluation team arrived at the contribution scores by integrating a) the firm's perceived reduction in a constraint facing their ability to perform well (sales, investments, and jobs), and b) the firm's perception of the contribution made by the actor supported by PEPE to the change in the impact of the constraint. By combining the two perception scores, we arrive at a quantitative measure of PEPE's contribution to improving firms' performance. Table 7 shows how these contribution scores are linked to the Likert scale used to help firms answer the survey questions. This means that the lower the score/number, the less likely the constraint has improved (or got worse) and the less likely PEPE contributed to the shift in the constraint. Figure 12 provides an overview of the contribution scores for each sector, by question.

TABLE 6: CONTRIBUTION SCORES FROM THE TWO PERCEPTION QUESTIONS ABOUT 22 OUTCOMES

<i>Did the service provider have an influence on this change?</i>				
<i>Did the situation change?</i>	Very much	Moderately	Slightly	Not at all
Situation has much improved	=100%	=66%	=33%	=0%
Somewhat improved	=83%	=50%	=16%	=0%
Not changed	=0%	=0%	=0%	=0%
Somewhat worsened				
Much worsened				

CONTRIBUTION SCORES (0 - 100%) BY SECTOR

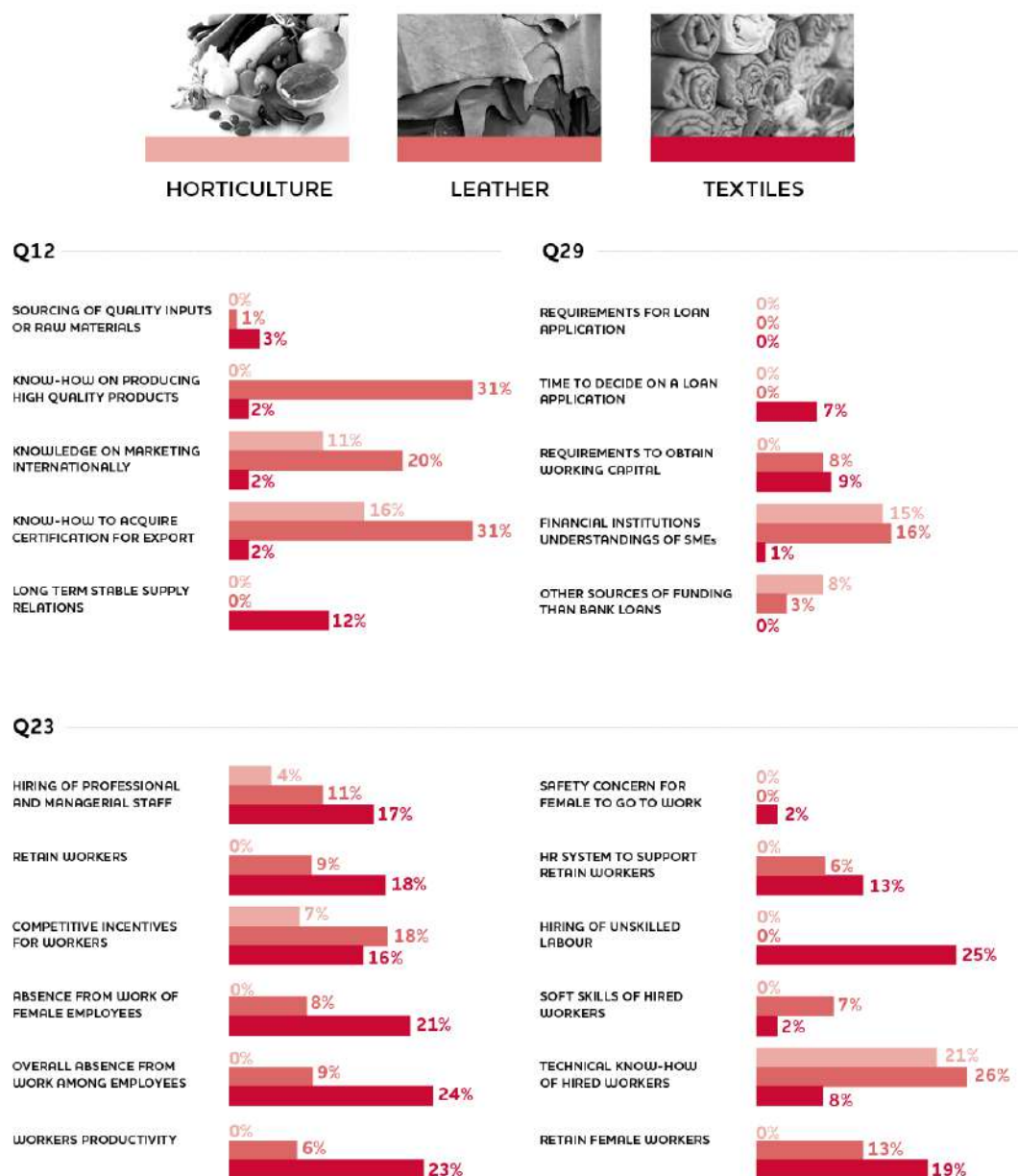


FIGURE 13: CONTRIBUTION SCORES BY SECTOR/QN 1

The contribution scores are specific to each firm and also specific to each of the 22 types of support provided by PEPE interventions. The heterogeneity of contribution scores among PEPE support areas is used to identify areas where PEPE's support was more and less effective. Figure 12 shows the average contribution score of firms per outcome area disaggregated per sector. The contribution scores registered fluctuate between 0 and 26%. This is modest, considering the scale 0-100%. As shown in Table 7, a score of 16% is associated with the statement 'a slight improvement and a slight influence'. In general, the outcome areas are even lower. This implies that most firms do not register an improvement in the outcome or do not see PEPE-supported services as playing a role in the perceived change. The figure shows that, on average, firms in the leather sector perceive more support in the marketing related outcome areas than those in the textile sector. The textile sector reports more impact in areas that focus on hiring unskilled labour, worker productivity and reducing labour absenteeism. For the question on access to, and applications requirements for, loans, firms perceive no contribution from PEPE. Some horticultural and leather companies perceive that SME financing has improved, while this seems irrelevant for the textile firms in the sample.

3.2.3. Support provided by PEPE interventions: component analysis

In addition to the contribution scores, we also conducted a principal component analysis to identify clusters of PEPE support areas, referred to as principal components. We find seven components or support areas that explain a significant part of the variance (the distribution of observations in the dataset): HR know-how, marketing know-how, financial procedures, SME financial services, stability in factor market, female work safety, hard skills of workforce. However, not all these seven PEPE-support areas (principal components) are relevant to all sectors. Therefore, we calculated the factor scores and used them in a regression to select the ones that show significant association with the performance indicator of the firm (sales growth, exports growth, profits growth) in each sector (leather, textiles and horticulture). We used the Anderson-Rubin method to define the factor scores for each of these components, as this optimises the orthogonality of the scores and, despite the low sample size (Effective N=72), this makes it possible to use all seven component scores as independent variables in a stepwise regression. In Table 8 we reflect in red dots the areas that load positively on each component and in red the ones that load but with a negative effect and the inductive label that we gave to each of these components.

TABLE 7: THE 7 PEPE-SUPPORTED COMPONENTS

THE SEVEN PEPE-SUPPORT COMPONENTS

	01 HR KNOW-HOW	02 MARKETING KNOW-HOW	03 FINANCIAL PROCEDURES	04 SME FINANCIAL SERVICES	05 STABILITY IN FACTOR MARKET	06 FEMALE WORK SAFETY	07 HARD SKILLS OF WORK FORCE
● AREAS THAT LOAD POSITIVELY ON EACH COMPONENT							
● AREAS THAT LOAD NEGATIVELY ON EACH COMPONENT							
SOURCING OF QUALITY INPUTS OR RAW MATERIALS					●		
KNOW-HOW ON PRODUCING HIGH QUALITY PRODUCTS		●					
KNOWLEDGE ON HOW TO MARKETING INTERNATIONALLY		●					●
KNOW-HOW TO ACQUIRE CERTIFICATION FOR EXPORT		●					●
LONG-TERM, STABLE SUPPLY RELATIONS					●		
HIRING OF PROFESSIONAL AND MANAGERIAL STAFF	●	●	●				
RETAIN WORKERS	●						
COMPETITIVE INCENTIVES FOR WORKERS	●	●					●
ABSENCE FROM WORK OF FEMALE EMPLOYEES			●		●		●
OVERALL ABSENCE FROM WORK AMONG EMPLOYEES	●						
WORKERS PRODUCTIVITY	●					●	
SAFETY CONCERN FOR FEMALE TO GO TO WORK						●	
HR SYSTEM TO SUPPORT RETAIN WORKERS	●						
HIRING OF UNSKILLED LABOUR					●	●	
SOFT SKILLS OF HIRED WORKERS	●	●		●			●
TECHNICAL KNOW-HOW OF HIRED WORKERS		●					●
RETAIN FEMALE WORKERS	●						
TIME FOR FINANCIAL INSTITUTIONS TO DECIDE ON A LOAN APPLICATION			●				
REQUIREMENTS AND PROCEDURES TO OBTAIN WORKING CAPITAL			●				
FINANCIAL INSTITUTIONS CAPACITY AND UNDERSTANDING OF SMES				●			
ACCESS AND USE OF OTHER SOURCES OF FUNDING THAN BANK LOANS				●			

Subsequently, we used the factor components in regressions to identify significant effects on the four (ordinal) performance indicators (profit, turnover, exports, employment). In a multivariate regression, we included some covariates to control for the influence of important differences in characteristics: having received grants from the ECF and being an exporting company or not. The ECF variable works as an instrumental variable, capturing many unobservable (e.g. social and political connections) and observable characteristics (e.g. size). To select the optimal balance between explanatory value of the regression model (R^2) and the inclusion of multiple components in the model, we used a backward regression, and chose the most complex model that was significant ($p < .05$). See Annex 6 for the detailed results.

TABLE 8: SUPPORT COMPONENTS ASSOCIATED WITH THE PERFORMANCE PER SECTOR

	Sales increase	Export increase	Profit increase	Jobs increase
Leather	None	Component 5 – <i>Stability in factor market</i> - is significantly associated with improved exports	None	None
Textiles	Component 3 – <i>Financial procedures</i> - is significantly associated with improved sales	None	None	None
Horticulture	Component 1 – <i>HR know-how</i> - is significantly associated with improved sales	None	Component 1 – <i>HR know-how</i> – is significantly associated with improved profit	None

3.2.4. Impact regressions

The coefficient of a component score in a regression output is difficult to interpret. To better interpret the quantitative estimate (annual growth in sales, exports or profits), we reconverted the component into their main constituent contribution scores (factor-based scoring). As a result, for each firm we get a compound contribution score for those outcome areas that are positively loaded on the components (the red outcomes in Table 8) and where some firms in the sector registered that they perceived PEPE has had a positive contribution. Generally, this resulted in the averaging of the contribution scores on only two outcome areas where the sector reported a non-zero contribution.

