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Evaluation of the Leaders in Innovation Fellowships Programme

Final report

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Glossary

Ecosystem/community level. Referring to one of the three levels of outcomes and impacts identified in the Theory of Change of the LIF programme. This level relates to outcomes/ impacts on the wider innovation ecosystem and community in each partner country as well as benefits to the UK.

In-country events. An element of follow-on support that are run within each partner country. In-country events are opportunities for additional training and networking, focusing on country-specific challenges and opportunities for participant.

Individual level. Referring to one of the three levels of outcomes and impacts identified in the Theory of Change of the LIF programme. This level relates to outcomes/impacts on the LIF participants themselves. For example, a shift in the level of their skills or a change in their mindset.

LIF Alumni. LIF participants who have completed the main LIF programme.

LIF Advance participants. Participants on the current LIF Advance programme.

LIF Advance alumni. LIF Advance participants who have completed the LIF Advance programme.

LIF community. Support and networking opportunities provided to alumni of the LIF programme. The LIF Community support package includes both formal and informal programmes of support. Formal programmes include Community Grants, Peer Mentoring and LIF Advance. Informal support programmes include the LIF Innovators Platform (Hivebrite), events and workshops, newsletters and promotional opportunities, etc

Organisation level. Referring to one of the three levels of outcomes and impacts identified in the Theory of Change of the LIF programme. This level relates to outcomes/ impacts on either the company that the LIF participant has formed or within the academic or other institution in which they are operating.

Residential training programme. A core element of the main LIF programme, involving bringing the LIF participants to the UK for up to two weeks of intensive training and mentoring support. In LIF 6 this structure had to be amended for some groups due to the Covid-19 pandemic with some of the residential training being shifted to online training. In LIF 7 the longstanding structure was significantly changed due to the need to shift to a fully remote programme during the Covid-19 pandemic.

1 Introduction

This report represents the final deliverable of the "Leaders in Innovation Fellowships programme evaluation", which was commissioned by the Royal Academy of Engineering (the Academy), and which was undertaken by Technopolis.

The report is structured as follows:

- The remainder of this chapter presents the purpose of this evaluation
- Chapter 3 describes the design and conduct of this evaluation
- Chapter 4 presents the findings. The findings are laid out in the form of discussion and answers to the evaluation questions
- Chapter 5 presents the recommendations

There are a number of annexes to this report, including the full success stories, full profiles of comparator programmes, full survey results, and the LIF Theory of Change.

The objective of this assignment was to perform an overall review of the Leaders in Innovation Fellowships (LIF) programme for the period 2014 – 2021 with a focus on the assessment of the impact of the LIF programme to date and the effectiveness of the current delivery model in achieving impact. There were additional objectives for the evaluation:

- Produce a comprehensive assessment of the performance of the LIF programme from 2014-2021 using the Logic Model and learning questions as a guide
- Identify key practices in the delivery of the LIF programme that affect programme outcomes
- Provide a comparison of the programme's impact and delivery model against other UK and international entrepreneurship and innovation programmes
- Develop a set of recommendations that the Academy and LIF Team can use to improve the LIF programme in the future.

2 Design and conduct of the evaluation

2.1 Design of the evaluation

The evaluation was designed in line with the ITT. The performance assessment was linked to the Theory of Change (ToC) for LIF (annexed to this report). The evaluation questions addressed under this assignment are presented in the figure below.

In order to address the evaluation questions, we took a pragmatic, mixed-methods approach, making use of available evidence from both primary and secondary (qualitative and quantitative) sources to arrive at robust and transparent evaluation findings.

We combined a participatory approach with a theory-based method. This means that we based our evaluation on the LIF's ToC. The ToC also provided the basis for identifying relevant evidence and defining some of the evaluation indicators. For this evaluation, we sought engagement of a wide range of LIF's stakeholders. Successful stakeholder engagement and communication were crucial to a successful delivery on the objectives of this evaluation, and stakeholder engagement represented a major emphasis throughout our methodology. A variety of stakeholders was engaged at various parts of this evaluation via surveys, interviews, focus groups and success stories.

Consultations were conducted with an attitude that was open-minded and left room to exploring emerging topics of importance to the stakeholders.

Based on the discussions between the evaluation team and the Academy during the inception phase, the evaluation questions were prioritised so that they better reflected the deeper and more nuanced information around the specific areas of higher interest to the Academy. The overview of the evaluation questions by their priority is presented in Table 1.

Table 1 – Evaluation questions by priority

Deep Focus	Focus	De-prioritised
1. Has the LIF programme delivered its primary objective to build the capacity of innovators to commercialise innovations aimed at addressing social and economic challenges?	4. How has the LIF programme addressed strategic challenges set out in Academy strategy?	8. To what extent did the LIF programme provide additionality (enabled people to do things they would not otherwise have had the opportunity to do)?
2. Has the LIF programme achieved its intended outcomes and impacts as outlined in the Logic Model?	5. How has the LIF programme contributed to wider impact frameworks, including the Newton Fund and the UN's Sustainable Development Goals?	3. What additional impact, if any, was generated outside the Logic Model?
6. How do LIF programme impacts compare to other programmes of similar aims, scope, size and geographical delivery areas?	9. How did the LIF programme contribute to strengthening innovation capacity in LIF partner countries (including qualitative and quantitative exemplars)?	13. How effective are LIF systems and processes at delivering impact and contributing to overall programme performance?
7. How sustainable were the outcomes for the participants over the long-term?	15. To what extent did the LIF programme reach its intended participants?	14. How does the delivery of the LIF programme compare to other programmes of similar aims, scope, size and geographical delivery areas?
10. How did the LIF programme align with and adapt to the needs of in-country partners?	16. Has the LIF programme delivered value for money (VfM) and operated in a cost-effective manner?	
11. How did the LIF programme generate benefit for the UK across the following areas: • Economic and commercial? • Research capacity? • Knowledge generation? • Relationships and reputation?		
12. To what extent does the LIF programme's Logic Model reflect the actions, mediating mechanisms, and outcomes experienced by participants across all cycles of the programme?		

Note: ____ denotes overall impact; ____ denotes sustainability; ____ denotes effectiveness; ____ denotes Partner Benefits Generation; ____ denotes UK Benefits Generation; ____ denotes Logic Model; ____ denotes Process and Delivery Model; ____ denotes Value for Money.

2.2   Conduct of the evaluation

The study was conducted between November 2021 and September 2022. The study was undertaken in three phases:

- Phase 1 – Inception

- Phase 2 – Research
- Phase 3 – Analysis and reporting

The figure below provides an overview of the tasks under each phase.

Figure 1 - Flowchart of the tasks

	Phase 1 Inception	Phase 2 Research	Phase 3 Analysis and reporting
Tasks	Document review	Survey with LIF participants and alumni	Final analysis
	Scoping interviews	Survey with in-country partners, mentors and trainers	Triangulation and synthesis
	Fitness check of the Theory of Change	Focus groups with LIF participants and alumni	
	Finalisation of the methodology, creating of data collection tools	Interviews with in-country partners, mentors and trainers and other stakeholders	
		Success story vignettes	
		International comparison	
Reports and meetings	Kick-off meeting	Midterm report	Draft final report
	Inception report	Midterm report meeting	Draft final report meeting
	Inception report meeting		Validation workshop
			Final report, infographics and dissemination package

Source: Technopolis

2.2.1 Phase 1 - Inception

As part of the inception phase, Technopolis conducted 13 scoping interviews with staff of the Academy and selected LIF suppliers, in-country partners, Champions and mentors. Although these interviews were partially of a scoping nature (and improving the evaluation team's understanding of the LIF programme), they were conducted in a semi-structured format, and the findings obtained will be also used in the final analysis for this evaluation study. These interviews helped the evaluation team to better shape the methodology and to further tailor the subsequent fieldwork and data collection tasks in the evaluation.

The Academy shared LIF programme documentation following the kick-off meeting and we had already worked with some information sources during the proposal writing period. In the inception phase, we reviewed documents we received from the Academy. The review of the documentation has improved the evaluation team's understanding of the LIF programme and has also significantly contributed to the development of the research tools and to the finalisation of the methodology approach.

During the inception phase we also conducted a 'fitness check' of the existing ToC based on (1.) the review of programme documentation and (2.) the scoping interviews. The aim of reviewing the ToC (presented also in Appendix E) was to produce a ToC suitable for informing our evaluation design. The ToC informed the evaluation by providing: a summary of our

understanding of how the programme functions; the basis for identifying relevant evidence; and the basis for defining the evaluation indicators.

Based on the collected data, the team then finalised the evaluation framework. This also involved the finalisation of the implementation plan and timelines. The team then developed data collection tools for the main phase of the evaluation. The research tools consisted of survey questionnaires, interview topic guides, focus group guides, success story guidance and a template and guidance for international programme comparison. We also defined the domains of change for the Most Significant Change (MSC) method (the results are presented in Sections 3.1, 3.2, 3.9, as part of the evaluation questions nr. 1, 2 and 9.

2.2.2   *Phase 2 – Research*

This phase of the study involved the main data collection and research. Below, we present in detail the individual method components used in this phase of the evaluation project.

Online surveys and the mid-term report

We ran two online surveys (with LIF participants and alumni and with LIF in-country partners, mentors and trainers). The online surveys served multiple purposes:

- To collect quantitative evidence on the benefits and outcomes of the LIF programme
- To collect first feedback on the stories of change from the LIF participants and alumni as part of the MSC method and present them (in a processed way) to the LIF mentors, trainers and in-country partners for further selection
- To identify individuals to be contacted for the qualitative research (interviews, focus groups and success story vignettes)

Most of the survey questions were formulated as closed questions to achieve a higher response rate, allow for quantification of the responses and reduce the time required for completing the survey (we also provided an option to add, as free-form text, any other details, where this was relevant). The survey questionnaires were piloted prior to sending the official invitation.

We distributed the links to the online survey questionnaires via multiple channels. These channels included direct survey invitations to LIF participants / alumni as per the database held by the Academy, the LIF online community platform, the LIF community event bulletin, LIF Champions, LIF in-country partners, and LIF mentors, trainers and partners. The results of the surveys were then analysis and presented in a midterm report to the Academy. The midterm report was discussed at a meeting with the Academy.

Full survey results are presented in Appendix B.

Country-specific research

We facilitated focus groups and consultations with LIF participants and alumni in each partner country. The purpose of conducting focus groups was to gather participants' and alumni's perceptions on a number of aspects linked to their participation in the LIF programme, such as benefits stemming from the programme and its impacts. The focus groups allowed us to explore issues highlighted in the survey (see Task 2.1) more in-depth and qualitatively.

We also ran a programme of semi-structured interviews with a range of stakeholder groups. In the table below, we present the number of interviews conducted per stakeholder group.

Table 2 - Structure of the interview programme

Stakeholder group	Conducted number of interviews
Consulted LIF participants and alumni	151
Consulted LIF in-country partners and Newton Fund team members	22
Consulted business partners and colleagues of LIF participants / alumni	16
Consulted representatives of BEIS and Academy Fellows	6
Success story vignette 1-on-1 interviews	17
Scoping interviewees	8

Furthermore, we prepared a total of 17 success story vignettes (i.e. short case studies), each showcasing one success story of a LIF participant / alumnus and how the participation in the LIF programme has contributed to this success, and each covering one LIF partner country.

The vignettes built on the information collected through the surveys, focus groups and interviews and, where necessary, additional interviews were conducted in order to collect the necessary detail and context for each vignette.

Full success stories are presented in Appendix A (supplied as a separate volume of the report).

International comparison

Five UK and international programmes were reviewed using desk research and at least one interview with the programme owner or manager to confirm key findings. A common mapping template was used to ensure comparability of findings across the different areas of interest.

Below we list the five studied programmes

- Anzisha at Scale, managed by the African Leadership Academy and the MasterCard Foundation
- Start and Improve Your own Business, managed by the International Labour Organisation
- Young Entrepreneur Scheme, managed by the UK research councils and Nottingham University
- The Seed Support System programme, managed by the National Initiative for Developing and Harnessing Innovations (NIDHI) in India, with a focus on its implementation by iCreate
- Antler programme

Information for each comparator programme was collected in a harmonised way, and the profiles were drafted using the same template, in order to facilitate cross-analysis.

Full profiles of international comparators are presented in Appendix C and the comparative analysis was conducted as part of Sections 3.6 and 3.14 (within the evaluation questions nr. 6 and 14).

2.2.3   *Phase 3 – Analysis and reporting*

The third and final phase of the study consisted of analysing the evidence gathered during the various tasks with a view to drawing conclusions on all evaluation questions and providing recommendations for the Academy.

The results of this phase are presented in this report.

3 Findings

This chapter provides the findings and conclusions which take the form of discussions around, and answers to, each of the evaluation questions defined in the evaluation inception report. If there were particular differences observed between the various groups of stakeholders and/or data sources, these are mentioned in the discussion for each of the evaluation questions.

Each section is introduced by a headline overview of the main findings and conclusions followed by a detailed presentation of findings and data.

3.1 Evaluation question 1: Has the LIF programme delivered its primary objective to build the capacity of innovators to commercialise innovations aimed at addressing social and economic challenges?

Summary

- For many LIF participants, the LIF programme has confirmed that becoming an entrepreneur is the right professional journey for them. The largest share of LIF participants had wanted to be entrepreneurs before their participation in LIF and thanks to the programme, they are now entrepreneurs. Regardless of the pathway chosen, LIF alumni overwhelmingly considered their professional journeys to be successful ones.

- Previous professional experience determines, to some extent, the type of impact observed after participation in the programme. There has been a significant positive impact on knowledge sharing in LIF alumni who returned back to academia; and on business performance in those LIF alumni who continued to focus on their own start-up companies after LIF.

- Although the most significant changes brought about by LIF (at the level of individual LIF participants) vary across the countries, there has been a high degree of agreement between programme beneficiaries (i.e. LIF alumni) and delivery teams (i.e. LIF mentors, in-country partners etc.) in each country on what the most significant impact of the programme has been.

- One of the most significant positive impacts on individuals has been on self-confidence. Many participants were previously higher education students and/or early-career researchers and the LIF programme has given them the necessary confidence boost to start pursuing their innovative and creative ideas.

- The LIF programme has been instrumental in shifting mindsets of its participants, especially in the way they think about R&D, and in providing the participants with the necessary client's perspective. LIF has taught participants how to prepare a business model canvas, a value proposition sheet and how to perform an economic analysis.

- The programme has been positively impacting on "softer" entrepreneurial skills, such as presentation skills and communication skills.

- The evidence is rather mixed when it comes to the impact of LIF on inter-personal skills, such as negotiating with business partners, suppliers and clients, dealing with team members etc.

- Collaboration and sharing of knowledge by LIF participants have increased across all the LIF countries. The impact of the LIF programme on the ability of participants to share knowledge has been particularly strong in those LIF countries (e.g. China, Vietnam) where the participants were largely recruited from academia and returned to academia after their participation in the programme. Participants were grateful for opportunities to speak with partners in value chains, and even with representatives of competitor companies.

The evaluation question nr. 1, together with evaluation question nr. 2, are the major impact-related evaluation questions. As discussed in the inception report, the impact of the programme has been assessed at three levels: individual, organisation and ecosystem/community. Given that the main focus of this evaluation question is on the assessment of the performance of the programme against its objective (to build the entrepreneurial capacity of innovators to commercialise innovations aimed at addressing social and economic challenges), which is closely related to individual entrepreneurs' skills,

knowledge and attitudes, in this section we discuss the individual-level impact of the programme. This section, therefore, covers the findings on the impact of the programme on technical entrepreneurial skills, personal entrepreneurial skills, business entrepreneurial skills of LIF participants, as well as on their professional journey.

The evidence, analysed, discussed and synthesised in the evaluation questions nr. 1 and 2 comes from an online survey of LIF alumni; an online survey of LIF mentors, trainers, in-country partners and Newton Fund team members; from programme monitoring data (collected by LIF suppliers); and from qualitative research conducted in all 17 Newton Fund countries (consisting of focus groups with LIF alumni, semi-structured interviews with the LIF in-country partners and Newton Fund team members, interviews with LIF Advance alumni and LIF Champions, interviews with business partners and colleagues of LIF alumni, as well as from the success stories prepared in each country).

The impact of the programme at the organisational level (on LIF participants' companies and/or other organisations that they are engaged with) is discussed in Section 3.2. Finally, as part of the evaluation, we also assessed the impact of LIF at the ecosystem and community levels, which is presented in Section 3.9 (evaluation question nr. 9).

Impact of the programme on professional journeys of LIF participants

For many LIF participants, the LIF programme has confirmed that becoming an entrepreneur is the right professional journey for them.

The results of the online surveys (combined in Figure 2) show how LIF alumni, LIF mentors and in-country partners responded to a question about professional journeys of LIF participants. The largest share of respondents from both groups said that LIF participants had wanted to be entrepreneurs before their participation in LIF and thanks to the programme, they are now entrepreneurs. There was, nevertheless, no agreement between the two groups on the ability of the programme to change participants' minds towards becoming entrepreneurs. More than a quarter of the LIF mentors and in-country partners who responded to the survey said that the LIF programme had convinced participants to become entrepreneurs. Among the responding LIF participants, only 14% said that this had happened.

Figure 2 – Professional journeys most commonly applied to LIF participants (comparison between LIF mentors, trainers, in-country partners and Newton Fund members, and LIF participants/alumni)
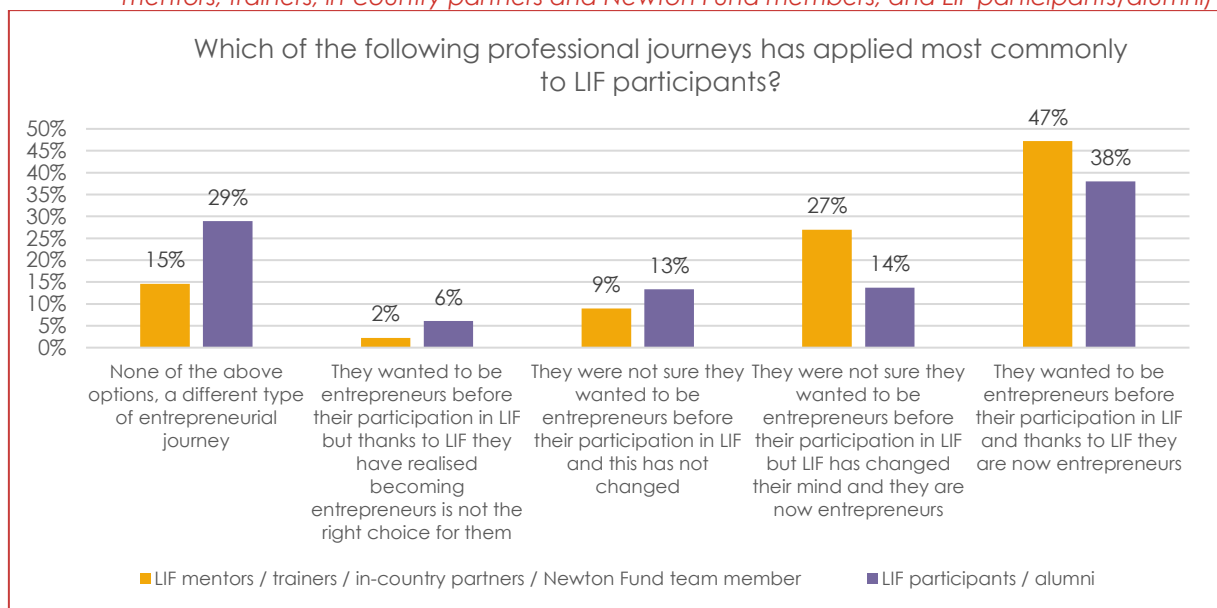
The results of the qualitative research largely confirm the survey findings, revealing specific differences across the LIF countries. For example, in **Brazil**, the LIF programme is incorporated within another innovation programme, therefore most participants were already entrepreneurs when they joined the programme. **India**, **Turkey** and **Indonesia** are other examples of countries where LIF participants were already well on their entrepreneurial journey at the start of their participation in the programme.

There is a sizeable group of countries, in which LIF participants were recruited from academia, and only a small proportion of them had been entrepreneurs before joining the programme. This was, for example, the case in **China**, **Vietnam**, **the Philippines**, **Chile**, and **Egypt**.

The experience from **Jordan** and **Thailand** falls in between the two groups of countries discussed above. Some of the participants were already entrepreneurs with their own start-ups before the programme while others were from academia without significant experience with running their own company.

In **Peru**, the prevailing prior professional experience of the participants changed over years from mostly academics to mostly entrepreneurs. Similarly, in **Malaysia**, although most LIF participants came from academy, they had to demonstrate that their technology corresponded to at least TRLs5-6[1] (i.e. technology demonstration in a relevant environment). The role of Malaysian higher education is key because some universities encourage their researchers to move upwards the TRL scale, whilst some do not. Likewise, in **Mexico**, the in-country partner had a requirement that participants should be able to demonstrate that their projects are at least at TRL6 or TRL7. Figure 3, a snapshot based on LIF programme monitoring data, confirms the focus of LIF on TRLs5-7.

> *"LIF was a turning point for me. Before LIF I had arrived in Lima with nothing, I had come from Piura. I was building a career as a researcher. Meeting those who were my colleagues at LIF and the experience in London was a turning point. It was when I decided that I wanted to be an entrepreneur."* A LIF participant in Peru

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[1] TRLs (Technology Readiness Levels) are used to describe the maturity of technologies. TRL1 corresponds to basic technology research and TRL9 corresponds to an actual technology system proven in an operational environment.

Figure 3 - Technology Readiness Levels (TRLs) of LIF participants (number of LIF participants)
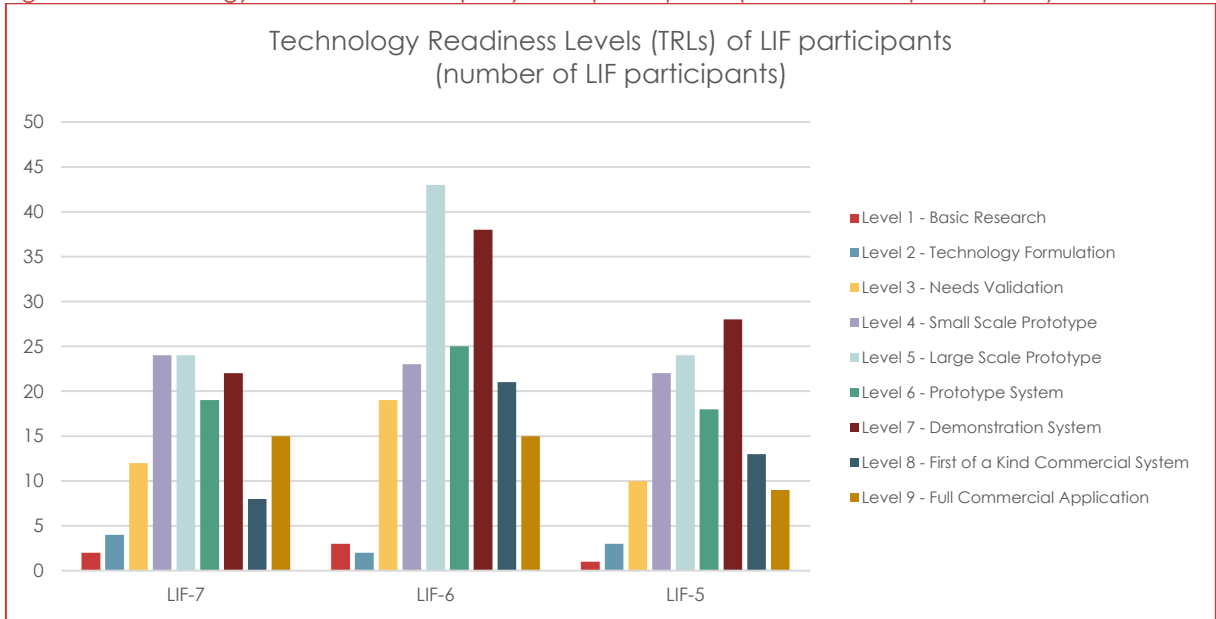
Source: LIF programme monitoring data (based on surveys launched by LIF contractors), analysis by Technopolis; note: due to incomplete/missing data in some LIF countries / for some LIF cohorts, the results have to be interpreted carefully.

It is important to add that the journey of each LIF participant is unique. The in-country partners spoke in interviews about many various journeys they had witnessed, including LIF participants who were entrepreneurs before LIF and who then shifted their focus and pursued a different professional career afterwards.

The previous professional experience determined, to some extent, the type of impact observed after the participation in the programme. For example, we have seen a significant positive impact on knowledge sharing in LIF alumni who returned back to academia; and on business performance in those LIF alumni who continued to focus on their own start-up companies after LIF.

Regardless of the pathway chosen, LIF alumni overwhelmingly considered their professional journeys to be successful ones (87% of the alumni survey respondents, Figure 4).

Figure 4 - Thinking of your answer to the previous question, do you consider your professional journey to be a success?

Source: Technopolis data analysis based on LIF participants and alumni survey.

Impact at the individual level

Introduction

The impact of LIF on individuals participating in the programme has been multi-faceted. The analysis shows that the impact can be observed in the following broader areas:

- Entrepreneurial skills of LIF participants
- Collaboration and knowledge sharing

When discussing the impact on entrepreneurship skills of participants, we follow the typology introduced by the OECD:

The OECD has identified three main groups of skills required by entrepreneurs:

- **Technical**. Communication, environment monitoring, problem solving, technology implementation and use, interpersonal, organisational skills
- **Business management**. Planning and goal setting, decision making, human resources management, marketing, finance, accounting, customer relations, quality control, negotiation, business launch, growth management, compliance with regulations skills
- **Personal entrepreneurial**. Self-control and discipline, risk management, innovation, persistence, leadership, change management, network building, and strategic thinking

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This section starts with the presentation of the results of the Most Significant Change (MSC) assessment at the individual level. The section then continues with a more detailed analysis of the impact of the programme on LIF participants/alumni and concludes with a synthesis of feedback on areas where LIF alumni felt they still needed more training and support after their participation in the programme.

The Most Significant Change (MSC) assessment at the individual level

The MSC assessment ran throughout the whole evaluation. The MSC technique required several rounds of iteration with various LIF stakeholders, ranging from LIF participants / alumni, to LIF mentors and trainers, through to LIF in-country partners, with regular feedback loops. The technique allowed us to collect significant change stories from the LIF alumni and present them to the LIF mentors and trainers for their opinion. This was subsequently fed back to the alumni. In the next step, this selection will be validated with selected LIF in-country partners and the Academy at a workshop. Figure 5 below provides a flow chart of the MSC assessment at the individual level.

Figure 5 - Most significant change assessment within the LIF programme evaluation (individual-level impact)
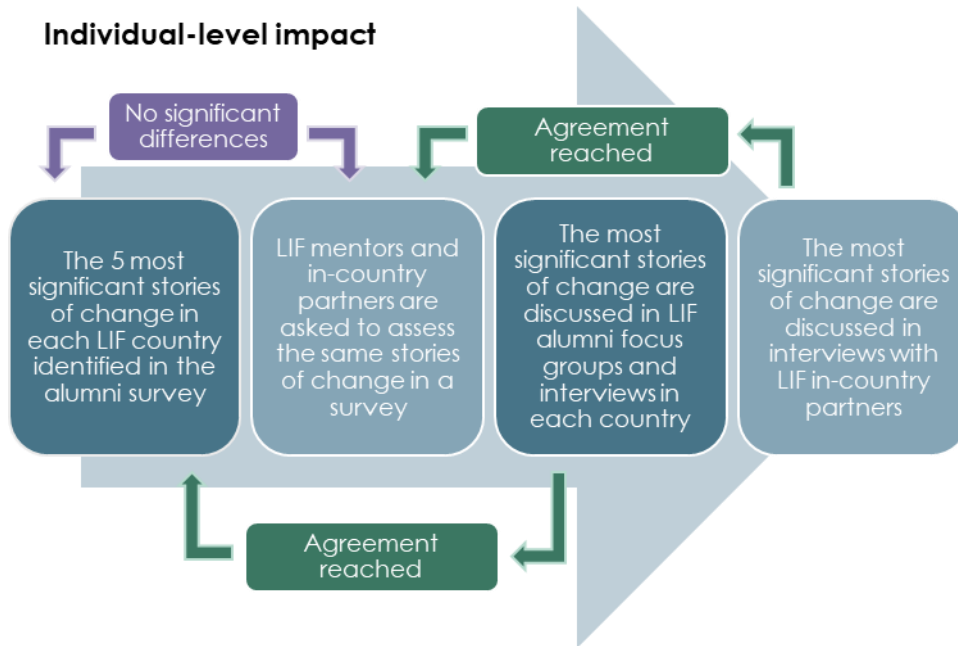
Source: Technopolis

In an online survey, LIF alumni were asked to provide scores for each of the potential stories of change at the individual level. These results were then disaggregated for each LIF country and the five stories of change with the highest score were selected in each country (Figure 6). The same list of stories of change was presented in an online survey to LIF mentors, trainers, in-country partners and Newton Fund team members, and they were, again, asked to score each statement. Figure 7 shows that there were no significant differences in responses to the two online surveys.

The top five stories of change (different for each country) were then discussed with LIF alumni in focus groups and interviews, as well as with in-country partners and Newton Fund team members. The results of the qualitative analysis of this in-country research revealed an almost unanimous level of agreement of LIF alumni and in-country partners and Newton Fund team members with the stories of change (within each country). This applies to all LIF countries. There were only two individual LIF alumni in different countries (South Africa and India) who had a different view about the selected stories.

One focus group participant in South Africa had already progressed significantly on their entrepreneurial journey and the change stories did not speak to what they had already been motivated to do. One focus group participant in India did not fully align themselves with the selected stories of change and said that "the most important contribution of LIF in [their] entrepreneurial journey was providing global perspective on technology and innovation…".

As can be seen from the results, the most significant changes brought about by LIF (at the level of individual LIF participants) vary across the countries. However, the results of the MSC assessment showed a high degree of agreement between programme beneficiaries (i.e. LIF alumni) and delivery teams (i.e. LIF mentors, in-country partners etc.) within each country on what the most significant impact of the programme has been.

Figure 6 – The top 5 stories of change (highlighted in green) at the individual level selected in the online evaluation survey (by country)

Impact of the LIF programme at the level of individual (the higher the score the higher the degree of agreement of the survey respondents)								
Country	LIF has contributed to me increasing my collaboration, contact and sharing of knowledge with other like-minded individuals	LIF has changed the way in which I think about R&D	LIF has changed the way in which I think about my clients/customers	LIF has improved my technical entrepreneurial skills (i.e. communication, environment monitoring, problem solving, technology implementation and use, interpersonal, organisational skills)	LIF has improved my personal entrepreneurial skills (i.e. self-control and discipline, risk management, innovation, persistence, leadership, change management, network building, and strategic thinking)	LIF has improved my business management skills (i.e. planning and goal setting, decision making, human resources management, pitching, marketing, finance, accounting, customer relations, quality control, negotiation, business launch, growth management, compliance with regulations skills)	LIF has contributed to me being able to run entrepreneurial courses/workshops to mentor others	LIF has contributed to me taking important roles within my community (e.g. in academia)	Total average score
Brazil	4.68	4.15	4.32	4.52	4.43	4.43	4.25	4.11	**4.36**
Chile	3.33	4.67	4.00	4.67	4.33	4.00	3.33	3.33	**3.96**
China	4.63	4.20	4.29	4.25	4.20	4.27	4.13	3.86	**4.24**
Colombia	4.85	4.38	4.54	4.54	4.58	4.32	4.45	4.46	**4.51**
Egypt	4.50	4.10	4.20	4.90	4.80	4.70	4.67	4.67	**4.56**
India	4.50	4.11	4.56	4.60	4.70	4.70	4.63	4.63	**4.55**
Indonesia	4.50	4.00	4.50	5.00	5.00	4.50	5.00	4.50	**4.63**
Jordan	4.64	4.18	4.36	4.36	4.55	4.55	4.64	4.40	**4.47**
Kenya	4.47	4.60	4.53	4.53	4.53	4.47	4.20	4.27	**4.45**
Malaysia	4.65	4.75	4.50	4.59	4.59	4.47	3.64	4.47	**4.48**
Mexico	4.52	4.48	4.31	4.68	4.55	4.46	4.08	4.08	**4.40**
Peru	4.70	4.50	4.33	4.67	4.44	4.44	4.50	4.50	**4.54**
Philippines	4.44	4.69	4.63	4.56	4.56	4.25	4.50	4.56	**4.52**
South Africa	4.45	4.27	4.45	4.55	4.64	4.45	3.63	4.11	**4.37**
Thailand	4.52	4.48	4.56	4.56	4.48	4.35	4.29	4.21	**4.44**
Turkey	4.53	4.07	4.50	4.20	4.07	4.27	4.07	4.13	**4.23**
Vietnam	4.56	4.26	4.28	4.35	4.41	4.39	4.33	4.39	**4.36**
Grand Total	**4.57**	**4.37**	**4.42**	**4.53**	**4.49**	**4.41**	**4.25**	**4.28**	**4.42**

Source: Technopolis data analysis based on LIF participants and alumni survey.

Impact of the LIF programme at the level of individuals
(scale 1 - 5, where 1 means "strongly disagree" and 5 means "strongly agree" with the statement)

Statement	LIF participants / alumni (n=263)	LIF mentors / trainers / in-country partners / Newton Fund team member (n=103)
Total average score	4.42	4.45
LIF has contributed to participants taking important roles within their community (e.g. in academia)	4.28	4.15
LIF has contributed to participants being able to run entrepreneurial courses/workshops to mentor others	4.25	3.99
LIF has improved participants' business management skills	4.41	4.61
LIF has improved participants' personal entrepreneurial skills	4.49	4.51
LIF has improved participants' technical entrepreneurial skills	4.53	4.66
LIF has changed the way in which participants think about their clients/customers	4.42	4.71
LIF has changed the way in which participants think about R&D	4.37	4.39
LIF has contributed to participants increasing their collaboration, contact and sharing of knowledge with other like-minded individuals	4.57	4.60

Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members, and the survey of LIF participants and alumni.

Synopsis overview of the main individual-level impact of the programme

Figure 8 presents one of the charts summarising the major results of the LIF alumni survey. There has been a strong agreement with all the areas of the individual-level impact of LIF across the respondents, ranging from 94% of the respondents to 75% (when the share of those respondents who strongly agreed was added to those who agreed with the statement). Increased collaboration, contact and sharing of knowledge, together with technical entrepreneurial skills and personal entrepreneurial skills were the three areas of individual-level impact which have seen the highest degree of agreement by the respondents.

Figure 8 – Synopsis overview of the individual-level impact of the LIF programme

How strongly do you agree or disagree with the following statements?

LIF has contributed to me increasing my collaboration, contact and sharing of knowledge with other like-minded individuals (n=263): 3% | 27% | 67%

LIF has improved my technical entrepreneurial skills (i.e. communication, environment monitoring, problem solving, technology implementation and use, interpersonal, organisational skills) (n=261): 3% | 35% | 59%

LIF has improved my personal entrepreneurial skills (i.e. self-control and discipline, risk management, innovation, persistence, leadership, change management, network building, and strategic thinking) (n=263): 3% | 38% | 56%

LIF has changed the way in which I think about R&D (n=263): 8% | 33% | 53%

LIF has changed the way in which I think about my clients/customers (n=263): 5% | 38% | 52%

LIF has improved my business management skills (i.e. planning and goal setting, decision making, human resources management, pitching, marketing, finance, accounting, customer relations, quality control, negotiation, business launch, growth management, com: 7% | 38% | 50%

LIF has contributed to me taking important roles within my community (e.g. in academia) (n=262): 11% | 34% | 45%

LIF has contributed to me being able to run entrepreneurial courses/workshops to mentor others (n=263): 11% | 32% | 43%

Legend: ■ Strongly disagree ■ Disagree ■ Neither ■ Agree ■ Strongly agree ■ Don't know ■ Not applicable

Source: Technopolis data analysis based on LIF participants and alumni survey.

Entrepreneurship skills

One of the most significant positive impacts on individuals has been on the self-confidence of LIF participants. Many participants were previously higher education students and/or early-career researchers and the LIF programme has given them the necessary confidence boost to start pursuing their innovative and creative ideas. This has been mentioned many times by focus groups participants **across most LIF countries**. One focus group participant in **Malaysia** also mentioned that they are now more confident in writing grant applications.

The LIF programme has been instrumental in shifting mindsets of its participants, especially in the way they think about research and development (R&D, this confirms the survey results, see Figure 8, Figure 7). As one focus group participant in **Chile** put it:

> *"The way that LIF changes your mindset is by stopping you being that entrepreneur who is in love with an idea, by making you see the mistakes in your hypotheses, and by giving you the ability to make adjustments"*

Figure 9 – Changing the way in which LIF participants think about R&D (by country)

How strongly do you agree or disagree with the following statements?
"LIF has changed the way in which I think about R&D"

Legend: ■ Strongly agree ■ Agree ■ Neither ■ Disagree ■ Strongly disagree ■ I do not know
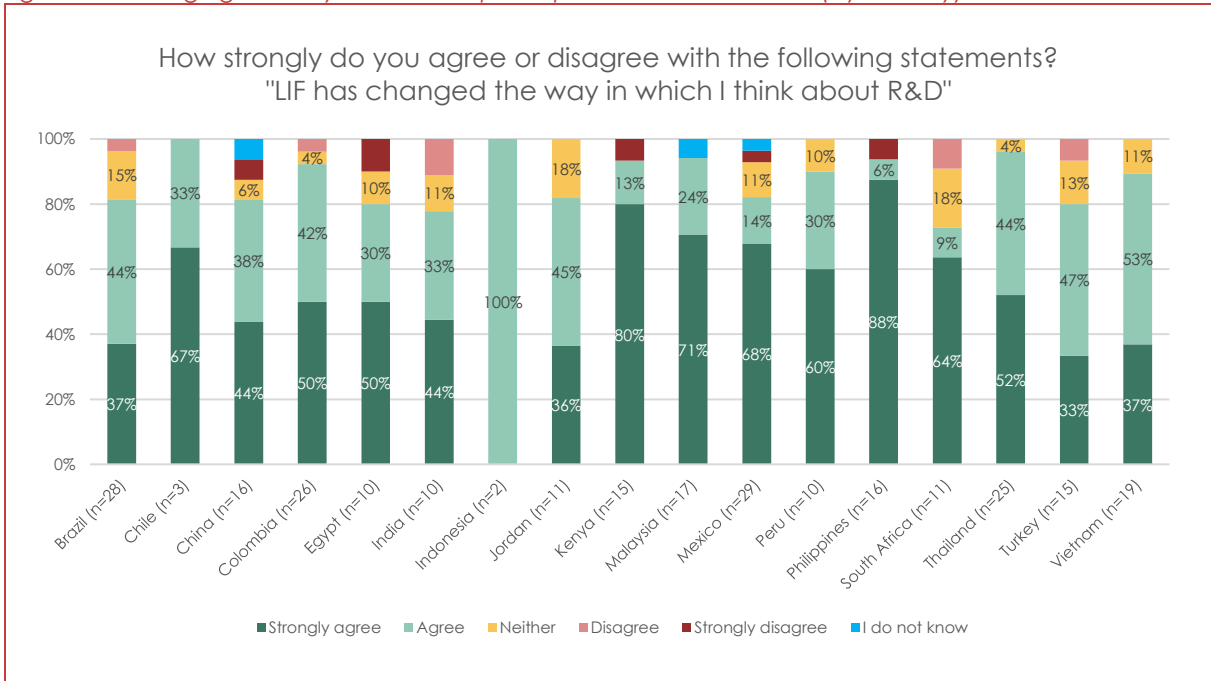
Source: Technopolis data analysis based on LIF participants and alumni survey.

The evidence shows that adopting a more entrepreneurial mindset has not been easy for many LIF participants. However, they agreed that acquiring an entrepreneurial vision had been a necessary step to take in order to become a successful entrepreneurial and that LIF had played a major role in this respect. LIF has also allowed many participants to become better aware of their strengths and weaknesses (mentioned, for example, by focus group participants in **Indonesia**).

LIF has provided the participants with the necessary client's perspective. As a result, the participant now feel they understand clients' viewpoints much better and, therefore, can better meet their needs. Although the results of the survey were very positive across all LIF countries (Figure 10), this was particularly strong in the qualitative evidence collected in **India**, **China, Indonesia, Thailand, Kenya** and **the Philippines**. The change in mindset relates to a broader attitudinal change in LIF participants. Many of them shared stories with us on how they managed to broaden their perspective from looking at the world only through the lenses of a researcher to realising that they have to play a more important role in the ecosystem (shared by participants in **Chile, the Philippines**, for example).

> *"I realised that commercialisation is not just about the continuation of R&D – you need a new set of thinking. Likewise, the ability to talk to clients and stakeholders – knowing how they think, their preferences, what do they want to see – allowed me to respond more clearly to meet their needs. I am also able to bridge the gap between academia and the clients since I am familiar with both worlds." A LIF participant from the Philippines*

How strongly do you agree or disagree with the following statements?
"LIF has changed the way in which I think about my clients/customers"

Legend: ■ Strongly agree ■ Agree ■ Neither ■ Disagree ■ Strongly disagree ■ I do not know
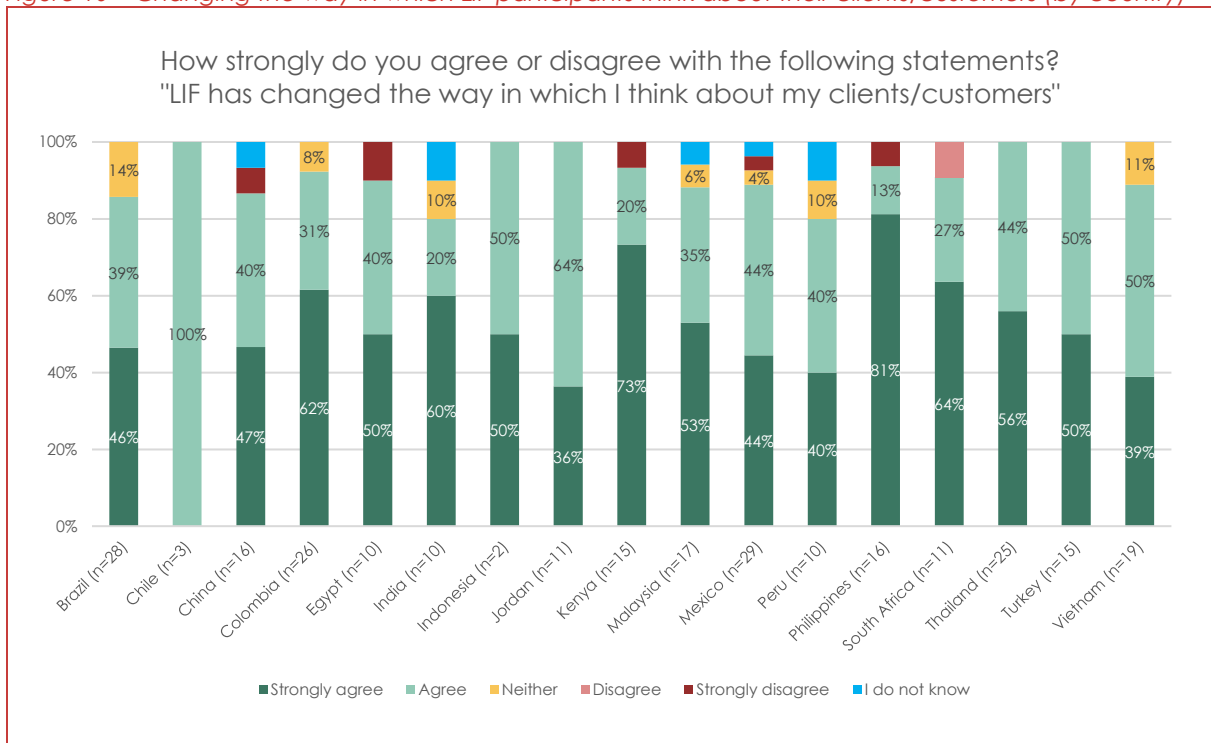
Source: Technopolis data analysis based on LIF participants and alumni survey.

The LIF programme has also allowed the participants to better understand the process of commercialisation and how one moves from an idea to a marketable product/service. Examples of countries with evidence of this impact include **China** and **Vietnam**.

On the more technical and business-oriented skills side of participants, LIF has taught participants how to prepare a business model canvas, a value proposition sheet (this came out strongly in the focus group in **China, Kenya, Mexico,** and **Peru**), how to perform an economic analysis (e.g. in **Jordan**). This often went hand in hand with a positive impact on participants' ability to deliver successful pitches to potential clients (specific evidence coming from **China**, **Colombia, India, the Philippines, Turkey**). Information about marketing was also found useful (explicitly mentioned by LIF alumni in **Mexico** and **South Africa**).

Qualitative evaluative evidence points to a positive effect of the programme on providing LIF participants with the necessary structure and plan and actions for the future. This is part of a holistic training that the programme offers and there has been positive feedback received from participants, especially in **Brazil** and **Mexico**.

Consultations with LIF Advance alumni point to a similar experience as that of the LIF1 – LIF7 cohorts, however, the impact of the LIF Advance programme appears to have been more profound. For example, one LIF Advance alumnus shared this feedback:

> *"By participating in the LIF programme, I have gained rich experience in the evaluation of scientific research achievements in a proper way (factors to consider include the number of users, competitiveness in the international market, cost of investment, time costs, market risk, etc.), establishment of the development and strategic plan for enterprise, as well as effective interaction and communication with the investors." A LIF Advance alumnus*

We have collected many individual testimonies from LIF alumni demonstrating how the programme has been positively impacting on "softer" entrepreneurial skills, such as presentation skills (shared by LIF participants in **China**, **India**). Positive impact on communication skills came out very strongly via the focus group discussions in **Turkey**. The in-country partners provided examples of some notable international successes of some LIF participants, for example prizes awarded by MIT.

The evidence is rather mixed when it comes to the impact of LIF on inter-personal skills, such as negotiating with business partners, suppliers and clients, dealing with team members etc. Although some evidence points to a positive contribution of LIF to these skills (e.g. in **China, Egypt**), in some other cases (e.g. **Chile, China, India, Mexico, Indonesia, Kenya**), this has been marked by LIF alumni as an area for continuous improvement (see below).

More anecdotal evidence has been collected highlighting some additional outcomes from the participation in LIF, such as learning about business etiquette (**China**). A couple of participants (e.g. in **Colombia, Jordan**) explicitly mentioned the positive effect of being associated with the Royal Academy of Engineering, the prestige this brings to them, and they appreciated the continuous support from the Academy. In focus groups in **Brazil**, **India** and **Turkey**, there were participants (one in each focus group) who mentioned how the participation in LIF had helped them to "add a global perspective to problem-solving".

Sharing of knowledge, building networks and partnerships

The results of the alumni survey (Figure 11) show that collaboration and sharing of knowledge has increased across the board. This has been confirmed by qualitative country-specific research. The impact of the LIF programme on the ability of participants to share knowledge has been particularly strong in those LIF countries (e.g. **China, Vietnam**) where the participants had been largely recruited from academia and return to academia after their participation in the programme. There was an almost unanimous agreement across the focus group participants that LIF has made them better teachers at the university, more confident presenters, and anecdotal evidence has been shared with us showing how some of the LIF alumni had motivated their students to establish their own start-ups. Nevertheless, the positive effect of LIF on the ability of individuals to pass the acquired knowledge on to others has also been seen in other countries, such as **Indonesia**.

The impact of LIF on the ability to collaborate with others has been mentioned many times in the LIF alumni focus groups **across almost all countries**. This confirms the results of the online surveys (where the highest share of respondents agreed with this type of impact, see Figure 8). There were examples of LIF participants collaborating across countries. For example, LIF alumni in **South Africa** interacted with their peers in **India** and **Kenya**. In **Jordan**, collaboration between LIF participants and different industrial sectors encouraged them to join other programmes, work with researchers and collaborate with businesses.

The impact of LIF on networking of LIF participants closely relates to the impact on their ability to collaborate. We collected strong evidence on this type of impact from **Egypt**, **Jordan**, **Mexico, Peru,** and **Vietnam.** Participants were grateful for opportunities to speak with partners in value chains, and even with representatives of competitor companies. Furthermore, the exposure of participants to experts has helped them better understand the value of their innovation and what to do next.

Figure 11 – Increasing collaboration, contact and sharing of knowledge by LIF participants (by country)

How strongly do you agree or disagree with the following statements?
"LIF has contributed to me increasing my collaboration, contact and sharing of knowledge with other like-minded individuals"
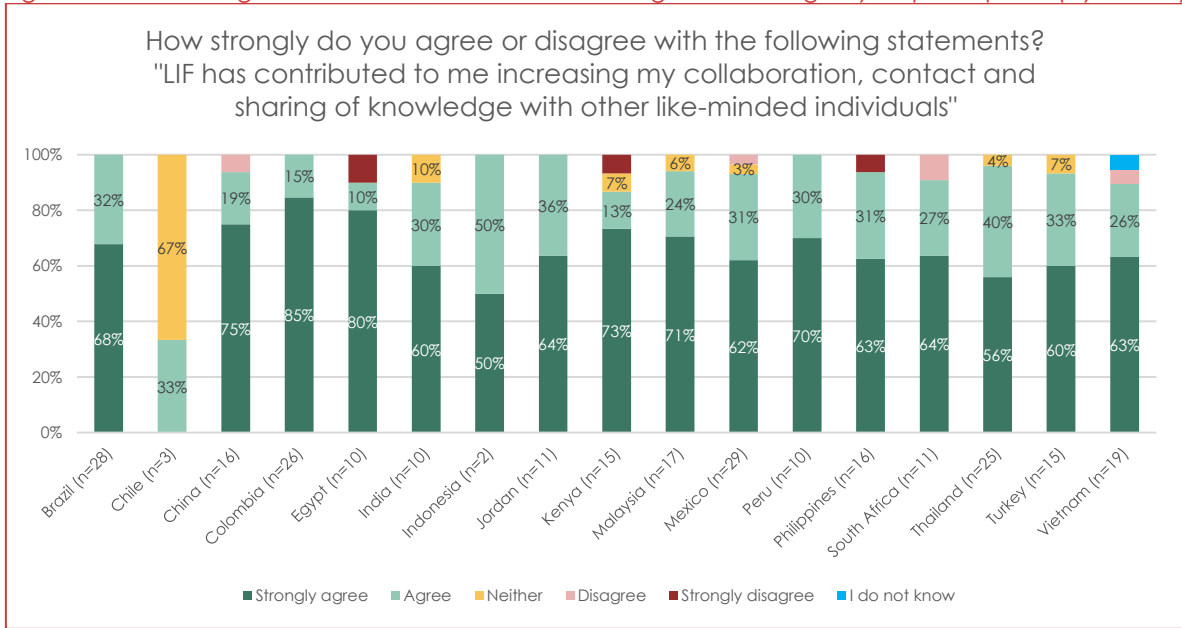
Source: Technopolis data analysis based on LIF participants and alumni survey.

Figure 12 shows that growing relationships with another LIF participant in the same country was the answer which has been selected most often in the survey (23%), followed by growing relationships with other entrepreneurs in the same country (17%).

Figure 12 – Growing professional relationships as a result of participation in the LIF programme

Which of the following types of professional relationships have you grown as a result of your participation in the LIF programme? (n=886)

With another LIF participant / alumni in my country	23%
With other entrepreneurs (other than LIF participants) in my country	17%
With a university or research institute in my country	12%
With another LIF participant / alumni in another country	10%
With investor(s) in my country	7%
With other entrepreneurs (other than LIF participants) in another country	7%
With members of the general public in my country	6%
With a university or research institute in another country	5%
With a non-profit organisation in my country	4%
With investor(s) in another country	3%
With members of the general public in another country	2%
With a non-profit organisation in another country	2%
Other (please specify)	0.5%
None of the above	1%

Source: Technopolis data analysis based on LIF participants and alumni survey.

Areas where LIF participants still feel they need to improve their skills / knowledge

In focus groups and interviews, consultees fed back on several areas where they still felt they needed to improve their skills after their participation in the programme. The question asked in the focus groups was: *"Are there any skills or is there any knowledge that you feel you have not acquired through the LIF programme but that you needed to become a successful entrepreneur?"*

In this section, we provide a synthesis of answers to this question. It is important to note, however, that only about a quarter of the consultees provided specific answers to this question. The rest either felt that no skills/knowledge were missing or did not answer. For clarity, we present the synthesis in a tabular form (Table 3).

Table 3 - Areas where LIF participants still feel they need to improve their skills / knowledge

Area of skills / knowledge	Countries where the point was mentioned in focus groups / interviews	Details
Opportunities to engage with other companies	Brazil, Peru	Participants mentioned that they would have welcomed more opportunity to engage with other companies in their countries, internationally, but also in the UK
Industry-specific knowledge	Brazil, China, Jordan, the Philippines	Participants mentioned that they would have welcomed receiving more industry-specific knowledge, more technical knowledge about their products, and that they would have appreciated acquiring more product development skills
Fundraising	Brazil, Chile, China, Colombia, Egypt, India, Kenya, Vietnam	Participants mentioned that they would have welcomed learning more about how to raise funds, capital etc. They mentioned they would have appreciated knowing more about how to deal with investors (how to find them, approach them and convince them to invest in their ideas).
Managing finances	Egypt, Jordan, Mexico	Participants mentioned that they would have welcomed knowing more about how to manage finances, accounting, how to deal with pricing etc. This point came out particularly strongly in Egypt.
Building a team	Chile, China, India, Mexico	Participants mentioned that they would have welcomed receiving more information on how to build a good team, how to grow a team etc.
Compactness of the programme	Chile, Peru, Turkey	Participants in these three countries mentioned that the programme had been very compact, and they would have needed more time to digest everything that they had learned, more time for discussions with their mentors etc.
Combining academic work with business ownership	Egypt	More specifically, in the focus group in Egypt, some participants mentioned that combining business ownership and management with academia was very difficult because running a business whilst working at a university is not supported by law in Egypt
Selling skills	Colombia	Two participants in the focus group in Colombia mentioned they would have welcomed having more knowledge about how to become a good salesperson.
Personalised training	Indonesia, Jordan, the Philippines	Participants mentioned that they would have welcomed if the training had been more personalised based on strengths and weaknesses of participants. As there were varying levels of readiness in the cohorts, they felt that more advanced entrepreneurs needed more advanced training.
Negotiating skills	Indonesia, Kenya, Mexico	Participants mentioned that they would have welcomed learning more about negotiating skills, how to reach an agreement and also "how to be more forceful".

Area of skills / knowledge	Countries where the point was mentioned in focus groups / interviews	Details
Social/environmental impact of projects	Peru	*"I think the programme is very engineering-based, maybe less "social-based" and there I find some challenges. I did not find answers in LIF on how to assess the social/environmental impact of my project. This is an area that could be deepened in the content." A participant in Peru*

Source: Focus groups and interviews with LIF alumni (conducted by Technopolis)

3.2 Evaluation question 2: Has the LIF programme achieved its intended outcomes and impacts as outlined in the Logic Model?

Summary

- In all LIF countries, both LIF alumni and the LIF stakeholders agreed with the shortlisted most significant stories of change.

- There has been a significant positive impact of the programme on the culture within organisations. LIF has allowed participants' companies to refocus on business areas that were worth pursuing and abandon those without potential. The change in the culture has positively affected a number of areas, such as the confidence of the team in companies' products, the way the teams work together and productivity.

- The LIF programme has helped to define a strategy for companies of LIF participants and the programme has been instrumental for developing business models, marketing strategies, communication strategies, growth plans etc.

- LIF has helped participants grow their companies and, in some cases, helped their companies to survive.

- LIF has opened interesting international opportunities for its participants and their companies. Not only were the participants introduced to a number of potential partners in the UK and elsewhere in the world, but the programme has also helped them create a global outlook for their companies. Furthermore, the programme has allowed LIF participants' companies to develop many new collaborations and partnerships at the national level.

- The programme appears to have allowed its participants to take a transformative approach to their business ideas and turn them into marketable products. The stage of business and the maturity of the technology at the start of the participation determine the extent to which the programme has been transformative in relation to participants' products.

- LIF mentors were instrumental in showing possible directions, possible solutions, new perspectives about markets to LIF participants. Often, the relationships between the participant and their mentor have become long-term.

In this evaluation question nr. 2, we continue to discuss the collected evidence on what intended outcomes and impacts the LIF programme has achieved. In the evaluation question nr. 1 (see Section 3.1 above), we discussed the individual-level outcomes and impacts. In this section, we discuss the organisation level. This includes both start-up companies owned/run by LIF participants, as well as organisations in which LIF participants have worked as employees.

The evidence, analysed, discussed and synthesised in this section comes from an online survey of LIF alumni; an online survey of LIF mentors, trainers, in-country partners and Newton Fund team members; from programme monitoring data (collected by LIF suppliers); and from qualitative research conducted in all 17 Newton Fund countries (consisting of focus groups with LIF alumni, semi-structured interviews with the LIF in-country partners and Newton Fund team members, interviews with LIF Advance alumni and LIF Champions, interviews with business partners and colleagues of LIF alumni, as well as from the success stories prepared in each country).

The section starts with the assessment of the Most Significant Change at the organisation level. It then continues with a synopsis overview of the organisation-level impact of the programme, and discussion on the impact on the following areas:

- Change of culture within organisations
- Business strategy
- Business collaborations and partnerships
- Product development

We also present a synthesis of the feedback received from LIF participants on the mentoring function of the programme and of the challenges they have faced in their effort to implement the new knowledge and/or apply the new skills acquired on the programme.

The Most Significant Change (MSC) assessment at the organisation level

The process of the MSC technique at the individual level was described above (in Section 3.1). An analogical approach was taken for the assessment of the MSC at the organisation level. The five stories of change with the highest score were selected in each country (Figure 14), based on the survey results. Figure 15 shows that there were no significant differences in responses to the two online surveys. The top five stories of change were then discussed with LIF alumni in focus groups and interviews, as well as with in-country partners and Newton Fund team members (LIF stakeholders). In all LIF countries, both LIF alumni and the LIF stakeholders agreed with the stories selected in the surveys. Figure 13 below provides a flow chart of the MSC assessment at the organisation level.

Figure 13 - Most significant change assessment within the LIF programme evaluation (organisation-level impact)
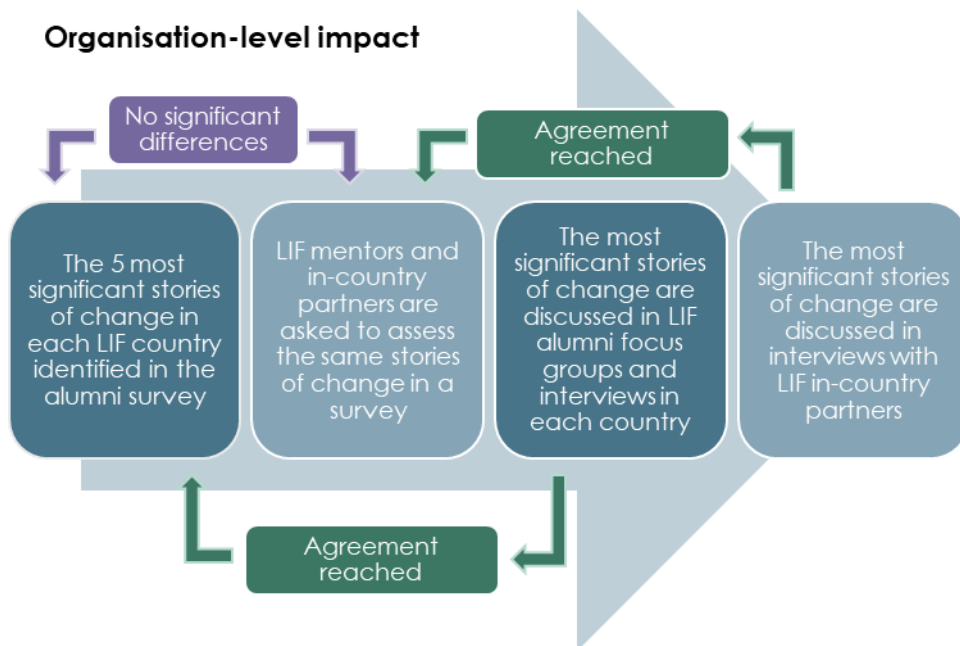
Source: Technopolis

Figure 14 – The top 5 stories of change (highlighted in green) at the organisation level selected in the online evaluation survey (by country)

Impact of the LIF programme at the level of organisation (the higher the score the higher the degree of agreement of the survey respondents)

Country	LIF has contributed to my company forming partnerships with other organisations in my country	LIF has contributed to my company creating partnerships with organisations in the UK	LIF has contributed to my company creating partnerships with organisations in a country other than the UK	LIF has contributed to my company creating new/innovative products and/or services	LIF has contributed to a change of culture within my company	LIF has improved the access to finance for my company	LIF has improved the access to R&D for my company	LIF has contributed to me establishing my first company	LIF has contributed to me establishing another company in the same industrial sector as my first company	LIF has contributed to me establishing another company in another industrial sector to my first company	LIF has contributed to a growth of my company	LIF has contributed to an increase in the size of my share of the market	LIF has contributed to the survival of my company	LIF has contributed to an establishment of a strategy for my company	LIF has contributed to a team development within my company	Total average score
Brazil	4.07	3.19	3.18	3.82	3.93	3.21	3.63	3.14	3.40	3.71	4.21	3.30	3.84	4.39	3.89	**3.68**
Chile	2.00	2.00	2.00	2.00	2.00	2.00	2.00	3.00	2.00	2.00	3.50	2.00	2.00	2.00	2.00	**2.17**
China	3.58	3.56	3.13	4.09	3.91	3.89	3.91	3.50	3.71	3.33	4.00	3.86	4.00	4.22	4.00	**3.67**
Colombia	3.90	3.25	3.39	3.95	4.35	3.84	3.53	3.75	3.07	3.29	4.30	3.83	3.65	4.19	4.24	**3.78**
Egypt	3.75	3.25	3.00	3.89	4.17	3.29	3.71	4.14	3.17	3.17	3.80	3.00	3.80	4.14	4.17	**3.59**
India	4.14	3.38	3.40	4.00	4.00	3.71	3.63	3.00	3.38	3.29	4.44	3.75	3.70	3.90	4.20	**3.80**
Indonesia	5.00	4.00	5.00	5.00	4.50	3.00	3.50	4.00	3.50	4.00	4.00	4.00	4.00	5.00	4.00	**4.08**
Jordan	3.78	3.56	3.63	3.70	4.00	3.44	3.60	4.13	3.75	3.50	4.00	3.50	3.75	4.20	4.00	**3.72**
Kenya	4.20	3.07	3.53	4.27	4.47	4.29	3.73	3.73	3.17	2.64	4.40	3.80	4.27	4.40	4.54	**3.94**
Malaysia	3.91	3.44	3.67	3.70	3.90	3.56	3.60	3.73	3.56	3.44	3.64	3.22	3.33	3.91	3.78	**3.68**
Mexico	3.70	3.05	3.40	4.25	4.29	3.53	3.76	3.42	2.88	3.06	4.00	3.57	3.78	4.19	3.85	**3.67**
Peru	3.70	3.56	3.22	3.90	4.30	4.30	4.00	3.60	3.30	2.89	4.22	3.63	3.78	4.33	3.89	**3.79**
Philippines	4.40	3.40	3.83	4.78	4.45	4.11	4.78	4.44	4.00	4.00	4.57	3.83	4.00	4.63	4.50	**4.36**
South Africa	3.60	3.17	3.20	3.80	3.80	3.40	3.60	3.71	3.50	3.83	4.10	3.20	4.00	4.00	3.86	**3.80**
Thailand	4.26	3.50	3.53	4.11	3.76	3.69	3.88	4.00	3.08	3.00	4.12	3.77	3.87	4.17	3.88	**3.95**
Turkey	3.20	3.14	2.87	3.33	4.00	3.07	3.40	2.86	2.71	2.46	3.43	3.00	3.79	4.13	3.43	**3.26**
Vietnam	4.20	3.62	3.58	4.07	3.93	3.58	3.86	3.67	3.67	3.33	3.67	3.93	3.71	3.93	3.73	**3.83**
Grand Total	**3.90**	**3.29**	**3.35**	**3.96**	**4.07**	**3.60**	**3.72**	**3.61**	**3.26**	**3.19**	**4.06**	**3.55**	**3.80**	**4.18**	**3.95**	**3.75**

Source: Technopolis data analysis based on LIF participants and alumni survey.

Impact of the LIF programme at the level of organisations
(scale 1 - 5, where 1 means "strongly disagree" and 5 means "strongly agree" with the statement)

Statement	LIF participants / alumni (n=263)	LIF mentors / trainers / in-country partners / Newton Fund team member (n=103)
Total average score	3.75	4.00
LIF has contributed to a team development within participants' companies	3.95	4.25
LIF has contributed to an establishment of a strategy for participants' companies	4.18	4.39
LIF has contributed to the survival of participants' companies	3.80	3.94
LIF has contributed to an increase in the size of participants' share of the market	3.55	3.80
LIF has contributed to a growth of participants' companies	4.06	4.15
LIF has contributed to participants establishing another company in another industrial sector to their first company	3.19	3.43
LIF has contributed to participants establishing another company in the same industrial sector as their first company	3.26	3.67
LIF has contributed to participants establishing their first companies	3.61	4.09
LIF has improved the access to R&D for participants' companies	3.72	3.89
LIF has improved the access to finance for participants' companies	3.60	3.82
LIF has contributed to a change of culture within participants' companies	4.07	4.19
LIF has contributed to participants' companies creating new/innovative products and/or services	3.96	4.31
LIF has contributed to participants' companies creating partnerships with organisations in the UK	3.29	3.87
LIF has contributed to participants' companies forming partnerships with other organisations in their countries	3.90	4.20

Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members, and the survey of LIF participants and alumni.

Synopsis overview of the main organisation-level impact of the programme

Figure 16 presents the synopsis chart of the organisation-level impact of the programme (based on the LIF alumni survey results). As Figure 16 shows, the following area of impact are at the top of the list:

- LIF has contributed to an establishment of a strategy for the company (67% of the respondents either strongly agreed or agreed with this statement)
- LIF has contributed to a change of culture in the company (64%)
- LIF has contributed to a growth of the company (60%)

Figure 16 – Synopsis overview of the organisation-level impact of the LIF programme
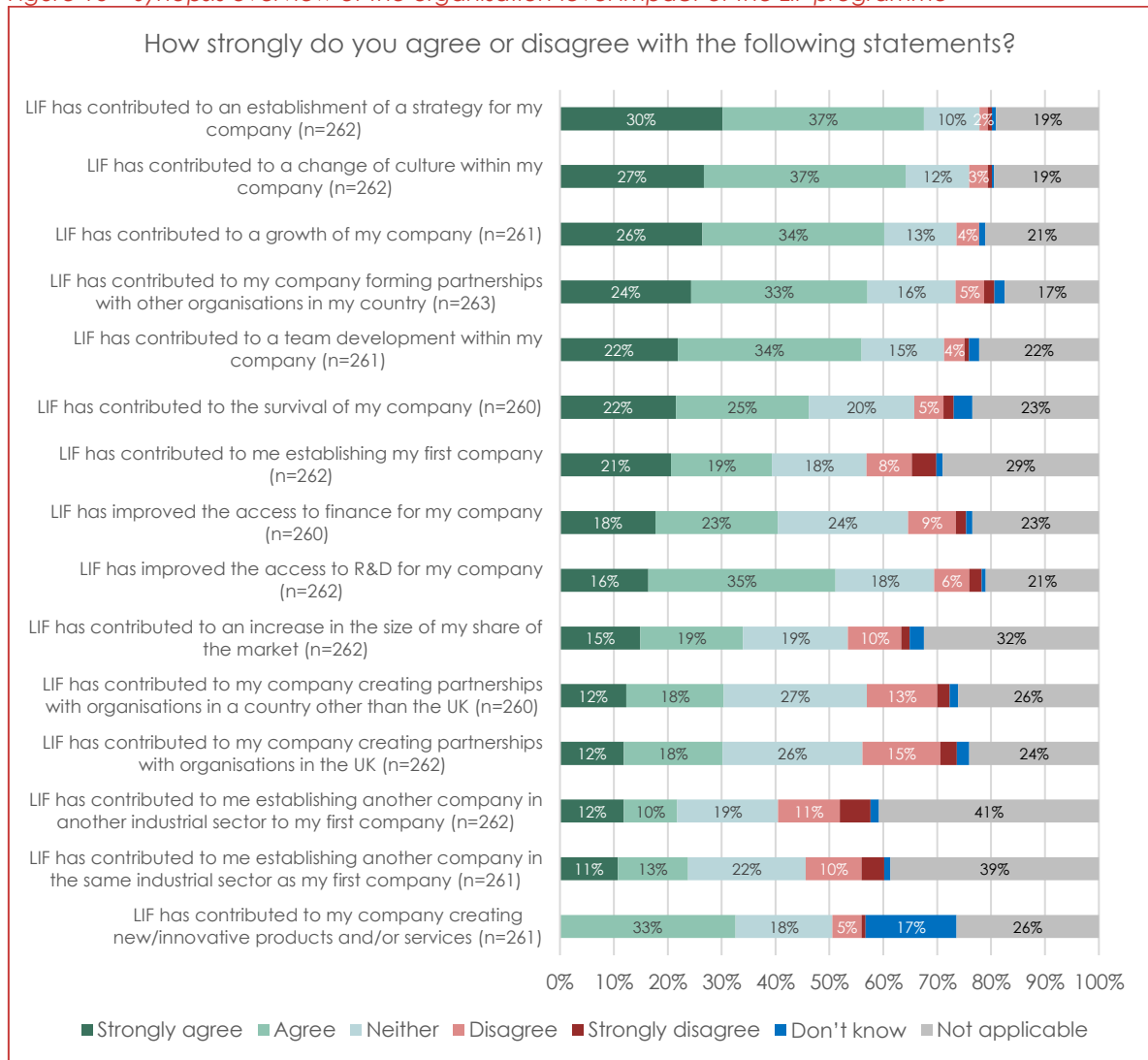
Source: Technopolis data analysis based on LIF participants and alumni survey.

With a more detailed focus on businesses of LIF participants (as opposed to a more general organisation-level impact), Figure 17 shows a strong impact in at least three specific areas. Around 60% of respondents stated that their understanding of business opportunities in their country had improved as a result of participating in the programme. Around 59% of respondents prepared a business plan for their company thanks to their participation in LIF. Noticeably, almost a half of respondents have seen positive impact in the area of commercialisation as a result of their participation: 48% of the respondents have registered IPRs/trademarks/patents.

Figure 17 – Impact of the programme on business of LIF participants

Have any of the following activities happened as a result of your participation in the LIF programme?

	Yes, this has already happened	No, this has not happened yet, but it is in progress	No, this has not happened yet, but I would like this to happen in the future	No, this was never my intention	Not applicable
I have improved my understanding of business opportunities in my country (n=262)	60%	18%	14%		7%
I have prepared a business plan for my company (n=262)	59%	13%	13%		11%
I have registered IPRs/trademarks/patents (n=259)	48%	16%	19%	5%	12%
I have found a successful route to the market for my service/product (n=261)	36%	31%	22%		10%
I have received commercial investment in my business idea (n=263)	26%	18%	36%	5%	14%
I have improved my understanding of business opportunities in the UK (n=262)	22%	19%	35%	7%	18%
I have licensed my service/product (n=260)	19%	20%	33%	8%	20%
I have obtained regulatory approval for my service/product (e.g. CE mark, FDA approval)…	13%	19%	32%	9%	27%

Source: Technopolis data analysis based on LIF participants and alumni survey.

Below, we discuss some of the specific areas in more detail and we triangulate the quantitative survey results with the qualitative evidence collected throughout the evaluation project.

The collected evidence also highlighted a very strong impact of the LIF programme on higher education institutions in the LIF countries. This impact is discussed within the evaluation question nr. 9 (see Section 3.9 below).

Change of culture within organisations

There has been a significant positive impact of the programme on the culture within organisations. LIF has allowed participants' companies to refocus on business areas that were worth pursuing and abandon those without potential. This finding came through strongly in the collected evidence from **Colombia, Jordan, Kenya, Mexico, Peru** and **Malaysia**, but also in **Brazil** and **Egypt**. The change in the culture has positively affected a number of areas, such as the confidence of the team in companies' products, the way the teams work together, productivity etc. LIF participants also mentioned in consultations that they feel more motivated and are able to better motivate their colleagues as well.

> *"Before LIF, I thought that I can manage the start-up myself (I was trying to be a good academic professor and also a CEO for a start-up – this was very tiresome). After discussing the matter with LIF experts, I changed my mindset / culture. I cannot do everything. I changed my plan (developed a new*

strategy) and teamed up with manufacturing plants and construction marketing stockist." A LIF participant in Jordan

The qualitative research results confirm the results of the online survey of LIF alumni (Figure 18).