Because the performance variables, exports and sales are ordinal categories, to get a growth rate estimate, we had to convert them into scale values using the midpoint of each category. Note that this is not the actual effect but the best estimate of potential effects if COVID had not resulted in lockdowns and supply chain disruption. The exact question we asked was: “*Imagine the situation that the COVID-19 pandemic had not affected your firm, can you give an estimate of the percentage change in [sales/exports/profits] that you would have had, without COVID, compared with three years ago?*”

For the question about growth in sales and exports, the period referenced three years. For the change in profits the question was somewhat ambiguous because annual profits can only be calculated at the end of the year in question. This ambiguity allowed us to use the three-year period for the low estimate and the two-year-period for the high estimate of the annual growth rate.

Having the performance measures reported as percentages and the treatment variable as a ‘normal’ contribution score, we could then calculate the estimated growth rate associated with the contribution score. Since we knew the average contribution score, we calculated the estimated effect of PEPE’s support on the fitted regression line. This means that we did the four regressions with the sector and factor components. To illustrate the ‘fitted line’ we present the plots of the observations used to compute the line, which showed the direct correlation between the contribution score and the performance metric. However, they are only illustrative, as we included the covariates described above in the regression.

Horticulture

In horticulture the coefficient is associated with a *three-year-ago* profits increase for the 21 horticultural firms in the survey (see Figure 13). With an average contribution score of 5.6% this suggests that the **profits of the supported firms have increased between 2.8 and 4.1% per year. However, these are seedling producers, which is a small sector without major sectoral effects to be estimated in the CGE model.**

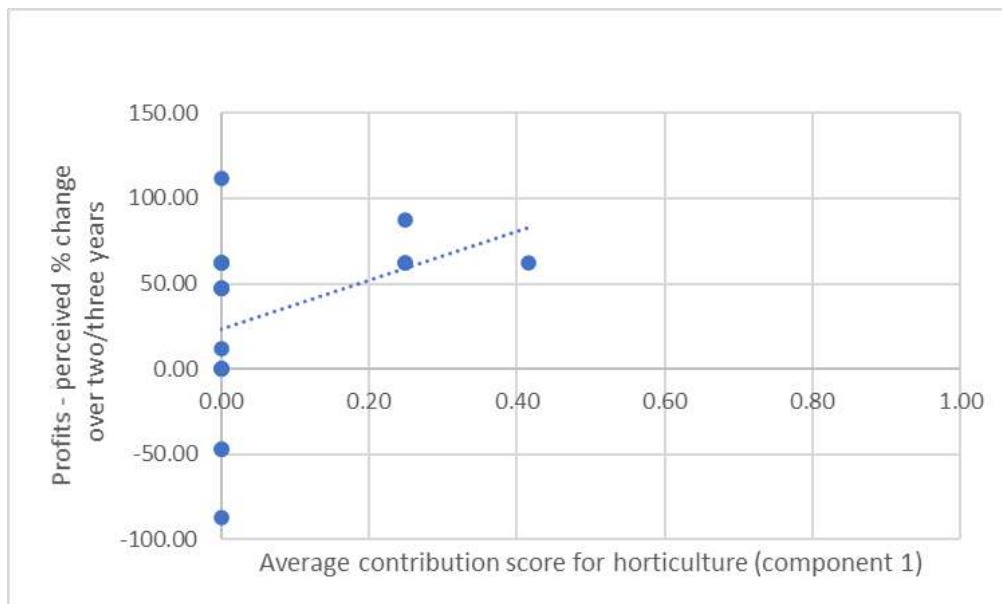


FIGURE 14: CONTRIBUTION SCORE FOR HORTICULTURE

Textiles

Six out of 35 textile firms perceived that PEPE support to service providers contributed to their total sales. The multivariate regression shows that a 100% contribution score (that is, averaging the scores on the two relevant contribution areas) would be associated with a three-year exports increase of 76%. With an average contributions core in the textile sector of 7.9% this implies that the **exports of the supported garment manufacturing firms have increased by 2.6% per year.**

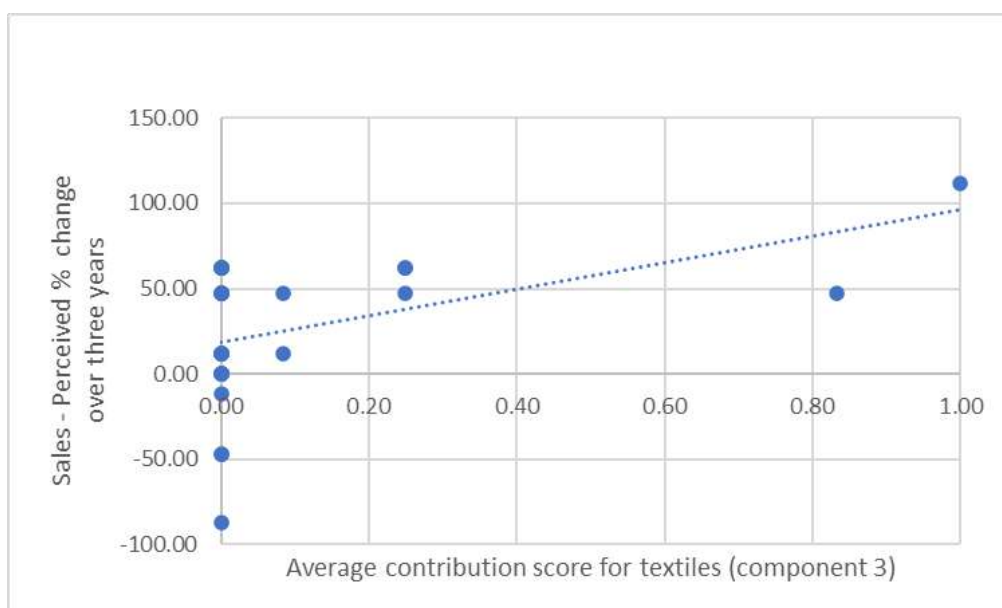


FIGURE 15: CONTRIBUTION SCORE FOR TEXTILES

Leather

In leather, the effect is based on the results of only one of the 18 leather firms (Charcgers), who reported a 47% increase of profits over three years but perceived the contribution of PEPE's support as very low. The average contribution score on the two relevant financial outcome areas is 8% and only one of the two outcome areas was 'somewhat improved' and were 'slightly influenced' by the PEPE-supported service provider. With the very low average contributions score in the sector of 0.46% this means that on average **the exports of manufacturing leather firms have increased by 1.5% per year. Since this assessment is based on data from only one firm, which registered a big increase in sales, we use a minimum of zero and a maximum of 1.5% in the CGE scenarios.**

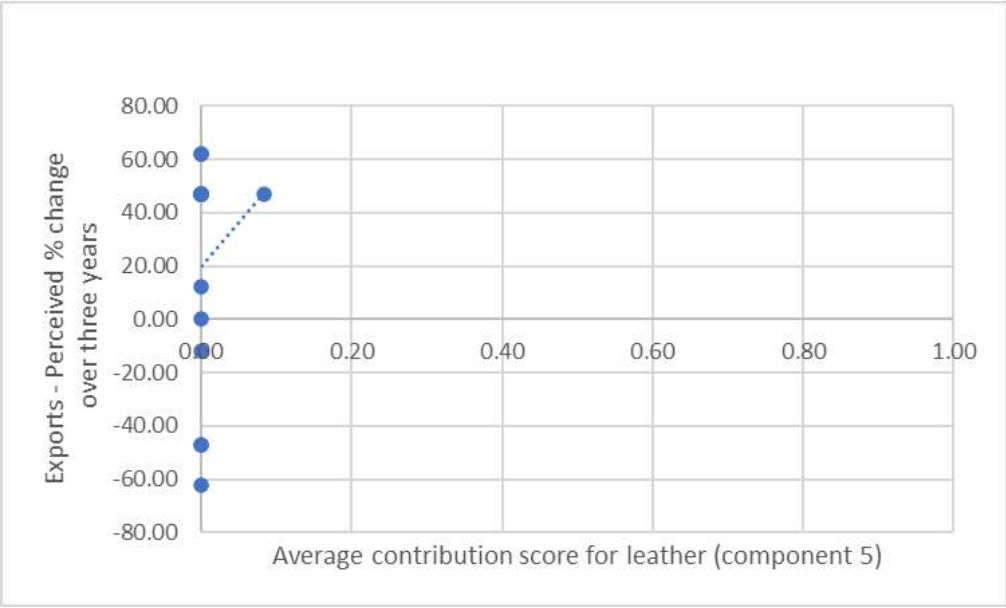


FIGURE 16: CONTRIBUTION SCORE FOR LEATHER

3.3. CGE scenarios to assess induced effects

3.3.1. Impact on employment

To calculate the impact of PEPE on job-creation, we use the World Bank definition (IFC, 2013), which is also presented in Figure 17 below:



FIGURE 17: DIRECT, INDIRECT AND INDUCED JOB CREATION (IFC, 2013)

The endline evaluation estimates the number of formal jobs created through PEPE support in priority sectors. The PEPE programme has no annual logframe targets for this indicator and the programme relies on the mid-term and endline evaluation to report progress against it. The target set for the 2020 endline was 45,000 full-time jobs. It was agreed that PEPE would continue to track jobs created in the non-priority sectors but that these would not be reported as part of the project completion report for the programme.

The firm survey, which contributes to the CGE model, shows that there are only two sector effects that can be causally attributed to PEPE support. The first is the support provided to export firms in the leather sector, where PEPE's interventions contributed to 1.5% growth in their exports over the course of the programme (see Annex 7). This export growth is primarily due to the stability created in input and labour sourcing. The second sector effect is seen in textile factories, where PEPE's support is associated with an annual growth of 2.0% on total sales, influenced by better access to finance.

PEPE's support to seedling and seed producers contributes to an annual growth of sales of 2.8% and an increase of 2.8 to 4.1% for annual profits, largely as a result of better incentives provided to their workers/smallholders – but only on the firms in their distribution networks. There are no plausible sector effects, as the seedling-producer sector is only a small sector with very small firms.