Figure 18 – Contribution of LIF to a change of culture within participants' companies (by country)

How strongly do you agree or disagree with the following statement?
"LIF has contributed to a change of culture within my company"
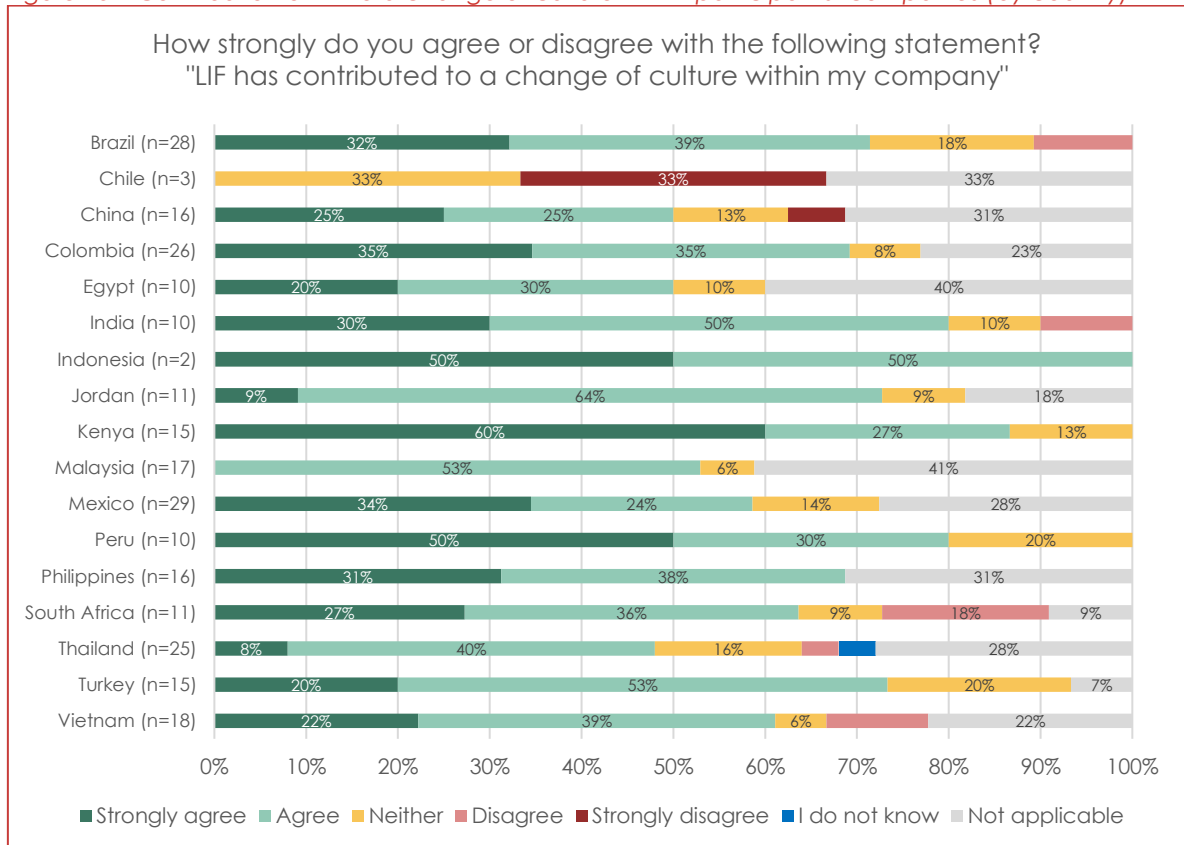
Source: Technopolis data analysis based on LIF participants and alumni survey.

Business strategy and plan

The LIF programme has helped to define a strategy for companies of LIF participants (this was explicitly mentioned in focus groups and interviews in **Brazil**, **China, India, Indonesia, Mexico, Peru, the Philippines, South Africa, Thailand**). More specifically, the evidence suggests strongly that the programme has been instrumental for developing business models, marketing strategies, communication strategies, growth plans etc. In consultations across all LIF countries, participants mentioned that LIF had helped them grow their companies and, in some cases, helped their companies to survive (e.g. in **Jordan** and **Turkey**). Largely, the focus groups and interviews confirmed the earlier survey results (Figure 19).

> *"The programme changed completely the way [in which] I was working. Before the programme, I was involved in very niche projects which were difficult to scale up. I decided to focus more on the product we were selling and ways to make it fast. Hence, I believe the LIF programme initiated the change of direction within my company." A LIF participant in Brazil*

> *"Thanks to the LIF programme, my company was able to identify the target customers and we now know how to contact them." A LIF participant in China*

One participant in the focus group in Thailand mentioned that they have been successfully adapting their knowledge about business models permanently due to the changing environment post-Covid-19 pandemic.

Figure 19 – Contribution of LIF to an establishment of a strategy for my company (by country)

How strongly do you agree or disagree with the following statement?
"LIF has contributed to an establishment of a strategy for my company"

Business collaborations and partnerships

The research shows that LIF has opened interesting international opportunities for its participants and their companies. Not only were the participants introduced to a number of potential partners in the UK and elsewhere in the world (this was mentioned repeatedly in focus groups and interviews particularly in **Brazil, Chile, Egypt, Indonesia, Jordan, Kenya, Malaysia,** and **Turkey**), but the programme has also helped them create a global outlook for their companies. The experience of LIF participants in **India** is a particularly good example of this shift to global thinking facilitated by LIF. The new focus on "going global" has also been witnessed by business partners and colleagues of LIF participants whom we interviewed in the countries. Many participants agreed that the support from the Academy had opened door for them.

> *"… Global partnerships are something that was greatly amplified with the LIF programme" A business partner of a LIF participant*

> *"Since then [since the participation in LIF], we developed four new products, filed two patents and licenced one… We started working internationally in India, Malaysia and the US." A LIF participant in Turkey*

Although in most LIF countries there was agreement between LIF participants and the in-country partners on the positive impact of LIF on internationalisation of participants'

companies, the picture was more mixed in **China**. In China, the consulted LIF participants reported positive impact on internationalisation, whereas the in-country partner was more sceptical.

The evidence also suggests that the programme has allowed LIF participants' companies to develop many new collaborations and partnerships at the national level (in their own countries). Explicit mentions of this impact come from **Brazil**, **Egypt**, **Mexico**, **Peru** and this impact appears to be particularly strong in **Malaysia**, where it has been highlighted by both LIF alumni and the in-country partner. The new collaborations were established with diverse partners, ranging from the private sector (across various industrial sectors) to academic and public sectors.

Product development

Product development is another area where the evaluative evidence points to a significant impact of the LIF programme. Although this impact is not as explicit in the research in all LIF countries, in several of them, the evidence is very clear (for example in **Colombia, Kenya, Jordan** and **Vietnam**). The programme appears to have allowed its participants to take a transformative approach to their business ideas and turn them into marketable products. It is important to note, however, that this impact has not been universal for all participants. As discussed above (see Section 3.2), in some countries, participants had to demonstrate that their technology was at TRLs6-7 before joining the programme, therefore, more advanced than a business idea. Furthermore, the evidence also suggests that the stage of business and the maturity of the technology at the start of the participation determined the extent to which the programme has been transformative in relation to participants' products. This was a strong discussion point in focus groups in **India** and **South Africa**, for example. More specifically, in India, the focus group participants said that they had managed to modify their products and services in order to enter international markets.

> *"LIF has completely changed my old viewpoints about products, services and customers. For example, now I focus on the quality of the product and how to address quality using product modification… I catalogued the whole process just as I learned from LIF. LIF has changed my mindset. "A LIF participant in Jordan*

There has also been a notable impact on commercialisation within participants' companies. Consultees in **Egypt**, **India**, **Indonesia**, **Jordan**, **Mexico**, **Peru** shared their reflections on how the programme had led to a change of their commercialisation strategies. Figure 20 shows that the most frequently taken approach to commercialisation among LIF participants was establishing a spin-out / start-up business.

Figure 20 - Approaches taken by LIF participants to commercialisation of their innovations (number of LIF participants)
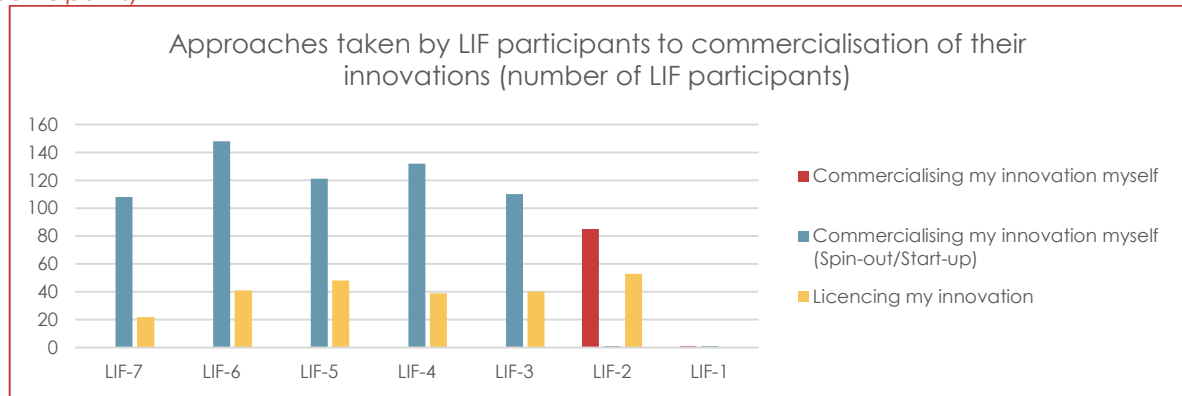
Source: LIF programme monitoring data (based on surveys launched by LIF contractors), analysis by Technopolis; note: due to incomplete/missing data in some LIF countries / for some LIF cohorts, the results have to be interpreted carefully.

Feedback on mentoring

In eight countries, LIF participants provided specific feedback on the mentoring function of the programme. Overall, the mentoring activities were highly praised in **Chile, Egypt, Indonesia, Jordan, Malaysia, Mexico, Peru, Turkey**, and particularly in **Brazil**. According to the participants, mentors were instrumental in showing possible directions, workable solutions, new perspectives about markets etc. The final decision was always up to the participant, but mentors had provided invaluable guidance in the process. Often, the relationships between the participant and their mentor have become long-term, and some interviewees mentioned they were still in regular contact with their mentors after the end of their participation in LIF. Furthermore, some participants also said that their mentors had helped them with funding, accessing venture capital (e.g. in **Malaysia**) and with introductions to partners in the UK (e.g. in **Egypt**).

> *"My mentor challenged me: If I can sell 10 units of my product in Egypt, she can promote my product in UK." A LIF participant in Egypt*

Challenges faced by LIF participants in implementation of the organisation-level outcomes

In the country-specific research, we discussed with the LIF participants the most significant challenges they have been facing in their effort to implement the knowledge and solutions acquired from their participation in the programme. There was a general consensus that practical effects often take a lot of time to appear, for example in the form of an increase in turnover etc.

Regulatory issues and university policy environments were mentioned repeatedly as an important factor hindering the impact of the programme (especially in **China, Mexico, Egypt** and **Malaysia**). In China, it is very difficult, at some universities, to commercialise the developed technology. Similarly, in Malaysia, when an academic develops a product, they have to go through an approval process with the chancellor of the university. In Mexico, national legislation does not allow to establish spin-off companies from universities.

> *"The legal framework does not allow academia to pass a solution directly to the company. We have to find other ways to move innovation forward." A LIF participant in Mexico*

In Egypt, three focus group participants spoke about the tough economic situation of the country, which has also led to putting all new business registration on hold. This has slowed down the process of spinning-out for the participant.

3.3 Evaluation question 3: What additional impact, if any, was generated outside the Logic Model?

Summary

- The LIF programme has generated additional impact in the forms of creating a strong participants network, confidence of participants in their innovations and change of mindset towards research and entrepreneurship.
- Additional impact was also created by the LIF programme where new business partnerships, including the UK, have been created.
- The LIF programme has generated added value to the international relationship between the UK and partner countries from a diplomatic or "soft power" point of view.
- The extraordinary circumstances brought about by the Covid-19 pandemic meant that the residential training had to take place online instead of in London. This has led to an unintended negative impact because the online environment did not allow for the same level of interaction among participants and between participants and their mentors.
- In one country, mentors' inconstant commitment came as a surprise, while in another country it was not expected that LIF would stop being implemented.

In this section we look into the additional impact generated by the programme outside the individual-, organisation- and ecosystem-level impacts presented in the Theory of Change. Evidence for this evaluation question comes mainly from the country-specific research (i.e. interviews with the LIF in-country partners and business partners / colleagues of LIF participants), as well as from the interviews with BEIS and the Academy's fellows. Qualitative data shows evidence of additional impact, as well as unexpected challenges.

The in-country partner in **Brazil** mentioned that the establishment of a very strong network among the programme's participants represented an additional impact because they organise events themselves according to their relevant needs. In **China**, LIF generated confidence towards national innovation as a result of the programme. The in-country partners in **Egypt** and **India** mentioned how LIF is not merely a business support and mentoring programme; it has the additional potential to create personal impact in LIF participants and generate a positive attitude towards research and entrepreneurship. The in-country partners in **Malaysia** and **Jordan** confirmed this finding, stating that LIF provides the opportunity to think laterally and perceiving research together with entrepreneurial thinking as the combination to achieve success.

Other additional impacts dealt with creating business partnership potential (e.g. in **India**), expanding participants' networks and particularly forging new connections with other countries. For example, the in-country partner in **Indonesia** shared how two LIF alumni still kept in touch with LIF alumni from **Malaysia** after two years.

Noticeably, the in-country partner in **Jordan** mentioned that, after the LIF programme, the UK is now a partner of choice for future opportunities in terms of entrepreneurship and innovation partnerships.

Two Academy fellows expressed the willingness to evaluate the impact that LIF has achieved in terms of added value for international relations and diplomatic impact / "soft power". The positive evidence that the Academy has already received from ambassadors suggests that this area could be explored further.

When asked about additional impacts and unintended outcomes, some consultees mentioned additional challenges. Despite being aware that the shift online was due to the Covid-19 pandemic, some in-country partners stated that it had been a missed opportunity not to be able to go to the UK for the residential training; the online format generated some communication issues. Participants found it difficult to balance the learning with their work commitments and lost motivation over time. In addition, other in-country partners stated that they had received, to their surprise, concerning feedback around mentors' commitment and motivation. One in-country partner mentioned disappointment around LIF not being implemented in their country anymore, which had not been expected.

3.4 Evaluation question 4: How has the LIF programme addressed strategic challenges set out in Academy strategy?

Summary

- The LIF programme is well aligned to the strategic challenges set out in the Academy Strategy of building a sustainable society and inclusive economy

- LIF takes a growth-oriented approach focusing attention on the training, coaching and mentoring of would-be entrepreneurs, providing capacity for innovation and business creation

- The Strategy has both a UK and International focus. The UK focus taken in the Strategy is broader that that taken by the LIF programme which concentrates on benefits to the UK in terms of reputation and partnership rather than direct support for UK engineers and UK societal benefits.

- The LIF programme is most visibly aligned to the approaches taken to support "talent and diversity" and some aspects of "innovation" in the Strategy.

- There is less alignment with the "policy and engagement" approaches, which are more UK focused.

This question looks at how the LIF programme objectives and theory of change address the strategic challenges set out in the Academy Strategy, and where additional alignment can be realised.

The Academy's Strategy 2020-2025 "Engineering for a sustainable society and inclusive economy" was released at an extraordinary time of change. Following the exit from the European Union and a global pandemic, the strategy sets a goal "to harness the power of engineering to build a sustainable society and an inclusive economy that works for all". It encompasses national and international ambitions, interlinking them where relevant.

The LIF programme is not explicitly referred to in the current strategy document, which instead showcases six of the key programmes (rather than all programmes). However, LIF programme objectives are transversal in the way that they align with the strategic intent of the Academy, linking with the challenges of creating a **sustainable society** and **inclusive economy** through supporting **talent and diversity**, **innovation** and **policy and engagement** (Figure 21), as well as addressing global challenges.

Figure 21 – The Strategy of the Royal Academy of Engineering 2020-2025 – Example - Goals for a sustainable society

Talent and diversity
Engineers are influential agents of change in the drive for a more sustainable society, providing leadership both within and beyond the UK.

Innovation
More and better engineering and technology solutions are being developed and deployed to support faster decarbonisation and more sustainable use of resources.

Policy and engagement
Engineering expertise and systems approaches are embedded in policy and wider societal responses to sustainability challenges, improving the rate of progress.

Source: The Royal Academy of Engineering, available online at:
https://raeng.org.uk/media/bttm3kha/raeng-2020-25-strategy.pdf.

Talent and diversity

The growth-oriented approach of the LIF programme addresses a number of the challenges of the Academy Strategy with attention given to the training, coaching and mentoring of would-be entrepreneurs, providing capacity for innovation and business creation. The following table sets out the extent to which areas set out in the strategy for **talent and diversity** are addressed through the LIF programme objectives, outcomes and impacts. There is a high level of alignment in this area.

Figure 22 - Talent and diversity - Goals for a sustainable and inclusive society - LIF programme

Working with partners:	Extent to which addressed through the LIF programme
To support a sustainable society through talent and diversity	
Raise awareness of the key role of engineers in enabling sustainable development to encourage many more, and more diverse, people to join the profession	**Not applicable:** The LIF programme does not have a focus on awareness raising and increasing the numbers of people going into engineering
Embed sustainability and global responsibility as a core element of our support for engineering education, training and professionalism	**High:** The training and support delivered takes into consideration the contribution to major societal challenges in addition the programme is stimulating the adoption of the entrepreneurial mindset
Mobilise the global engineering community and create strong international alliances to support sustainability	**High:** International collaboration is an expected impact of the LIF programme
Ensure all relevant Academy activities and operations reflect our commitment to sustainability	**High:** Sustainability and addressing societal challenges is a key objective of the LIF programme
Continue to support capacity building in engineering as a priority in international development programmes	**High:** A central aspect of the LIF programme, evident in its activities and operations
To support an inclusive society through talent and diversity	
Boost the numbers and diversity of those entering engineering careers	**Medium:** Through increased business start up the programme is supporting new and decent jobs – however the focus is on existing engineers
Promote and expand the use of innovative approaches and best practice in engineering education and training	**High:** The programme is delivered through a training course and ongoing tailored support (coaching, mentoring, networking etc)
Catalyse a step change in the diversity of the workforce at all levels and prevalence of inclusive cultures across engineering industry	**Medium:** At the ecosystem level, the programme has a focus on improving inclusion of marginalised groups

Working with partners:	Extent to which addressed through the LIF programme
Continue to diversify the Academy's Fellowship and awardees and embed diversity and inclusion across all our activities	**Medium:** At the ecosystem level, the programme has a focus on improving inclusion of marginalised groups
Stimulate modernisation of the UK approach to professional development and lifelong learning for engineers and technicians	**Not applicable**
Ensure that ethical best practice is fully embedded in UK engineering education, training and professional development	**Not applicable**

Source: Technopolis

Innovation

Under **innovation**, LIF supports ideas to market and a sustainable society. Those taking part in LIF are innovators with business ideas. There is also a strong component of partnership in innovation, with contact between the UK (and UK experts and companies) and the partner country organisations and innovators. This leads to investment opportunities. There is less alignment with the strategy challenges with regard to the creation of an inclusive UK economy, instead the focus is on the broader benefits to the UK (in line with the objectives of the Newton Fund).

Figure 23 – Innovation – Goals for a sustainable and inclusive society – LIF programme

Working with partners:	Extent to which addressed through the LIF programme
To support a sustainable society through innovation	
Expand and improve our support for excellent researchers and entrepreneurs developing innovations targeted at sustainability challenges	**High:** The programme encourages entrepreneurship and addressing societal challenges
Enable more promising cleantech and sustainability-focused innovations to be brought to market and companies to grow to scale	**Medium:** The programme supports innovations to market, some of which will be related to clean tech and more broadly sustainability
Stimulate more effective international research and innovation collaborations to accelerate development and deployment of tools to advance sustainability	**Low:** International collaboration is an important component of the programme but the links to research are less prevalent than those of commercialisation
To support an inclusive society through innovation	
Ensure that Academy grants made within the UK reflect and support excellence and societal benefit across all parts of the country	**Not applicable**
Establish a national network of Enterprise Hub regional centres and grow our regional support offer	**Not applicable**
Support more excellent researchers and entrepreneurs developing innovations that promote UK security, safety, public health and resilience	**Low:** LIF programme is not focused on the UK with respect to innovations but on LMICs. The benefits for the UK are about reputation and status
Celebrate and enable business university collaboration across all parts of UK	**Not applicable**
Embed integrity and ethics into our support for engineering innovation	**Low:** This is not a focus of the programme

Source: Technopolis

Policy and engagement

Through **policy and engagement**, the work of the LIF programme mobilises the global engineering community to create strong international alliances and supports capacity building in engineering in international development. There is alignment with the Academy Strategy challenges through LIF's approach to impacting wider communities and embedding a systems approach in the way that UK and global policy makers respond to sustainability challenges. Another aspect is the improved understanding of entrepreneurial ecosystems and how they work.

The strategy adopts a goal-focused approach, recognising that in the past there has been less systematic prioritisation of themes or technologies. LIF builds on previous national and international programmes and is goal-focused in its approach.

Figure 24 - Policy and engagement - Goals for a sustainable and inclusive society - LIF programme

Working with partners:	Extent to which addressed through the LIF programme
To support a sustainable society through innovation	
Enhance the capacity of engineers to engage effectively with policymakers and media on the UK's commitment to net zero greenhouse gas emissions by 2050 ('Net Zero') and other sustainability challenges	**Not applicable:** There is an objective to knowledge share and expand networks, including with the goal to affect innovation policy, but not in the UK
Build demand from government, other policymakers and media for engineering input and commentary on plans for NetZero and other sustainability challenges	**Not applicable**
Embed a systems approach in UK and global policymakers' responses to sustainability challenges	**Medium:** At the ecosystem level there is an ambition for the programme to support innovation policy formulation
Enhance public awareness of the critical role that engineering plays in advancing global sustainability	**Medium:** The LIF programme is not engaged with public awareness but focuses on networks and collaboration
To support an inclusive society through innovation	
Enhance the capacity of engineers to engage with impact on policy relating to innovation, R&D, entrepreneurship, business university collaboration and technological and digital disruption	**Not applicable**
Build demand from policymakers for engineering input to policies on topics relating to inclusive economic development, resulting in more effective policies	**High:** This is not a primary focus of the LIF programme, however its objectives are aligned with this area as it supports the improvement of innovation policies
Embed engineering expertise across government, including local, regional and devolved (through the appointment of Chief Engineers for example)	**Not applicable**
Understand and inform societal views about the impact of technology and digitalisation, through public and media engagement	**Low:** The LIF programme has activities which support the sharing of success stories but no specific focus on media engagement
Develop strategic alliances of UK and international partners to inform and engage policymakers	**Low:** The LIF programme has an intended impact to improve innovation policies but the activities which lead to this are through the LIF community. Strategic alliances with the UK are more strongly promoted through LIF Advance but not for the direct purposes of linking with policy makers

Source: Technopolis

Overall, it would not be relevant for the objectives of the LIF programme (and elements of the Theory of Change) to address all the challenges set out in the Academy strategy. However, there is nothing which the LIF programme does which is not aligned to the strategy challenges.

Academy Fellows, in interview, also reflected on the fit of LIF with the Academy Strategy and indicated there was a strong and positive connection. The LIF programme has a strong presence in the Academy strategic reports and aligns though connecting research, innovation and society. It stands out in linking research and business to innovation (rather than just research) and has practical mechanisms for approaching its objectives. Although its focus is not on engagement within the UK, it delivers on extending global outreach, promoting diversity and raising the profile of the Academy (and thus the reputation of the UK).

3.5 Evaluation question 5: How has the LIF programme contributed to wider impact frameworks, including the Newton Fund and the UN's Sustainable Development Goals?

Summary

- The LIF programme has contributed considerably to the UN's 17 SDGs. LIF participants have contributed to all 17 SDGs, but varying extents: the most frequently addressed SDGs were SDG9 (Industry, innovation and infrastructure), followed by SDG3 (Good health and well-being), SDG11 (Sustainable cities and communities) and SDG12 (Responsible consumption and production).

- The LIF programme has raised awareness about the SDGs in the partner countries. However, LIF participants said there had not been a firm strategy for how LIF should link to the SDGs and how their projects should contribute to the framework. Furthermore, the SDGs do not seem to have figured among the major topics of discussion for the LIF stakeholders.

- For most LIF participants, the contribution to the SDGs was not among the initial objectives of their projects. This is despite the fact that in reality LIF participants' projects contributed significantly to the SDGs.

- The LIF programme's alignment with the Newton Fund has been very strong, in terms of its objectives and its achieved results. According to the interviews conducted with BEIS representatives, LIF has been very complementary to the other interventions funded from the Newton Fund, and BEIS's feedback has been overall positive.

In this section, we discuss the analysis and synthesis of evidence for evaluation question nr. 5. This evaluation question covers the contribution of the LIF programme to wider impact frameworks, namely the United Nations' 17 Sustainable Development Goals (UN's SDGs) and the overarching Newton Fund.

The main sources of evidence are the online survey of LIF alumni, online survey of LIF stakeholders, qualitative research in the countries (e.g. LIF alumni focus groups and interviews with LIF stakeholders), interviews with BEIS and Academy fellows, as well as wider literature, such as the evaluation strategy of the Newton Fund and the descriptive documents of the UN's SDGs.

The section starts with the introduction to the UN's SDGs. It continues with the analysis of the contribution of the LIF programme to the SDGs. The section then introduces the Newton Fund and assesses the alignment of the LIF programme with the Fund.

The United Nations' Sustainable Development Goals

The 17 Sustainable Development Goals (SDGs) conceptualised by the United Nations came into being in 2015 as a part of the 2030 Agenda for Sustainable Development adopted by all UN Member States. The Goals serve as a follow-up to the eight Millennium Development Goals and aim to provide a blueprint for sustainable peace and prosperity and a call for action through partnerships for all nations for their 15-year period. The 17 Goals are further specified in

169 Targets within them and together aim to bring actions for economic, social and environmental development under the same umbrella.[2]

The SDG themes primarily consider:

- People through the eradication of hunger and protecting all peoples' dignity and equality
- Planet through actions against the climate change and sustainable management of its resources
- Prosperity through technological, social and economic progress in harmony with nature
- Peace manifested in inclusive societies free of fear and violence
- Partnership through their potential to strengthen global solidarity and for mobilising the means required for the attainment of the Goals.

Figure 25 - The overview of the 17 SDGs

SDGs		Summary of the Goals
1 NO POVERTY	No poverty	The goal calls for the eradication of all extreme poverty and the substantial reduction of poverty among men, women and children. The other targets under the Goal involve nationally specific calls for policy reforms and empowerment to shield the people living in poverty through social protection systems and mobilisation of resources.
2 ZERO HUNGER	Zero hunger	The goal holistically addresses issues around food insecurity calling for changes in agricultural practices, market reforms and support for small-scale food producers. The goal urges for prioritising the most vulnerable in all actions to maintain sustainable food security
3 GOOD HEALTH AND WELL-BEING	Good health and well-being	The large-scale aim is to reduce maternal, neonatal and under-5 mortality as well as targeting the current epidemics such as AIDS and Malaria. The targets also urge for action to ensure universal accessible well-being and healthcare and reducing harmful factors such as pollution and tobacco
4 QUALITY EDUCATION	Quality education	Ensuring free access to relevant level care and education for all children, and affordable technical, vocational and tertiary education for all adults and relevant employment later. The targets also call for the facilitation of access equally, upscaling the supply of qualified teachers and the eradication of illiteracy among youth and adults as possible
5 GENDER EQUALITY	Gender equality	The goal calls for an end to all forms of discrimination, violence and harmful practices against women and girls, ensuring universal access to reproductive healthcare and participation for equal opportunities leadership
6 CLEAN WATER AND SANITATION	Clean water and sanitation	By 2030 the Goals and its Targets seek universal and equitable access to safe and affordable drinking water, sanitation and hygiene. Recognising the environment's role in this, the Targets also aim for the protection of water ecosystems from pollution through eliminating dumping and halving untreated wastewater and bringing together international partners and local stakeholders in sustainable water management across all levels
7 AFFORDABLE AND CLEAN ENERGY	Affordable and clean energy	The Goal urges for international cooperation and infrastructural and technological advancements for improved energy efficiency, increasing the role of renewable energy and ensuring universal access to affordable and reliable energy
8 DECENT WORK AND ECONOMIC GROWTH	Decent work and economic growth	The broad Goal seeks sustainable and inclusive economic growth of at least 7 per cent GDP growth per annum per nation. It also calls for actions to orient all productivity towards upskilling people for decent work through education and training and to immediately eradicate modern slavery. Actions supporting cultures and developing nations, such as sustainable tourism industry are also involved

[2] The official website available online at: https://sdgs.un.org/goals.

SDGs		Summary of the Goals
	Industry, innovation and infrastructure	The Goal calls for scientific, technological and social actions to develop reliable and resilient national, regional and international infrastructure. The prioritised points of consideration are small-scale enterprises, developing nations, significantly increased employment and universal access to communications technology
	Reduced inequalities	Particularly through fiscal, regulatory and monitoring means, promote the social, economic and political inclusion of all. The focal point here is the bottom 40% of the world's population which is to be aided through empowering and systematic direction of support
	Sustainable cities and communities	The Goal aims for universal access to safe and affordable housing, basic services and transport as well as participatory and sustainable human settlement while safeguarding cultural and natural heritages
	Responsible consumption and production	The Goal aims to achieve the sustainable management of natural resources and wastes through global collaboration, responsibility of transnational companies, impact-monitoring, awareness-raising and empowerment
	Climate action	The Goal urges for the deployment of national policies, strategies and planning in building climate resilience and mitigation. Moreover, awareness-raising and institutional capacity-building among all peoples is emphasised
	Life below water	The Goal addresses marine and coastal ecosystems and the risks to which they are subjected. Associated challenges include pollution, ocean acidification and destructive fishing practices. Other involved targets look at scientific knowledge and its applications in ocean health, support for small island states and the enhancement of conservation practices
	Life on land	The Goal addresses all life on land, biodiversity and its natural habitats. The risks to be addressed consider poaching and trafficking of protected species, deforestation and desertification and invasive species in ecosystems through mobilisation of resources and integration of biodiversity values into planning, development processes and poverty reduction strategies
	Peace, justice and strong institutions	The aim is to abolish or significantly reduce risk of violence, abuse and exploitation, and target corruption, organised crime and illicit financial and arms flows. These goals are in addition and through the development of accountable and transparent institutions, international participation, freedom of information and the protection of fundamental freedoms
	Partnerships for the goals	The overall objective is to build towards equal and effective cooperation at all levels of societies and institutions. This holistic goal targets financial, technological and capacity-related issues, trade and systemic issues in supporting developing nations and regions, and building towards the previously listed Goals

Source: https://sdgs.un.org/goals.

Contribution of the LIF programme to the UN's 17 SDGs

The LIF programme has contributed considerably to the UN's 17 SDGs. Figure 26 shows the results of the LIF alumni survey. Overall, across all countries, more than three quarters of respondents either strongly agreed or agreed that LIF had contributed to the SDGs.

Figure 26 – Contribution of LIF to the SDGs (by country)

How strongly do you agree or disagree with the following statement?
"LIF has contributed to the United Nations' Sustainable Development Goals (SDGs)"

Country	Strongly agree	Agree	Neither	Disagree	Strongly disagree	I do not know	Not applicable
Brazil (n=28)	32%	39%		4%		14%	
Chile (n=3)	33%	33%				33%	
China (n=16)	13%	38%	25%			19%	
Colombia (n=26)	46%	27%	4%			8%	12%
Egypt (n=10)	30%	60%	10%				
India (n=10)	40%	40%				20%	
Indonesia (n=2)		50%					50%
Jordan (n=11)	18%	64%				9%	
Kenya (n=15)	73%	7%	7%			13%	
Malaysia (n=17)	35%	53%				6%	
Mexico (n=29)	38%	38%	10%			10%	
Peru (n=10)	30%	50%	10%			10%	
Philippines (n=16)	56%	25%				19%	
South Africa (n=11)	36%	27%	9%			9%	
Thailand (n=25)	36%	48%	4%			8%	
Turkey (n=15)	33%	53%	7%			7%	
Vietnam (n=18)	11%	78%	6%				

Source: Technopolis data analysis based on LIF participants and alumni survey.

In terms of specific SDGs, almost two thirds of the respondents to the survey selected more than one SDG to which they had contributed. Figure 27 below shows that LIF participants have contributed to all 17 SDGs, but to a different extent: the most frequently addressed SDGs were primarily SDG9 (Industry, innovation and infrastructure), followed by SDG3 (Good health and well-being), SDG11 (Sustainable cities and communities) and SDG12 (Responsible consumption and production). In focus groups, participants mentioned the specific SDGs they had contributed to. These were generally aligned with the results of the survey (Figure 27).

Figure 27 – Contribution of LIF to the SDGs (by SDG)

To which SDG are you contributing?

SDG	First SDG (n=263)	Second SDG (n=217)	Third SDG (n=177)
SDG 1	3%	2%	3%
SDG 2	6%	4%	2%
SDG 3	24%	10%	6%
SDG 4	5%	4%	3%
SDG 5		2%	2%
SDG 6	8%	4%	2%
SDG 7	10%	6%	2%
SDG 8	2%	9%	9%
SDG 9	19%	17%	14%
SDG 10		3%	3%
SDG 11	6%	12%	15%
SDG 12	7%	11%	11%
SDG 13	5%	9%	10%
SDG 14			2%
SDG 15		2%	3%
SDG 16	1%		
SDG 17	2%	2%	4%
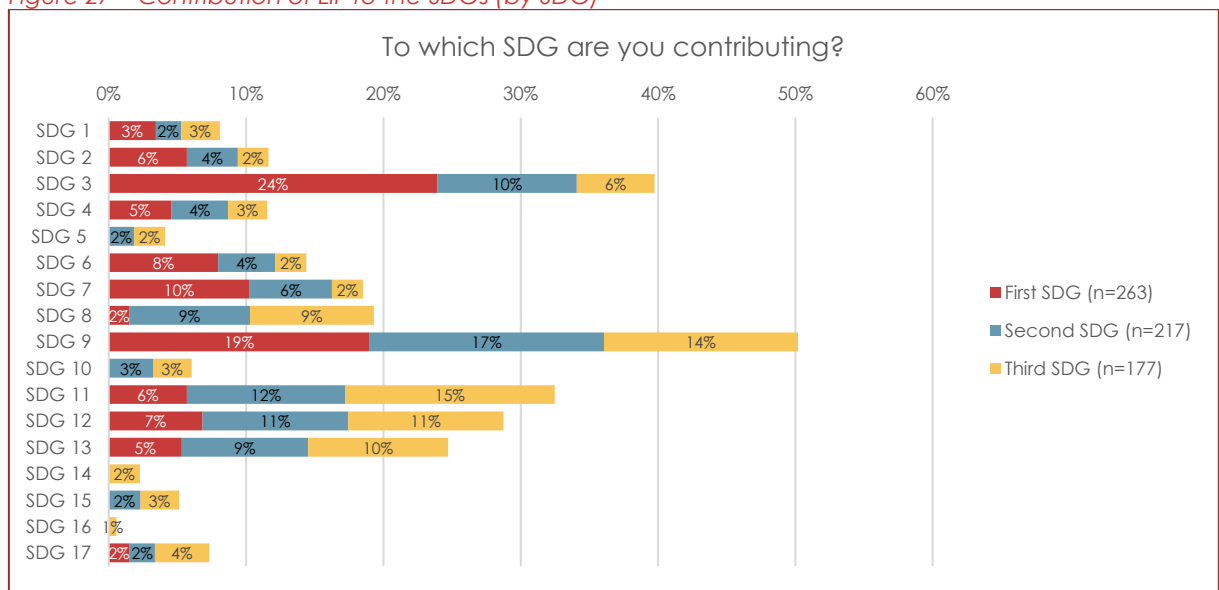
Source: Technopolis data analysis based on LIF participants and alumni survey.

There was a broad agreement among the focus group participants that the programme has raised awareness about the SDGs. A lot of participants learnt about the SDGs only during the participation in the programme (this was discussed considerably in focus groups in **Brazil**, **Chile, China, Egypt, India, Jordan, Malaysia, Turkey**). In **Thailand** and **Vietnam,** a number of focus group participants were still not aware of the SDGs framework. In most countries, LIF participants said there had not been a firm strategy for how LIF should link to the SDGs and how their projects should contribute to the framework.

The SDGs do not seem to have figured among the major topics of discussion for the LIF stakeholders. Overall, the shares of respondents who said they had not discussed the SDGs at all, or had done so only exceptionally, were higher than the shares of those who said they had discussed the SDGs practically always or quite often. (Figure 28)

Figure 28 – How often have you discussed the United Nations' Sustainable Development Goals (SDGs) with the following LIF stakeholders?
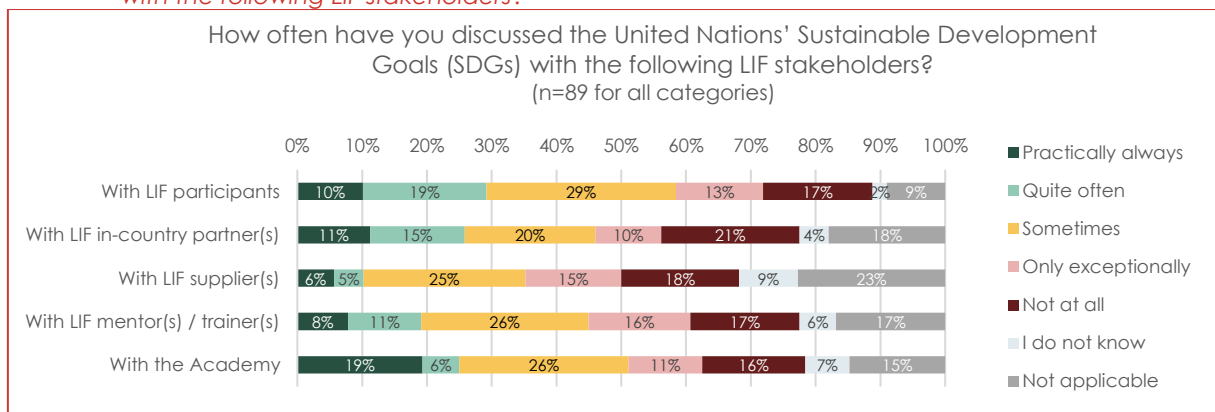
Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members.

Evidence collected at participant focus groups in the countries suggests that for most LIF participants, the contribution to the SDGs was not among the initial objectives of their projects. This is despite the fact that in reality LIF participants' projects contributed significantly to the SDGs (**Error! Reference source not found.** and Figure 27). This view was largely shared by the interviewed LIF in-country partners.