From the process-tracing case studies, we assessed that three interventions contributed to job creation: Hawassa (HIPSTER), WEDP and SMEFP. For each of these interventions we estimated a low and high estimate of plausible effects, reflecting the uncertainty of the 'real' effect of MSD support on the wider economy. Bringing the survey and the case study information together helped us arrive at six scenarios, which we would simulate in the CGE model of the Ethiopian economy.

A CGE model is used to estimate the economy-wide impacts of PEPE's interventions on employment and income, taking systematic account of indirect ripple effects on the Ethiopian economy outside of the PEPE priority sectors. The induced employment effects that we considered include the following:

- (i) Effects on the final demand for goods and services across all sectors of the economy, as the additional income is spent on consumer goods or saved, entailing an increase in demand for capital goods.
- (ii) Effects on the demand for additional, intermediate inputs required by firms that raise their output in response to the additional demand (backward linkage effects).
- (iii) Effects on output prices across the whole spectrum of goods and services due to the direct PEPE-induced supply effects and resultant demand-effects caused by points (i) and (ii).
- (iv) Economy-wide factor price effects due to the PEPE-induced changes in domestic production.

- (v) Sectoral factor employment reallocation effects.
- (vi) Effects on international trade flows and the exchange rate, as part of the additional demand under points (i) and (ii) will be demand for import goods and part of the directly induced production increases will be exported.

Table 10 presents the results from the CGE model. When we aggregate the estimates, we get a range of the plausible employment effects that can be attributed to PEPE. The total induced employment effects lie between 16,018 and 31,471, and between 3,149 and 4,703 of these jobs are in the priority sectors. This implies that the targets set for this programme will not be met.

TABLE 9: INDUCED EMPLOYMENT EFFECTS OF PEPE SUPPORT

	Hawa_Low	Hawa_High	WEDP_Low	WEDP_High	SMEFP_Low	SMEFP_High	Leather	Textile
	Paid-Full-Time Equivalent Jobs							
Agriculture	2,408	5,754	1,973	3,944	556	1,109	185	283
Industry	1,200	2,956	888	808	248	500	299	138
Services	2,065	4,703	2,716	5,430	2,317	4,620	491	250
Total	5,672	13,413	5,577	10,182	3,122	6,229	975	672
Priority Sectors	1,184	2,963	178	356	550	1102	147	135

3.3.2. Impact on smallholders' incomes

This impact indicator measures the number of people (e.g. smallholder farmers, pastoralists, factory workers) who see an increase in income of 20% or more, and where the resultant income is above the national poverty line. Income gains are only measured for the priority sectors. An early agreement was made to ensure that any job creation reported through the CGE modelling would not feed into calculations for smallholder incomes unless PEPE's intervention supported both the job itself and also an increase in income for workers from another intervention (not related to the intervention that led to the creation of the job in the first instance). The two sectors that contribute to an increase in smallholder incomes are the cotton and the fruit and vegetable sectors. These are discussed below, drawing on the analysis from the case studies.

Cotton sector

In the cotton market, two interventions were responsible for the rise in smallholder incomes: quality cotton seed (CTA-04) and cotton contract farming (CTA-19).

In 2020, cotton worth a total of GBP 5 million was produced by 3,000 smallholders. The pre-harvest contracting for the 2020/21 cycle involved 12,000 farmers, each with one hectare of improved cotton production, using improved seeds. We were unable to verify whether the new cycle of contract farming is going as planned because of pandemic-related travel restrictions and the political troubles in one of the areas where contract farming was expected to thrive (Tigray). We would, therefore, estimate the number of farmers whose incomes have increased at a high level of 10,000, with a lower boundary of 3,000. Based on the before-after income productivity increase of the treatment group, it seems plausible that the improved seed and input package did indeed increase the productivity of cotton cultivation by more than 20%. There are no induced effects that we can estimate using the CGE model for the number of smallholder farmers with improved incomes beyond the farmers that that we have estimated as benefiting from PEPE's interventions in cotton production.

Fruit and vegetable sector

In the fruit and vegetable sector, the intervention on quality seedlings and seedling providers (also known as seedling business scale-up – FAV 06 and expanding exports and substituting imports (e.g. juices, tomato paste) (also known as quality improvement & diversification of processed FAV products FAV 10), requires many other conditions to be in place to see an increase in incomes.

The first issue is the lack of support for exports. Most smallholders still rely on local traders to market their products, and these traders do not have the skills and logistics to export or process fruit and vegetables. Huge investments, including post-harvest cooling and efficient logistics, are needed to effectively upgrade the value chain to meet the requirements of importing countries. These investments need to be made by the firms that procure directly from farmers, for example as foreign direct investment. Other investment support available, for example by ECF, is too limited to make these upgrades.

The second reason why fruit and vegetable interventions are unlikely to see an increase in smallholder incomes is that Ethiopia's agricultural support market is weak, especially in the private sector. The public extension service is relatively large when compared to neighbouring countries but is less flexible. Extension workers lack experience in working with horticultural crops, being more familiar with non-perishable crops. This thin market of advisors (the public extension service) makes a facilitative approach challenging, so PEPE recognised in the last few years of the programme the need for more direct approaches to working with farmers, such as contract farming. However, the delay in shifting PEPE's approach from facilitative to direct means that the impact on smallholder incomes will take a long time to materialise. This anticipated future increase is still contingent on other factors, and a significant amount of additional support will be required to ensure that farmers can benefit from increased sales.

Finally, PEPE's interventions in the fruit and vegetable sector were designed to benefit smallholder farmers in rural areas, where we are now seeing a significant deterioration of the security situation. This will also have an impact on the desired long-term income effects.

PEPE's horticultural activities addressed two key constraints: poor quality seedlings and poor extension systems. The seedling case study shows that PEPE played a facilitative role in mobilising over 14 seedling propagator partners who worked with farmers in three production corridors in the Amhara, SNNPR, Oromia and Tigray regions. PEPE supported several improved/ high yield nurseries across these three corridors. The seedling business intervention helped farmers increase the number of production cycles per year. In 2017, for example, we saw 48.5% of farmers with two crop cycles and 1% of farmers with three crop cycles. In 2020 we saw 55.7% of farmers now with two cycles and 5.2% with three cycles. However, model farmers (those who receive training and technical support and are likely to have more productive farms) account for about a fifth of the total number of farmers that PEPE counts as being reached. Model farmers are more likely to be recipients of training and technical support, and to have established strong market linkages. There is not enough evidence to conclude that all these model farmers did (as anticipated) actually impart know-how to their followers, so the number of farmers reached could be less by as much as a factor of five.

PEPE has delivered an impact assessment of the seedling intervention, which presents valuable data and acknowledges the limitations to the methodology used. The impact assessment used quasi-experimental design and trend analysis to identify that 87.6% of these vegetable farmers increased income by 20% or more. Considering the above, we estimate that the vegetable seedling programme improved the income of a minimum of 3,416 farmers and a maximum of 17,082. While farmers who adopted improved seedlings of onions and tomatoes could grow and sell produce more than once a year, the time for newly planted fruit tree seedlings to bear fruit takes much longer. Hence, at this point, it is not yet sure that these fruit tree farmers will have an income increase of 20%. We expect the number of benefiting farmers is likely to increase notably as and when fruit trees bear fruit and the fruit is marketed.

The firm survey showed that the supported seedling firms increased sales and exports. Using data from 21 firms, the average contribution score of 5.6% suggests that the profits of the supported firms increased by between 2.8 and 4.1% per year. However, this data only refers to seedling producers, which is a small sector and does not have the sectoral effects that we could estimate in the CGE model. Therefore, we do not present induced effects for the number of smallholder farmers with improved incomes beyond the farmers that are directly supplied by the supported propagators.

In conclusion, the total number of smallholder farmers with a 20% increase of income, adding the contract farming and the seedling activities, is estimated to lie between 6,416 and 29,082. This is well below the intended target for the programme, which was set at 65,000 smallholder households.

Section 4: Answers to evaluation questions

04

4. Answers to evaluation questions

4.1. Did it work: has PEPE improved the performance of its target sectors and has this created more jobs?

Evaluation questions:

Qn 1: Does improved sector performance result in more jobs in the target sectors?

Qn 5: Are more poor women and men able to access savings products as a result of PEPE?

Methods used to answer questions:

1. Process tracing case studies
2. Firm survey
3. CGE model
4. PEPE's monitoring (MRM) system

PEPE's theory of change, and to some extent those of MSD programmes in general, is premised on improving the conditions for growth in sectors where that growth will confer a defined benefit on a defined population. For PEPE, that growth has been measured through increases in sales and increases in investment by firms. The sectors in which this growth is intended to occur are cotton and textile (CTA), livestock and leather (LAL), and fruit and vegetable (FAV). To answer this evaluation question, we need to first establish whether there was indeed a change in sector performance.

A large part of PEPE's rationale in sector selection was the intention to generate hard currency through exports in sectors with favourable competitive conditions. Therefore, changes in exports are used as the proxy for sector performance.

CHANGES IN EXPORTS (\$M)

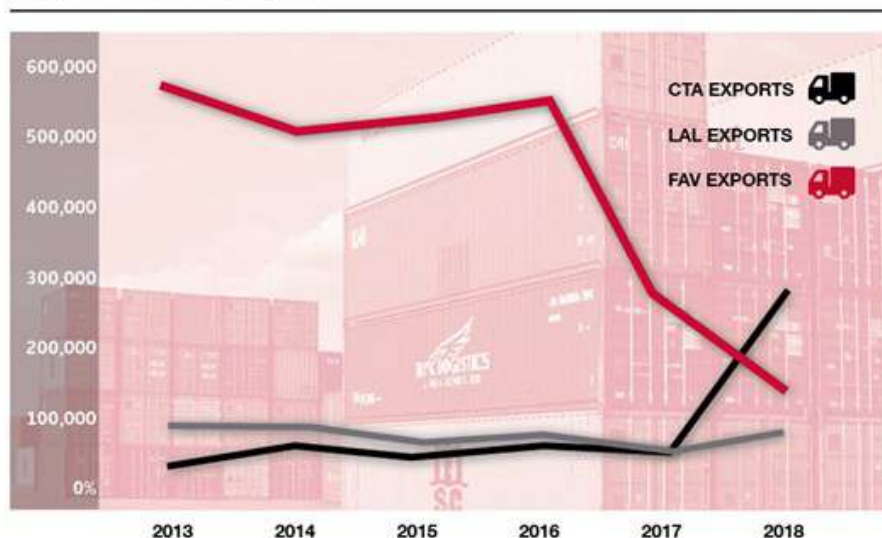


FIGURE 18: ITC TRADE MAP DATABASE (EXTRACTED 19 MARCH 2021)

Two of PEPE's sectors did not, overall, improve their performance during the programme lifespan. The export trend data tells a story of far larger forces at play than PEPE was able to directly influence. Domestic unrest in

2015 to 2017, particularly in the Oromia region, was a key factor in a dramatic decrease in horticulture exports. Farms were attacked and, in some cases, burned, after which investors left. In 2017, as the industrial parks began exporting garments, exports in the textile sector dramatically increased.

These are just some of the many global trading and domestic economic factors that had an impact on the performance of these sectors. Compared to these, any influence by PEPE must be considered as marginal. In fact, this influence is perhaps better viewed from the perspective of those who engaged with PEPE's services, and by looking at PEPE's impact on the various conditions for growth under normal circumstances. If this shows that PEPE had a significant and positive impact on the conditions that matter to firms, then we can assume that it contributed toward improving the sectors' performance, even if that contribution is relatively minor in comparison to aggregate figures. We must also consider the counterfactual in assessing statements. Using LAL as an example) we might state that there was a gradually declining export performance over the programme's timeframe, but PEPE's impact may have been to lessen this decline.

The endline evaluation showed that PEPE-supported firms increased their sales and exports as a result of PEPE's interventions, ranging from 2 to 4% in FAV, 2% in CTA and up to 1.5% in LAL. However, it is important to note that very few supported firms responded to the firm survey and reported a change in performance because of PEPE's support. Only one firm in LAL reported a significant positive impact from PEPE's support, with six in CTA and 21 in FAV. Considering the type of support provided and the presence of similar firms that worked under similar conditions, sectoral effects were extrapolated from these contribution scores. This implied that it was plausible to make a minimum and maximum estimate of sector effects for LAL and CTA. In CTA, all firms were small seedling suppliers but because these account for a fraction of sales in the sector, it was logical to conclude that they did not influence the overall sector.

Across the life of the programme, PEPE reports less than GBP 30 million as a contribution to increased sales. This is in the context of sectors that sell hundreds of millions (GBP) in sales annually in exports alone. We have noted elsewhere in this report the absence of crowding-in by other firms or the wider dissemination of innovation within the sectors. This lack of scale meant that impacts were not replicated sufficiently to address systemic constraints, meaning that the overall impact on sector performance is quite small.

The business case for this programme assumed that the sectors could register much higher added value. The lowest target in the business case appraisal was a 10% change in horticulture, 30% in leather and 70% in textiles, all attributable to PEPE. It is clear from PEPE's monitoring data and this impact evaluation that these sector effects have not materialised. However, the expectation of this linear effect from an inherently dynamic and complex MSD programme can be considered as an optimal outcome, rather than a reflection of how commissioners and implementers really expected the impact to unfold.

The case studies look for evidence of key steps in the theory of change and in intervention areas where PEPE is considered to have made a substantial contribution to the impact targets (jobs, incomes, and investments). In each case study, some of these steps relate to sector performance according to the overall PEPE theory of change within which the interventions fall.

In Hawassa, PEPE was part of a process that helped to set up, and iteratively created, an effective labour sourcing system for the industrial parks in Ethiopia. Without labour there is no production so a more effective labour sourcing system, particularly or perhaps exclusively in the case of Hawassa, allowed factories to produce and sell more than they would otherwise have been able to. Although this proved very difficult to quantify throughout PEPE's monitoring, the availability of labour for the textile and garments sector is an area where there has been a change in the constraint to sector performance and PEPE has played an important role in this.

The seedling and cotton contract farming case studies relate to a slightly different interpretation of the PEPE theory of change, in that they mainly concern primary production and smallholder incomes rather than relating to an integrated value chain or sectoral growth per se. This means it is difficult to state the extent to which these innovations led to improved performance in the overall sector. Certainly though, within the smallholder

production system for fruits and vegetables and cotton, these interventions did address existing constraints and the farmers involved have been able to sell more and increase their incomes as a result.

The leather case study examines constraints around market access and financing models. The conclusions here are that the interventions successfully reduced these constraints for the firms who benefited, and this was associated with a high rate of growth in sales. However, for the vast majority of the firms in the firm survey, there was no change. Because of this, we estimate the 1.5% improvement in the sector's performance as the highest estimate of impact, with no effect as the minimum.

A final set of analyses can be drawn from the ten annual reviews, including reviews of programme data and extensive interviews with PEPE staff and partners. This is warranted as there are many influences on sector performance that are not visible through the lens of the firms in those sectors. This approach also allows for a normative assessment of structural changes that may have a lagged impact on performance indicators. PEPE conducted high quality analyses of the constraints to sector performance. The output indicators in the programme's logframe point to several factors likely to contribute towards sector performance in the longer term. These included improving the technical skills required to attract investment and contributing to policy change. Another factor is the impact of increased production from some of PEPE's work in primary production feeding through into efficiencies in processing and manufacturing within the sectors.

Finally, referring to table 10: induced employment effects of PEPE support (included below), it is clear that across priority sectors we are seeing most numbers of jobs created through the services support provided by PEPE in the labour sector (HIPSTER), through WEDP and SMEFP.

TABLE 10: INDUCED EMPLOYMENT EFFECTS OF PEPE SUPPORT

INDUCED EMPLOYMENT EFFECTS OF PEPE SUPPORT								
	HAWA		WEDP		SMEFP		LEATHER	TEXTILE
	LOW	HIGH	LOW	HIGH	LOW	HIGH		
TOTAL	5,672	13,413	5,577	10,182	3,122	6,229	975	672
PRIORITY SECTORS	1,184	2,963	178	356	550	1102	147	135

Are more poor women and men able to access savings products as a result of PEPE?

PEPE's interventions on access to finance took an unusual trajectory across the programme's lifespan. In the first three years of PEPE, some good work was done in more traditional financial inclusion areas such as agent banking. By midline, it was felt that PEPE's resources – primarily human rather than financial – were spread too thin. The FCDO (then DFID) terminated its assistance to the IFC's multi-donor fund, while for Enterprise Partners' component, it was the 'Base of the Pyramid finance' (BoP) component that was closed down. The overall programme theory of change linked the liquidity of financial institutions (which could be improved through savings) to increased lending to firms in priority sectors, leading to growth. However, it was felt by this point that the theory of change that would lead to sector-wide change and impact was too long and had become, in effect, a more generic financial inclusion programme. By the time the BoP finance component was closed, only around 2,000 people had access to savings products through PEPE's work.

However, after the BoP component was closed in 2017, including the turnover of staff previously dedicated to this component, PEPE developed two new finance interventions (Tiered know your customer - FIN-21 and DFS promotion through Agent Deployment - FIN-31) which were far more successful than anything that had gone before. In the tiered know your customer intervention (FIN-21), PEPE helped to facilitate a pilot and rollout of technology that helped those without the proper documentation to obtain bank accounts for the first time. This used biometric identification to allow identities to be verified without documentation. This intervention

was particularly salient in Ethiopia where the issue of ID cards intersected with growing levels of migration, meaning many people without bank accounts or any means of obtaining them. Through this intervention, 33,000 bank accounts were opened and this is likely to grow substantially after the end of the programme. Unfortunately, only 13,000 of these accounts were opened by women but this aligns broadly with the demographics of internal migrants in Ethiopia.

The DFS promotion through Agent Deployment intervention (FIN-31) intervention involved the rollout of an agent banking model to Gambella in the west of Ethiopia. Here, a partnership was struck between a bank and a multi-product digital services provider. The former had both a target of increasing outreach and a need to increase liquidity, while the latter sought to bundle services and increase its distribution network. PEPE's money was used to accelerate the process, under which 35,000 people opened savings accounts, almost 3,000 of them women.

Through WEDP (up to 2018), PEPE reported borrowers opening new accounts, of which 30,000 accounts were opened by women.

In summary, despite finance not having been the main focus of PEPE, the work in this sector has had notable impact on accelerating financial access for poor people.

Overall, most sectors (except for the financial sector) did not see the intended improvement in performance although performance did improve. The lack of improvement can be partially attributed to sectoral changes outside of the control of the programme. However, where small changes in sector performance have been observed, induced jobs can be attributed to PEPE's interventions. The sectors where most induced jobs have been estimated and can be attributed to the programme are Finance (WEDP and SMEFP) and Labour (HIPSTER). In addition to jobs, sales and investments, PEPE was also designed to deliver greater access to savings products for men and women, particularly those classified as poor. The impact assessment concludes that despite finance not being a priority sector for PEPE, this sector delivered greatest impact with large numbers of individuals provided with access to finance (WEDP: 30,000 accounts opened by women, and know your customer: 33,000 accounts of which 13,000 accounts opened by women)

4.2. Where did it work: which parts of PEPE have proven most effective in achieving sustainable increases in jobs and incomes in the target sectors? Were some sectors inherently more conducive to systemic change?

Evaluation questions:

Qn 2: Which parts of PEPE have proven most effective in achieving sustainable increases in jobs and incomes in the target sectors
Qn 4: Has PEPE improved the performance of the target sectors in the long term?
Qn 8: Were some of the sectors or sub-sectors more conducive for systemic change? If so, what were the factors influencing this?

Methods used to answer questions:

1. Process tracing case studies
2. Firm survey
3. PEPE's monitoring (MRM) system

Given the degree of flexibility in programme activities and outputs, MSD programmes must be assessed by the metrics of impact (on poor people), sustainability and scale. It is here that PEPE has fallen short. Across the lifespan of PEPE there were a total of around 100 interventions. Of these, only one third were perceived

to have resulted in core market firms making practice changes that would address a systemic constraint affecting their performance. So, for two-thirds of interventions, innovations in support markets did not lead to any improvements in practice or performance that could lead to growth, jobs and incomes.

Statistical analysis of survey data enabled PEPE's support to be grouped into sets of outcomes where PEPE improved conditions in the firms, addressing critical constraints within these market systems.

Overall, PEPE's influence on reducing the impact of a long list of constraints was greatest in the LAL sector, followed by CTA, with very little in FAV. In LAL, several initiatives appear to have contributed to addressing constraints, with PEPE playing a role in that change. These include access to export markets, workforce skills, human resource management and the development of appropriate financial products. In CTA, PEPE's contribution is much more clearly centred on labour supply in terms of both quality and quantity.