The contribution of LIF to the SDGs is closely linked to the alignment of LIF with the overarching Newton Fund. All projects supported by the Newton Fund need to be aligned with the SDGs.

Alignment of the LIF programme with the Newton Fund

The LIF programme was funded from the Newton Fund[3] until the end of the financial year 2021/2022. The Fund was implemented in 16 partner countries which were also LIF partner countries.[4] The Newton Fund was managed by the UK's Department for Business, Energy and Industrial Strategy (BEIS). There were seven UK delivery partners, one of which was the Royal Academy of Engineering, who designed and implemented tailored research and innovation programmes in partnership with stakeholders in the Newton Fund partner countries. The UK investment into the Newton Fund (the UK investment is matched by investment and resources from partner countries) is classed and reported as official development assistance (ODA).

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[3] Official website available at: https://www.newton-gcrf.org/newton-fund/.

[4] The LIF programme was implemented in the same 16 countries and Chile.

The Newton Fund has two overarching objectives:

- *"To develop science and innovation partnerships that promote the economic development and welfare of partner countries and thereby address the problems of poor people around the world*
- *To deliver benefits to the UK"*[5]

The main objective of the LIF programme has been "to build the entrepreneurial capacity of innovators to commercialise innovations aimed at addressing social and economic challenges." The programme has been implemented by means of partnerships with organisations in the partner countries (called "in-country partners"). In terms of outcomes and impacts of the LIF programme, the final evaluation report at hand presents the various types of outcomes and impacts (see, for example, Sections 3.1 [individual-level impact of LIF], 3.2 [organisation-level of LIF], and 3.9 [ecosystem-level impact of LIF]). Furthermore, the benefits stemming from the programme for the UK have been assessed in Section 3.11. The results of this evaluation therefore point to a strong alignment of LIF, its objectives and its achieved results, to the Newton Fund.

Furthermore, according to the interviews conducted with BEIS representatives, LIF has been very complementary to the other interventions funded from the Newton Fund, and BEIS's feedback has been overall positive. The LIF teams have managed to engage and leverage networks in the countries and tie the programme activities closely into the relationships with the national governments. LIF has helped to meet the demand for a larger engagement of international partners in interventions focused on innovations. Furthermore, LIF's ability to adapt to what innovation means in different national contexts was considered an asset of the programme. In addition, the case studies produced by the LIF contractors have proved a useful source of information for BEIS.

3.6 Evaluation question 6: How do LIF programme impacts compare to other programmes of similar aims, scope, size and geographical delivery areas?

Summary

- LIF stands out as a programme which delivers a wide range of impacts in comparison with other programmes.
- There are no additional impacts identified in the comparator programmes which LIF should seek to deliver.
- The impacts delivered at the individual level in the LIF programme are more person-oriented (skills, collaboration) than some of the other programmes (SIYB, Antler, NIDHI-SSS) which place more prominence on business start-up.
- Programmes that deliver similar individual impacts do not necessarily deliver similar organisational and / or community / ecosystem benefits.
- Organisational impacts are less prevalent overall in the comparators (organisational culture, strategy, growth etc).
- Ecosystem and community level impacts are seen in the majority of the comparators but not to the extent seen in the LIF programme.
- The SDGs are actively referred to in three of the five comparator programmes. They do not routinely report on the contribution to the SDGs.

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[5] The objective is stated in slightly different ways in different documents albeit with the essentially the same intent. The source for this phrasing of the objective here is: BEIS (2019) *Newton Fund Process Evaluation Report, Final Report*.

This evaluation question nr. 6 focuses on the **comparison of impacts** of the LIF programme with other similar programmes across the individual, organisations and ecosystem level.[6] In addition, the question explores the evidence of contribution to the SDGs in the comparators and any adaptations or lessons learnt which are of interest to the LIF programme. Our main source of evidence for this question is from the five international comparators.[7]

The following comparators were undertaken as part of this evaluation:[8]

Figure 29 - Overview of comparator programmes

Comparator programme	Aims	Size and main activities
Start and Improve Your own Business (SIYB) ILO, *Global.*	To create businesses and jobs and also to support local training ecosystems.	Core to the programme is a suite of four training packages targeted at different levels of business experience. The programme is based on training the trainers in each of the over 100 countries it operates in. It is the largest entrepreneurship training programme in the world. Circa 15 million participate
Young Entrepreneur Scheme (YES) Research Councils and Nottingham Uni, *Global.*	To raise awareness among early career researchers on how ideas can be commercialised.	Teams of 4-5 postgraduate students (or recently graduated) develop a business plan and receive 3 days of virtual training before taking part in a competition. As of 2015, the programme had supported circa 5,000 students.
Antler *Singapore*	To support the entrepreneurial journey from idea generation through the start-up to the growth phases	Antler provides expertise and funding through running a global network of founders, experts and resources for individuals. Antler has presence on five continents and individuals and their teams can apply to the different Antler's local representations to participate in Antler run activities and apply for funding.
Seed Support System programme (NIDHI-SSS) *NIDH, India*	To ensure timely availability of seed support to the deserving incubatee startups within an incubator, thereby enabling them to take their venture to the next level and facilitate their success in the marketplace	The SSS programme offers funding to start-ups, from a very early stage, concept stage, or even when individual entrepreneurs are still at a university, which are looking to scale up. The SSS programme in a number of policy areas, such as aggrotech, renewable energies, fintech, electric vehicles. The programme covers the whole of India. 450 start-ups have been supported from the programme.
Anzisha Fellows African Leadership Academy	Inspire and support very young Africans with leadership potential to pursue and succeed in entrepreneurship	The program as a whole is delivered through four main activities: The development of tools, curriculum, stories and resources to promote early career entrepreneurship in Africa; The delivery of early career entrepreneurship transition programs as models of excellence that leverage the tools and resources created to demonstrate what works; The dissemination of tools and resources to wider audiences; Anchoring of the "very young entrepreneur movement" in Africa. 25 Fellows are funded per year and 142 have been supported to date.

Source: Technopolis

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[6] For more information on the comparison of delivery models, see evaluation question 14.

[7] We did not find any entrepreneurship programme directly comparable to LIF, in particular there are none focused on engineers. There are also a number of national indicators

[8] Full comparators can be found in the appendices of this report

3.6.1   Impacts on the individual

The most significant types of impacts (impact areas) emerging from the LIF programme at the individual level[9] are categorised as follows:

- Knowledge sharing and collaboration
- Business performance
- Self confidence
- Shifting mindsets
- Soft entrepreneurial skills acquisition

The following table takes the above impact areas and maps the extent to which the comparator programmes provided evidence of similar impacts.[10] This sub-section then explores some of the differences and the extent to which the LIF programme could also deliver any additional impacts identified in the comparator programmes.

Figure 30 - Individual impact areas and comparator programmes

Impact areas	SIYB	YES	Antler	NIDHI-SSS	Anzisha
Knowledge sharing and collaboration	Not evident	High	Medium	High	High
Business performance	High	High	High	Medium	High
Self confidence	Not evident	High	Not evident	Not evident	High
Shifting mindsets	Not evident	High	Not evident	Not evident	High
Soft entrepreneurial skills	Not evident	High	Not evident	Medium	High

Source: Analysis by Technopolis

YES and **Anzisha** provide the most similar impacts to the LIF programme at the individual level. One of the reasons for the similarity of **YES** to the LIF programme may be due to its delivery model which is underpinned by the focus on the delivery of particular skills to the participants and also on partnership, collaboration and ongoing engagement of the alumni. The results of the surveys undertaken by **YES** provide impacts on "boosting skills" and "deeper understanding of (various)." rather than just the numbers of companies or jobs created. **Anzisha** is a different type of programme, focusing on the very young entrepreneur and on skills and aspirations development. At the individual level, the goal is still to make successful businesses and create employment but through confidence building, learning and developing, and thus also includes the personal experience.

In the **YES** programme, there is some evidence from the alumni survey from the biotechnology part of the programme that the programme increases particular entrepreneurial skills: commercial knowledge, financial awareness, communication skills, team working, management, commercialisation, technology transfer.

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[9] See evaluation nr. 1

[10] Where the impact is not evident, it has not appeared in the case study and therefore can be concluded as less of a focus for the programme since measurements are not being made

In **SIYB**, the main focus of the programme is on the creation of new businesses and jobs rather than the skills acquired or other changes in behaviour. **Antler** is similar in its focus to **SIYB**, reporting on the number of start-ups created and surviving. However, **Antler** also more explicitly includes community building as part of its offer through its "Launch Academy" and its "**Antler** portal". **NIDHI-SSS** focuses more on routes to market than business creation but also supports knowledge sharing and collaboration through its use of incubators to support start-ups. The **NIDHI-SSS** is also accompanied by an additional service provided by "iCreate"[11] which is encouraging next generational entrepreneurs, and the two combined deliver on skills development but not to the extent of the LIF programme. Participants of **NIDHI-SSS** report on being better as expressing themselves and presenting ideas, indicating soft entrepreneurial skills development.

The programmes do not present impacts which differ from the LIF programme. **Anzisha** has more of a focus on the individuals' role in the wider ecosystem than others, but this is also something which LIF is encouraging. **YES** also reports on salary enhancements (career benefits) and links the entrepreneurial activity to enhanced business success.

SYIB, YES and **Anzisha** indicate increasing female entrepreneurship is embedded in their approach and all comparators except SIYB report on female participation levels. For LIF we do not have complete data on female participation.

Figure 31 - Female participation in comparator programmes

Comparator programme	Percentage of female participation (reported in the comparator case study)
Start and Improve Your own Business (SIYB) ILO, *Global.*	D/K
Young Entrepreneur Scheme (YES) Research Councils and Nottingham Uni, *Global.*	53%
Antler *Singapore*	24%
Seed Support System programme (NIDHI-SSS) *NIDH, India*	10%
Anzisha Fellows African Leadership Academy	36% (applications rather than participants)

Source: Analysis by Technopolis

Impacts on the organisation

This section looks at the comparator programmes in relation to the impacts emerging at the organisational level in the LIF programme (see evaluation question nr. 2) which are categorised as follows, impacts on:

- Organisational culture
- Business strategy
- Business growth and survival
- Global outlook
- Transformative approach to business ideas

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[11] More information available online at: https://www.icreate.org.in/.

In the table below the comparator programmes are assessed (high, medium, low, not evident) as to the extent to which they feature these impacts, according to the research undertaken.

Figure 32 - Organisational impact areas and comparator programmes

Impact areas	SIYB	YES	Antler	NIDHI-SSS	Anzisha
Organisational culture	Medium	Not evident	High	Not evident	Not evident
Business strategy	Medium	Not evident	High	Low/medium	Low/medium
Business growth and survival	High	Not evident	High	Not evident	Not evident
Global outlook	Not evident	Not evident	High	Not evident	Low/medium
Transformative approach to business ideas	Not evident	Not evident	High	Not evident	Not evident

Source: Analysis by Technopolis

At the organisational level, **SIYB** shows the strongest impact on business practices and thus profit and growth, rather than on strategies. There is no mention of culture, but changes in business practices can be linked to cultural change. The global outlook appears to be missing from the **SIYB**, with the organisational impacts focusing on the national level. The global element of the programme is concentrated within a global coordination team which supports the development and updating of material and coordinates the international network which supports monitoring and evaluation. There is some reporting on business survival, with an indication that trained entrepreneurs are more resilient to business shocks and economic downturns than untrained entrepreneurs (SIYA-linked RCT studies in Ghana, Tanzania and Vietnam).

Although **YES** has very similar expected impacts to the LIF programme at the individual level, there is little evidence of similar impacts at the organisational level. YES focuses more exclusively on the research community (masters through to post-docs and technicians) when compared to LIF. As a consequence, the organisational impacts which are reported link mostly to increased university business engagement rather than business related impacts (seen in LIF as ecosystem impacts).

Antler has numerous case studies on the achievements of its investments in business start-ups which showcase impacts at the organisational level, which are aligned with the impacts seen by the LIF programme. These are not systematically collected due to the bespoke and decentralised nature of the investment and support that it provides. This represents a different model from the LIF programme, focusing on venture capital and profit.

NIDHI-SSS impacts are focused on the individual level (although there is some impact on the ecosystem – see below). This is not to say that the organisational impacts do not occur, and the programme reports on how the routes to market have been improved significantly for the participants in the programme and this will positively impact the business strategy of the start-up. **Anzisha** also showed similar impacts at the individual level but not at the organisational level. The focus of the programme (fellows) is not on innovative start-ups and is therefore less engaged with developing transformative models or new cultures for organisations. When reporting on organisational impacts, the African Leadership Academy (who run the programme) showcased the impact **Anzisha** has on them as an organisation. This for example included a better understanding of how entrepreneurship can be learned which led to design, iteration and testing of a new youth development model.

Impacts on the ecosystem / community

The impacts emerging from the LIF programme at the ecosystem level include:

- Development of an entrepreneurial and innovation culture in the LIF countries (including policy development)
- LIF participants starting to take a stronger role within their communities and ecosystems (including becoming mentors)
- Engagement across cohorts in countries influencing innovation practice and the local and regional level
- Linking of academia and business
- Positive contribution to societal challenges

Having an impact on policy is often more challenging for programmes, unless they have the full engagement of policy makers within the process. There is one clear example of this in the comparator programmes. Within **SIYB**, the programme was adopted as a major component of China's national strategy on job creation and poverty reduction. This is not the case for all of the countries involved in **SIYB**, but for China, the 2015 Global tracer report for **SIYB** indicated 11 million participants had been trained, 1.9 million new businesses created, and 3.9 million related jobs created. In the 2020 Global Tracer study, the number of Chinese trainees had risen to 22 million. Across the programme as a whole, systemic impact is very difficult to evidence as the monitoring and evaluation is devolved and therefore the data is not available. It is worth mentioning the Anzisha Prize, as although the influence on policy remains at a nascent stage, it is an important focus for the programme.

The **NIDHI-SSS** programme provides an example of its beneficiaries taking a stronger role in their ecosystem. Although the programme does not see itself primarily focused on system level impact, the interviews for the comparator case highlighted how the beneficiaries of the programme refer favourably about their experiences within the community and this has led to much higher numbers of applications. **Anzisha** contributes to the strengthening of entrepreneurship systems in a number of ways. The description of the program and its theory of change showcase the importance of the "Anzisha Movement" which engages with the entrepreneur, those who support the entrepreneurial journey (parents and teachers for example), and those who affect the environment which enables entrepreneurship (investors and policy makers).

The impact on academic business links is central to the objectives of **YES**. **YES** contributes to stronger entrepreneurship systems through its building and maintenance of strong research council – academia – industry partnerships and large, proactive alumni network. In their annual State of the Relationship report in 2020, the National Centre for Universities and Business in the UK reflected on the importance of **YES** and its role in fostering a culture of entrepreneurship among early career researchers.

Contribution to the achievement of the SDGs

The SDGs are actively referred to in three of the five comparator programmes: **SIYB, YES** and **Antler**.

As would be expected in the case of the **SIYB** (the ILO reports directly to the UN), there is an explicit identification of the relationship between the programme and SDG8 – on decent jobs. **SIYB** is identified as an ILO programme which contributes to the achievement of SDG8. In **YES**, competition entries are required to have societal impact and participants are encouraged to consult the SDGs. While there is no formal collection and evaluation of programme impacts

against the SDGs, published case studies illustrate impacts relevant to SDG-linked thematic areas and therefore it goes further than just reporting on the impact on SDG8 (decent jobs).

Antler, although private sector, has a mission to create sustainable value and is a signatory of the United Nations' Principles for Responsible Investment. **Antler** has chosen therefore to be guided by the SDGs. At the pre-investment stage, all opportunities are tagged by SDG, and this is used to support investment decisions.

The SDGs are not currently embedded in the **Anzisha** approach, but the programme team is considering ways in which they can be incorporated. The interviews with **Anzisha** staff highlighted how they are taking stock of the current work on the SDGs (such as the 2020 UNDESA report on youth entrepreneurship as a mechanism for achieving the SDGs[12]). **NIDHI-SSS** makes no mention of the SDGs in its programme. In all cases, there is no evident systematic reporting on the impact on the SDGs.

There are similarities to LIF in that the SDGs are increasingly being thought about, being addressed in the programme (even if not explicitly mentioned) and in some cases are being embedded in programme design and delivery, but as yet this is not ubiquitous.

Lessons learned and adaptations

There are some lessons learned which relate to the impact emerging from the comparators. Similar to the LIF programme, **YES** has faced a virtual expansion of its work and has incorporated online deliver with face-to-face delivery going forward. The Covid-19 pandemic provided an opportunity to experiment with the delivery model and in the case of **YES** does not seem to have affected the impacts of the programme. This is the opposite to LIF where the virtual delivery was less well received.

A lesson from the **NIDHI-SSS** programme which echoes the findings from the LIF programme relates to the understanding there is not one specific way to support start-ups. Creating a programme which can allow individuality of approach enhances its longer-term impact. Over the years, the management of the **NIDHI-SSS** programme has taught the programme managers to become better at gauging the needs of the start-ups and improved their ability to ask the right questions to the participating business, and the way in which these questions are asked.

Finally, **SIYB** provides a specific example to support the boosting of female entrepreneur participation through the provision of childcare and family friendly scheduling. However, its impact cannot be confirmed by the evidence as there is no data available on female participation.

3.7 Evaluation question 7: How sustainable were the outcomes for the participants over the long-term?

Summary
- The programme outcomes at the individual level are likely to be sustained. LIF generated a positive future outlook for the participants through a change of mindset, which in turn led to more confidence in approaching commercialisation, more resourcefulness in setting up a company and more positive attitudes towards their strategic plans.

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[12] https://sdgs.un.org/publications/exploring-youth-entrepreneurship-24572

- The LIF programme has proved to be sustainable in providing networks, including the alumni network, for transfer of knowledge and experiences among participants and back in partner countries.
- Establishing partnerships thanks to the networking opportunities and continuity of mentoring support are other elements that confirm sustainability of the outcomes at the individual level.
- Engagement with the LIF community, with the Academy and LIF resources are also evidence of how participants benefit from LIF beyond the programme.
- There is sustainability of the outcomes at the organisational level, as LIF provided opportunities for growth and expansion into new markets.
- At the ecosystem level, LIF has established itself as a programme that generates positive results thanks to the necessary tools for innovation and evidence shows there is a willingness to nurture the results.
- The sustainability of the outcomes is challenged by a lack of financial resources and funding opportunities, unsupportive regulatory environments and the need for more support of the same kind received during LIF.
- Regional implementation of the programme to apply / tailor the training to the local context of each country could improve the sustainability of the programme's outcomes.
- Other conditions for better sustainability of results include better matching between participants and their mentors (so that they work in the same line of work); improved monitoring practices and more networking to encourage continuous sharing and learning.

In this section we look at the sustainability of the LIF programme for participants over the long-term. Overall, the evidence collected from surveys and interviews demonstrates that the outcomes are sustainable over time and that the majority of participants continue to benefit from the programme after its completion. However, evidence also shows in parallel the need for more support to fully sustain the achieved outcomes.

Evidence on how the programme outcomes have been sustained at the level of individuals

The results from the survey (combined in Figure 33) show how both LIF participants, and LIF mentors and in-country partners expressed an overall positive outlook about the future. Both groups of respondents are in broad agreement that LIF has provided participants with the right skills for their future professional career (over 90% of the respondents from both groups strongly agreed or agreed).

Figure 33 – Future outlook (comparison between LIF mentors, trainers, in-country partners and Newton Fund members, and LIF participants/alumni)

How strongly do you agree or disagree with the following statements?
(share of respondents who selected "strongly agree" or "agree")

	LIF mentors / trainers / in-country partners / Newton Fund team member	LIF participants / alumni
I feel that LIF has provided participants with the right skills for their future professional career	93%	94%
Without LIF, the professional careers of the participants would have been less successful	69%	65%
LIF participants will need more support similar to the kind they received from LIF in order to be professionally successful in the future	76%	87%
LIF participants will keep sharing their knowledge within their community	87%	95%

Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members, and the survey of LIF participants and alumni.

The results of the qualitative research largely confirm the survey findings, pointing to specific examples across the LIF countries. In particular, participants felt that the LIF programme has given them a new perspective, a change in mindset and this was coming particularly strong through the qualitative evidence collected in **Jordan**, **Mexico**, **Thailand** and **Turkey**.

A significant number of testimonies in focus groups demonstrated how, as a result to this change of mindset, the programme has provided participants with a long-term shift in their approach. This generated confidence in considering starting a new company or reviving ones on hold (e.g. in **Chile**) and confidence in the plans they have for the future of their companies (e.g. in **Thailand**, **China**). In many instances LIF alumni also mentioned feeling confident about their strategy (e.g. in **Brazil**, **Mexico**, **Malaysia**).

As one focus group participant in **Mexico** put it:

> *"LIF changed them, the vision is different. Now there is a very strong focus on innovation."*

Along the same lines, another focus group participant in **Turkey** stated:

> *"Academics do not have a commercial perspective and only look at the technical dimensions. I was also like that before LIF. I realised that the opportunities are endless for an entrepreneur and one can always take another more effective route. With this experience and knowledge, I'll continue developing by business."*

Further evidence collected demonstrates the effective capacity building that the LIF programme provides. In-country partners from **China** and **Colombia** shared in consultation how they can see participants applying what they have learnt within their countries' communities. Indeed, participants themselves confirmed that they are applying what they have learnt during LIF (e.g. **China, Egypt, Jordan, Turkey**) as well as sharing the knowledge acquired by delivering

mentorship workshops in their institutions or in lectures to their students (e.g. **Egypt**), in an effort to transfer knowledge and inspiring others to explore their entrepreneurial side. The impact of the programme at the ecosystem level is presented in more detail in Section 3.9 (as part of the evaluation question nr. 9).

Survey data also confirmed this point, as it can be seen from Figure 34, where 95% of the LIF participants/alumni strongly agreed or agreed that they will share the knowledge through LIF within their community in their country.

Figure 34 – Future outlook of LIF alumni

How strongly do you agree or disagree with the following statements?

Statement	Strongly agree	Agree
I feel very positive about my future professional career (n=263)	63%	34%
I will share my knowledge acquired through LIF within my community in my country (n=263)	61%	34%
I am certain I will remain engaged in the LIF community in the future (n=263)	60%	35%
I feel that LIF has provided me with the right skills for my future professional career (n=262)	51%	42%
I feel very positive about the future of my company (n=263)	48%	33% (6%)
I need more support like the kind of support received from LIF in order to be professionally successful in the future (n=263)	45%	43%
I am certain I will keep in regular contact with my LIF mentor (n=263)	41%	40%
Without LIF my professional career would have been less successful (n=262)	25%	39% (19%) (9%)

Legend: ■ Strongly agree ■ Agree ■ Neither ■ Disagree ■ Strongly disagree ■ I do not know ■ Not applicable

Source: Technopolis data analysis based on LIF participants and alumni survey

Another long-term outcome valued by all stakeholders consulted was the benefit that LIF generated in creating connections thanks to the opportunities for networking. Participants and in-country partners both agreed on the benefit of the relationships created during the programme (e.g. in **India**, **Indonesia**, **Jordan, Kenya**), and one focus group participant in **Mexico** explicitly mentioned maintaining connections with companies and having ongoing projects.

In terms of sustainability of the outcomes, participants expressed how they benefitted from a continuity of support from their mentor, especially for LIF Advance participants (e.g. in **China**, **Egypt** and **Indonesia**).

The alumni network is another important element that emerged from the data collected on sustainability of the outcomes. Focus groups in **Brazil**, **Chile** and **Egypt** as well as in-country partners (e.g. in **Brazil**) claimed how the network continues to provide support beyond the programme and advocated for more meeting and interactions, where participants can continue to share knowledge, success stories and for commercial opportunities (e.g. in **Mexico**,

Turkey). One focus group participant in **Egypt** mentioned how the availability of the alumni network online facilitates access to support from the community.

LIF participants shared how they are still benefitting from having participated in LIF. Alumni in **Turkey** mentioned how they are still benefitting from LIF resources, and that the Academy's help is ongoing. In focus groups in **Peru**, it was mentioned that after two years from the programme, participants are still engaged in the LIF community. In the focus group in **Vietnam**, participants from seven years earlier are still engaged and LIF community activities are still maintained.

Evidence on how the programme outcomes have been sustained at the level of organisations and their ecosystems/community

The results from the qualitative research show that for some of LIF participants, outcomes were sustainable at the organisational level. In some instances, participants of focus groups mentioned how they foresee their companies growing and expanding in the future (e.g. **Kenya**), expanding to other markets and on the global market (e.g. **Turkey**).

This was confirmed by some in-country partners, stating that participants continue or set up their business, seeking opportunities and growing (e.g. **Chile**, **Colombia**) and where some businesses do fail, they see participants being more aware of the resources they can make use of, such as connections and opportunities developed from participating to LIF (e.g. **Indonesia, Turkey**).

The sustainability of outcomes is also confirmed by the perception expressed in consultations from LIF participants and in-country partners that the LIF programme is now part of the ecosystem, indicating a strong presence as well as a solid brand when it comes to business innovation support and capacity building. This was coming particularly strongly from in-country partners in **Colombia**, **India** and confirmed in focus group in **Mexico**. For example, in-country partners in **Colombia** described LIF as the missing gap between the entrepreneurial idea and the final product. In **Mexico** focus group, LIF has contributed to establishing the ecosystem and there is willingness to continue to nurture it.

Conditions for sustainability in the future

Both LIF alumni and LIF stakeholders agreed in the surveys that LIF participants would need more support similar to the kind they received from LIF in order to be professionally successful in the future. The results of the qualitative research confirmed this point. In fact, a sizeable group of interviewees across countries advocated for more collaboration with LIF in the future, expressing the wish for a long-term engagement with the programme to maintain relationships and nurture knowledge exchange in order to sustain the achieved outcomes. In addition, LIF communities in the countries expressed the need for continued support (financial and organisational) in order to sustain the positive results.

For example, focus group participants mentioned support is needed in speaking with investors and developing relationships with business partners (e.g. in **Colombia**), while others advocated support with business growth and funding opportunities (e.g. in **Jordan**). In other cases, focus groups participants pointed out how more commercial opportunities with the UK could be beneficial to sustain international expansion (e.g. in **Peru**, **Vietnam**).

Evidence shows how sustainability is also linked with funding. Many focus groups participants called for more funding opportunities (e.g. in **India**, **Egypt**, **Jordan** and **Peru**), but overall findings show how sustainability of the outcomes depends on the continuity of the funds:

For example, one in-country partner in **Colombia** stated:

*"LIF's funds were practically untouched, and one could see the projection
for the coming years and that is why one achieves a scope and an impact"*

On the contrary, an Academy representative pointed out how the LIF programme in **Vietnam** suffered funding cuts, and one in-country partner in **Peru** stated that without the Academy's support it would be difficult to maintain the programme. Confirming this point and in an effort to offer solutions to funding challenges, participants advocated for more opportunities to connect with the private sector and government bodies during the programme (e.g. in **Egypt**, **India**, **Peru**).

Another element that emerged from the findings in terms of conditions for better sustainability of the outcomes focuses on relationships/networking. Expanding on the survey results elucidated previously, a sizeable group of countries expressed in focus groups the wish and willingness to set up a regional offer or network of LIF activities in their respective countries, in some cases also to overcome the language barrier (e.g. in **Chile**). This was particularly strong in **China**, **Egypt**, **the Philippines** and **Thailand**. Through a regional implementation of the programme, LIF participants would benefit from networking and business opportunities with regional actors as well as an offer that is relevant and specific to their socio-economic context, which was perceived as missing from LIF.

In terms of more sustainable impact deriving from relationships, some focus groups participants pointed out a mismatch with their mentor in terms of specialisation area (e.g. in **India**, **Jordan**, **Mexico**, **Peru**) Had participants had the possibility to choose a mentor in the same line of work, would they have seen more potential for continuing the relationship and achieving more success in the future. This reinforces the importance of well-matched mentors.

Monitoring progress beyond the programme was also mentioned in focus groups (e.g. in **Peru**, **the Philippines**) as a challenge for sustainability of the outcomes. Being able to track and review progress can help support entrepreneurs beyond the programme and it helps focusing or adjusting action according to what has achieved higher impact.

Finally, in-country partners and business partners also mentioned how long-term sustainability depends on the motivation of the individual entrepreneurs (e.g. in **Colombia**, **Malaysia**), as well as on the country policies, especially the ones where politics can have a negative impact on resource access and business growth (e.g. in **Egypt**, **Peru**, **Vietnam**).

3.8   Evaluation question 8: To what extent did the LIF programme provide additionality (enabled people to do things they would not otherwise have had the opportunity to do)?

Summary

- Internationalisation of business is said to have been by far the most important area where LIF has provided additionality. The international networks that LIF provides access to mean that LIF participants do not have to "reinvent the wheel" but can instead learn from past experience of others and from many other countries.

- The reputation of the Academy is believed to help open doors to future business opportunities for LIF alumni and their companies.

- LIF is comparatively more academic than some other national-level business support programmes, because it covers the whole process of technology transfer from universities in a holistic way.

- Dissenting views (which were in a minority) centred around LIF accelerating entrepreneurial journeys of LIF participants and around LIF not providing a significant additionality to already existing entrepreneurial support at the national level.

Evaluation question nr. 8 explores the extent to which the outcomes and impacts of the LIF programme have been additional to what LIF participants would have achieved anyway (i.e. without the participation in the programme).

A full counterfactual analysis would have required working with control groups in each of the 17 LIF countries, the creation of which was not feasible for this evaluation due to the cost limitations and methodological constraints, such as a lack of accurate information on the performance of start-ups of LIF alumni, as well as a more profound inability to identify suitable LIF non-participants and collect any type of robust business performance data from them. Therefore, in order to answer this evaluation question, we collected qualitative data in the LIF countries, the main focus of which was to better understand whether the programme has provided a significant additionality to the course of LIF participants' development.

Not all consultees were able to provide information about the additionality of LIF. From those who responded, approximately half expressed very strongly that without LIF, the developmental pathways of the participating entrepreneurs would have looked considerably differently. Several main points were mentioned in this respect. First of all, internationalisation is said to have been by far the most important area were LIF has provided additionality in comparison to other interventions. The international character of LIF has broadened horizons for many LIF participants, and according to the in-country partners, this is the main differentiating factor of LIF (when compared to other available entrepreneurial support programmes). The international networks that LIF provides access to mean that LIF participants do not have to "reinvent the wheel" but can instead learn from the past experiences of others from many other countries. The international exposure of the programme also allows LIF participants to find potential technological solutions more easily, which then increases the likelihood of LIF positively contributing to global societal challenges. Secondly, the reputation of the Academy is believed to help open doors to future business opportunities for LIF alumni and their companies. Thirdly, LIF is comparatively more academic than some other national-level business support programmes, because it covers the whole process of technology transfer from universities in a holistic way. This means that LIF also positively contributes to bridging the gap between academia and business. As a result, LIF requires more commitment from participants than many other national-level programmes, but also raises the standard of entrepreneurs and innovators in the countries.

Around a quarter of the consultees mentioned that LIF participants would have, ultimately, achieved comparable results without the LIF experience, however, they all agreed that it would have taken much longer to achieve them. LIF has accelerated the entrepreneurial journey for those participants. The main factors allowing this acceleration to happen was the exposure to international networks, to a large pool of experts in the UK, and the support provided by mentors. One in-country partner mentioned that before LIF some participants had already established their start-ups, however, it was only the participation in LIF that has allowed them to grow and succeed.

Approximately a quarter of the consultees said that LIF participants' achievements would have been comparable if they had not participated in the programme. The main reason for this was an already strong national-level support for entrepreneurs in those countries (i.e. even without LIF). As one interviewee put it: "LIF is an important point, but it is an incremental step and not a decisive step."

3.9 Evaluation question 9: How did the LIF programme contribute to strengthening innovation capacity in LIF partner countries (including qualitative and quantitative exemplars)?

Summary

- The LIF programme has had a positive impact at the ecosystem level, especially on the development of the entrepreneurial and innovation culture in the LIF countries. LIF participants started to play significant roles in their communities and ecosystems after their participation in the programme, and naturally became part of the ecosystem, which helped raise the standard for innovators in the countries.

- Many LIF alumni have become mentors of other entrepreneurs and start-up owners have started to contribute to peer-learning activities in their countries.

- LIF communities in the countries continue to engage LIF alumni across the various cohorts and positively influence the innovation practice at the local and regional levels.

- A strong impact of the programme on universities in the LIF countries and on linkages between academia and business has been observed. A number of LIF participants returned to academia after their participation in the programme with a different mindset, which they then pass on to their students and students, often as part of entrepreneurship courses.

- LIF has a potential to positively contribute to a number of societal challenges across the LIF countries. Many innovations created and products developed by LIF alumni directly address community challenges in alumni's countries.

- Impact of the LIF programme at the national level has been rather limited and observed on a smaller scale than the individual-level and organisation-level impact. The most significant impact has been observed in the Philippines where LIF alumni are believed to have positively contributed to the attainment of the national-level policy goal under the Innovative Start-Up Act (Republic Act 11337).

In this section (evaluation question nr. 9), we discuss the collected evidence on the impact of the programme on the innovation capacity in LIF partner countries. This section therefore provides a synthesis of the evidence about the third level of the analysed LIF impact (the impact on the individual level was presented in Section 3.1, as part of the evaluation question nr. 1; the impact on the organisation level was presented in Section 3.2, as part of the evaluation question nr. 2). The impact at the ecosystem level is discussed in conjunction with the impact at the national level, as well as the impact at the community level.

The evidence, analysed, discussed and synthesised in this section comes from an online survey of LIF alumni; an online survey of LIF mentors, trainers, in-country partners and Newton Fund team members; from programme monitoring data (collected by LIF suppliers); and from qualitative research conducted in all 17 Newton Fund countries (consisting of focus groups with LIF alumni, semi-structured interviews with the LIF in-country partners and Newton Fund team members, interviews with LIF Advance alumni and LIF Champions, interviews with business partners and colleagues of LIF alumni, as well as from the success stories prepared in each country).

The section starts with the assessment of the Most Significant Change at the ecosystem level. It then continues with a synopsis overview of the impact of the programme, and discussion on the impact on the following areas:

- Culture within innovation ecosystems
- Cooperation with universities and research institutes
- Societal challenges
- Other national-level impact

The Most Significant Change (MSC) assessment at the ecosystem level

A process similar to the one taken for the assessment of the MSC at the individual and organisation levels was taken at the ecosystem level. The five stories of change with the highest score were selected in each country (Figure 14), based on the survey results. Figure 15 shows that there were no significant differences in responses to the two online surveys. The top five stories of change were then discussed with LIF alumni in focus groups and interviews, as well as with in-country partners and Newton Fund team members (LIF stakeholders). In all LIF countries, both LIF alumni and the LIF stakeholders agreed with the stories selected in the surveys. Figure 13 below provides a flow chart of the MSC assessment at the ecosystem level.