Based on the survey data and the pattern of contribution scores in Figure 18, it can be seen that PEPE's work in human resource management is on average perceived as having the most influence. The factor analysis, however, showed that it was only in the seedling firms that this HR know-how was significantly correlated with improved sales and profitability. In textiles, financial procedures seem to have had the greatest impact on sales, while in the leather sector, the performance of input markets (e.g. raw hides and skins) is seen to have contributed to exports. Interestingly, none of these interventions can be associated with a change in direct employment within firms. This means that if PEPE has made any contribution to job creation, it is, at most, the creation of indirect jobs in the sector.

CONTRIBUTION SCORES (0 - 100%) BY SECTOR



FIGURE 19: CONTRIBUTION SCORES

Sustainability is an essential component of the rationale for MSD programmes. PEPE's programmatic logic is that by working in support markets, generally with service providers, suppliers or 'rule setters' they will 'crowd-in' similar support actors to achieve scale. The activities of these support actors support the core market actors, from where the target group derive the desired benefits – employment or income from production. The theory here is that scale – and therefore sustainability – is achieved not by working with many factories or many smallholder farmers but by working with these support market actors, whose activities would impact on many principal market actors. Seeing the success of this model, other support market agents would emulate this innovation and this would lead to yet further principal market actors changing their practice.

Using the leather sector as an example, the theory was that supporting leather agents and linking them to global markets (trade fairs) would improve tannery operations. This would lead to creating better quality leather suited to a global market with access to buyers. The logic is that by seeing the success of this model, other

agents would also start to emulate this support to tanneries, and this would increase the number of tanneries delivering better quality leather with greater export potential.

The theory was that PEPE's interventions in the leather sector – the introduction of the market agent model and changes in the rules of the game – would, in the long term, have sustainable positive effects on the Ethiopian leather tanning industry. However, there was little evidence within the sector of wider uptake of these innovations beyond the PEPE pilots. Without continued uptake of these innovations by tanneries, there is no strong evidence that these will continue or be able to address critical constraints in a sustainable manner.

One noticeable feature of PEPE's interventions is that those reported as contributing to more job creation, incomes and sales are unsustainable, while those where few impact results were registered are more sustainable. The WEDP intervention, which involved the direct provision of TA to MFIs as a condition of receiving a credit line was seen to have created a number of direct jobs. On the other hand, the cotton case study intervention (CTA-04 and CTA-19), although it initially showed little impact, eventually evolved to a much more sustainable model.

Results of the cottonseed multiplication intervention showed that the uptake of improved seeds is low, and the impact on jobs and income of smallholders supported by PEPE is still marginal. However, the interventions went through a learning journey. From a basic understanding of poor-quality seed and attempts to turn smallholder farmers into multipliers, the intervention evolved to a more sustainable and scalable support model involving the agricultural research centre, commercial cotton farms acting as multipliers, and smallholder farmers buying the seed and increasing their sales. By the end of the programme some 25 commercial cotton farmers were acting as seed multipliers. A further ten firms were counted during the previous model through co-operative unions. As the model continues to work, more and more commercial cotton farmers become seed multipliers, and more and more smallholder farmers buy improved seed from them and make additional revenue. These additional sales will be repeated on an annual basis and will continue to grow over time as adoption increases. Further still, the agent-based commercialisation model has the potential to be applied to other crops, so the sustainability and scale of impact is potentially far larger.

PEPE's interventions in the FAV sector aimed to catalyse the sustainable development of fruits and vegetables, focussing on smallholder farmers. Several interventions were tested, and the agent-based private extension and marketing model was seen to be successful. Our assessment suggests that seedling users in the treatment group of the impact evaluation saw an increase in yields by at least 30%. Further still, the commercialisation model through agent-based model has the potential to be applied to other crops and so the sustainability and scale of impact is potentially far larger.

Looking at the impact numbers overall, PEPE's work in the financial sector seems more successful than its work in the three priority sectors. The technical assistance provided to WEDP and SMEFP is considered high quality and clearly helped to improve access to investments for MSME. That said, almost all of PEPE's achievements in investment are direct interventions, rather than indirect MSD interventions. This means they will no longer be available, and will therefore not continue to deliver results, once the programme ends. The programme that follows PEPE is still very much focussed on financial investments and will continue the direct support modality for some years. We do, however, recommend exploring ways to shift from direct to indirect support. This will help the new programme develop a sustainable systemic approach that relies less on direct technical assistance or fund mobilisation.

Sectors and sub-sectors more conducive to systemic change in a developmental state are those where there is strong internal momentum within the sector and also government support. It is worth noting that government support is, to some degree, also a product of market changes and shifts in competitive advantage over time. So, for example, PEPE had some traction very early in its life in conversations with government around horticulture, but as government priorities shifted towards industrial parks it became harder for PEPE's horticulture interventions to have impact. This downward pressure on results was also compounded by investors leaving and domestic unrest, factors beyond the control of the PEPE programme.

In the Ethiopian context, some sub-sectors have clearer, more acute and temporally specific constraints, which a programme such as PEPE can address. This means that there was more opportunity for the programme in those subsectors. For example, a government drive towards improved environmental protection, shifts in the international market towards better environmental practices and an outdated status quo gave PEPE opportunities to try activities in organic and chrome-free leather as well as effluent treatment which would not have been viable without these contextual drivers. Similarly, PEPE's resources and expertise were valuable in dealing with crises at various points in the programme in an opportunistic way – supporting the government bailout of a large garment factory and supporting prices in the raw hides and skins trade during a crisis caused by poor governance. The work around contract farming is also promising but started too late in the programme implementation timeline to yet see systemic effects of crowding-in and replication.

PEPE's work in finance, however, is different. People and firms have always needed, and will continue to need, finance. While the exact barriers to improving this market might shift over time, from regulatory constraints to technology to currency markets, the sector itself will always remain relevant and less dependent on industrial strategy. In the case of PEPE, given the rigidity of the programme design (guided by the business case) in terms of priority sectors, over such a long programming period, the work in finance was more conducive to systemic change than other sectors because its relevance was universal and not time bound.

To conclude, the leather sector has seen limited uptake of the agent-based model, which indicates limited chance of sustainability for the interventions. For the cotton and FAV sectors the innovative models have not delivered significant results so far but the case studies suggest that these interventions are likely to be sustained longer-term as more agents and end-users buy into the systems (agent-based, for example). These two sectors (cotton and FAV) are likely to achieve sustainable increases in jobs and incomes in the target sectors. These two sectors are also likely to see improved performance in the long term. Finally, the finance sector (over the priority sectors) has been most effective achieving systemic change because its relevance is universal and not time-bound. However, the effects are unlikely to be sustainable as the interventions provided direct support rather than support to reducing the impact of constraints in supporting functions in the market.

4.3. For whom did it work: Did PEPE's impact meet expectations of being pro-poor, pro-women and focused on green growth?

Evaluation questions:

Qn 3: What proportion of jobs created has been taken by poor people?

Qn 10: Was the design of PEPE consistent with achieving pro-poor growth? Green growth? Pro-women growth?

Methods used to answer questions:

1. Process tracing case studies
2. Firm survey
3. PEPE's monitoring (MRM) system
4. CGE model
5. PEPE's internal impact assessment for cotton and seedlings

The origin of this evaluation question was to explore whether PEPE was supporting an emerging middle class or really tackling extreme poverty. The impact assessment used the case studies to assess, by sector the impact of the interventions on growth and job-creation. In the case of Hawassa (labour market), the intervention was necessary to create pro-poor jobs because those who were likely to apply for jobs in this intervention are unlikely to be familiar with the formal job market, with limited access to jobs. The low wages earned by workers give industrial parks a competitive advantage that they use to attract investors. The firms in Hawassa co-ordinate salary levels to avoid workers surfing from firm to firm to improve their salaries. Oya (2019) writes that, "in the Ethiopian context, given the absence of a national or sector minimum wage there is a risk of a process of wage setting that is not sufficiently incentivising even for poor rural migrants. [...] Especially the case in Hawassa, a recent diagnostic survey conducted by the ILO in 46 T&G factories confirms the excessively

low wages especially for low-skilled workers.” The target audience for the labour market interventions is individuals who had previously worked as occasional agricultural labour (something they often still leave the park to do in harvest season), and largely from family farms. Poverty is rampant in the industrial park areas and landholdings are productive but small. The jobs created in this sector are, by definition, for workers that would be considered ‘poor’— particularly the common rule of thumb within FCDO programming of targeting the lowest quintile of the income distribution. Landlessness among these workers is very common and, consequently, these workers would also include people in the category of ‘extremely poor’. Additionally, in Hawassa, the vast majority of workers are women. In situations where childcare was provided, many workers were also single female-headed households.

The MSD interventions in horticulture and leather involved many different interventions, with a variety of locations, firms and intervention areas. Some were in response to changing market dynamics, which is essential for a good MSD programme. However, this makes static impact evaluation designs, with baseline and endline comparisons between supported and unsupported smallholders, inappropriate. Even at mid-term, the prevalence of contract farming and the location of the pilot contract farming schemes were unknown. In consultation with the evaluation team, PEPE initiated two impact evaluation efforts to collect data that would help quantify the income gain.

In the cotton contract farming intervention, PEPE’s own impact assessment determines that it is plausible that the improved seed and input package did increase the productivity of cotton cultivation by much more than 20%. This is largely based on the before-after income productivity increase of the treatment group. However, the design of the impact evaluation was flawed, with methodological challenges that the PEPE team also noted in its evaluation. The team did not collect data on other aspects of the farmers’ livelihoods and agricultural cropping systems so it was not possible for the endline evaluation to properly analyse the income effects, to assess total income or to match the treatment and comparison group on key variables. It is also difficult to ascertain how sustainable the income increase is because farmers can quite simply refrain from planting cotton and turn to food crops or other cash crops. In that case, the linkage between the firm and the farmer (the contract farming) may become irrelevant to them. Contracting farmers might improve their income temporarily compared with ‘unsupported’ cotton production, while they opt into the contract, but this comparison becomes irrelevant when they decide to turn to other crops.

The seedling intervention also had an impact assessment report which attempted to assess the counterfactual, contending with limitations of time and sample size. The PEPE internal evaluation presents valuable data and acknowledges methodological limitations. The impact assessment uses quasi-experimental design and trend analysis to identify that 87.6% of the participating vegetable farmers increased income by 20% or more. Considering the above estimates and using the seedlings process tracing case study, the endline evaluation estimates that the vegetable seedling programme improved the income of a minimum of 3,416 farmers and a maximum of 17,082 (see detailed case study in the Annexes). Based on the internal, PEPE impact evaluation and the endline case study, given the size of participating farmers’ landholding, farmers involved in the intervention can be categorised as poor.

The industrial zones are more explicitly structured to support exports and are at risk of disarticulated growth, for example, where agreements between factories to artificially fix salaries lead to lower salaries. However, the mobility of labour in the industrial zones is such that most workers are not trapped into a low wage but will use these job opportunities as a stepping-stone, or at least as an opportunity to experiment or to move to more lucrative work.

Another intervention that might be considered as less pro-poor was the work on PCAF, where foreign direct investment deals were related to telecom and hotels and where the articulation between production growth and improved salaries for poor people is very weak. However, all in all, we find that PEPE did work in sectors and with interventions that benefit pro-poor development.

It is more complicated to analyse the job effects of the financial interventions. Did they reach the middle-class or the poor? The way that impact figures are reported suggests that the jobs created include workers hired by MSMEs. It is widely accepted that the WEDP loans to women entrepreneurs would generate jobs that very

likely classify as poor-jobs, with salaries commensurate with similar jobs in other sectors. For SMEFP, the job creation is also extrapolated from data on additional workers contracted by the SME. Unfortunately, the salaries of workers in manufacturing sectors, with firms that borrow funds, are relatively low. There is little doubt that jobs created through financial sector loans will be poor-jobs, even if the loan recipients may not all be classified as poor. PEPE's work in finance, especially WEDP, was clearly pro-women growth, as was the work in Hawassa Industrial Park, which involved mostly female workers. The funding provided by WEDP and SMEFP was invested largely in sectors where firms procured inputs in Ethiopia and sold in the domestic market. The MSD work in the priority sectors also mostly involved sectors that served the local market. This focus on domestic demand and supply creates multipliers in the local economy and should be seen as pro-poor growth.

TABLE 11: INDUCED EMPLOYMENT EFFECTS OF PEPE SUPPORT

INDUCED EMPLOYMENT EFFECTS OF PEPE SUPPORT

	HAWA		WEDP		SMEFP		LEATHER	TEXTILE
	LOW	HIGH	LOW	HIGH	LOW	HIGH		
TOTAL	5,672	13,413	5,577	10,182	3,122	6,229	975	672
PRIORITY SECTORS	1,184	2,963	178	356	550	1102	147	135

Regarding green growth, priority sectors were selected, in part, for their potential influence on environmentally positive impacts. Horticultural exports from Ethiopia have vastly reduced carbon footprints when compared with alternatives produced in Europe or even in Kenya, and so growth in these industries can be considered green. PEPE also selected sectors with more specific green growth potential so that business development could be linked to the World Bank-supported Ethiopia Climate Innovation Center (ECIC). The ECIC supports Ethiopian small and medium enterprises (SMEs) developing innovative solutions that address climate change. However, the activities that did emerge, which focussed on green growth were small (better chemicals in tanneries, better coating in seed production). Intensifying local cotton production, although having positive income effects on the smallholder economy, has little to do with green growth. Despite the involvement of the Better Cotton Initiative, which was brought in to mitigate the negative impact of using inputs like fertilisers in some areas with limited irrigation water, these interventions cannot be seen as catalysing green growth.

To conclude, there are a few interventions in key sectors that have targeted jobs for poor people. The sectors where job-creation focuses on poor-jobs are labour market (Hawassa), seedlings (FAV), cotton contract farming, and some finance sector interventions. For the seedlings-interventions, a minimum of 3,416 famers and a maximum of 17,082 are considered poor-jobs. With the labour market a minimum of 1184 jobs and maximum of 2963 are also considered poor jobs. Finally, given the nature of the contract-farming jobs, a minimum of 147 and maximum of 135 jobs can be considered poor-jobs as well. WEDP loans to women entrepreneurs generate jobs that very likely classified as poor-jobs and jobs created through financial sector loans are very likely to be poor-jobs, even if the loan recipients are not classified as poor. PEPE's work in finance, especially WEDP, was clearly pro-women growth, as was the work in Hawassa Industrial Park, which involved mostly female workers. Finally, PEPE's focus on domestic demand and supply creates multipliers in the local economy and should be seen as pro-poor growth, overall.

Regarding green-growth, while PEPE's sector selection inherently considered green growth, the activities that can be clearly noted as having led to green growth have been patchy, few in number and limited in scope. Interventions that are 'green' include better chemicals in tanneries and better coating in seed production, which do not align with the 'green' ambition of the programme

4.4. Why did it work: what have been the key factors that have catalysed or constrained the effectiveness of interventions in each of the target sectors?

Evaluation questions:

Qn 6: What have been the key factors that have catalysed or constrained the effectiveness of interventions in each of the target sectors?

Methods used to answer questions:

1. Process tracing case studies
2. Firm survey
3. PEPE's monitoring (MRM) system

While individual interventions and sectors were constrained by factors specific to them (as shown in the theories of change for each sector in Section 3), there were three overarching factors that had a significant overall influence on PEPE's efficacy. These three factors are also responsible for the dissonance evident in the progress that PEPE made against its logframe targets: notably, meeting all output indicators but only one out of five outcome indicators. The key factors that constrained the effectiveness of PEPE's delivery are:

4.4.1. Balancing the priorities of the business case with a dynamic operating environment

The business case selected which sectors to work in based on their potential for sector-wide transformation and poverty reduction as well as the ability to contribute positively to exports and integrated value chains. For example, the focus on horticulture was linked to the country's ambition to support the large number of newly commercialising smallholder farmers who needed to increase their incomes. With other sectors, such as labour or leather and livestock, PEPE expected to absorb the growing youth population from the saturated and unproductive agriculture sector.

PEPE should be commended for, in many cases, doing what the sector needs rather than doing what would most easily contribute to results within the programme timeframe. However, having sector choice set by the business case created a relatively rigid structure which prevented PEPE from taking more flexible approaches to support business service in other sectors. Because of this, it is likely that some progress will only be visible in the years to come. Contract farming, for example, is just beginning to contribute to results, and the work in fruit tree seedlings will not register an improvement in the incomes of smallholders until these trees have reached maturity in some five years' time. This means that the (almost) eight years between 2013 and 2020 is not sufficient to see the true impact of PEPE, which will include important systemic changes in rules and sector policies where PEPE has played a significant role in improving sector co-ordination. All in all, taking stock in 2020, the outcome and impact targets for the priority sectors, using a MSD approach, were not met and the only outcome target that has been met is from direct technical assistance provided to the financial sector.

4.4.2. Strategic allocation of resources

PEPE has also often struggled to determine which activities are key to achieving results at outcome and impact level. In some sectors PEPE has pushed against open doors, for example with the greater concentration of resources on investment and finance. In others, PEPE diverted attention towards useful but less outcome-generating sector needs, for example with the young professionals programme and policy work. PEPE also focussed quite logically in the areas where they had the greatest traction, rather than continuing to look for different ways to approach problems where they had not.

A good example of this is in the textiles and apparel sector in Hawassa. Despite the lack of a clear link between the improved soft-skill training of workers and the sales made by the supported firms, this activity continued throughout the programme. In pursuing these strategies, PEPE pursued output level targets while paying less attention to the potential to meet outcome and impact level at scale. The programme did not always follow the logic of asking *in which areas it could create job-intensive growth and what PEPE could do to catalyse that growth*.

There are various other examples from across the life of PEPE including veterinary services, various industry certification schemes, co-ordination fora and skills development work, which were unlikely to ever contribute to the outcome and impact targets. The flexibility afforded to PEPE at the output level were designed to allow evidence-based and adaptive programming, but this meant it was possible to achieve the output targets by developing interventions that could never be expected to have an impact on job creation at scale.

4.4.3. 'Crowding-in' of other firms (to achieve scale and outcome and impact results) did not really occur

Across the lifespan of PEPE there were a total of around 100 interventions. Of these, only one third were perceived to have resulted in a practice change among core market firms. So, for two thirds of all interventions, innovations in support markets did not lead to any practice change or performance improvement which could lead to growth, jobs and incomes.

For interventions outside of the cotton and labour examples, the number of core market firms changing practices was in the low single figures meaning no firms were seen to crowd-in. There are many potential explanations for this. Firstly, it is possible that these were just the wrong interventions for core market firms. The intervention models did not provide them with sufficient incentives for growth and so they did not change practice.

A second explanation is the nature of the market in Ethiopia. It is important in MSD programmes to deliberately target mechanisms for replication. These might include training, key staff turnover, competitive markets, industry- or government-driven information sharing or professional networks. In Ethiopia it is possible that a conservative business culture, the pivotal role of the state in the economy, and an incipient business service sector meant that many of these mechanisms were absent and so this crowding-in did not happen.

Thirdly, changes in support markets are very likely to take time to filter through to principal markets. Emulation by others will take longer still.

A fourth possibility is that the causal assumptions implicit in the theory of change and reflected in the logframe need to be revisited and refined in the light of the evidence. These assumptions were that:

- i. PEPE was expected to work in real existing support markets.
- ii. The number of firms changing practice – irrespective of their size – would be a good indicator of sector uptake.
- iii. The core market firms needed to change their existing practice in order to grow.
- iv. These necessary changes in practices would be a result of PEPE-supported business services and sector policies.

PEPE did, however, have some clear successes. For example, WEDP and SMEFP can be considered as being more successful than expected. MSMEs have a great need for working capital loans, and entrepreneurial activity in the economy abounds. Although it was not the most successful when measured by impact indicators, the work in the leather sector can still be considered as a good example of an MSD programme which reacted on, and proactively shaped, important policies that influence the dynamic in the sector.

Common factors among the more successful MSD interventions include a close co-ordination with the organisations that define sector policies. Surprisingly, the philosophy of systemic market-based growth through an MSD approach – contrasted with the direct effects of traditional development support – is, in Ethiopia,

dependant on the enabling role of the governments. This is not only as source of policy and regulation, but also as a source of finance (e.g. through state-owned regional leasing companies involved in the SMEFP intervention), of extension support (e.g. CTA-19) and of implementation partners (e.g. in sourcing labour in CTA-08).

4.5. Could it work again: could further support to the target sectors achieve further sustainable outcomes?

Evaluation questions:

Qn 7: In which areas could interventions have been pursued more effectively and how might this have been achieved?

Qn 9: Could further support to the target sectors achieve further sustainable outcomes?