Figure 35 – Most significant change assessment within the LIF programme evaluation (ecosystem-level impact)
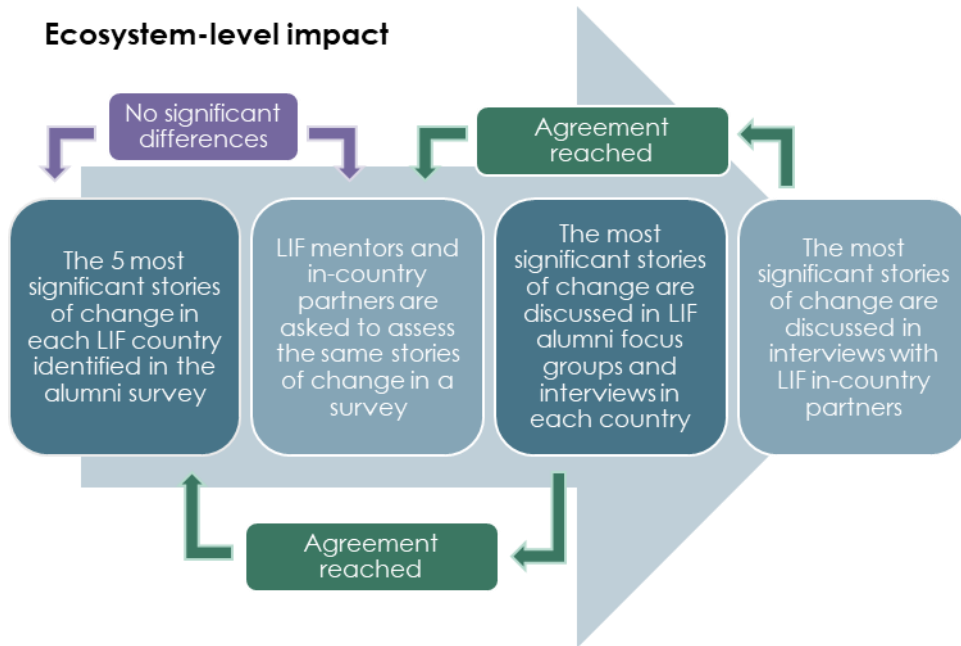
Source: Technopolis

Figure 36 – The top 5 stories of change (highlighted in green) at the ecosystem level selected in the online evaluation survey (by country)

	Impact of the LIF programme at the level of ecosystem (the higher the score the higher the degree of agreement of the survey respondents									
Country	LIF has contributed to the building of new local communities of engaged innovators in my country	LIF has improved the inclusion of marginalised groups in entrepreneurial activities in my country	LIF has contributed to a positive change of culture around commercialisation in my country	LIF has contributed to an increase in entrepreneurial capacity at universities in my country (e.g. to an establishment of technology transfer offices, new/changed courses)	LIF has contributed to the improvement of entrepreneurship policies at the national level in my country	LIF has engaged the main innovation ecosystem actors in the country	LIF has generated benefits for the UK (e.g. around the reputation as a trusted and preferred future partner for future opportunities in R&D and innovation)	LIF has contributed to the creation of new engineering solutions to tackle global challenges	LIF has contributed to the United Nations' Sustainable Development Goals (SDGs)	Total average score
Brazil	4.07	3.18	3.88	3.74	3.70	3.62	4.08	3.92	4.08	**3.89**
Chile	3.00	3.50	4.00	3.00	3.00	3.00	3.50	4.00	4.00	**3.81**
China	3.36	3.33	3.27	3.27	3.13	3.20	3.86	3.53	3.62	**3.39**
Colombia	4.52	4.00	4.05	4.40	3.71	4.32	4.40	4.52	4.43	**4.29**
Egypt	3.60	3.50	3.70	3.50	3.60	3.40	3.88	4.13	4.20	**3.65**
India	4.11	3.78	4.00	3.71	3.67	4.00	4.22	4.38	4.50	**4.08**
Indonesia	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	**4.00**
Jordan	3.70	3.38	3.78	3.13	2.88	3.13	4.00	3.90	4.00	**3.62**
Kenya	4.21	3.80	4.47	4.00	3.79	4.43	4.57	4.69	4.77	**4.23**
Malaysia	4.31	4.00	4.00	3.93	3.60	4.17	4.00	4.08	4.19	**4.09**
Mexico	4.15	3.67	3.96	3.82	3.33	3.56	4.09	4.26	4.23	**3.97**
Peru	4.50	3.90	3.80	3.70	3.44	3.50	4.22	4.22	4.22	**3.97**
Philippines	4.53	4.50	4.75	4.77	4.60	4.50	4.46	4.50	4.69	**4.54**
South Africa	3.67	3.38	3.56	3.40	3.13	3.50	3.63	3.63	3.80	**3.62**
Thailand	4.22	4.22	4.00	3.96	3.80	3.95	4.00	4.09	4.22	**4.07**
Turkey	3.53	3.31	3.38	3.40	3.20	3.43	4.25	3.93	4.29	**3.62**
Vietnam	4.06	4.00	3.81	4.12	3.79	4.00	4.06	4.06	4.06	**4.00**
Grand Total	**4.08**	**3.73**	**3.91**	**3.84**	**3.57**	**3.80**	**4.12**	**4.13**	**4.22**	**3.96**

Source: Technopolis data analysis based on LIF participants and alumni survey.

Figure 37 – Impact of the LIF programme at the level of ecosystems (comparison between LIF mentors, trainers, in-country partners and Newton Fund members, and LIF participants/alumni)
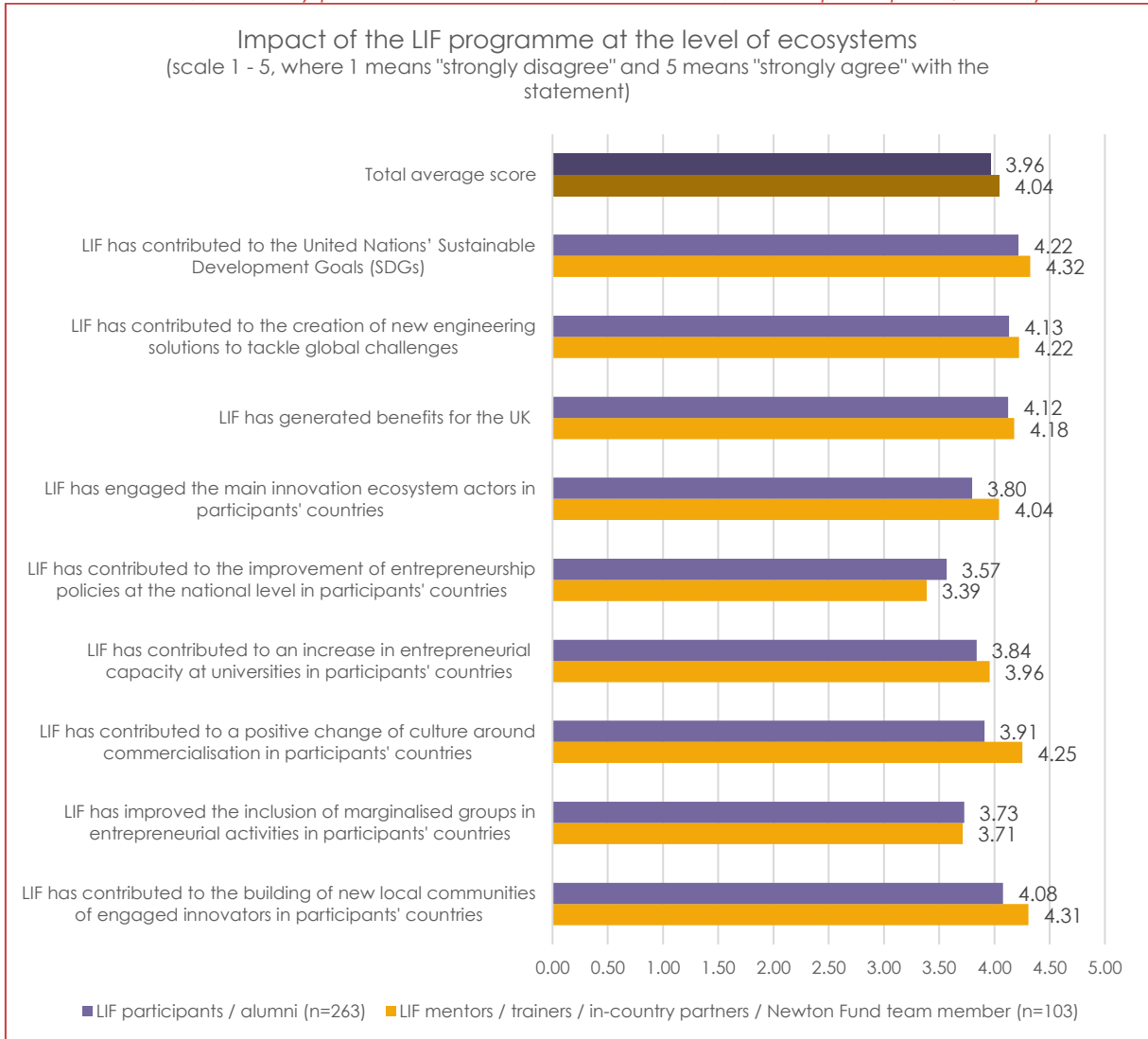
Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members, and the survey of LIF participants and alumni.

Synopsis overview of the main ecosystem-level impact of the programme

Figure 38 below provides a synoptic overview of the ecosystem-level impact of the programme. Around 76% of the LIF alumni responding to the online survey said that LIF had contributed to the creation of new engineering solutions to tackle global challenges. Three quarters of the respondents thought that the LIF had contributed to the building of new local communities of engaged innovators in their respective countries. According to approximately 77% of the respondents LIF has contributed to the UN's SDGs (this is discussed in more detail in Section 3.5, within the evaluation question nr. 5).

How strongly do you agree or disagree with the following statements?

LIF has contributed to the building of new local communities of engaged innovators in my country (n=263)
37% | 38% | 9% | 5% | | 4%

LIF has contributed to the United Nations' Sustainable Development Goals (SDGs) (n=262)
35% | 42% | 6% | 3% | | 10%

LIF has contributed to the creation of new engineering solutions to tackle global challenges (n=260)
31% | 45% | 5% | 5% | | 10%

LIF has generated benefits for the UK (e.g. around the reputation as a trusted and preferred future partner for future opportunities in R&D and innovation) (n=260)
29% | 42% | 10% | 3% | | 13%

LIF has contributed to an increase in entrepreneurial capacity at universities in my country (e.g. to an establishment of technology transfer offices, new/changed courses) (n=262)
26% | 33% | 16% | 6% | | 11%

LIF has contributed to a positive change of culture around commercialisation in my country (n=262)
24% | 41% | 13% | 5% | | 10%

LIF has engaged the main innovation ecosystem actors in the country (n=260)
20% | 39% | 15% | 7% | | 13%

LIF has improved the inclusion of marginalised groups in entrepreneurial activities in my country (n=262)
20% | 33% | 15% | 8% | | 14%

LIF has contributed to the improvement of entrepreneurship policies at the national level in my country (n=261)
14% | 31% | 20% | 8% | | 18%

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Strongly agree ■ Agree ■ Neither ■ Disagree ■ Strongly disagree ■ I do not know ■ Not applicable

Source: Technopolis data analysis based on LIF participants and alumni survey.

Culture within innovation ecosystems

The evidence points to a considerable impact of the LIF programme at the ecosystem level. Firstly, there has been a positive impact on the development of the entrepreneurial and innovation culture in the LIF countries. We have observed these results in the online survey (Figure 39), but we have also conducted qualitative consultations which lead to the same conclusions. LIF participants started to play significant roles in their communities and ecosystems after their participation in the programme. This, in turn, helps raise the standard for innovators in the ecosystem, for example by increasing innovators' awareness of new technologies and their confidence in the use of technologies and innovations.

> "LIF gives its participants more confidence to make a first move, to create innovation and then to tell our story. These stories are then useful to our communities too, … LIF gives us the training and credibility to explain clearly

so that our communities can understand and support innovation… LIF and the skills and training it offers are very important for the next generation." A LIF participant from Thailand

Figure 39 – Contribution of LIF to a positive change of culture around commercialisation in LIF countries (by country)

How strongly do you agree or disagree with the following statement?
"LIF has contributed to a positive change of culture around commercialisation in my country"

Legend: Strongly agree, Agree, Neither, Disagree, Strongly disagree, I do not know, Not applicable
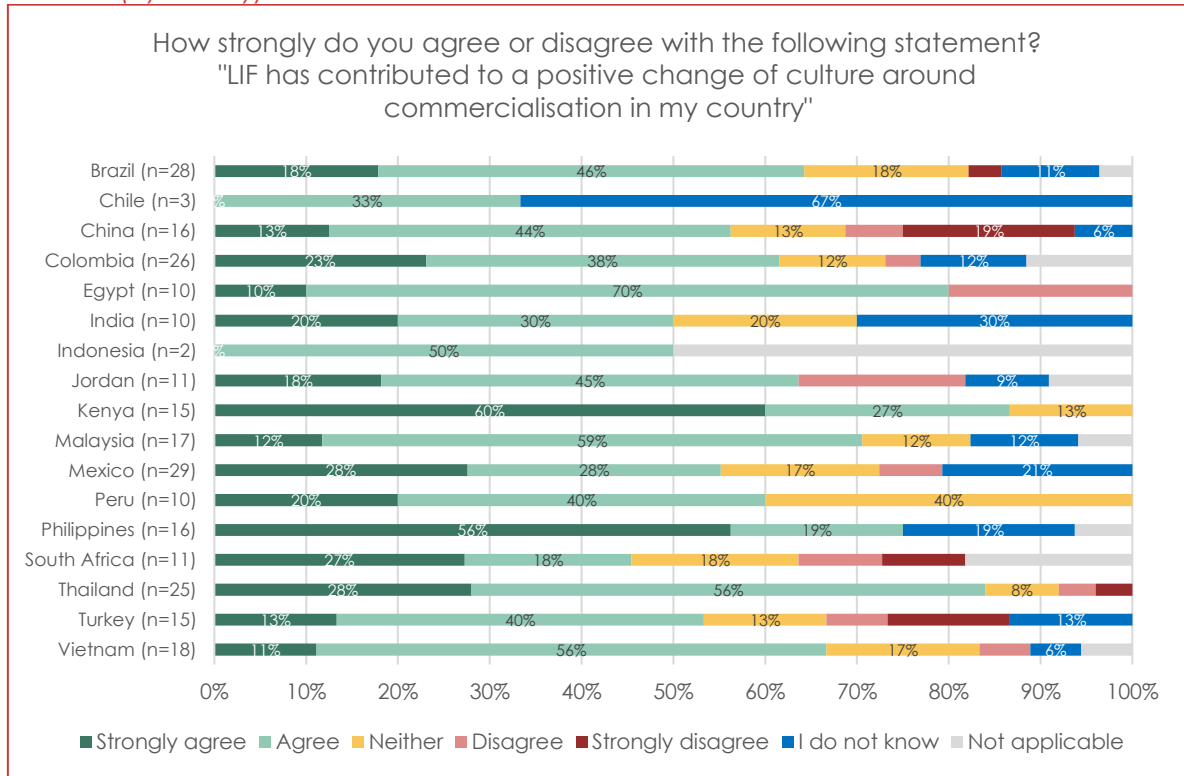
Source: Technopolis data analysis based on LIF participants and alumni survey.

The programme has helped train more individuals who understand innovation, and who then naturally become part of the ecosystem, creating curiosity about commercialisation of innovations at their workplace. As a result, there are positive effects emerging on the overall entrepreneurship and innovation ecosystem. In ten LIF countries (**Chile**, **Egypt, India, Indonesia, Jordan, Mexico, Peru, Vietnam**, and particularly in **Malaysia** and **Turkey**), this has been explicitly mentioned in focus groups and interviews. In Peru, some LIF alumni have become influential leaders in innovation. They have their own networks and have been increasing their social media presence.

> *"Many of us are from the regions, I am from Cuzco, and I think I am the only person from my region who had an experience like the one at LIF. … We decided to start getting together, to explore ideas on how to build community and multiply the impact of LIF." A LIF participant from Peru*

Many LIF alumni have become mentors of other entrepreneurs and start-up owners have started to contribute to peer-learning activities in their countries. Many of them also expressed continued willingness to further support the development of others.

> *"Post LIF Advance, I am more engaged into mentoring the new entrepreneurs. And helping new fellows with my experience and there are more cross learning opportunities." A LIF Advance alumnus*

A specific area of impact has been the cultivation of innovation and entrepreneurship communities in the countries (as documented by the results of the survey, Figure 40, and confirmed in the qualitative research). These communities continue to engage LIF alumni across the various cohorts and positively influence the innovation practice at the local and regional levels. LIF alumni keep exchanging knowledge, experience, and share this with other audiences, including entrepreneurs not participating in LIF, local authorities, universities and research institutes. LIF communities have developed various communication channels through which the individual entrepreneurs are linked. For example, in **Malaysia**, the alumni have come together and are currently developing a website where they can engage with one another and highlight their success stories and their innovations. Other countries, such as **India**, use WhatsApp groups in order to facilitate communication within the LIF communities.

Figure 40 – Contribution of LIF to the building of new local communities of engaged innovators in LIF countries (by country)
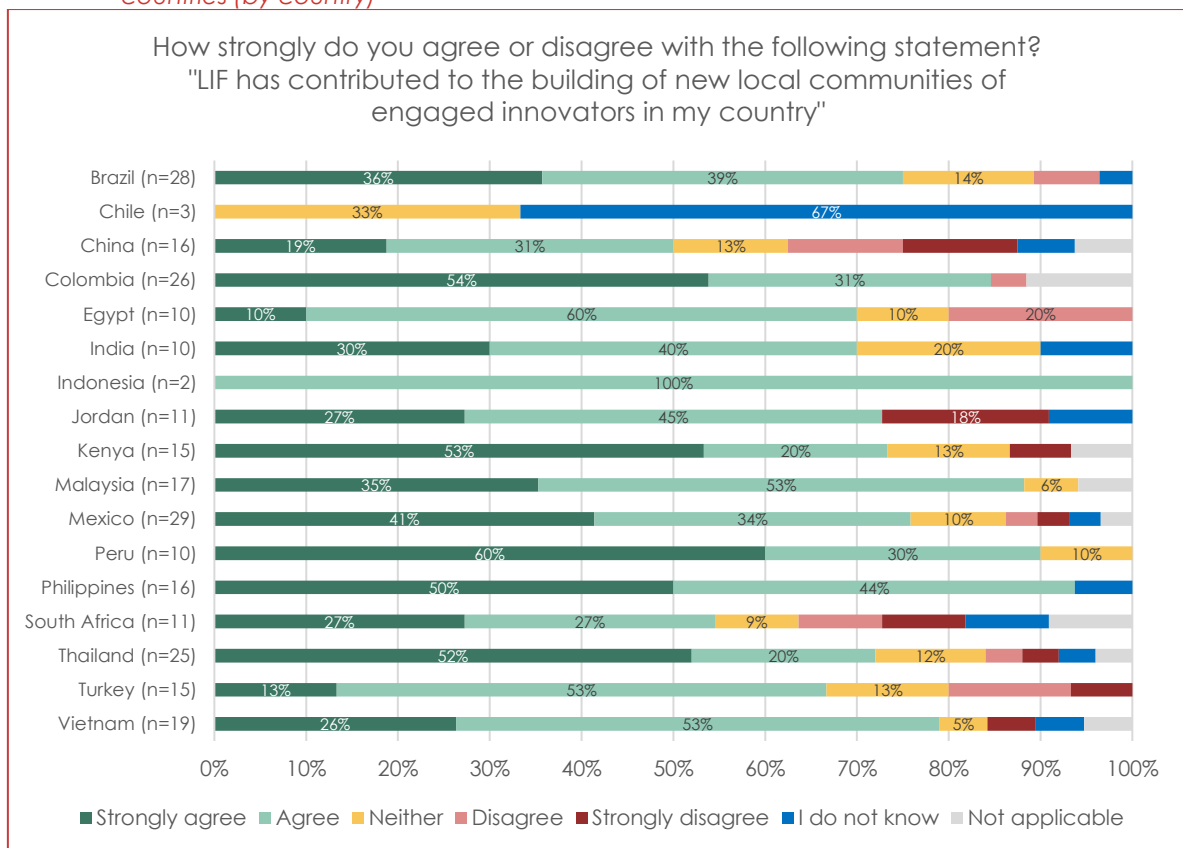
Source: Technopolis data analysis based on LIF participants and alumni survey.

There was some hesitation expressed about the ecosystem-level impact of LIF in **Thailand**. Consultees mentioned that this type of impact cannot be observed yet, as opposed to impact at the individual level and organisational level. Interestingly, in **Turkey**, the in-country partners were not in agreement with LIF alumni, how spoke about a positive contribution of LIF to the innovation ecosystem development. Some consultees mentioned that more rounds the LIF programme are necessary in order to observe the effects of LIF on the ecosystem more clearly (this was, for example evident from the results of the research in **Jordan**).

Cooperation with universities and research institutes

We have also observed a strong impact of the programme on universities in the LIF countries and on linkages between academia and business. A number of LIF participants returned to

academia after their participation in the programme with a different mindset, which they then pass on to their students, often as part of entrepreneurship courses, such as illustrated by the survey results in Figure 41. Furthermore, some LIF alumni also regularly support start-ups which are being incubated at universities.

> *"I started to get much more involved in the ecosystem, as a mentor in incubators, for example. I was also called to lead a digital transformation process within a university. It is very interesting how what we learnt in LIF is still being used; we replicate a lot of the content we learnt." A LIF participant in Peru*

Figure 41 – LIF alumni taking important roles within their community
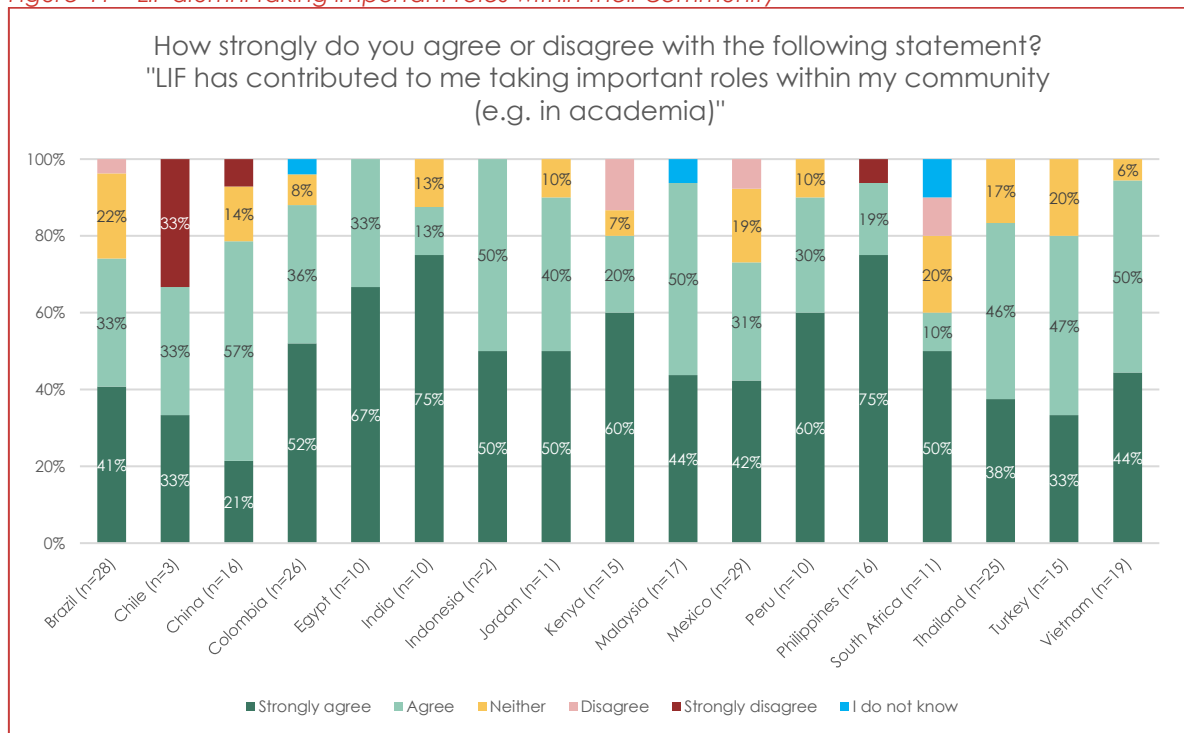
Source: Technopolis data analysis based on LIF participants and alumni survey.

Qualitative research shows that, overall, these experiences increase trust between academia and industry. Figure 42 shows that LIF led to an increase in entrepreneurial capacity at universities across many LIF countries. The positive impact on universities has been observed in **Chile,[13] Colombia, Egypt, India, Indonesia, Jordan, Kenya, Malaysia, Peru, the Philippines, Thailand, Turkey**, and **Vietnam**, and particularly strongly in **China**.

Specific evidence highlights the use of LIF curriculum at universities in **Kenya,** development of new study programmes focusing on entrepreneurship in **Malaysia** and **Peru**, a greater degree of openness of universities and establishment of spin-off policies in **Malaysia**, opening of an intellectual property office at a university in **the Philippines**, and publishing of a scientific article written by a LIF participant and an academic in **Turkey**.

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[13] The survey results are not fully in line with the results of the qualitative research, however, this can be explained by a very low survey respondent's base in Chile.

Figure 42 – Contribution of LIF to an increase in entrepreneurial capacity at universities in LIF countries (by country)

How strongly do you agree or disagree with the following statement? "LIF has contributed to an increase in entrepreneurial capacity at universities in my country (e.g. to an establishment of technology transfer offices, new/changed courses)"

Country	Strongly agree	Agree	Neither	Disagree	Strongly disagree	I do not know	Not applicable
Brazil (n=28)	29%	25%	14%			14%	
Chile (n=3)			33%			67%	
China (n=16)	6%	44%	25%			6%	
Colombia (n=26)	42%	27%	4%		4%		
Egypt (n=10)		70%	10%	20%			
India (n=10)	10%	30%	30%			30%	
Indonesia (n=2)		50%				50%	
Jordan (n=11)		36%	9%	27%		18%	
Kenya (n=15)	47%	13%	13%			13%	
Malaysia (n=17)	18%	41%	24%			12%	
Mexico (n=29)	21%	28%	21%			24%	
Peru (n=10)	30%	20%	40%				
Philippines (n=16)	63%	19%				13%	
South Africa (n=11)	36%	9%	18%		18%		
Thailand (n=25)	28%	48%		20%			
Turkey (n=15)	20%	33%	20%	20%			
Vietnam (n=18)	22%	61%		11%		6%	

Source: Technopolis data analysis based on LIF participants and alumni survey.

Societal challenges

There is clear evidence of the LIF programme contributing to the United Nations' 17 Sustainable Development Goals (SDGs), which are discussed in more detail as part of evaluation question nr. 5 (see Section 3.5).

More broadly, the research shows that LIF has a potential to positively contribute to a number of societal challenges across the LIF countries. A number of specific examples how LIF alumni have been contributing to solving the major societal challenges have been presented both in a series of LIF success stories (see Appendix A), and in case studies produced by LIF in-country partners and contractors which are published on the Academy's website.[14] Participants in focus groups (especially in **Brazil, Chile, China, Egypt, India, Jordan, Mexico, South Africa, Turkey** and **Vietnam**) mentioned that LIF had increased their awareness of societal challenges, both at the community and global levels, and that the social side of entrepreneurship has been integral to the LIF programme. This includes environmental questions, gender equality, safety of transport, and many other areas. Many innovations created and products developed by LIF alumni directly address community challenges in alumni's countries.

Consultations also showed that LIF alumni and LIF in-country partners appreciate the neutrality of the programme when it comes to the selection process of participants (it is based on the quality of the proposal only). This provides an opportunity to entrepreneurs without sponsors

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[14] See: https://raeng.org.uk/media/sbjntfjg/lif-5yr-book-jul2021_final_web_even_lower_spreads.pdf.

and entrepreneurs from marginalised groups to participate in the programme and receive the necessary support. This is in line with the overall survey results about the impact of LIF on the inclusiveness of marginalised groups (Figure 43).

Figure 43 – Impact of LIF on the inclusiveness of marginalised groups (by country)
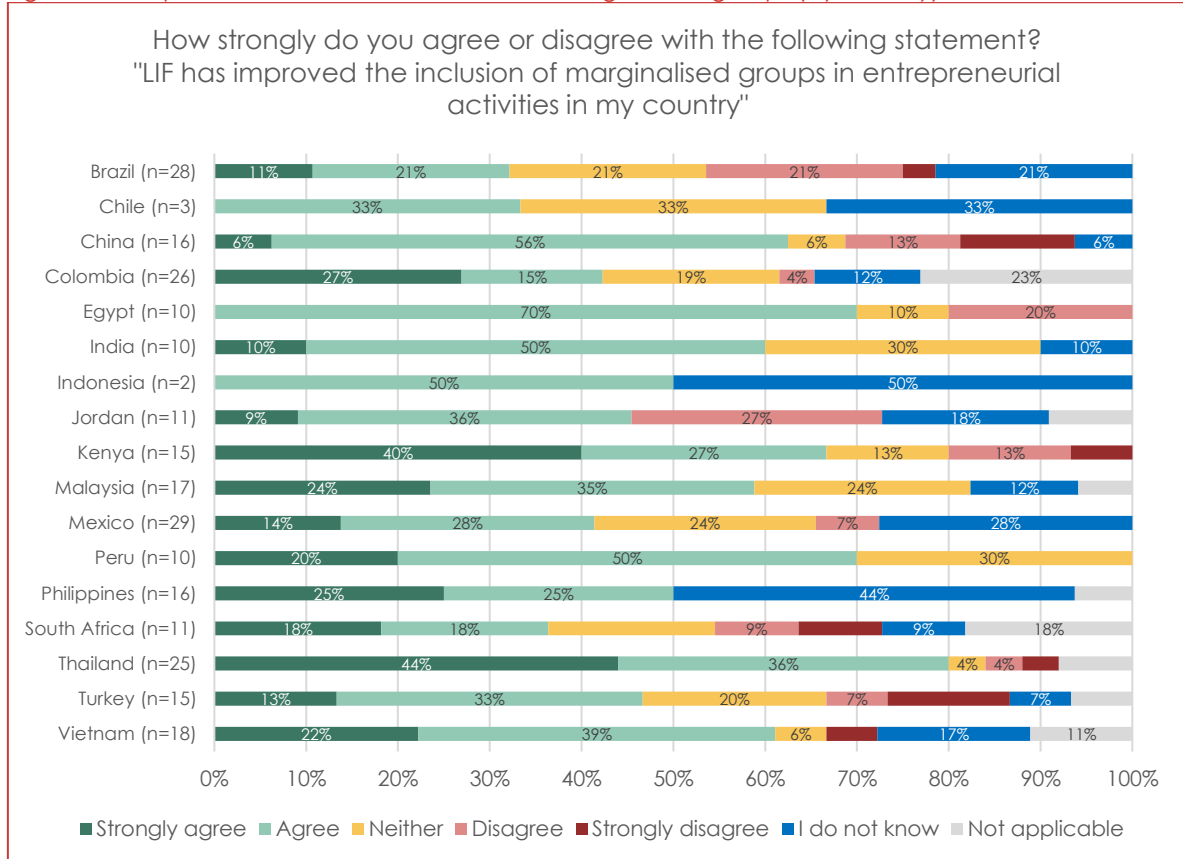
Source: Technopolis data analysis based on LIF participants and alumni survey.

Other national-level impact

Impact of the LIF programme at the national level has been rather limited and observed on a smaller scale than the individual-level and organisation-level impact. We collected a set of rather anecdotal examples from the LIF countries.

Perhaps the most significant impact has been observed in **the Philippines** where LIF alumni are believed to have positively contributed to the attainment of the national-level policy goal of having 1,000 innovative businesses by 2022 under the Innovative Start-Up Act (Republic Act 11337). This impact is also apparent from the results of the survey (Figure 44) where the impact in the Philippines is the strongest of all the countries. Furthermore, the programme stakeholders in the Philippines reported that LIF had played a part in the country's increased ranking in the Global Innovation Index in which the economy stands out for the innovations in its business sector.

Figure 44 – Contribution of LIF to the improvement of entrepreneurship policies at the national level (by country)

How strongly do you agree or disagree with the following statement?
"LIF has contributed to the improvement of entrepreneurship policies at the national level in my country"
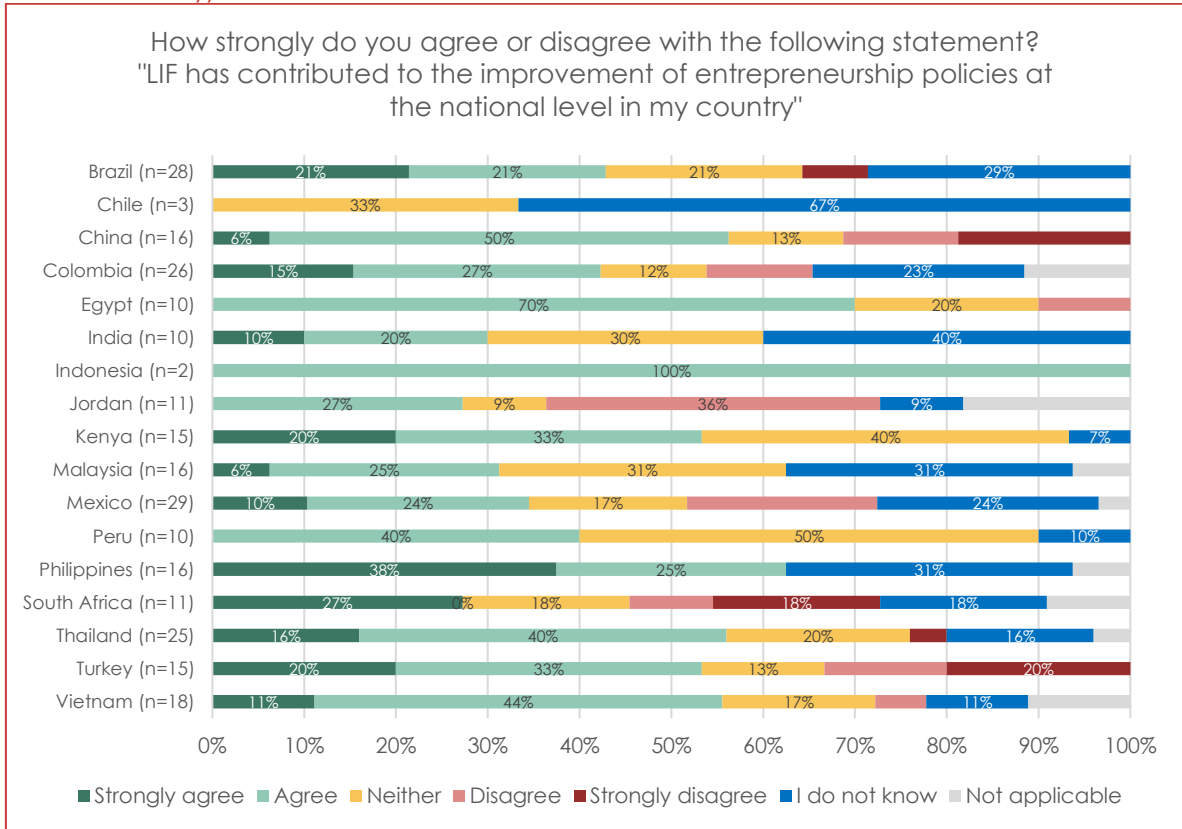
Source: Technopolis data analysis based on LIF participants and alumni survey.

In **Malaysia**, LIF alumni have been increasingly in communication with the national government and have been offering their innovations in a much more advanced and convincing manner than before. The government has begun offering considerably more innovation funding.

Although specific national-level examples of impact are still to be observed in **Mexico**, LIF is the only entrepreneurship programme active at the federal level and endorsed by the federal government, which raises its profile significantly.

In **Kenya**, one LIF alumnus received the presidential award "Order of Grand Warrior".

3.10 Evaluation question 10: How did the LIF programme align with and adapt to the needs of in-country partners?

Summary

- Overall, LIF has been well aligned with the in-country partners' needs, especially in terms of high-quality skills training and having the opportunity to go to the UK for the training and networking opportunities.

- LIF has been well aligned with the strategic needs of in-country partners in supporting the development of an entrepreneurial ecosystem and community.

- LIF has also supported on the strategic objectives of the in-country partners aiming to give researchers and innovators a change of perspective, practical guidance for commercialisation of innovations and support with the business skills where they usually would lack.

- LIF is perceived to be lacking in adaptation. In some instances, more tailoring to the local context has been advocated, so that participants would be able to put into practice what they have learnt, including in countries where the regulatory environment is challenging.

- Communication issues (more transparency, keeping everyone in the loop) were also mentioned when discussing alignment and adaptation.

In this section we assess the alignment and adaptation of the LIF programme to the needs of in-country partners. Evidence for this evaluation question comes from interviews with LIF in-country partners and Newton Fund team members as well as from the survey results of LIF mentors, trainers, in-country partners and Newton Fund team members.

Overall, evidence from the data analysed shows that LIF is considered a very useful programme which has also helped in-country partners achieve their strategic objectives. At the same time, evidence shows that adaptation of the LIF programme can be explored further by taking into account country-specific challenges.

The results of the survey (Figure 45) show that the level of satisfaction with the programme expressed by those who are involved in its delivery is generally very high, with LIF residential training, mentoring and training, workshops and events as the most valued components of the programme.

Figure 45 – Satisfaction of LIF mentors, trainers, in-country partners and Newton Fund team members with the various components of the LIF programme
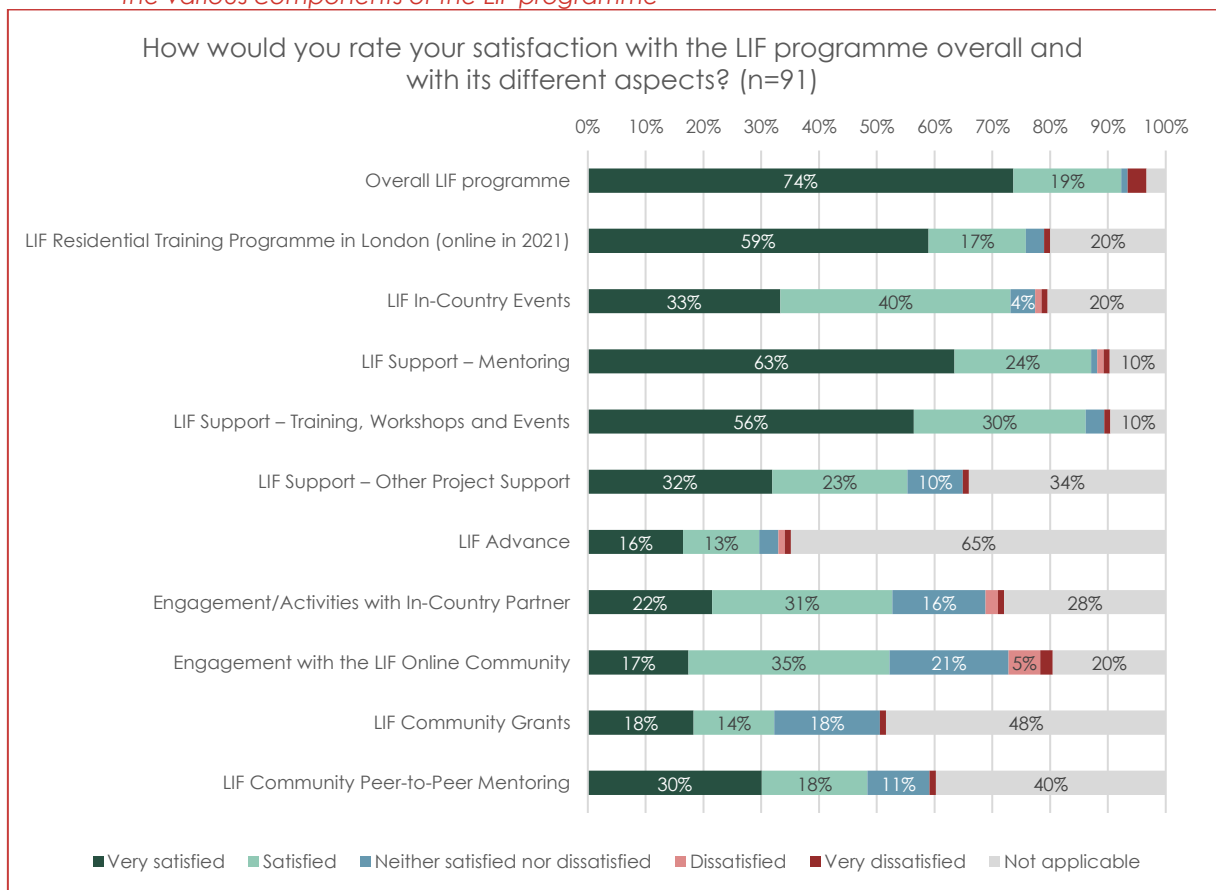
Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members.