Methods used to answer questions:

1. Process tracing case studies
2. Firm survey
3. PEPE's monitoring (MRM) system

PEPE consistently underspent during its lifespan. The problem was more frequently finding judicious ways to spend money without distorting incentives for sustainability rather than trying to find more money to spend. It is possible, given the impact achieved later in the programme cycle in access to savings accounts, that more might have been achieved had funding to BoP finance not been cut. However, the impact that was achieved was from relatively opportunistic, rather than analysis-led, interventions so more money may not have led to more opportunities. FCDO were evidently willing to support such opportunities when they did arise, despite the closure of the support provided to this sector, so this should not be seen as a constraint to impact.

Regarding the question of whether continued support to target sectors would have greater impact is difficult to answer, because of the turbulent situation in which PEPE concluded its work in Ethiopia. With COVID-19 and the Tigrayan war at the end of PEPE, it is very hard to say what the future holds for PEPE's sectors.

Looking specifically at each sector:

- **Leather:** As stated earlier, leather has been in gradual decline throughout PEPE's lifespan, despite the systemic changes and innovations that PEPE catalysed.
- **Industrial parks:** While industrial parks have expanded and exports have grown, indications in Ethiopia are that the influence of the mastermind of industrial parks (Dr. Arkebe Oqubay) has waned. The perception that industrial parks aimed to capture growth at the federal level rather than state level has been part of the cause of unrest. Culturally, Ethiopia is more familiar with inclusion than exceptionalism and these growth poles are perceived as out of step with that culture.
- **Textiles:** COVID-19 has challenged global supply chains, causing a collapse of demand in the garment industry, and many of the factories targeted through PEPE have been mothballed.
- **Horticulture:** There is still some competitive advantage in this sector but it is harder to get investment. In the other sectors, capital is relatively footloose, but because horticulture is embedded in specific production locations, investors require confidence in the stability of their investee countries.

The rebuilding process to regain investor confidence and provide Ethiopia with a competitive advantage for producers and investors is likely to need some time. Meanwhile the existing firms in these sectors need support just to survive (instead of grow). It is unfortunate that FCDO's follow-up programme in Ethiopia has not retained the MSD approach. MSD programmes need time to innovate, experiment and change market structures; the

period 2016–2019 when PEPE really tested the MSD approach is too short to judge the effectiveness of the approach itself.

4.6. Was it good value: how do the costs of achieving PEPE's benefits compare with alternative modes of programme delivery when considered in the long-term?

Evaluation questions:

Qn 11: How do the costs of achieving PEPE's benefits compare with alternative modes of programme delivery when considered in the long term?

Methods used to answer questions:

1. PEPE's monitoring (MRM) system
2. Annual reviews and Project Completion Reports

At an original value of £43 million for the EP component of PEPE, EP is a very well-funded programme. Assessed against the intended outcome and impact metrics, it is pragmatic to state that EP has generated interesting insights on implementing MSD programmes in contexts like Ethiopia, where markets do not function in ways that one might see in Kenya or other neighbouring countries.

In the following subsections, we look at EP's cost of generating results at the impact, outcome and output levels. The table below showcases cost per induced jobs created by EP. It is evident that EP's interventions in Hawassa Industrial Park delivered relatively better value for money in terms of cost per job, compared to the interventions in the leather and textile sectors.

TABLE 12: COST PER JOB IN LABOUR, LEATHER AND TEXTILE SECTORS

	Hawa (CTA 08)		Leather	Textile
	Low	High		
Cost per job (total)	£471.51	£199.39	£3,522.78	£3,945.81
Cost per job (priority sectors)	£2,258.77	£902.59	£23,365.40	£19,641.36

Source: Evaluator calculations

The table below provides an overview of cost per result at the outcome and impact level, comprising both positive and negative trends over the programme's lifetime. Generally, cost per result has declined since August 2016 due to consistent increase in results from HIPSTER, WEDP and SMEFP. For instance, in March 2020, the cost to facilitate £1 of investment was £0.12, down from £0.30 in August 2018. Similarly, over the same time period, cost to facilitate £1 of sales and per financial account created reduced from £1.63 to £0.55 and from £260 to £40.18 respectively. However, the cost per core firm changing practice increased from approximately £178k in August 2018 to £256k in March 2020.

TABLE 13: COST OF OUTCOME LEVEL RESULT

Level	Effectiveness Indicator (all in GBP)	Aug 2016	Aug 2017	Aug 2018	Mar 2019	Sep 2019	Mar 2020	Costs included
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Impact	Cost per person increasing income	1,560	1,952	2,439.73	3,090.64	4,264.54	1,575.28	Cotton, SHF Production, Livestock
Outcome	Cost per GBP of investment facilitated	0.37	0.20	0.30	0.18	0.14	0.12	Investment
	Cost per GBP of sales facilitated	1.77	2.01	1.63	0.72	0.79	0.55	Garments, leather, horticulture
	Cost per core market firm changing practice	342,076	115,513	177,944	233,983	273,868	255,906	All sectors except for direct investment (WEDP 1 and SMEFP)
	Cost per financial account created	82	68	260	120	46.97	40.18	Financial Inclusion costs

Source: EP VfM report (June 2020)

At the output level, EP's support to agro-industrial sectors yielded good value for money performance, which is evidenced by all indicators achieving or exceeding the overall targets for the programme. Under this component, the programme made significant upfront investments to pilot, adjust and validate a number of interventions to test market appropriateness of different sectors and deliver results. This is evidenced by the high cost per sustainable innovation and change to rules in the first year of the programme, which then decreased in years 2 and 3. However, for the other output indicators under this component, cost per organisation innovating, innovations, and interventions addressing critical constraints increased over the lifetime of the programme. Given that the interventions contributing to this output (the AIG sector) relate to outcomes 1 and 3, and EP did not meet targets for either of these outcomes, this indicator does not represent good VfM from an effectiveness perspective.

TABLE 14: COST PER OUTPUT LEVEL RESULT IN AGRI-INDUSTRIAL SECTOR

Output (AIG)	Aug 2016	Aug 2017	Aug 2018	Mar 2019	Mar 2020
Cost per Sustainable Innovations	4.0 m	2.3 m	2m	2.9m	2.9m
Cost per Changes to Rules	4.0 m	2.3m	2m	2.9m	1.8m
Cost per Organisation Innovating	125k	155k	157k	165k	182k
Cost per Innovations	447k	412k	462k	533k	671k
Cost per interventions addressing critical constraints	287k	259k	299k	316k	399k

Source: EP VfM report (March 2020)

Similarly, EP's value for money performance for financial sector interventions is positive, considering nearly all indicator targets were achieved or overachieved. The costs for delivering support to each sustainable innovation in finance group decreased over the lifetime of PEPE, in fact, by more than half since the beginning of the programme. However, the cost of supporting per change to rules, organisations innovating, and financial sector innovation have fluctuated over the years. Interventions feeding into this indicator are also effective, given that they have delivered most targets at the outcome level (outcome 2) in the financial sector.

TABLE 15: COST PER OUTPUT LEVEL RESULT IN FINANCIAL SECTOR

Output (FG)	Aug 2016	Aug 2017	Aug 2018	Mar 2019	Mar 2020
2.1. Sustainable Innovations	N/A	4.7m	2m	1.7m	1.2m
2.2. Changes to Rules	N/A	4.7m	2m	1.2m	2m
2.3. Organisations Innovating	790k	583k	422k	466k	546k
2.4. Innovations	790k	583k	422k	466k	512k
2.5. Interventions addressing critical constraints	351k	222k	246k	280k	341k

Source: EP VfM report (March 2020)

However, it is difficult to assess the value for money of PEPE-like composite programmes and to conduct a comparative analysis with other similar MSD programmes, since the interventions, markets, sectors and context varies substantially. Therefore, in the following sub-sections, we present descriptive analysis of the value for money of EP's different modalities in delivering interventions:

Agent-based marketing model

EP deployed an agent-based marketing (ABM) approach to promote quality seedlings by providing farm extension services (use of inputs, agronomic practices) as well helping smallholders access input and output markets (FAV 02 and FAV 06). Over the course of the programme, EP engaged at least 14 propagators, who in turn engaged at least 406 agents, and directly reached 11,832 farmers, who indirectly reached a large number of smallholders. Out of the total farmers reached by this intervention, between 3,416 and 17,082 seedling users experienced an increase in yield of about 20% and increased their income by 20%. The effect on income is likely to grow in due course, particularly when fruit tree seedlings start bearing fruit and are harvested and sold. This represents good value for money against an EP spend of approximately GBP 1.2 million. However, analysis of cost per farmer and cost per GBP 1 increase in smallholder farmer income is not possible, due to the fairly large spread of beneficiaries and limitations in data availability.

Contract farming

EP facilitated contract farming arrangements in three areas of Ethiopia with three ginneries (CTA 19). Following buy-in from federal and three regional governments, cotton contract farming was introduced for the 2019/20 cropping season. Based on EP's data, production in 2019/20 doubled due to contract farming, with 3,000 smallholders having sales of cotton and seed amounting to GBP 5 million. In the 2020/21 contracting cycle, 12,000 farmers were involved in cotton farming, as per EP data. The evaluation team estimated that for between 3,000 and 10,000 farmers, the improved seed and input package increased the productivity of cotton cultivation by more than 20%, but the impact on jobs and income was found to be insignificant (see case study in Annex 3). Comparing these results to EP's expenditure for CTA-19 (approximately GBP 500k) presents good value for money. However, more in-depth analysis of cost per GBP 1 increase in income is not possible due to unavailability of data.

Direct grants

Under PCAF, EP provided direct funding to companies to allow them to hire investment advisors, who helped facilitate transactions and ensured that companies met the requirements (e.g. business plans, financials, and valuations) of private equity investors. Out of the 31 companies and 21 consultancy firms involved in this intervention, only 4 companies received actual investment amounting to USD 35,853,000. This represents strong value for money against EP's spend of approximately GBP 1.4 million in PCAF. However, as highlighted in the case study (see Section 3.1.2 and Annex 3), although PCAF covered costs associated with closing investment deals, the deals themselves did not rely on PCAF and would likely have happened regardless of PCAF. In addition, it is unlikely that PCAF's activities will be sustained beyond the lifetime of the programme.

Technical Assistance

Through WEDP, EP provided training to 12 MFIs to improve women-specific lending operations, as well as strengthen institutional capacities. EP's support helped to increase WEDP funds by GBP 106.3 million, with 7.13% in priority sectors, contributing to a maximum of 6,124 and a minimum of 3,062 additional jobs until September 2020. Of these additional jobs, between 218 and 436 are in priority sectors. Against EP's total expenditure of approximately GBP 7.2 million, the results showcase good value for money.