The results of the qualitative research confirm the survey findings. In nine countries, consultees provided positive feedback on the residential training in the UK as the most useful part of the programme, mostly mentioning the high-quality skills training (e.g. in **the Philippines**, **Vietnam**),

the quality of UK institutions (e.g. in **Chile**) and the quality of UK mentors (e.g. in **Chile**, **Mexico**, **Peru**). As one representative of the in-country partner in **Peru** put it:

> *"In London all the role models were serial entrepreneurs who breathe innovation. It was something that I think the whole group was inspired by."*

Attending the residential training in the UK was also valued by in-country partners for various reasons: exposure to a different reality (e.g. in **Peru),** the opportunities for networking (e.g. in **China**, **India, Malaysia, Peru, Philippines**, **Thailand**, **Turkey**, **Vietnam**), and to build international partnerships (e.g. in **China, Turkey**).

In terms of alignment, in four countries consultees mentioned how LIF as a programme aligned well with the in-country partners' goals. For example, LIF has been helpful to take steps forward in accelerating the development of an ecosystem of support for entrepreneurs and it provided validation and tools for what they were trying to achieve in terms of creating an innovation ecosystem that links academia with the business world; LIF helped laying the foundations (e.g. in **Chile**). LIF aligned perfectly with the goals of the in-country partners in **Egypt** to encourage an entrepreneurial culture and build a pipeline of researchers that will have products in the market; finally, it supports well the objective of start-up development, for example in **India** and **Indonesia**.

A strong finding from the qualitative research across various countries is the effective support that LIF has provided to academics/researchers in acquiring an entrepreneurship mindset along with practical support in terms of commercialisation of research products (see Section 3.2 where we discuss the individual-level impact of LIF in more detail). In-country partners in **Malaysia**, **Philippines** and **Indonesia** explicitly mentioned how LIF has been successful in responding to this need of developing researchers' skills, which responded well to policy goals in these countries Furthermore, one in-country partner in **the Philippines** mentioned how LIF aligned well with a government's programme aiming to develop 'technopreneurs', that is to say providing commercialisation skills to researchers who have technical expertise.

Evidence of LIF responding well to the need for academics to be more entrepreneurial has emerged across other countries as well. In **Brazil**, **Egypt** and **Vietnam**, the in-country partners described LIF and the programme activities of mentoring and networking as beneficial to academics in particular because they often had solid technical knowledge, but they lacked the experience on the commercial side and knew little about entrepreneurship at the start of their participation in the programme. In **Jordan**, the in-country partner shared that LIF had created an opportunity for fruitful exchange between faculty members who wanted to commercialise products, on the one side, and engineers with start-ups on the other side. In **Turkey**, LIF supported academics with business development, business planning and strategy, which, according to the in-country partner, were the areas where, most often, academics were lacking skills. The in-country partners in **Malaysia** said that most participants had not been trained entrepreneurs and LIF had helped researchers to embark on their entrepreneurial journey and showed them how to make the most of their innovations. To share a quote by the **Malaysian** in-country partner:

> *"LIF has helped address the loopholes in Malaysia's STI (Science Technology Innovation) ecosystem. It helps address the gaps between university research and commercialisation."*

Looking at evidence on adaptation of the LIF programme, engagement with the LIF programme presented some challenges. Figure 46 below shows the results from the survey with in-country delivery partners.

Figure 46 – Which of the following challenges have you encountered during your engagement with LIF?

Which of the following challenges have you encountered during your engagement with LIF?
(respondents could select more than one answer; n=175)

Challenge	Percentage
Lack of knowledge of English on LIF participants' side	19%
Lack of time on LIF participants' side	19%
Lack of financial resources on LIF participants' side	13%
Lack of time on my side	10%
Personal and family issues on LIF participants' side	9%
Lack of access to stable internet on LIF participants' side	7%
I cannot identify any challenge	6%
Lack of clarity about my role / the role of my organisation	5%
Issues in the relationship between me / my organisation and LIF participants	3%
Other	10%

Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members.

The qualitative research confirms, in part, the survey results. Evidence from the in-country partners consultations confirms that time constraints were challenging, especially with LIF participants involved in academic work (e.g. in **Egypt**, **India**), which resulted in a lack of commitment and engagement.

Tailoring the programme to the local context was also advocated by in-country partners in a few instances (e.g. **Indonesia**, **Jordan, Malaysia**). In-country partners saw the local context missing in the training; however, this was often linked to country-specific unsupportive regulatory environments and policies that make it difficult to apply the lessons provided from the training.

In a few countries in-country partners also addressed existing communication issues with the programme coordination (e.g. in **Brazil**), language barriers (in **Malaysia**, **Vietnam**) and the online format of the programme (e.g. in **Turkey**).

Additional challenges mentioned by one or two consultees included: recruitment of participants (**Egypt**), exploration of new delivery partners (**Brazil**), monitoring and review of progress (**Mexico**).

On the flipside, in a few of instances, in-country partners explicitly shared how LIF had adapted to some of their more specific needs. In **China**, LIF supported achieving higher impact with the Chinese science and technology innovation sector: participants had projects that tackled the SDGs, and given the framework, the projects were highly practical, easy to understand and illustrate. Finally, in **Mexico**, LIF generated a positive transformation in ways of working by adapting to the lack of resources. The in-country partner shared that thanks to the positive results achieved by the programme in-country partners found a solution together with the Academy and the Newton Fund to provide continuity of impact.

3.11 Evaluation question 11: How did the LIF programme generate benefit for the UK across the following areas: economic and commercial, research capacity, knowledge generation, and relationships and reputation?

Summary

- Relationships and reputation generated by the LIF programme have been perceived as the areas which benefitted the UK the most. The UK has been seen as a leader on innovation, and, in many instances, the UK was indicated as the preferred partner for R&D opportunities and innovation.

- Stakeholders saw benefits for the UK in terms of relationships, connections, and development of networks between partner countries and the UK.

- The most evident economic and commercial benefits for the UK derived from the LIF programme include LIF alumni setting up their company, their office and/or marketing their product in the UK.

- To a lesser extent, research capacity benefits have been generated for the UK in the form of research collaborations between partner countries and UK researchers.

- Finally, knowledge generation benefits for the UK mainly focused on LIF's global approach and interactions with partner countries which offered different perspectives and opportunities for knowledge exchange as well as knowledge transfer,

In this section we assess into the benefits that the LIF programme has generated for the UK across the following areas:

- Relationships and reputation

- Economic and commercial

- Research capacity

- Knowledge generation

Evidence for this evaluation question comes from qualitative data collected in focus groups and interviews (with LIF in-country partners and Newton Fund team members, business partners and colleagues, BEIS and Academy fellows) as well as from the survey results of both LIF participants and alumni and the survey to LIF mentors, trainers, in-country partners and Newton Fund team members.

Overall, evidence from the data analysed shows that LIF has generated benefits for the UK, in particular in the area of relationships and reputation. However, there is evidence that the LIF programme has also generated benefits for the UK in the other three areas.

Relationships and reputation

The results of the survey (Figure 47) show that respondents across the majority of the countries strongly agreed or agreed that LIF had generated benefits for the UK in terms of the being seen as a trusted and preferred future partner for future opportunities in R&D and innovation. Only in a couple of instances, in Malaysia and South Africa, respondents said to be unaware of benefits to the UK around reputation and disagreed in part with the statement.

Figure 47 - Thinking about your community and country, how strongly do you agree or disagree with the following statements? (by country)

LIF has generated benefits for the UK (e.g. around the reputation as a trusted and preferred future partner for future opportunities in R&D and innovation)

Country	Strongly agree	Agree	Neither	Disagree	Strongly disagree	I do not know	Not applicable
Brazil (n=28)	29%	43%	7%			14%	
Chile (n=3)	33%	33%				33%	
China (n=16)	19%	50%	13%			13%	
Colombia (n=26)	38%	35%		12%			
Egypt (n=10)	20%	40%	10%			20%	
India (n=10)	30%	50%	10%			10%	
Indonesia (n=2)		100%				0%	
Jordan (n=11)	27%	45%	9%			9%	
Kenya (n=15)	60%	27%	7%			7%	
Malaysia (n=17)	18%	29%	18%			29%	
Mexico (n=28)	29%	36%	14%			14%	
Peru (n=10)	40%	30%	20%			10%	
Philippines (n=16)	38%	44%				19%	
South Africa (n=11)	27%	18%	9%		18%		
Thailand (n=25)	24%	52%	12%			8%	
Turkey (n=14)	36%	36%	14%			7%	
Vietnam (n=18)	11%	72%	6%			11%	

■ Strongly agree ■ Agree ■ Neither ■ Disagree ■ Strongly disagree ■ I do not know ■ Not applicable

Source: Technopolis data analysis based on LIF participants and alumni survey

This was largely confirmed by the qualitative research. Interviewees in six countries in qualitative consultations indicated clearly that the LIF programme had generated reputational benefits to the UK in this area (e.g. in **Brazil**, **China**, **Colombia**, **Indonesia**, **Jordan**, **Turkey**, **Vietnam**). LIF built a positive reputation for the UK as the preferred partner and leader in the field of supporting innovation and start-ups. For example, a participant in the focus group in **Indonesia** mentioned how the reputation of the UK had benefitted thanks to the UK providing R&D seminars and workshops. The in-country partner in **Turkey** specified that the country's economic instability had forced entrepreneurs to look at the international sphere and the UK is their first preference. As the in-country partner in **Vietnam** put it:

> *"UK's reputation in agencies with LIF participants is higher than other countries. The UK is seen as a leader in innovation in the eyes of researchers participating in the LIF program."*

Seeing the UK as the preferred partner for future R&D and innovation opportunities was particularly strong for business partners of LIF participants, building on an already positive reputation. A business partner of a LIF participant in **Colombia** mentioned that Colombian entrepreneurs usually look to the USA, but thanks to LIF they had become more interested in the European and UK's ecosystems. A colleague of a LIF participant in **Indonesia** stressed that the UK already had a good reputation as one of the best places to study, and because of LIF, colleagues had learnt that the UK not only ranked well on the technical side, but also in terms of business skills.

Finally, in terms of reputation, one Academy representative stated that LIF had demonstrably heightened the profile and awareness of the Academy as well. One focus group participant in **Egypt** suggested that in order to increase UK's reputation even further, the Academy should

consider partnering with investors to support innovations and creating incubation opportunities for Egyptian innovations with the goal to market the products. Both the UK and LIF programme would benefit from this British-Egyptian business partnership.

In selecting the UK benefits among the four areas, in addition to reputation, the evidence shows that many stakeholders saw benefits to the UK in terms of relationships, connections and development of networks between partner countries and the UK. Relationships benefits have been described as business relationships (e.g. in **Brazil**, **Egypt**, **India**), international relationships, cooperation and global market access (e.g. in **China**, **Malaysia, Turkey**) and the potential for UK companies to build links with country-specific innovators (e.g. in **Brazil**, **Colombia**, **Peru**). In general, many consultees saw the potential of the connections that can be created through the programme as the main reason generating benefits in the four areas (e.g. in **Brazil**, **China**, **Egypt**, **India**, **Indonesia, Jordan, Mexico, Peru**).

Economic and commercial

Regarding the area of economic and commercial benefits, evidence provided many instances where participation in the LIF programme had generated economic and commercial benefits to the UK. For example, in-country partners and business partners shared that LIF participants and LIF alumni had launched innovative products (e.g. in **China**, **India**), set up companies (e.g. in **Peru**, **Turkey**) or were in the process of setting up subsidiary offices (e.g. **India**) in the UK.

Economic and commercial benefits for the UK showed in the form of work partnerships with the UK. A business partner of a LIF participant in **Brazil** and an in-country partner in **India** mentioned how LIF had generated work collaboration with the UK.

Economic and commercial benefits also derived from the fact that, because of LIF, when entrepreneurs plan to expand internationally and/or enter a different market, they target the UK (this was mentioned in **China**, **India**, **Malaysia**). For example, a business partner of a LIF participant in **China** stated that LIF alumni had considered the UK as a priority market when going international.

Other examples of commercial and economic benefits included how the LIF programme opened doors for export from the UK to partner countries (e.g. in **Colombia**); the opportunity for different organisations in the UK to deliver the training programme (e.g. in **Colombia**); LIF participants being contacted by UK investors (e.g. in **Peru**); presenting innovations to UK organisations (e.g. in **Thailand**, **Malaysia**); creating deals with UK companies (e.g. in **Brazil**).

Research capacity

Given that the UK's research capacity is much more advanced than that of the LIF partner countries', it cannot be realistically expected that the LIF programme will have any significant impact on the UK research capacity. Furthermore, outcomes closely linked to research capacity are not foreseen in the Theory of Change of the LIF programme.

Nonetheless, the collected evidence points to examples of spill-over effects that the programme had on research collaboration and research ideas generated between the UK and the LIF partner countries. For example, an in-country partner in **Jordan** shared that the research projects that were building on the LIF programme had been implemented across British and Jordanian universities. A colleague in **Thailand** mentioned how some participants had studied in the UK. A colleague in **Brazil** indicated that research capacity had been generated thanks to partnerships advancing research and development between the UK and Brazil. The same point was confirmed by a business partner in **Malaysia** who mentioned collaborations with researchers in the UK. Finally, a business partner in **Indonesia** stated that LIF

had generated potential benefits for UK research capacity as the programme was an opportunity for UK researchers to understand different research structures in different countries.

Knowledge generation

The research shows general agreement between consultees that the LIF programme had resulted in knowledge generation benefits for the UK. A sizeable number of in-country partners (e.g. in **Brazil**, **China**, **Colombia**, **Indonesia**, **Malaysia**, **Thailand**) shared that LIF had provided the UK with access to knowledge that it would not otherwise have had. Knowledge has been generated around the partner countries' innovations and their innovation ecosystems; the UK has also acquired more understanding about the start-up environment, the countries' priority sector and what kind of research is being advanced in each country. A business partner of a LIF participant in **Mexico** confirmed this point by stating that UK's benefits dealt with learning from global participants, also in terms of the different problem-solving approaches.

Gaining deeper understanding of the partner countries' innovation ecosystems implies that the UK could generate a more evidence-based strategy for its innovation ecosystem. A few in-country partners mentioned how, because of the knowledge generated through LIF, the UK could determine priorities around which LIF participants' work could be worth expanding and bringing on further (e.g. in **Malaysia**, **Thailand**).

In addition, knowledge generation derived from LIF participants' feedback benefitted the Academy and mentors to determine the future content of the training (e.g. in **Indonesia**).

Knowledge generation benefits were also expressed in terms of knowledge exchange and knowledge transfer (e.g. in **Colombia**, **Jordan**). One specific comment from the in-country partner in **Colombia** referred to potential knowledge benefit that the UK acquired in relation to issues the UK might not have yet, but that the partner countries were already facing and finding solutions to, such as the climate crisis.

3.12 Evaluation question 12: To what extent does the LIF programme's Logic Model reflect the actions, mediating mechanisms, and outcomes experienced by participants across all cycles of the programme?

Summary

- The LIF Residential Training Programme (face-to face) and the mentoring support are unanimously seen as the most useful activities of the LIF programme, and rate highest in terms of satisfaction
- The follow-on training, workshops and events, as well as the in-country events are also seen as useful
- Networking and the international aspects of the programme are highly valued by the in-country partners, highlighting the importance of the ecosystem level outcomes
- There is considerable evidence of its uniqueness as a comprehensive programme supporting the entrepreneurial journey (focusing on how all aspects of the programme lead to the intended outcomes)
- Lack of time and lack of financial resources are the most significant challenges for participants in fully exploiting the opportunities provided by the LIF programme

This question explores the usefulness of the programme and satisfaction of the LIF participants with their experience of the programme and which elements of LIF proved the most important for generating outcomes. The evidence for this question comes from the LIF participant / alumni survey, the mentor / in-country partner survey, alumni focus groups and LIF Advance / Champion interviews.

The results for the evaluation show that the LIF residential training and the LIF support (training and mentoring) are seen as the most useful programme activities. This is seen across all data collection tools unanimously (surveys, focus groups and interviews). These core programme activities support individual, organisation and ecosystem / community level outcomes in the theory of change (all three levels). The LIF residential provides opportunities for skills development, the honing of business ideas and the first opportunity to network and to build new relationships. The training and mentoring provide the support for the entrepreneurial journey, in particular the mentoring also brings access to wider contacts (national and international) in order to further develop ideas to market.

In Figure 48 below, these findings are shown in the results from the participant and alumni survey. As already indicated, the majority of beneficiaries found the mentoring and the LIF residential training to be the two activities most useful to them. The follow-on training, workshops and events and the in-country events were also seen as largely useful. At the other end of the spectrum, there are the LIF community grants; however, for almost one third of the respondents this option was not applicable. Similarly, for more than 51% of all respondents, the LIF Advance programme was not applicable, which reflects the fact that the majority of the survey respondents have not participated in LIF Advance (thus making it difficult to provide a judgement).

The survey respondents were also given an option "other" which was a free text option. Only one respondent provided an answer "Mentors are superb".

Figure 48 - To what extent do you consider the following LIF activities to have been useful for your business and/or your career?
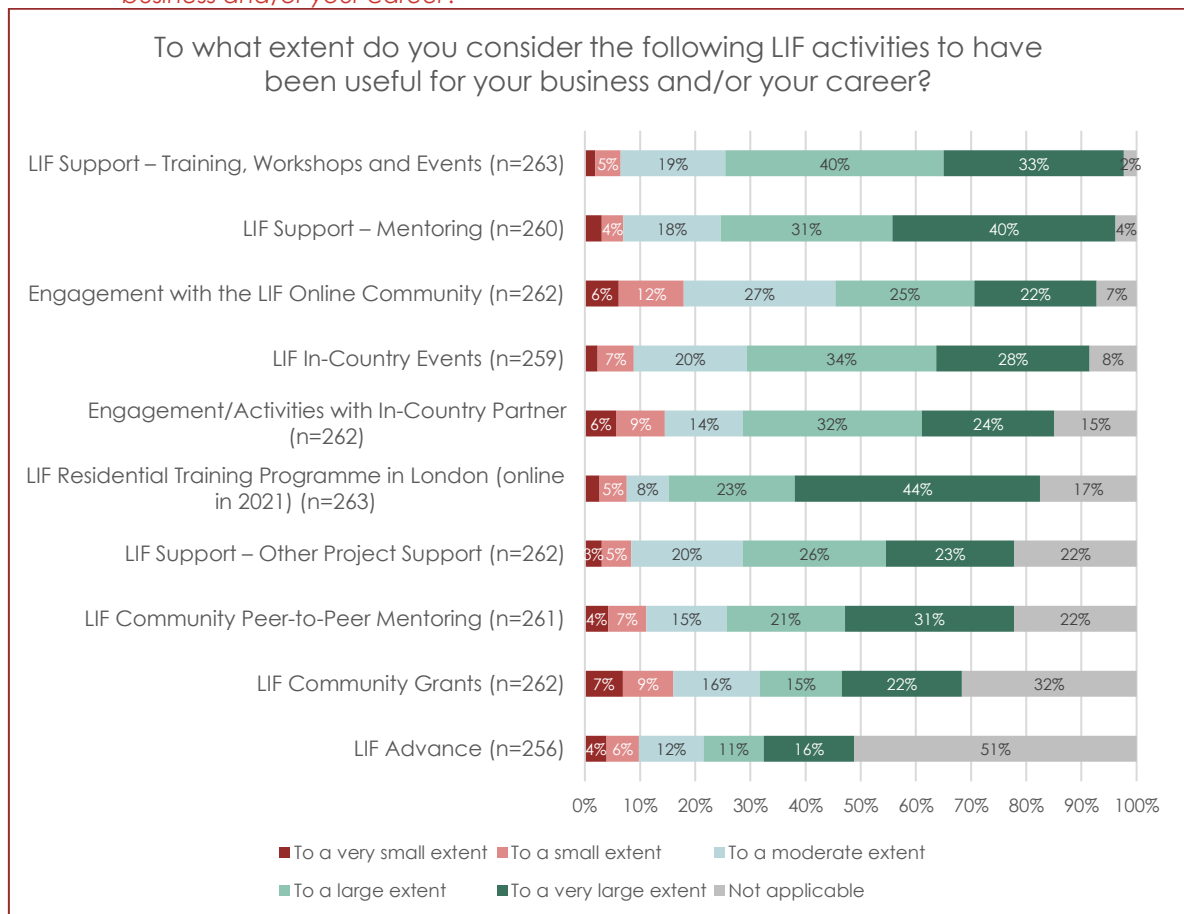
Source: Technopolis data analysis based on LIF participants and alumni survey.

When the results of the participants / alumni survey are broken down by country, the residential training programme in London appears to have been less useful for those participants coming from **Turkey** and **Colombia**. The sample size is very small for **Colombia**, and when compared with the results from the Colombian focus group, the results become more positive, particularly for those where commercialisation is a real possibility. In the case of Turkey, half of the respondents took part in the LIF programme during the pandemic and did not benefit from the face-to-face residential programme. The other participants who benefited from face-to-face support concurred with the views of the high level of usefulness of the residential training. The usefulness of the mentoring remains relatively high for all countries.

Figure 49 - To what extent do you consider the following LIF activities to have been useful for your business and/or your career? (by country)

Source: Technopolis data analysis based on LIF participants and alumni survey.

The figure below also shows the results of how useful the in-country events and general LIF support through training and events were to participants. There are some differences in the perception of the usefulness of the LIF in-country events across the countries (a very positive perception in Egypt, Indonesia, Malaysia and Kenya; and a relatively less positive perception in Peru, Chile and South Africa).

Figure 50 - To what extent do you consider the following LIF activities to have been useful for your business and/or your career? (by country)

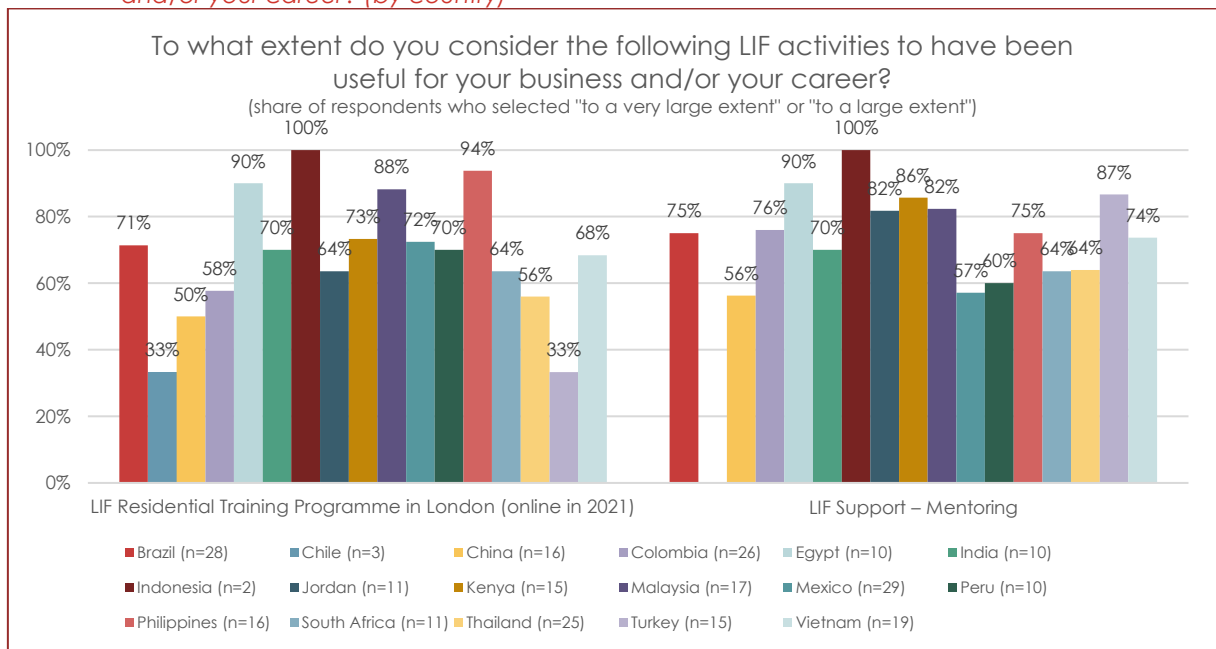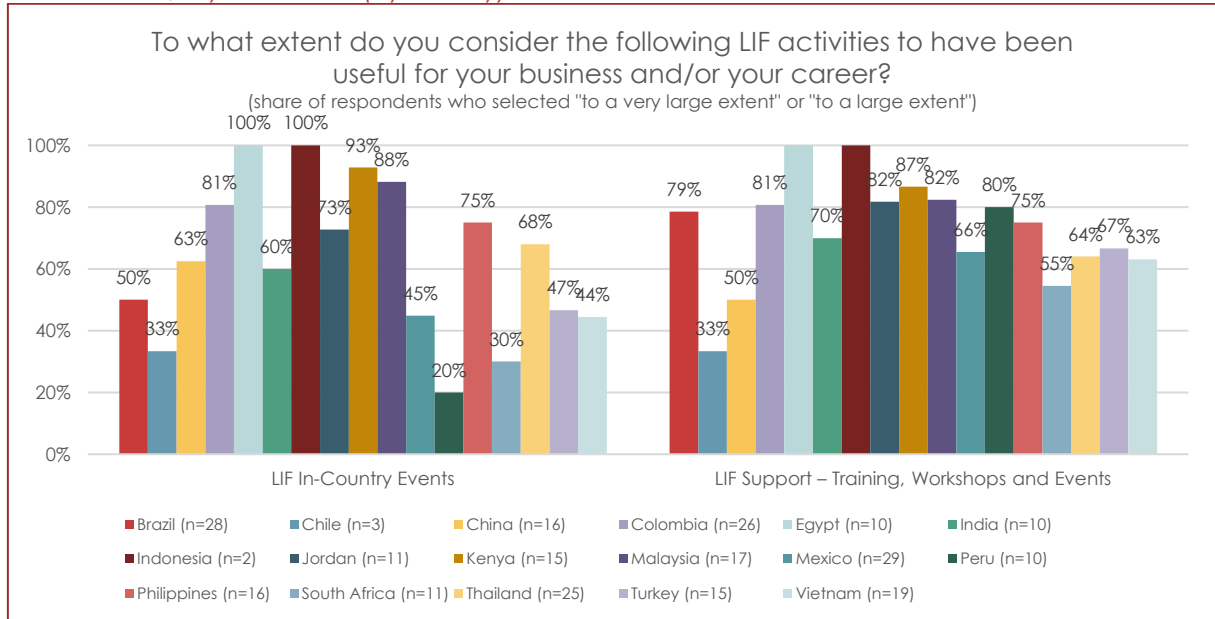**To what extent do you consider the following LIF activities to have been useful for your business and/or your career?**
(share of respondents who selected "to a very large extent" or "to a large extent")

Legend:
- Brazil (n=28)
- Chile (n=3)
- China (n=16)
- Colombia (n=26)
- Egypt (n=10)
- India (n=10)
- Indonesia (n=2)
- Jordan (n=11)
- Kenya (n=15)
- Malaysia (n=17)
- Mexico (n=29)
- Peru (n=10)
- Philippines (n=16)
- South Africa (n=11)
- Thailand (n=25)
- Turkey (n=15)
- Vietnam (n=19)

Source: Technopolis data analysis based on LIF participants and alumni survey.

There is little mention of the in-country events in the focus groups or interviews which makes it difficult to explore why some countries are more positive than others. The survey results from **Peru** indicate a lower usefulness of in-country events. One explanation as to why this is less well evidenced could be due to the perceived high value of the residential training and the quality of the mentorship (seen unanimously in the focus group in Peru, therefore other aspects were not mentioned). The same is true of **South Africa,** and although there is no mention of the in-country events in the focus groups, there are some mixed results on the satisfaction of the programme during Covid. There is no single issue which stands out, with one person not getting access to the right mentor (although others praise their mentor), and other having competing demands (personal, financial etc) which meant they could not fully engage in the programme. The number of responses from **Chile** was too small to make any judgements from the survey results. The focus group respondents from Chile were also overwhelmingly positive about the residential training and opportunities to meet other people (internationally), and as with Peru, did not comment on the in-country events or other support.

The focus group participants (across all focus groups) were in agreement that the most game changing aspects of the programme are the **residential training programme** in London and the **mentoring**. This again highlights the importance of the focus on the individual within the programme and how this in turn supports the organisational and ecosystem level outcomes expected of the programme. An additional clear message coming from the focus group participants is how the ongoing support (the networking and the community buildings support) is also central to the success of their entrepreneurial endeavours, but without the initial immersion, the programme would not have a central focus to ensure their success.

The survey and interviews with the in-country and Newton partners also align with the results presented above, highlighting the usefulness of the residential training in London and the mentoring provision (often comparing them favourably with other in-country provision). There is strong agreement on the centrality of providing entrepreneurial skills development and ongoing mentorship as part of their entrepreneurial journey (towards commercialisation). However, there is also the additional focus (as seen in the focus groups) on the usefulness of

the networking and the international aspect of the programme, as a means of sharing different ways of thinking and innovation ideas as well as making important connections. In-country and Newton partners were more likely to express their views on the importance of collaboration, contacts and sharing of knowledge (indicating a more ecosystem focused point of view). Interviews with LIF participant colleagues and business partners also highlighted mentoring as one of the most useful aspects of the programme. However, there was an additional emphasis on the importance of exposing innovators to new ways of thinking and the ability of the programme to support a focus on leadership, commercialisation, increase networks, entrepreneurship and ultimately business success. The colleagues and business partners were less likely to name specific aspects of the programme which were useful but rather indicate how important it is that the programme delivers on these goals. Additional interviews undertaken with LIF Advance participants also support the findings above. The residential programme for LIF Advance was considered to be very useful, as was the mentoring support.

> *"Before joining the residential training, I was with a business team that has no alignment with the market, our ideas were in disarray with no focus with very high dynamic ecosystem and disturbances. After taking the LIF training, I acquired great knowledge for experienced trainers and lecturers; they guided us and we felt as one family, our questions were addressed and we received 100 % full support. This has encouraged me in my innovation journey to implement the different steps: exploration and the application as I have the industry experience." A LIF Advance participant*

> *"the two-week in London is the most useful. It not only provided effective support for enterprises to establish the business models and strategic development plans, but it also helped deepen mutual understanding, and strengthen the bond of friendship through face-to-face communication with mentors and trainees." A LIF Advance participant*

One additional added value seen by LIF Advance participants is the high-quality support provide for patents. The mentors supported participants' understanding of the complexity of copyright and intellectual property. In addition, the global outlook was appreciated.

Overall, there is a high degree of satisfaction with the LIF programme and considerable evidence of its uniqueness as a comprehensive programme supporting the entrepreneurial journey. The majority of participants responding to the participant / alumni survey were most satisfied with the residential training programme, mentoring, the training, workshop and events, as well as the in-country events. As would be expected, this aligns with the activities which are found to be most useful above. A small minority of respondents expressed dissatisfaction with the LIF community grants[15] and with the activities where the LIF online community has been engaged. The results from those delivering the programme are similarly high (LIF mentors, trainers and Newton Fund team members survey). Satisfaction with the programme overall stands at 93% (a share of those respondents who said that they were either very satisfied or satisfied).

Figure 51 compares the satisfaction levels with the various components of the programme for both the participants / alumni and the LIF mentors, trainers and Newton Fund team members (for the purpose of the data presentation in this chart, only the shares of respondents who selected either "very satisfied" or "satisfied" were considered). The satisfaction levels of both

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[15] This is a very small sample and overall, only 17 people were awarded LIF community grants

groups of respondents tend to be similar across a number of the programme components. LIF participants/alumni were more satisfied with the engagement with the LIF Online Community and with the engagement/activities with in-country partners.

Figure 51 – Satisfaction with the various components of the LIF programme (comparison between LIF mentors, trainers, in-country partners and Newton Fund members, and LIF participants/alumni)

Satisfaction with the various components of the LIF programme
(share of respondents who selected "very satisfied" or "satisfied")

Component	LIF participants / alumni	LIF mentors / trainers / in-country partners / Newton Fund team member
LIF Community Peer-to-Peer Mentoring	58%	48%
LIF Community Grants	42%	32%
Engagement with the LIF Online Community	63%	52%
Engagement/Activities with In-Country Partner	63%	53%
LIF Advance	36%	30%
LIF Support – Other Project Support	55%	55%
LIF Support – Training, Workshops and Events	85%	86%
LIF Support – Mentoring	83%	87%
LIF In-Country Events	77%	73%
LIF Residential Training Programme in London (online in 2021)	72%	76%

Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members, and the survey of LIF participants and alumni.

Cross-referencing with the results from evaluation question nr. 14, which compares the LIF programme offer with other programmes, it is possible to conclude that although the immersion (residential training face-to-face) and the mentoring are considered to be the most useful elements of the programme, the comprehensiveness, i.e. the whole programme offer is what stands out as unique, and when probed in interviews and focus groups, respondents will reference the majority of activities in their responses (networking, follow up, international focus etc.) as useful.

Exploring the challenges faced by participants provides insights into what barriers might exist which hinder the full exploitation of the opportunities provided by the LIF programme. Figure 52 from the alumni and participant survey shows that "lack of time" was the most frequently selected response. Having a residential programme may additionally support people to find some concentrated time at the beginning of their LIF programme experience. The second most

significant challenge was "lack of financial resources".[16] 16% did not identify any challenges. Although only a small percentage (8%) indicated lack of knowledge of English this is additionally raised in the focus groups as an issue for some participants.

Focus group participants also mentioned a few other challenges. The first set were Covid related, manifesting in a number of issues such as restructuring the programme, and access to the online training.

> "The main challenge seems [to] be the contrast between the intensive mentorship process and domestic realities, be these Covid-related or to do with the innovation ecosystem at personal level. It is one thing to be exposed to other possibilities and experiences, and another to deal with the lived realities, especially institutional-bureaucratic routines" A focus group participant in South Africa

An additional small set of challenges related to the heterogeneity of people on the programme at different levels of technology readiness. This could at times lead to challenges in forming communities. However other participants saw this as a positive point of the programme, or not a significant problem. Adaptation to a new way of thinking was seen as a different kind of challenge for focus group participants. The LIF Advance interviewees provided broadly similar feedback.

Figure 52 - Which of the following challenges did you encounter during the LIF programme?
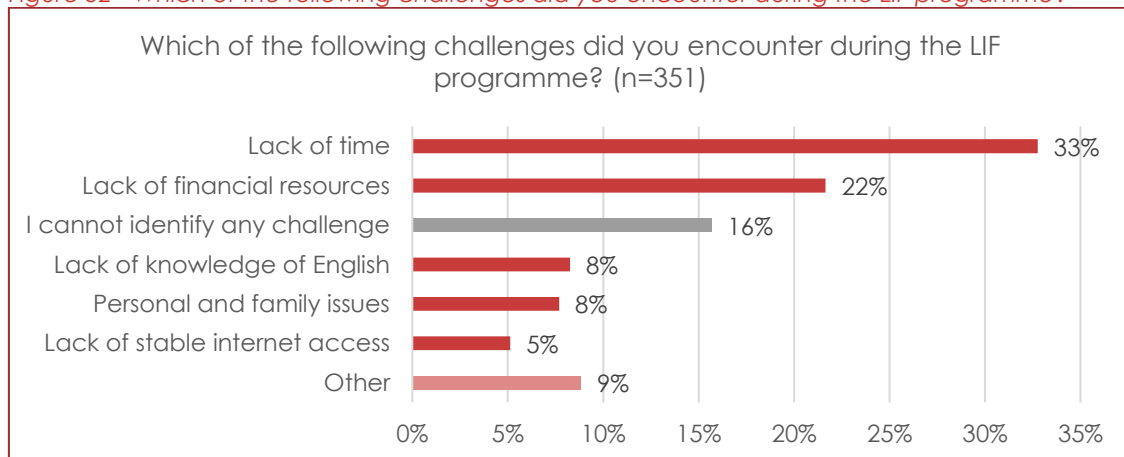
Source: Technopolis data analysis based on LIF participants and alumni survey.

Thirty-one respondents provided additional detail in the "other" box on this survey question. The responses that appeared more than once are listed below in Table 4. Overall, there are no significant additional challenges identified in the survey which could be addressed by the programme since these are all relatively rare in occurrence.

Table 4 - Open answer responses to Q12. Which of the following challenges did you encounter during the LIF programme?

Challenge raised	Number of responses
Struggling to find time alongside other responsibilities	4

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[16] In this question, respondents could select all the options that applied, and out of 351 responses,

Challenge raised	Number of responses
Lacking in the background knowledge to benefit from the training	3
Issues with joining online events	2
Personal challenges e.g. needing to relocate during the process	2
Struggled with overcoming IP issues	2
Covid-19 interrupting plans	2

Source: Technopolis data analysis based on LIF participants and alumni survey.

3.13 Evaluation question 13: How effective are LIF systems and processes at delivering impact and contributing to overall programme performance?

Summary

- There are no major issues in the management, governance and coordination of the LIF programme in and across the 17 partner countries.
- The relationships between the in-country partners and the Academy have been very pragmatic, professional, and have been working smoothly. The in-country partners appreciated the management of the Academy in terms of engaging national-level stakeholders and programme coordination teams and highlighting any issues well in advance.
- The ownership of the LIF programme taken by the in-country partners has been very important.
- The role of the Newton Fund team members in the countries (and, by extension, of the British High Commissions / Embassies in the countries) was also important for the smooth communication between the Academy and the programme implementation teams in the countries.

In this evaluation question, we cover the efficiency of the governance and management structure. It builds on the evidence obtained from the in-country partners and Newton Fund team members and from the other stakeholders.

Overall, the evidence points to no major issues in the management, governance and coordination of the LIF programme in and across the 17 partner countries. In hindsight, the in-country partners said that the programme's management arrangements were well structured. The collected evidence suggests that the relationships between the in-country partners and the Academy have been very pragmatic, professional, and have been working smoothly. The in-country partners appreciated the management of the Academy in terms of engaging national-level stakeholders and programme coordination teams and highlighting any issues well in advance.

> *"The partnership between the Royal Academy and the IRDF was the perfect example of how bilateral relationships should work." A LIF in-country partner*

The programme governance is seen as complex, and the in-country partners followed the Academy's lead in terms of planning and setting out expectations for the programme, which has worked very well. Several interviewees mentioned that it was very important that the in-country partners had taken the ownership of the LIF programme in the countries. Two consultees reflected back on the preparation phase of the programme and said that it had been the most difficult part of the process, but, once again, no major issues were noted in this regard.

Many of the bilateral partnerships between the Academy and the in-country partners have been running over a long period of time, some predate the LIF programme, and this longevity positively contributes to the smooth management and coordination of the programme. The long-term nature of the partnerships also means that the partners (i.e. the Academy and the

in-country partners) understand well their roles and responsibilities. Conversely, as shared in interviews, changes among the teams on either side can sometimes create confusion when the handover is not organised efficiently. One in-country partner mentioned that they would welcome having an organogram indicating clearly the different roles of the partners and stakeholders, making sure that any disturbance caused by a change within the teams is minimised. Overall, no major challenges in the coordination and management of the programme were registered during the Covid-19 pandemic.

Communication arrangements at both national level and between the in-country partners and the Academy seem to have worked very well. WhatsApp is used by a number of LIF in-country implementation teams because it is regarded as a very reliable communication platform.

The programme requires a relatively high commitment (in terms of time) from the in-country partners, in relation to the number of participants (due to relatively small cohorts of LIF participants). This is understandable, given the individual approach to each participant. Although there is currently only little evidence that this disproportionately higher effort from the in-country partners (for example, in comparison with other programmes run in the countries) leads to noticeable inefficiencies, in order to maintain its value for money, the programme needs to consider the size of the cohorts in each country.

The Newton Fund team members in the partner countries also played an important role. Their close cooperation with both the Academy and the in-country partners was instrumental for the smooth communication within the programme. They were seen by some in-country partners as "having a cultural translation role" between the in-country partners and the Academy. They also provided the necessary link between the Newton Fund (as the source of the funding of the programme) and the implementation teams.

3.14 Evaluation question 14: How does the delivery of the LIF programme compare to other programmes of similar aims, scope, size and geographical delivery areas?

Summary

- There are a significant number of other programmes available in country which are focused on nurturing the entrepreneurial mindset

- There are a number of different types of organisations engaged with delivering entrepreneurship programmes. The type of organisations engaged in delivery shapes the nature of the offer, activities and the delivery processes

- In almost half of the participants (46 percent) responding to the survey, LIF is reported to provide support which is more tailored to their needs than other programmes

- Eighty percent of the respondents from survey from LIF mentors, trainers, in-country partners and the Newton Fund team indicated the LIF programme provided support that is complementary to other programmes (coherence)

- Key features which stand out in comparison to other programmes include:
  – The comprehensiveness of the programme
  – Fully immersion in the training
  – The careful combination of teaching and practice (with interaction and discussion)
  – The follow up and support
  – Access to networks and contacts
  – High quality mentors
  – The international vision
  – The personalisation of the programme

- Key lessons learned from the comparators include the following:

- Increasing the decentralisation of the programme supports sustainability, relevance and efficiency
- New partners coming on board should have well-aligned strategic goals (for sustained relationships to be formed)
- Heterogeneous participants need bespoke approaches to support
- Investing in the Alumni network supports reputation and future programme delivery
- To increase equality and diversity, a multi-faceted approach is necessary

The effectiveness of the LIF programme delivery model in delivering impact is explored in evaluation question nr. 13 above. This section explores its effectiveness (delivery) in comparison to other programmes. The main sources of evidence for are the surveys (with participants / alumni and in-country partners, mentors, trainers and Newton Fund team members), the key informant interviews, focus groups and the five international comparators.

The results from the surveys indicate there are a number of programmes supporting entrepreneurs and nurturing the entrepreneurial mindset available within the LIF focus countries (181 out of the 263 survey respondents confirmed the existence of other programmes).

Figure 53 - Do any other programmes supporting entrepreneurs and nurturing their entrepreneurial mindset exist in your country?
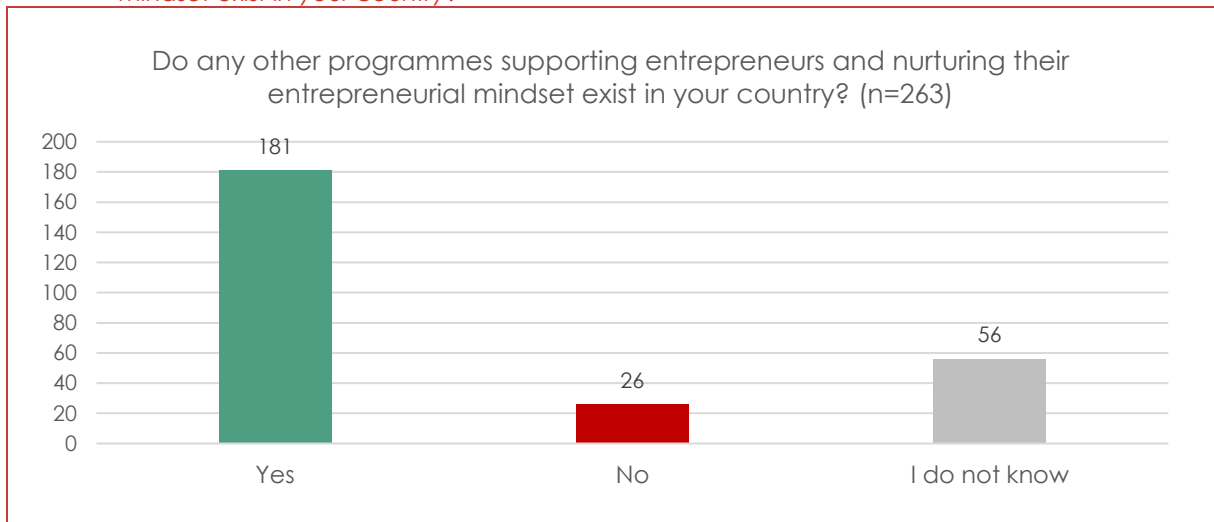
Source: Technopolis data analysis based on LIF participants and alumni survey.

The survey with the LIF mentors, trainers, in-country partners and Newton Fund team members also confirms the existence of a number of programmes in this area.

Figure 54 – Do any other programmes supporting entrepreneurs and nurturing their entrepreneurial mindset exist in the country you predominantly work in?

Do any other programmes supporting entrepreneurs and nurturing their entrepreneurial mindset exist in the country you predominantly work in?
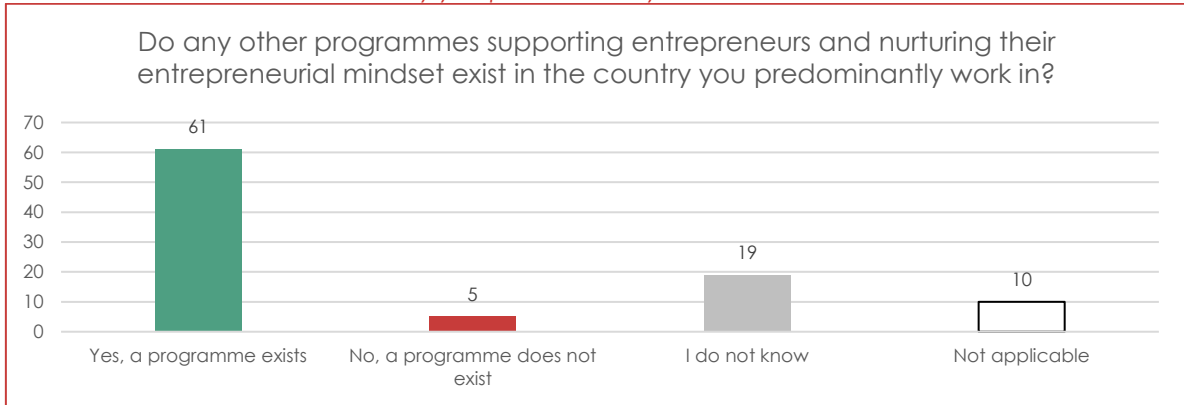
Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members.

Through these, respondents were able to more generally compare LIF to other interventions they knew about or in which they had participated.

Types and roles of key delivery partners

The comparator programmes demonstrate there are many different types of organisations engaged in the delivery of entrepreneurship programmes. There are a wide range of actors that exist within the ecosystem and have a stake in inclusive and sustainable growth of businesses. The ownership of the programme drives, to some extent, the overall objectives set by the programme, as well as the type of offer received and delivery model. The feedback from the participants (focus groups), indicates there is a tendency for government run support programmes to be less tailored in their approach than programmes run by other types of organisations. In the case of the comparator programme **YES**, evaluation question nr. 6 reports that the impacts at the organisational level were much more aligned to increasing university business cooperation, as would be expected of a university run programme. The operations of **Antler** are driven by the profit-oriented nature of the organisation.[17] **Anzisha**, run by the African Leadership Academy with funding from the Mastercard Foundation, is focused on very young people, empowering youth engagement and it is driven by the philanthropic goals of the Mastercard Foundation. In LIF, the Academy manages the programme, engages with the high-level stakeholders and maintains the relationship with the in-country partners. The objectives of the programme are driven by the Academy Strategy.

Figure 55 gives a brief overview of the types of delivery partners within the comparator programmes.

Figure 55 - Types of delivery partners

Comparator	Academic / University	Government	Intergovernmental	Non-governmental (not private sector)	Private Sector
SIYB					
YES					
Antler					

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[17] Antler is a for profit organisation, which is reflected in its business model which involves taking ownership shares

Comparator	Academic / University	Government	Intergovernmental	Non-governmental (not private sector)	Private Sector
NIDHI-SSS					
Anzisha Fellows					
LIF					

Source: Analysis by Technopolis

The delivery approach and processes also vary across the comparators. Figure 56 gives an overview of the different features of delivery models, governance, management, implementation and monitoring and evaluation, across the comparators and LIF.

Figure 56 - Delivery processes in the comparator programmes

Comparator programme	Governance	Management	Implementation	Monitoring and evaluation
SIYB	**Centralised** ILO level	**Decentralised** Global coordination team but decentralised - local partners	**Decentralised** Tiers of delivery partners through to local trainers	**Decentralised** Local partners
YES	**No formal governance board**	**Centralised** With prominent roles for other founding partners	**Decentralised** MoUs signed with partner institutions	Not systematically evaluated Some regular reporting
Antler	**Centralised** Global Advisory Board	**Decentralised** Local teams	**Decentralised** Local teams Global network of advisors	D/K
NIDHI-SSS	**Centralised** DST India	**Centralised/ Decentralised** Some components at government level, some at incubator / centre level	**Decentralised** Incubators	**Centralised** Reporting and tracking to DST
Anzisha Fellows	**Centralised** ALA board Reporting to the MCF (who are also engaged in governance)	**Centralised** Central team at ALA Chapters across Africa	**Centralised** Yearly applications	**Centralised** Comprehensive results framework
LIF	**Centralised** LIF steering group on behalf of Trustee board and international committee	**Centralised/ Decentralised** Academy and in-country partners	**Centralised/** Decentralised Centralised through the Academy and delivery partners, decentralised aspects through in-country partners	**Centralised** The Academy and delivery partners

Source: Analysis by Technopolis

Governance is delivered centrally across almost all the comparators, although there is limited information on the models. In **Anzisha**, a relatively small programme in comparison to the others, there is a tight relationship between the African Leadership Academy (deliverers) and the Mastercard Foundation (funders), essentially a matrix structure. **Anzisha** reports to the African Leadership Academy in line with its mandate from the Mastercard Foundation. The outlier is **YES** where there is no formal governance but there are weekly programme meetings.

YES is a partnership which pools its funding. A single programme manager works centrally overseeing all programme elements. It is considered by the team (in interview) to be low cost and efficient as a consequence. As reported under evaluation question nr. 13, the LIF governance is led through the Academy who plan and set out the expectations of the programme. There are some complexities in the relationship between governance and the in-country partners who manage part of the programme.

The activities of the comparator programmes

It is difficult to compare the programmes in relation to the activities undertaken, as they happen at different intensities across the comparators. A central feature of all of the programmes is training. Mentoring or coaching is prevalent in the majority of the programmes as well. The most similar to LIF in activity type is **YES**.

Table 5 - Activities of the comparator programmes

Comparator programme	Resources	Training programme / academy / bootcamp	Mentoring / coaching	Networking	Incubation	Investor forums	Alumni
SIYB	√	√					
Anzisha Prize	√	√	√	√			√
Antler		√	√	√	√	√	
NIDHI-SSS		√	√		√		
YES	√	√	√	√		√	√
LIF	√	√	√	√			√

Source: Analysis by Technopolis

Some of the key differences which are apparent include:

- Within **Anzisha**, which is focused on very young entrepreneurs, the programme has a counselling service to support wellbeing. In addition, the way in which incentives are delivered is through a stipend model of conditional cash released for the fellows depending on their level of engagement. This suits the nature of very young entrepreneurs.
- **Antler** also supports the recruitment needs of starts ups through their talent network.
- **SIYB** is a large, decentralised programme with train the trainers at the heart of its approach. Master Trainer Developers (MTD) train Master Trainers (MT) who in turn train the programme trainers who support the local businesses. This provides quality standards for the central service.

Comparison to the LIF programme

The data collection from stakeholders and beneficiaries (interviews, surveys and focus groups) highlights the positive reception of the LIF programme in comparison with other known relevant programmes in LIF countries (not the comparators undertaken for this evaluation).

LIF compares favourably with other comparable programmes in country, according to the results of the participant and alumni survey. Forty-six percent of respondents indicated the LIF programme provided support which is **better tailored to their needs** than other programmes and only 3% considered than another programme provided support which was better tailored to their needs.

Figure 57 - How would you compare LIF with the other entrepreneurship programme in your country?

How would you compare LIF with the other entrepreneurship
programme in your country? (n=181)

| 46% | 37% | 3% | 14% |

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

- The LIF programme provides me with support that is better tailored to my needs as an entrepreneur than the other programme
- Both programmes provide me with support that is tailored to my needs as an entrepreneur
- The other programme provides me with support that is better tailored to my needs as an entrepreneur than the LIF programme
- I did not participate in the other programme

Source: Technopolis data analysis based on LIF participants and alumni survey.

In the focus group there were several reasons given as to why LIF stood out in its offer in comparison to other programmes. One of the most highlighted is the comprehensiveness of the programme or its completeness of offer. There were not many programmes which provided the same breadth of support as LIF. Some of the most important characteristics of LIF which are not found, or are developed to a lesser extent in other programmes (according to the focus group participants) are the following:

- Full immersion in the training element of the programme
- The careful combination of teaching and practice (with interaction and discussion)
- The follow up and support (this was seen as critical by many focus group participants)
- Access to networks and contacts and enduring relationships with other beneficiaries
- Access to and continued support from high quality mentors
- The international vision of entrepreneurs
- The focus on the individual
- The sessions on skills development and leadership which ensure capacity building in entrepreneurs

  "The difference between LIF and other programmes is that it manages to bring together a group of people with very specific interests and characteristics, who are an invaluable critical mass. The participants are people who are interested in solving problems and attacking the SDGs, but who do not necessarily know about the whole process of transfer and commercialisation. They are high-profile people… Belonging to an innovation leadership community that is supported by the RAEng is very valuable." A focus group participant

Eighty percent of the respondents from survey from LIF mentors, trainers, in-country partners and the Newton Fund team indicated LIF provided support that is complementary to other programmes, also showing that it fits well (coherent) with the current offer within each country. Only 5% of the respondents felt that LIF and the other programme were somewhat overlapping.

Figure 58 – How would you compare LIF with the other entrepreneurship programme?
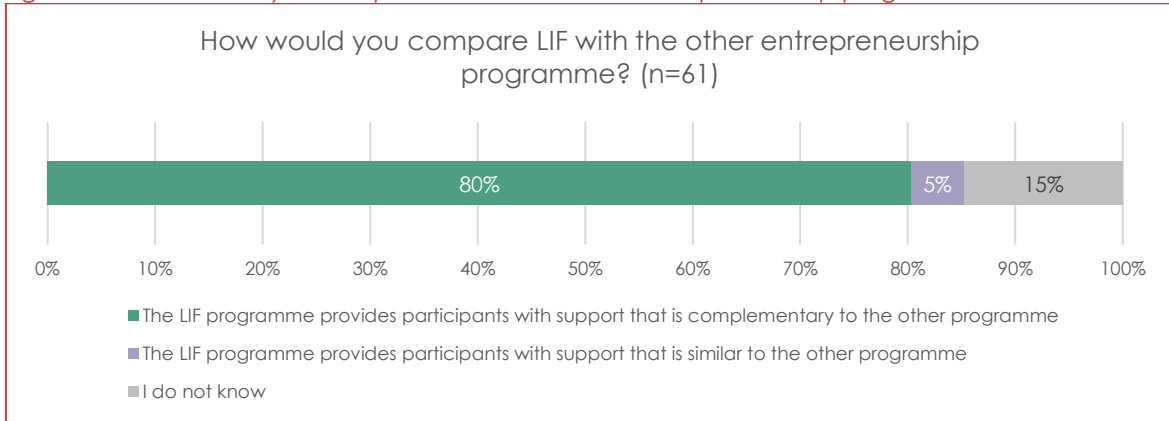
How would you compare LIF with the other entrepreneurship programme? (n=61)

Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members.

The results from the focus groups were also echoed in the interviews in-country partners. The outstanding features mentioned in the interviews included:

- The personalisation of the LIF experience
- The high level of mentorship, its bespoke nature and follow up
- The LIF (global) community and the duration of engagement
- Its end-to-end ecosystem approach
- The opportunity for international experience

The Life Advance and Champions in particular stressed the quality of the mentoring in comparison to other programmes, highlighting the mentors' expertise, and how this ensures the relevance to each particular challenge being faced by the participants.

> *"A unique feature of the LIF programme is that it provides comprehensive and systematic training on the key elements of entrepreneurship, with personalised guidance from experienced mentors" LIF Advance and Champions*

From the focus group discussions, it is apparent that mentorship (to the same degree at the LIF programme) is not provided as standard under many of the other programmes which are known to the participants. Where it compared less favourably is in relation to investment opportunities. However most recognised that LIF is not an investor programme (although in countries where there are limited investment opportunities, it does provide some of that function). The international aspect of the programme was praised almost universally in the focus groups. The LIF programme provides a space for knowledge and sharing which is not found so readily in other programmes they know of.

Lessons learned

There are a number of lessons learned which are reported in the comparator programme case studies which may support learning for the LIF programme.

SYIB has been running for over thirty years and has seen a number of adaptations to its model. Most significant has been the move to a decentralised model, devolving responsibility for implementation, monitoring and evaluation to the local delivery partners. This is reported to increase sustainability, local relevance and efficiency. This has similarities to LIF and its in-country partners. SYIB has also tailored its materials to individual countries and regions, assuming there is no one size fits all for the delivery of entrepreneurship training. The funding

model, which is not discussed in depth, is designed to allow governments, companies and donors to fund SIYB roll out. Finally, there is an online data collection tool which systematically gathers input from all trainers and master trainers.

YES has been focusing on expansion, both thematically (to a whole range of STEM fields) and geographically. This is being done through partnership, in particularly through in-country partners. Virtual expansion is also underway, post-Covid, taking some of the positive lessons learned from online delivery. A key lesson from this expansion is the importance of engaging with the right policy, communication and delivery partners. The organisations need to be well aligned with respect to the objectives for long term relationships to be sustained.

A common success factor for **YES** and **Anzisha** is the active Alumni network. In both cases the Alumni are key as role models for the programmes, enhancing reputation as well as engaging in future programme delivery. Therefore, there is more emphasis and resource placed on growing the Alumni communities.

Both **Anzisha** and **NIDHI-SSS** include young or very young entrepreneurs as participants. **Anzisha** participants are more homogeneous (and therefore the journeys contain many common elements), but for **NIDHI-SS** which has a more heterogenous participant type, they recognise there is no fixed method for supporting start-ups and the process taken must allow for variable approach. This is similar to LIF which takes a bespoke approach, combined with central elements.

Anzisha is the only one of the comparator programmes focusing on learning lessons for equality and inclusion. They suffer from low participation rates from female would-be entrepreneurs and as well as inclusion criteria for selection have deployed tools for partnering with organisations, a nomination strategy and a targeted digital communication campaign.

3.15 Evaluation question 15: To what extent did the LIF programme reach its intended participants?

Summary

- To increase equality and diversity, a multi-faceted approach is necessary
- The programme was perceived to be reaching its intended participants.
- For some consultees, academics and researchers were perceived to be the target audience for the LIF programme that acts as a bridge between innovation and commercialisation, while for other consultees, academics might have struggled to make the most of their entrepreneurial journey due to work commitments.
- Some considerations were made by interviewees about improving gender diversity, extending the programme's reach to rural areas, and increasing the number of participants to have a higher impact on the community.
- Potential participants to the LIF programme included technology managers and graduates; the wider audience that the LIF programme intended to reach involved financial institutions, government bodies and PhD holders.

In this section we look at whether the LIF programme has managed to attract participants with appropriate profiles. Evidence for this evaluation question comes from qualitative data collected in interviews with in-country partners and Newton Fund members and from the official database of LIF participants.

With only a couple of exceptions (e.g. in **Malaysia**, **Peru**), there was general and explicit agreement among consultees that the LIF programme had reached its intended audience (e.g. in **Brazil**, **China**, **Chile**, **India**, **Jordan**, **the Philippines**, **Turkey**, **Vietnam**). For example, the in-country partner in **Chile** provided positive feedback by stating that there had been alignment

between the needs of participants and the programme's offer. In-country partners in **China**, **Jordan** and **Vietnam** claimed that LIF had reached its audience as it had provided people with diverse background and innovators with an alternative way of thinking, targeting any individual interested in pursuing entrepreneurship.

The research shows that the intended audience was directly linked with the specific aims that each partner country had set for the LIF programme. For example, focusing on academics and researchers as a target audience was described as the consequence of LIF's purpose to be the bridge between innovation and commercialisation (e.g. in **Colombia**, **Malaysia**). On the contrary, in **India** the in-country partner mentioned how they had reached the intended audience, but it consisted of entrepreneurs, and they would have welcomed more researchers.

Some in-country partners mentioned how they would like to reach a wider target audience in the future by increasing the number of participants to have higher impact on the entrepreneurial community (e.g. in **Chile**, **Egypt**, **Jordan, Turkey**). This expansion has already been seen in Turkey due to the fact that the programme complements an existing university programme.

Some uncertainty about having reached the intended participants was mentioned by the in-country partner in **Peru**, who stated that they had adapted the intended audience to the local context. The interviewee also shared that researchers were a good target audience for the training programme, but they usually did not set up businesses and therefore advocated a revision of the target audience, as LIF seemed to have had more impact with those participants who already had a background of innovation and entrepreneurship. This point was confirmed by the in-country partner in **Chile**.

Furthermore, as presented in Table 3, in some countries, such as in **Indonesia, Jordan** and **the Philippines**, the programme appears to have attracted participants with the right profile. Nevertheless, some participants were more advanced than others at the start of the programme, which then caused issues, because the more advanced entrepreneurs saw a proportionally smaller effect of LIF on themselves and their companies. When asked about other profiles that the programme should target or was not able to reach, interviewees mentioned how the LIF programme could improve on gender diversity (e.g. **Brazil**, **Colombia**) or extend the reach nationally in partner countries (e.g. **Colombia**, **India**). Figure 59 below shows the gender distribution per country and gender diversity of LIF participants is further discussed in Section 3.17 of this report.

Figure 59 – Gender breakdown of LIF participants per country

Figure 59 – Gender breakdown of LIF participants per country
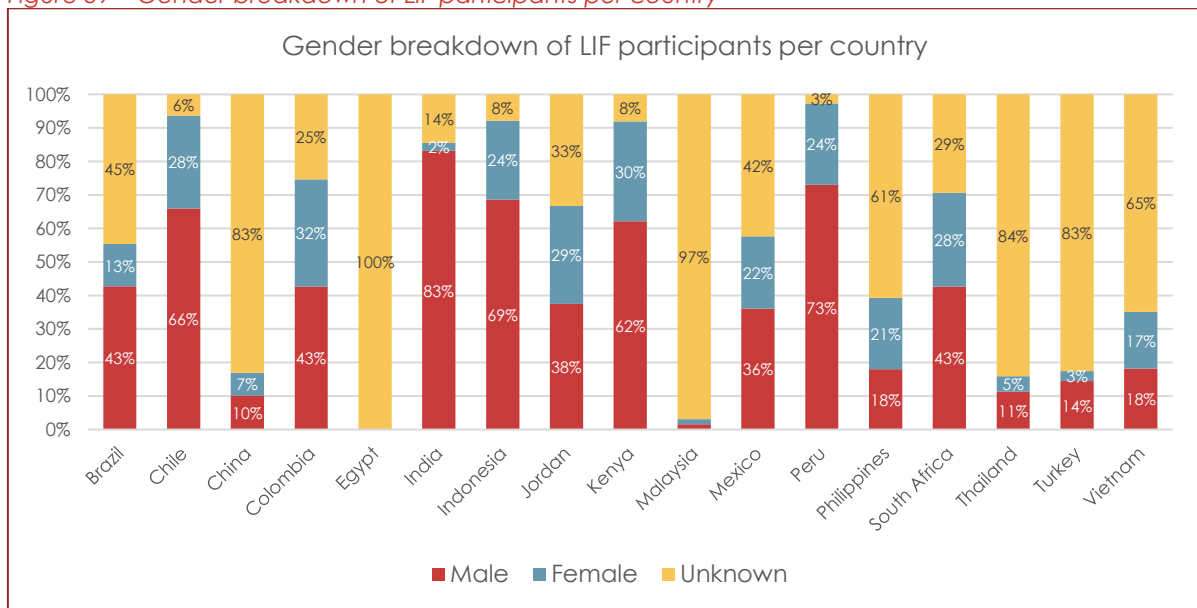
Interviewees in **Colombia** also mentioned limitations to further inclusion that the LIF programme might struggle with. One in-country partner in **Colombia** stated that because the programme deals with a predisposed area – engineering – innovations are restricted to engineering and producing engineering solutions, however engineering faculties are not very common in rural areas. Another limitation mentioned was the English language requirement, as the amount of people that speak English in the country is very small.

When asked to consider other potential LIF participants or a wider target audience, consultees mentioned different potential profiles, including participants with previous entrepreneurship experience, such as technology managers (e.g. in **the Philippines**); students or graduates with innovative ideas who could be reached earlier on to make the most of their entrepreneurial journey, rather than academics who might struggle with the academic workload (e.g. in **Egypt**). Other potential 'LIFers' were candidates who did not feel confident or qualified enough to apply because of the scale and prestige of the programme (e.g. in **Thailand**), and a wider audience that the programme could reach included financial institutions and successful entrepreneurs (e.g. in **Indonesia**); government (e.g. in **Malaysia**); finally, the in-country partner in **Turkey** said they have recently extended participation to PhD holders and that has resulted in a positive change.

3.16 Evaluation question 16: Has the LIF programme delivered value for money (VfM) and operated in a cost-effective manner?

Summary

- The LIF programme is perceived to be good value for money by beneficiaries and other programme actors alike (both male and female beneficiaries)
- Participants who run their own company perceived LIF as a better use of their time in comparison to those working at a university/research institute.
- Although intuitively online events would provide more value for money, LIF7 was more poorly rated than other cohorts overall, suggesting that the long-term programme impacts could be compromised, leading to false economies
- The LIF programme is well aligned to the strategy, and this lends some weight to the overall value for money of the programme (coherence with other Academy programmes)

- The current monitoring data is not complete enough (or well enough defined) to provide credible data on programme level value for money. There is no focus on value for money evident in the programme management approach as it is not assessment, monitored or reported on systematically
- In-country partners are deeply invested (long-term) in the LIF programme and in some cases provide access to follow on support

Evaluation question nr. 16 explores the value for money (VfM) of the LIF programme. Value for money is challenging to measure in the absence of good monitoring data and budgetary data, particularly for cost effectiveness measurements. This type of data was not made available for the evaluation team at the necessary level of granularity. Therefore, the approach taken is more qualitative, and includes analysing the responses from the surveys and interviews, a documentation review and a meta-analysis of the responses to other evaluation questions.

The aspects of VfM which are explored, include:

- Self-reported benefits (effectiveness)
- Whether the programme is well aligned with the strategy and therefore part of a wider effort to support the Academy objectives (see evaluation question nr. 4)
- Whether the intended beneficiary types are being well targeted (well) and join the programme
- Whether the outcomes indicators collected are relevant and robust
- If there is a strong commitment from programme deliverers, particularly in country partners
- Whether learning from the programme is brought into the implementation (for the benefit of delivery and ultimately the beneficiaries)

Self-reported benefits (effectiveness)

The LIF programme is considered to be a good use of beneficiaries' time (participant / alumni survey) and good value for money (LIF mentors, trainers, in-country partners and Newton Fund team members survey) by respondents to the two main surveys.

When asked to rate (on a scale from 0 to 10) whether the participation in the LIF programme was a good use of their time, LIF participants and alumni rated the programme very positively: the vast majority rated the programme between 6 to 10 (97%), including 45% of the respondents rating the programme with a 10, meaning an excellent use of their time (Figure 60).[18] This is one of the ways of looking at the value for money of the LIF programme. Therefore, the results suggest good value for money from the perspective of the LIF participants and alumni. There were no significant differences between male and female participants (when looking at the disaggregated data).

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[18] For the purpose of visualisation, the "0" was not included in the charts below because it was not selected by any of the respondents

Figure 60 - On a scale of 0-10 please estimate the extent to which you consider that participation in the LIF programme was a good use of your time? (0 = the participation in LIF was not a good use of my time, 10 = the participation in LIF was an excellent use of my time)
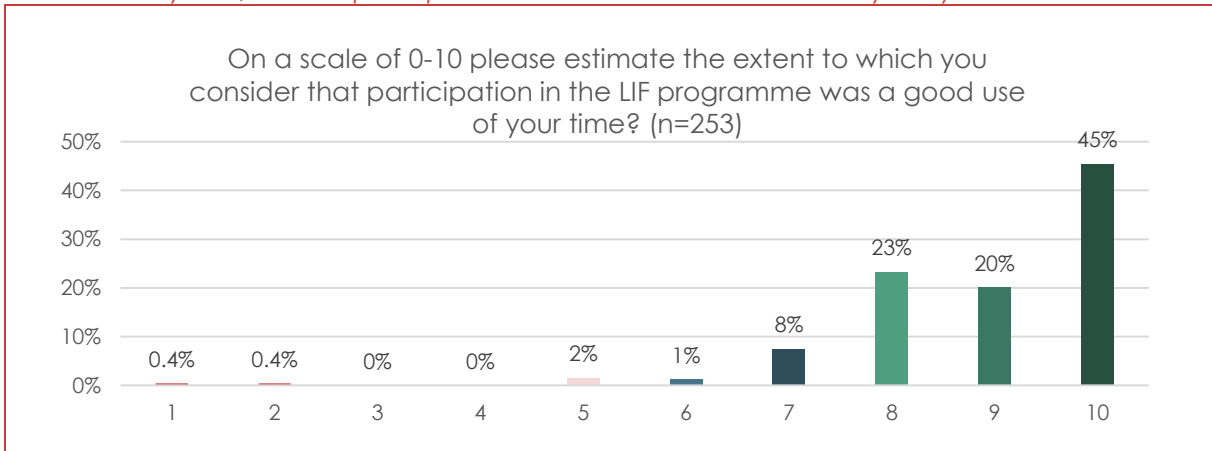
Source: Technopolis data analysis based on LIF participants and alumni survey.

In the case of the survey of LIF mentors, trainers, in-country partners and Newton Fund team members, 81% gave a score of 8 or more for value for money (Figure 61). When broken down by role, the LIF programme is perceived to have provided the greatest value for money by Newton Fund team members (93% of the respondents of this role rated the programme with a 10, 9 or 8).

Figure 61 – On a scale of 0-10 please estimate the extent to which you consider that engagement with the LIF programme provided a good value for money?
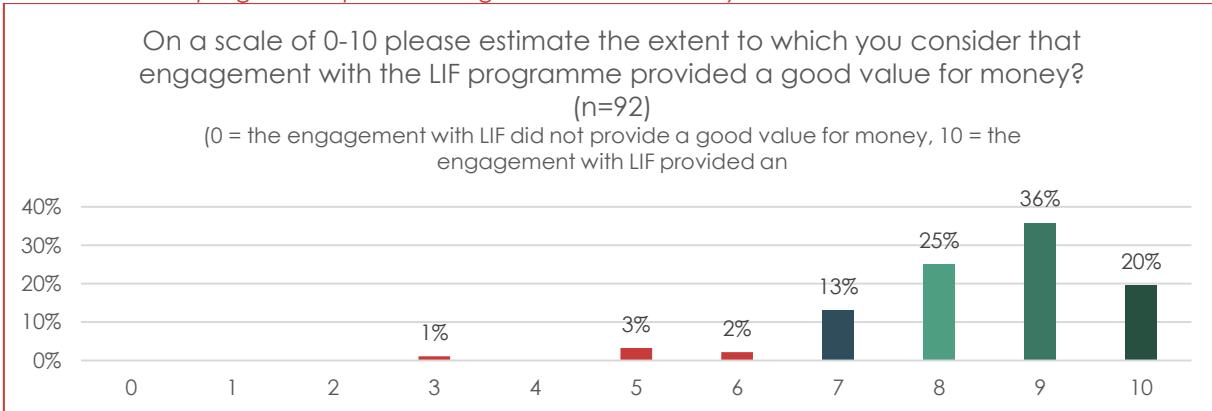
Source: Technopolis data analysis based on the survey of LIF mentors, trainers, in-country partners and Newton Fund team members.

The results of the LIF participant and alumni survey disaggregated by cohort provides a more granular picture (Figure 62) of the extent to which phases of the programme were a good use of beneficiaries' time. Those respondents who participated in LIF1 and LIF2, followed by LIF4, LIF5 and LIF6 perceived LIF to have been a relatively better use of their time than the

respondents participating in other LIF cycles.[19] The lowest scoring cohort is LIF 7 which was delivered remotely during the pandemic.