Section 5: Conclusions: Insights and Recommendations

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5. Conclusions: Insights and Recommendations

If one were to characterise PEPE in one sentence it would be: *tried a lot, learnt a lot, achieved a little*. This report, and many annual and mid-term reviews that have led here, have explored the reasons, making incremental recommendations for improvement along the way. Now, looking back at the (almost) eight years of PEPE, it is possible to draw some more general conclusions for the development community and the other actors involved to improve future programming:

For donors

Be realistic about context. MSD programmes are meant to be long term, which sets them apart from more humanitarian and other development programmes. PEPE's initial seven-year timeframe is ideal to implement a MSD programme. The logframe was intended to respect changes in context and dynamic adaptation to support modalities, but in practice the logframe and annual reviews focussed on outputs. This meant diluting the MSD approach, which then lost traction. A programme structure needs to incentivise long-term development while also allowing for changes in context. For example, programmes could be run with consequential break clauses or redesign points every four years (to allow for substantive changes in context), but this would have to be done in such a way that implementers were still incentivised to pursue results that were not achievable within a four-year timeframe.

Use your flexibility wisely and beware of the trade-offs. PEPE was ultimately flexible in what it was able to do but highly inflexible in the areas of the economy in which it was able to do it. The flexibility at the output level allowed the implementer to pursue a highly adaptive MSD approach but reduced the donor's ability to use it as a management tool. When this happens, it becomes difficult to use outputs to measure progress so we start to see a disconnect between outputs and the eventual programme outcomes and impacts. Forcing PEPE into more easily quantifiable indicators at output level (such as number of contracts signed, funding leveraged or people trained) may have given the donor greater control over programme performance but would also have created incentives for activities to be more direct and less adaptive, ultimately undermining the impact of the programme.

On the one hand, the inflexibility in sector selection perhaps limited PEPE's ability to achieve its outcome and impact targets. It is important to note that it was not just the number but the nature and composition of the results that PEPE needed to work on: integrated value chains, improving environmental sustainability, addressing structural macroeconomic challenges (such as currency problems) as well as household level income challenges. To change this during the implementation – for example, allowing PEPE to focus on inputs markets for staple agriculture for the domestic market – is likely to have led much more quickly to 65,000 people with increased incomes. It would, however, have undermined these ambitions for structural transformation.

On the other hand, more flexibility in the different aspects of the programme could also incentivise short-term vision. PEPE's work in horticulture and leather, for example, might not have yielded the expected outcome and impact level results during the programme's lifespan, but by forcing the programme to continue work in this area, incremental successes in these 'stickier problems' may well yield greater, longer lasting and more structurally beneficial outcomes in the future.

Beware of the link between tendering, contracting and adaptive management. PEPE was undermined from the outset by a tension between commitments made in the tendering process and the realities on the ground – each involving entirely different teams of experts. Donors need to be aware of this likely tension during the tendering and contracting process, and ensure that decisions made at this early stage do not negatively impact on the programme down the line.

Fail faster. All MSD programme start slowly, and particularly those starting entirely from scratch in contexts where MSD has not previously been prevalent. However, this cannot be seen as an interminable justification for underperformance, and PEPE would have benefited from quicker recognition of failure. It took almost three years of implementation before the programme finally established a strong team with good sector analysis.

Better planning for assessments of sustainability is necessary. One of the innovative features of the PEPE programme was the performance evaluation and impact assessment contract which ran in parallel. This featured a five-year ex-post data collection but ultimately this assessment was cancelled for administrative reasons. This undermined the learning potential of reflecting on the sustainability and scaling of the market system changes – including an assessment of the effects of PEPE's work which had not yet come to fruition by the end of the programme. Better planning will enable future programming to realise these learning benefits and to capture impact.

For managers

People are MSD programmes' most important asset and it's important to get the right people and systems in place as early as possible. All MSD programmes will have a 'hockey stick' trajectory for results, but PEPE's hockey stick flatlined for longer than could be expected. It was no coincidence that better, more analytically-minded staff brought more and better interventions and more results. Initially, PEPE started with a team of great sectoral experience, political connections and long CVs. While these assets bought credibility and opened doors, it quickly became apparent that this wasn't the right skillset to drive innovation in firms in the programme sectors. Getting the right people in place, and a system to incentivise and retain them, became key to the results that PEPE was able to achieve.

Understand the nature of results that you are likely to achieve and in what timeframe. Linked to some of the above points, MSD programmes need to be realistic about the type of the results that can be achieved and the timeframe they can be achieved in. While GBP 10 million per year can seem like a lot of money, it is a fraction of what these sectors, which are nowhere close to achieving their potential, have as annual turnover. So, despite grand ambitions, it may be necessary for MSD programmes to be more realistic about the contribution they can make to change in a sector – for example, not creating jobs but supporting them, and not generating new investment in sectors that are high-value sectors. This is challenging for results-based management, tendering and development impact narratives, but it may be necessary to be more pragmatic in realistically assessing the contribution a development programme can make to sectoral and structural transformation.

For evaluators

The impact evaluation has three phases, each using different approaches/methods to assess and quantify the importance of PEPE's contribution to job creation and smallholder incomes, none of which were able to address methodological challenges completely.

The baseline (2015/16) was designed to measure the net-effect of the influence of constraints in the firm's business environment on sector performance. This approach followed the logic used in the DFID business case to assess value for money, by estimating the value of induced growth in the sector. The impact evaluation team was confident in data-set analytical methods (econometric methods, social network analysis, and qualitative comparative analysis) to help attribute sector performance to PEPE's interventions and their effects on the perceived (by firms) severity of constraints and practices in each subsector and along the value chain. However, this approach proved to be too ambitious. For example, the baseline questionnaire included sections

that gathered data on the constraints and incentives that affect a firm's decision to invest, and a section that collected detailed business performance data (sales, etc.). What transpired was that the response rate in completing the survey was good and covered most formally registered Small and medium Enterprise (SME) in each sector. However, not all the surveyed firms answered all questions related to the business constraints which made it difficult to aggregate results and compare subgroups. Moreover, the Technical Advisory Group of the evaluation team concluded that the constraints prioritisation exercise was too sensitive to personal and context-specific factors, in addition to being rather imprecise to be used to make inferences about the performance of the sector as they relate to PEPE's interventions. The prioritisation of constraints at baseline helped to provide an overview but this data was unlikely to reflect longer-term, more structural changes in the market system.

Based on the experience with the baseline survey, the methodology was reviewed in 2017. To mitigate incomplete surveys the team decided to use a less threatening way to ask about business performance. Instead of relying only on formal reported turn-over, exports and profits in the audited financial statements, the survey introduced Likert-scale perception questions about percentage of change in these performance indicators over the last three years. At midterm, this resulted in complete data for likert scale questions but questions on formal, absolute numbers, derived from the financial statements of the firms were still largely left incomplete. The baseline section that focused on the prioritisation of constraints was amended to perception questions for each constraint, with Likert scale answers to compute contribution scores. The perceived change in the severity of the constraint (a 5-point Likert scale) was combined ('multiplied') with the information about the perceived influence of the PEPE-supported service providers on this improvement (also a 5-point Likert scale) into a score (ranking) that was indicative of the 'Perceived impact of PEPE-supported service providers on a particular constraint/outcome.

Compared with the baseline, the qualitative and quantitative research components were much better integrated, which helped triangulate findings. More importantly, at midterm the evaluation approach included process tracing case studies to introduce a qualitative approach to verify and assess the importance of PEPE's contribution to change. In all outcome and impact areas for which PEPE claimed a contribution at scale (considering the log frame targets), the process tracing case studies assessed the strength of the evidence that PEPE was a necessary component in delivering the change. The case studies verified whether the service providers had improved their services due to PEPE support or would have provided these altered/improved services to the firms in spite of the support received from PEPE.

While the midterm analysis of the contribution scores was largely focused on mapping the differential impact of PEPE in the three sectors, for the endline evaluation, given restrictions due to COVID-19, the evaluation was amended. The evaluation team decided that it was inappropriate to collect data from the firms in the comparison group, assuming a very low response rate. The evaluation design decided to place emphasis on maximising the number of respondents in firms that were influenced by service providers supported by PEPE. The evaluation shifted to a dose-response model instead of a treatment-comparison group model to assess the effect size. For the dose-response variable we used the contribution scores (converted to support components using principal-component analysis). This allowed the evaluation to test the association between several dimensions/components of PEPE-supported change processes and four indicators of firm performance (sales, exports, employment, profits). A regression was used to test whether this pattern was present in the data and whether it was statistically significant. For those sectors where both criteria were met, the coefficient in the regression was used to model the scenarios for the CGE-based assessment of induced employment effects in each sector. We were, therefore, able to estimate a plausible range of maximum and minimum impacts to offer a more nuanced analysis of the processes involved in the main activity areas.

In conclusion, the revisions to the evaluation design and the mix of methods was resilient and flexible enough to critically respond to external factors like the COVID-19 pandemic, and the internal dynamics and adaptations of the programme. We would argue that the combination of the four evaluation methods described in chapter 2 (monitoring data, firm survey, process tracing case studies and CGE-modelling) are replicable in other programmes where outcomes and impact cannot be definitively quantified because of a long or complex causal chain.

For Ethiopia

The private sector will need to become the engine of growth and poverty reduction. Ethiopia is on a journey on which it is unlikely to turn back. Even the government-protected sectors of finance and telecoms are in line for imminent liberalisation. While PEPE's immediate and measurable contribution is shown to be limited, the evaluation has shown that jobs are being created and more people and businesses are getting access to finance. The private sector is the key driver of this.

Industrial policy can work but macroeconomic and political shifts can undermine it. Ethiopia has been among the most successful proponents of a proactive industrial policy in Africa, and a country that others have sought to learn from. While it has yet to reach its stated ambition and potential, achievements to date are remarkable. However, the last years of PEPE have shown that there are factors which no development programme, or indeed industrial policy shifts, can overcome when it comes to private sector development. Without peace, firms will not invest and those that are there will leave. The interconnectedness of development outcomes with the overall political economy should not be understated.

Annexes

- ANNEX 1: Mid-term evaluation Terms of Reference
- ANNEX 2: COVID-19 adapted Terms of Reference
- ANNEX 3: Process-tracing Case Studies
- ANNEX 4: List of interventions
- ANNEX 5: Firm survey questionnaire
- ANNEX 6: Detailed report on the contribution score analysis by sector
- ANNEX 7: CGE Analysis of economy-wide employment and income impacts
- ANNEX 8: Data sources and References
- ANNEX 9: List of interviewees