Figure 62 - On a scale of 0-10 please estimate the extent to which you consider that participation in the LIF programme was a good use of your time? (0 = the participation in LIF was not a good use of my time, 10 = the participation in LIF was an excellent use of my time) (by LIF cohort)
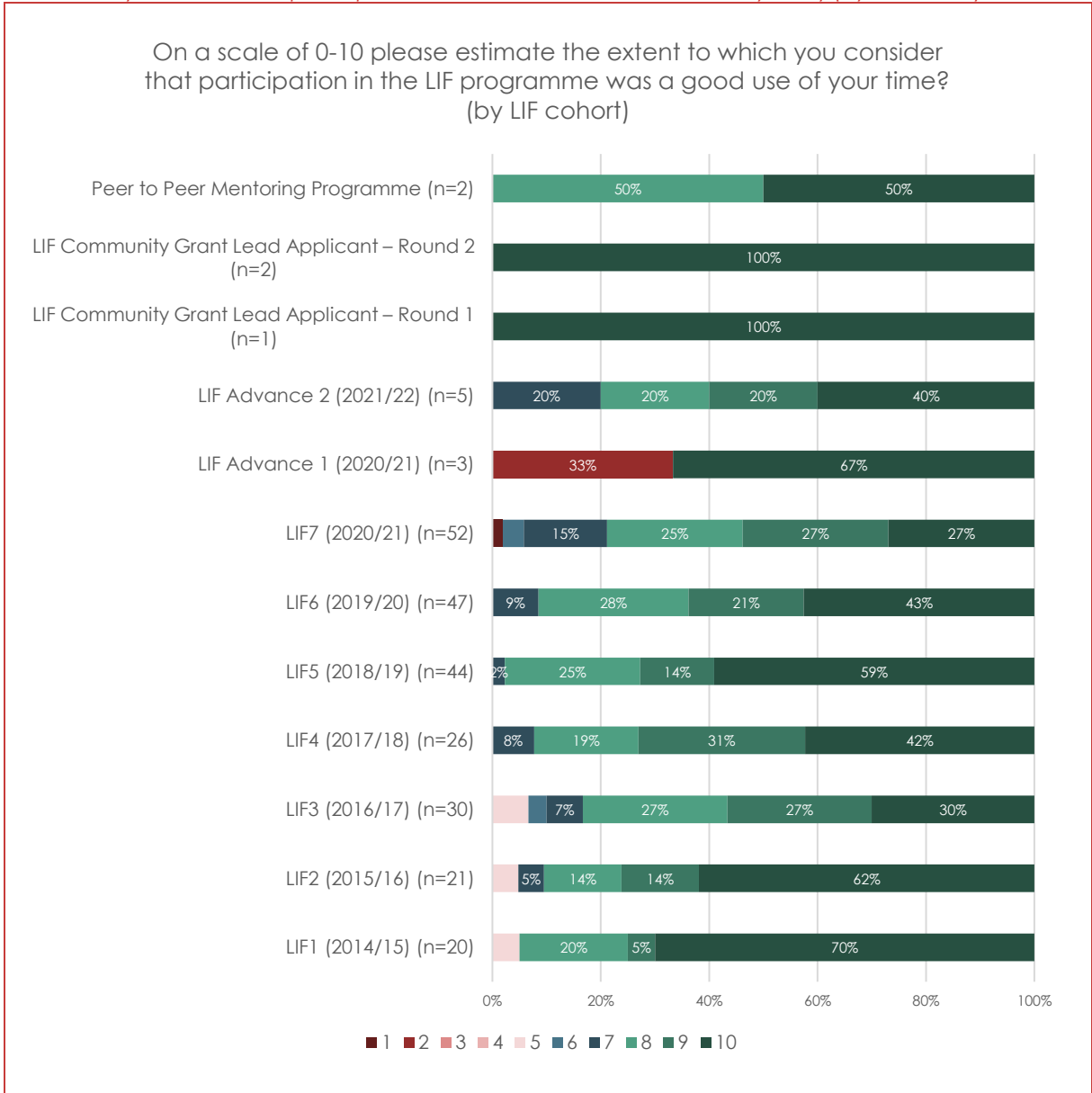
Source: Technopolis data analysis based on LIF participants and alumni survey.

Overall, the self-reported results from these surveys are highly positive about the value for money. This is also further reinforced by the results of the participant and alumni survey which

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[19] The results for the LIF Community Grants, LIF Advance and for the Peer-to-Peer Mentoring Programme are included in the chart, however, due to the small sample sizes, the results need to be interpreted carefully.

compare the LIF programme with other entrepreneurship programmes in the LIF countries (see Figure 57). However, this does not take into account any cost considerations.

Whether the intended beneficiary types are being well targeted and join the programme

As reported in evaluation question nr. 1, there are differences in the types of beneficiaries across countries and within countries, with a sizeable proportion being those doing paid work at a university/research institute and those running their own company. The survey question on whether participants found LIF to be a good use of their time is disaggregated by the type of beneficiary below (Figure 63). The results show that those respondents who run their own company perceived their participation in LIF as a better use of their time compared to those working at a university/research institute. This would indicate that the LIF programme provides better value for money for those who run their own company (from the perspective of beneficiaries).

Figure 63 - On a scale of 0-10 please estimate the extent to which you consider that participation in the LIF programme was a good use of your time? (0 = the participation in LIF was not a good use of my time, 10 = the participation in LIF was an excellent use of my time) (by occupation)
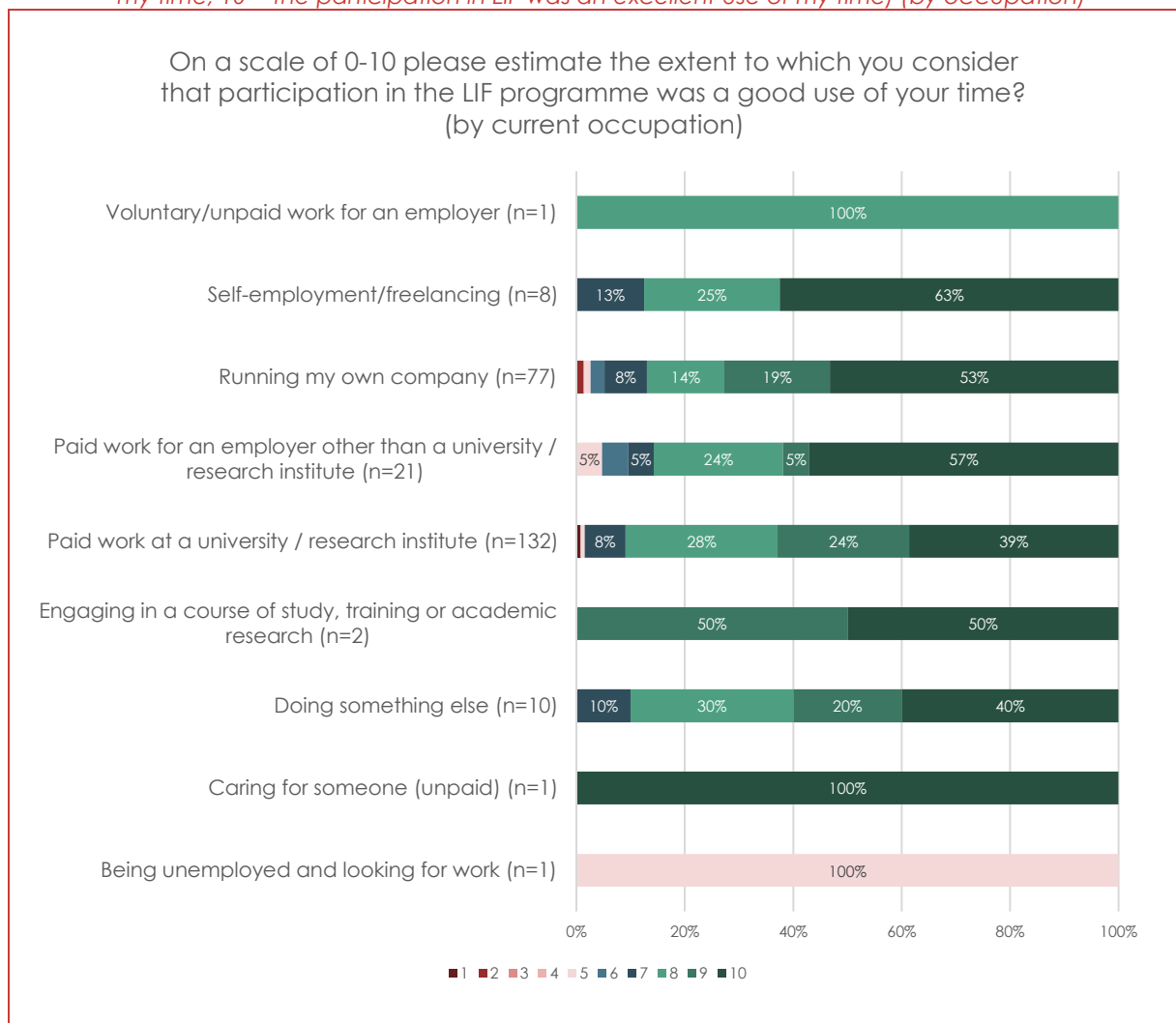
Source: Technopolis data analysis based on LIF participants and alumni survey.

From the programme data and the interviews, it is evident that there are different proportions of beneficiary types across the countries and across cohorts. For example, Turkey and Malaysia predominantly target academics, Vietnam and China predominantly attract academics.[20] In contrast to the above results from participants and alumni, some in-country partners (Turkey, Malaysia) indicate an added value in targeting academic entrepreneurs who will have more research-led business ideas.[21] Having a variety of different types of beneficiaries at different stages in their entrepreneurial journey can impact negatively on value for money (as the experience may vary), for example some of the participants in LIF Advance indicate they did not learn as much as they hoped because the programme had to also cater for less advanced entrepreneurs, but this is hardly noticeable as an effect.

Alignment with the strategy and therefore part of a wider effort to support the Academy objectives

Evaluation question nr. 4 finds that the LIF programme is well aligned to the strategy, and this lends some weight to the overall value for money of the programme.

Relevance and robustness of outcome indicators

The current monitoring data collected for the LIF programme (through monitoring surveys) has not been possible to use for the evaluation. The data is not collected at a level of granularity which would support the needs of a value for money assessment. Additionally, there are low response rates. As the data collected cannot be used for this purpose, it can be concluded that value for money is not currently a high priority within the programme and is not integrated into the monitoring system.

BEIS reports in the interviews that they have been developing and testing an ODA-appropriate VfM evaluation assessment. However, it is not proving robust enough yet to use as a LIF indicator for VfM as it looks only at current and actual benefits rather than potential. They used three LIF cases in the pilot and the LIF projects did not score well.

Commitment from deliverers of the programme, particularly in country partners

The LIF programme is delivered in partnership and the in-country partners are a mix of innovation agencies and government departments. As set out in the programme documents "the relationships are built through discussion and diplomacy, both parties aiming to achieve the same goals".[22] There is a high level of commitment from the in-country partners. Over 30 responded to the survey and many have been longstanding deliverers of the LIF programme. The relationship between the Academy and the LIF in-country partners is also strong and active. A number of the in-country partners point to the efficient working methods during the selection process and how well stakeholder management is performed. With many of the in-country partners engaged with other programmes, there are follow on support options available for participants.

Whether learning from the programme is brought into the implementation (for the benefit of delivery and ultimately the beneficiaries)

There is some evidence from the interviews with in-country and Newton partners that learning from the programme takes place, although this is not systematically reported on. The learning

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[20] For more detail on the types of beneficiaries, see evaluation question 1

[21] The programme was initially aimed at researchers within the partner country who are in the process of developing a business proposition for their innovation according to LIF programme documentation.

[22] LIF Global ITT document 2023

review events with the Academy are cited as important as a way to help shape approaches and content for training in country. There is also evidence of countries learning from other countries engaged with the programme, as well as from the UK. In particular, examples are given with regard to in-country partners understanding more about their own innovation ecosystems and also how to better match mentors, develop in-country events or make decisions on the types of beneficiaries they want to concentrate on (e.g. Indonesia, Malaysia). In **Indonesia** the in-country partner reports on how they have a much better understanding of how innovation and start-ups work in their country which has been reflected in the development of the mentoring approach taken. In **Malaysia,** which has participated for more than six years, through their learning there is reported to be an increase in capacity in country and more ability to collaborate.

At the Academy level there are regular reporting and feedback loops in place with the delivery partners which feed into learning. There are also country reports which are provided monthly to the contractor (with information from mentors and in-country partners) with periodic "next step" plans.

Outside of the implementation of LIF there is evidence of embedding learning in other programmes. The Ministry in **Malaysia** has also been adapting local programmes based on their experience with LIF (this is also seen in the **Philippines** through its new innovation act). Similarly in **Vietnam**, new training courses outside of LIF have been inspired by the programme. In **Peru**, the opportunity to see at first-hand how the UK innovation ecosystem works has helped to inspire their approaches in country.

3.17 Results of the PGESI analysis

This section of the report assesses whether and how the LIF programme put in place mechanisms to understand and ensure poverty, gender equality and social inclusion (PGESI) were considered in the programme's design, implementation, and monitoring approaches. It also reviews outcomes/impact.

The International Development (Gender Equality) Act 2014 requires all UK funded development initiatives[23] to consider their '*likely contribution to reducing poverty, and in a way which is likely to contribute to reducing inequality between persons of different gender'*[24]. LIF addresses issues that matter for PGESI (innovation, entrepreneurship, and STEM[25]). For example, **poor children and students** face barriers in studying STEM subjects, and the **gender gap in STEM** is significant. Globally men overwhelmingly study[26] and work in this area, in academia and in business. Women's disadvantage stems not from a lack of innate ability but because of a host of complex structural barriers (e.g., social norms, and unconscious bias)[27]. In addition, as tracked by the OECD there is also a significant **gender gap in entrepreneurship** globally because women face structural barriers in accessing the support they need to start and run businesses and innovate on an equal footing with men[28].

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[23] LIF's budget is ODA funded.

[24] Available online at: https://www.legislation.gov.uk/ukpga/2014/9/section/1.

[25] STEM: Science, technology, engineering and maths and related subjects.

[26] Globally 18% of girls in tertiary education are pursing STEM studies – compared to 35% of boys.
www.unicef.org/globalinsight/stories/mapping-gender-equality-stem-school-work

[27] https://www.theguardian.com/science/head-quarters/2018/mar/08/bridging-the-gender-gap-why-do-so-few-girls-study-stem-subjects

[28] https://www.oecd.org/cfe/smes/inclusive-entrepreneurship/gender.htm

The LIF aimed to contribute to the SDGs which include PGESI goals. However, this evaluation found that the **programme's design** did not explain why addressing PGESI matters to its success, or the structural barriers that it could address in, for example the selection of participants, the way training was delivered and what data could be collected during implementation.

In its **implementation approaches**, particularly in later years, LIF introduced important PGESI concepts such as *diversity, inclusion, unconscious bias, and gender balance* alongside *'contribution to SDGs'*. These terms were used in the recruitment of service providers; participant selection guidance; and the provision of mentoring. However, guidance was limited which suggests an assumption that implementing partners had prior knowledge and experience in complex practice areas, but evidence suggests this was not always the case. LIF's **monitoring approaches** had gaps in relation to PGESI. Gender disaggregated data for participants is very patchy so the programme cannot accurately account for how many men and women participants benefited in total. The programme's mechanism for tracking SDGs contributions is approximate, how the evaluation shows that the programme (and participants' projects) has contributed to the SDGs to a significant extent (see Section 3.5).

Implementing partners have diverse views on the extent to which the programme took PGESI into consideration: some noted the emphasis on diversity and inclusion while others felt more could be done. What the programme did do successfully was to enhance the capacity, confidence, and work of the women participants who were selected. It has also opened a very valuable conversation on what more needs to be done on PGESI. LIF potentially has a very valuable contribution to addressing PGESI.

The extent to which PGESI is mainstreamed in design and implementation approaches

LIF is implemented in low- and middle-income countries where there are high levels of poverty, inequality and gender inequality as highlighted in the programme documentation. The programme aspires to promote entrepreneurship and innovation by supporting those educated in STEM subjects with training and mentoring in business related skills and in networking.

LIF's objectives have the potential to contribute to PGESI, as the italic text below highlights. However, aspirations for contributing to PGESI have not been made clearly visible in the programme documentation (and are not, therefore, present in the programme Theory of Change and its underlying assumptions regarding pathways to change). This suggests that the design and management team did not include a gender or social development advisor.

Table 6 - Example: Making gender visible in LIF's objectives

• **Job creation for men and women and in ways that address gender gaps in STEM and access to entrepreneurship training**
• **The adoption of engineering innovation which addresses economic, social and environmental challenges e.g., interventions that reduce the drudgery of women and girls, address their security concerns etc.,**
• **Improved local ecosystems to support entrepreneurship and innovation that are unbiased and support diversity, inclusion, and safeguarding (DIS) against sexual exploitation, abuse and harassment (SEAH) and gender equality**
• **Increased local and international collaboration between businesses, research institutions which will promote engineering innovation, and which are committed to sharing workplace policies and practices that promote DIS and gender equality. Footnote: there are a host of accreditation schemes in this area from EDGE to Athena Swan.**

Source: Analysis by Triple Line

The Theory of Change outcomes were revised to reflect **individual**, **organisation** and **ecosystem/community outcomes.** These aspects could be expanded to capture pathways to change for gender equality and social inclusion as illustrated below:

Table 7 - Example: Making gender visible in LIF outcomes

- **The category individual concerns men and women trainers, coaches, entrepreneurs. All service providers could be required to not just to promote diversity and inclusion in the selection of participants and the delivery of training/mentoring but also gather data by gender and to conduct a gender analysis.**

- **Organisation is an entry point for introducing workplace systems/processes that support diversity, inclusion and safeguarding. LIF participants' start-ups, and, to some extent, universities and research institutions where LIF participants work, could be encouraged to share workplace policies and practices that promote gender equality, to benchmark their status at the outset and to measure progress at the end.**

- **Ecosystem/community outcomes could include alumni/female networks of engineers; products and services that benefit women and those living in poverty.**

Source: Analysis by Triple Line

During implementation, particularly in later years the terms *diversity, inclusion, unconscious bias and gender balance* were introduced into core documents used by implementing partners. Two examples are provided below.

Table 8 - Examples of where LIF raised the issue of PGESI

- **The 2021/22 Guidance for those reviewing applicants to the Leaders in Innovation Fellowships. This includes a statement of commitment on diversity and instructions on diversity and unconscious bias with links to websites for further reading (Footnote Leaders in Innovation Fellowships (2020/21) Guidance for Reviewers).**

- **Calls for proposals 1. Call for a Service Provider delivering a Training and Mentoring Programme for International Emerging Technology-based Innovators and Start-ups (August 2022). PGESI are covered to some extent but there is scope to provide more in terms of expectations. Diversity in regions is noted and diversity and inclusion is called for in people/team; and in relation to trainers, mentors and managers. Gender balance is noted and in the scoring criteria this aspect is weighted (1) out of a possible weighting score of (4). 2. LIF Advance 3 (September 2022). PGESI are covered to a very limited extent, again under the term diversity. Diversity is mentioned as a strategic priority: *'Address the engineering skills and diversity challenge'.***

Source: Analysis by Triple Line

In both examples more could have been done to explain key terms to guide partners beyond providing links for further reading (e.g., guidance through peer learning forums). In the second example above, SDGs 14 and 15 are mentioned (life below seas and life on land) but SDG 5 (gender equality) and SDG 10 (addressing inequality) are not.

PGESI in monitoring approaches

Gender/poverty disaggregated data was not collected for all LIF main programme's cohorts and components. LIF Advance 2 did provide comprehensive data but all other cohorts have a 40-50% gap in relation to the gender of their participants.[29] This suggests that programme

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[29] For participants: only one out of 10 funding windows collected a complete set of gender disaggregated data (LIF Advance 2). For all other windows approximately 43-50% of participants are not registered by

managers need support in preparing **guidance for implementing partners on monitoring requirements** (e.g., on what data to capture and why, how to analyse it, including in relation to PGESI) in keeping with the 2014 Gender Development Act.

PGESI in outputs, outcomes and impact

It appears that far fewer women participated in LIF than men although data sets are incomplete.

- For LIF Advance 2, which has a full set of gender disaggregated data 77% of participants were men and 23% were women.
- For LIF Advance 1 gender disaggregated data was captured for only 22% of participants (the lowest of any window) and of these approximately 15% were men and just 7% were women.
- The other LIF windows (1-7) captured gender disaggregated data for approximately 43-50% of their intake. Where gender is recorded, women's participation is on average 15.71 percent compared to 35.79% for men.

In terms of service delivery, three partners provided insight into the gender of their mentors (FarStar, Oxentia and SHINE). The ration for male/female mentors was 3:1.

The evaluation asked in-country implementing partners three questions concerning PGESI: a) whether they considered PGESI in the LIF programme to have been an issue in their country; b) whether they could point to specific areas where this issue had been addressed well; c) what could have been done better and c) whether they had policies in this area. Respondents did not always answer these questions directly, which suggests uncertainty on PGESI issues.

Respondents from India and Peru felt PGESI was an issue. Their concerns related to gender imbalance among LIF participants and to the fact that this caused a STEM pipeline issue. They, however, added that this issue had been prioritised in recent years.

Asian countries felt that there were no barriers for women applicants (**Vietnam, Indonesia, the Philippines, Malaysia**). Interestingly these countries have better outcomes for gender equality and stronger legislation than others. Turkey also felt there were no issues. Just two countries felt LIF had included **selection criteria** to address PGESI (**Chile** and **Turkey**) while others felt more could have been done in this area. Some countries noted that they had performed well in creating gender balance (**Indonesia** *'we tried to create a level playing field'*; **Peru** *'in the early stages there were very few women; but later, half and half;* **Vietnam** *'participation of women is high'*. Two countries (**Indonesia and Peru**) noted **language and location** as more important factor in inequality, and Indonesia said they had taken measures to address this: *'we reached out to universities in the regions'*. No respondents noted the lack of gender disaggregated data.

Suggestions for improvements from respondents were few but they included: better selection criteria; and a component that includes a British Council partnership to improve language

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gender. **For LIF mentors** data was shared with the evaluation team by three delivery partners (FarStar, Oxentia and SHINE). **For LIF participants' start-ups** there is no data on how they might have improved or shared their workplace policies and practices that promote gender equality, diversity, inclusion and safeguarding.

proficiency. This could potentially widen opportunities beyond capitals and for women and men who have not benefited from English-medium education.

Did women benefit in the same way as men when they participated in LIF: The answer is most definitely yes. There is strong evidence from eight success stories prepared by the evaluation team that individual women participants in Chile, China, Indonesia, Jordan, Malaysia, South Africa, Thailand, Turkey who have taken part in the programme benefited significantly (and continue to do so) from the residential training, mentoring, the alumni networks and other activities (see Appendix A).

The table below illustrates some of the most significant examples of success. The success stories illustrate how the programme has advanced gender equality in STEM by providing opportunities for women participants who have all gained knowledge and confidence. A majority are also managing their own companies and have or are developing relevant products and services. LIF has provided support to its women participants improve the way they market and communicate their ideas. In some cases, it has enabled them to employ more people, and engage with supply chains better.

Table 9 – Examples of significant impact achieved by female LIF participants

Country, Participant, Organisation	Product and Services	Impact
Chile, Barbarita Lara (EMERCON)	Participant innovated the Emergency Information System (EIS) and other services and products that warn populations or companies (e.g., hydroelectric power) of natural disasters.	Establishing a company to commercialize EIS and other services related to emergency management. SDG9 *'LIF gave me self-esteem and convinced me that I have the potential to be an elite engineer and a role model for innovation.'*
China, Prof. Li Yougmei Peking University, College of Engineering	Involved in student entrepreneurship programmes and advising RoboSea Robot Technology run by students.	LIF has strengthened the Professor's determination to foster and support teachers from various non-business subject fields to become involved in teaching innovation and entrepreneurship. RoboSea Robot Technology http://www.robosea.org/ (underwater scooters, entertainment, harnessing solar energy to collect ocean waste). SDG 14 (Life below water).
Indonesia, Dara Farhaniza, Yagi Natural Indonesia	Participant. Has company that produces personal care products using natural ingredients. https://yagi.co.id/home	LIF has strengthened Dara's confidence and capacity to develop and grow her business. Has doubled her company revenue and employed 23 new staff. SDG contribution: SDG 3 (Good Health and Well-being); SDG 5 (Gender Equality and SDG 12 (Responsible consumption)
Malaysia, Dr. Rozetta, Dolah, Naglus Industries	Participant. Climate scientist. Has created Dr. Z Nano Fuel Patch –which is an easy-to-go patch for a fuel hose that conserves fuel and reduces carbon emissions for vehicles. https://naglus.com/	LIF 7 has helped Dr. Rozetta think like a researcher and act like an entrepreneur. She is better at networking and communicating her ideas. https://www.youtube.com/watch?v=jLzWMAPj2ow

Source: Analysis by Triple Line

Reporting progress

If LIF were to improve its approach to mainstreaming PGESI it could include in its public facing communications a more robust account of what it is doing in this area and the efforts, it is making to close important gender gaps. The evaluation reviewed one outward communication product to assess the visibility of PGESI: 'Five Years of the LIF Programme.' The narrative mentions a number of SDGs but not gender equality (SDG 5) and inequality (SDG 10). No insights are provided on who has benefited by gender (leadership, academics, researchers, 1,000 innovators, job creation: 1,500; 530 alumni).

4   Recommendations

Below, we provide a series of recommendations for the Academy to consider in relation to the design and implementation of the programme in the future.

4.1   Design of the programme

The LIF programme is based on a highly personalised support provided to participants. This approach comes with higher cost per participation, compared to some other programmes supporting entrepreneurship, but providing more generalised support. Nevertheless, the evaluation has clearly showed the significant impact, particularly at individual and organisational levels to which this personalised support has led. We, therefore, recommend the Academy **keep** the personalised support at the core of the LIF programme.

The impact of the programme at the individual level has been very strong, as documented in this report. The effect that the programme has had on participants' skills is multi-faceted and is expected to last. Nevertheless, there were variations in the magnitude of the impact on the different skills of LIF participants. Whilst the impact appears to have been greater on skills related to business management, the impact on "soft skills" (e.g. communication, negotiation) seems to have been, in comparison, weaker. Given that these skills are also important for successful entrepreneurs, we recommend a **stronger focus** on their development in participants.

Based on the results of the PGESI analysis, we recommend the following in order to improve the gender mainstreaming in the programme:

- **Make** PGESI visible in the programme description and share it with the in-country partners. Include a problem analysis that makes visible the gender gap in STEM subjects and for entrepreneurship/innovation in each of the countries where the programme operates
- **Identify** and **leverage** systems and processes which have entry points for PGESI, such as the recruitment and orientation of implementing partners (criteria and guidance); participant selection (selection criteria); trainer selection (selection criteria); alumni networks (women-mentoring networks); and monitoring systems (collection and analysis of gender and poverty disaggregated data)

It has been documented that the programme has been directly contributing to the SDGs. The link has been mapped, especially between participants' activities and their innovations, and the SDGs. Nevertheless, the explicit link between the programme's objectives and the SDGs could be strengthened. We recommend that in the application guidelines, applicants are asked to link their projects with relevant SDGs.

The evidence highlighted that, particularly in larger partner countries, the programme is not always well tailored to regional contexts, such as to prevailing industrial sectors. We, therefore,

recommend that the Academy work closely together with programme in-country partners to **improve** the regional focus of the programme, for example, by involving regional partners in the delivery. Such an approach will require a higher degree of decentralisation of the programme, but it will also support sustainability, relevance and efficiency. This can also help improve access to the programme for potential participants from more rural areas in some partner countries.

The evaluation pointed to the fact that the regulatory environment and policy context in partner countries make it more difficult for the impact to materialise and be sustained. The programme's design does not currently include a component targeting policy makers and regulators in the countries. It can, therefore, be recommended that the Academy **consider** adding a focus on developing and maintaining a policy dialogue, in collaboration with the UK Foreign Service, in the countries aimed at improving the conditions for entrepreneurs. Furthermore, **improving** the dialogue between the Academy and other organisations in charge of entrepreneurial support programmes in partner countries can be recommended.

In order to support the sustainability of the programme outcomes, we recommend that the Academy **maintains** the support for the LIF communities established in partner countries. This is an important condition for the sustainability. The communities allow LIF alumni to have a long-term engagement with the programme, to maintain relationships, and to nurture knowledge exchange. Furthermore, there is unfulfilled potential of the programme in the way it engages local communities in partner countries. It can be recommended to **involve** local communities in the dissemination of programme results and outcomes.

Based on our review of the alignment between the objectives of the LIF programme and the strategic objectives of Academy, we recommend that the Academy consider adjustments to its strategy so that it better captures the added value and contribution of the Academy's international programmes, such as LIF (but also other programmes).

4.2   Implementation of the programme

The level of previous entrepreneurial experience of LIF participants varied within cohorts in some countries. The feedback from the more experienced participants showed that they had not, understandably, advanced their skills as much as their peers with less previous experience. It would be very difficult to make the programme activities more personalised than they currently are, we, therefore, recommend that each LIF cohort **becomes** more homogenous in terms of the level of previous entrepreneurial experience of participants. This could mean, for example, that in some countries, a cohort in one year is composed of less experienced entrepreneurs, which is then followed by a cohort of more experienced participants the following year. Another option is to recruit two different groups of participants in the same year and differentiate the LIF activities according to the level of experience in each group. The introduction of LIF Advance, targeted at highly experienced entrepreneurs is a significant step in the right direction. However, the total size of the LIF Advance cohort is very limited and the evaluators believe that a more differentiated approach needs to be taken for the main LIF programme as well.

Lack of time and lack of financial resources were indicated as the most significant challenges for participants in fully exploiting the opportunities provided by the LIF programme. Being aware that any recommendation can only provide incremental improvements in this respect, we recommend that in-country partners **work** very closely with LIF participants to fully understand the nature of the time/finance pressures. These are likely to be hugely determined by personal circumstances of each participant, therefore individual support from in-country partners may be necessary.

Evaluation evidence pointed to a certain mismatch between the industrial sectors of mentors and those of the participants' companies. Although, it is difficult to make this alignment perfect for all participants, the feedback received indicated that the LIF experience had been weaker where the mentor was not able to fully engage with the mentee on the specific context of the industry sector. We recommend that the process of matching mentors with their mentees **keep** receiving the appropriate attention from the LIF delivery partners.

The volume of programme-level activities, i.e. those covering all partner countries, is relatively limited. The recently established LIF Advisory Board helps keep contact with all LIF cohorts across all countries and the residential training in London (before the Covid-19 pandemic) has given participants, regardless of their country of origin, opportunities to engage with each other, as well as with a wide range of mentors and programme collaborators and partners. Nevertheless, more cross-border opportunities are necessary in order to facilitate knowledge sharing and learning among participants. We recommend an **increase** of the number of programme-level activities. This could include an annual LIF conference with participants/alumni from across countries, as well as those involved in the programme delivery, and other guests, such as policy makers, and/or business representatives. Regular meetings of in-country partners from various countries can facilitate sharing of good practice in the programme implementation.

Evidence highlighted cases where personnel changes on delivery partners', in-country partners' and the Academy's sides had led confusion. It can be recommended to **improve** the handover process, by using more formalised handover protocols, timely alerts of partners to upcoming changes etc.

The programme's monitoring mechanisms are not optimal. The LIF participants' data are not complete. Processes aimed at collecting outputs and outcomes data from LIF participants/alumni are not as effective as they could be (delivery partners' surveys yield only limited amount data). We recommend that the LIF monitoring system is improved. This can include setting up an online dashboard where in-country partners / delivery partners can input up-to-date monitoring data in regular intervals and in an automatised way. We also recommend that baseline data is available for each participant at the start of their participation, including their entrepreneurial experience at the start of the programme and their socio-economic background. This will provide clearer information about the distance travelled during the LIF programme and make the impact assessment and attribution easier.

Appendix A   Full success story vignettes

Supplied as a separate document (Volume II of the report).

Appendix B   Full survey results

Supplied as a separate document (Volume III of the report).

Appendix C   Full profiles of comparator programmes

C.1. The Anzisha Prize

C.1.1.Introduction

This programme profile for the Anzisha Prize fellowship is one of a set of comparators produced to inform the evaluation of the Leaders in Innovation Fellowships (LIF) programme commissioned by the Royal Academy of Engineering. The profile provides a description of the Anzisha Prize, the process of delivery, its impact and lessons learned.

We would like to thank the contributors from the African Leadership Academy, Josh Adler (programme director) and Ahmed Elkarib who were interviewed and also produced a significant amount of background material specifically for this profile.

C.1.2.Chapter 1: Description of programme

Context

Africa is a young continent, and the World Bank estimates that approximately half the population will be under 25 by 2050.[30] Youth face significant barriers to finding employment. Educated youth are largely employed in the informal sector and make up a large proportion of the unemployed.[31] As a consequence, entrepreneurship is an increasingly attractive pathway to economic success. The GEM report, 2015 reported that across five world regions, youth are 1.6 times more likely to want to start a business than adults. However, there remains a lack of joined up support for young entrepreneurs. There are some programmes available, such as Boost Africa,[32] a flagship initiative funded by the African Development Bank and the European Investment Bank which is supporting young entrepreneurship and innovation as well as new high-quality jobs. However not all youth entrepreneurship is high tech/high growth and there is a market failure in relation to providing support to talented "very young" people who leave school with ideas which they wish to turn into businesses. The Anzisha Prize, and its fellowship, is one solution to this problem. This case study focuses on the fellowship program within the Anzisha Prize but expands to include aspects of the wider programme, where relevant. Although this is a different focus to LIF, it provides a similar approach in terms of taking into consideration the wider ecosystems surrounding entrepreneurship (even if those ecosystems have differences).[33]

The Anzisha Prize

The Anzisha Prize is a partnership between the African Leadership Academy and Mastercard Foundation which aims to increase the number of young entrepreneurs in Africa. Its vision is to "inspire and support very young Africans with leadership potential to pursue and succeed in entrepreneurship."[34]

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[30] Status of Africa Youth Report, 2019

[31] Global Entrepreneurship Monitor,
https://www.gemconsortium.org/news/Youth%20are%20more%20entrepreneurial%20than%20adults:%20GEM%20report%20on%20youth%20entrepreneurship

[32] https://www.eib.org/en/products/mandates-partnerships/boost-africa/index.htm

[33] Young entrepreneurs also have schools, parents and different types and levels of community actors and role models involved.

[34] https://anzishaprize.org/impact/theory-of-change/

The main aim of the program is to create a "movement" that changes the behaviour of all ecosystem stakeholders toward early age entrepreneurship. The program creates stories to inspire and encourage young Africans to transition into entrepreneurship, while working alongside those who influence their career decisions. The Program focuses on equipping communities around very young entrepreneurs with the knowledge and tools needed to better enable a transition from formal education into viable entrepreneurship. This stems from the belief that by empowering youth to build and lead new ventures, more employment opportunities are created for other youth, thus supporting reductions in youth unemployment rates on the African continent.

Set up and budget

The program was set up in 2011 and started in earnest in 2012. The program supports Africans aged between 15-25 years (being under 22 years old is the age selection criteria). The budget for the whole program (which includes other advocacy and work streams) is around $1.6m per annum. The fellowship activities account for around 50-60% of the budget. There is direct cash support to each fellow of $6,000 ($2000 per annum for three years).

The programme is delivered by African Leadership Academy (ALA) and the main source of funding is Mastercard Foundation who are committed to support Anzisha until 2030. There are other foundations and high net worth individuals who support individual fellows, clusters of fellows or advocacy campaigns, particularly when aligned to specific geographies or sectors of interest.

The reach of the program

Applications for the Anzisha Prize fellowship are open to all African countries and applications have been received from all countries in Africa with the exception of the Seychelles and Sao Tome and Prinicipe. The Anzisha Fellows come from 36 African countries, and it is possible to apply in English, French, Arabic or Portuguese. Access through different languages is reported to be a critical factor in relation to inclusion and diversity for the program.

The activities of the program

The program as a whole (wider than the fellowship) is delivered through four main activities:

- The development of tools, curriculum, stories and resources to promote early career entrepreneurship in Africa.
- The delivery of early career entrepreneurship transition programs as models of excellence that leverage the tools and resources created to demonstrate what works.
- The dissemination of tools and resources to wider audiences – ensuring that parents, teachers, investors and policy makers across Africa are able to enrich their own very young entrepreneur support activities.
- Anchoring of the "very young entrepreneur movement" in Africa. This involves educational campaigns and training of parents, teachers, investors and policy-makers in Africa and measuring their attitudinal changes toward very young entrepreneurs and early career entrepreneurship.

The successful combination of these activities over time is designed to accelerate The Very Young Entrepreneur Scenario for Africa – a view of the future that sees very young entrepreneurs as a material driver of job creation on the continent if invested into further.

The second activity, **delivering early-age entrepreneurship transition programs** is where the fellowship is situated.

The training for the fellowships takes three years through an approach called "Systems of Delivery". The program does not offer traditional courses or assessments, instead young entrepreneurs are exposed to a collection of practical frameworks and tools (a System of Delivery) for one of 5 key areas of a business (e.g. The Marketing & Sales System of Delivery). They are then given time and support to implement the system within their business (through coaching). This has been pioneered by Thokoza Mjo, the head of venture acceleration within the program. Each system has the ultimate aim to deliver value to customers and can be revisited over time adding layers of sophistication or complexity. Each system is bespoke and co-developed with an industry expert. It includes a rubric which can measure to what degree, and how well the system is being implemented within their business by the entrepreneur. At the start there is a baseline exercise (from which to measure progress – this takes place as part of the one-to-one coaching – see below).

Figure 64 - Example of the pitch presentation rubric

PITCH PRESENTATION RUBRIC

Not all presenters will have the 'gift of gab,' but communicating for impact remains a valuable skill. Use this rubric to assess how presenters deliver their pitches.

Criterion #1 Structure and Language	Criterion #2 Delivery of Presentation	Criterion #3 Use of Visual Aids
This criterion assesses the way the presentation is organized, including flow of ideas, transitions, and use of language.	This criterion focuses on how the presenter engages with their audience, including both speaking and listening.	This criterion applies to both in-person and virtual pitches, with a focus on supporting material such as PowerPoint slides, images, and videos, etc.
• How coherently are ideas organized? • How smooth are transitions from one idea to the next? • How clear and appropriate is the language?	• To what extent is the interest of the audience captured? • How effectively is the presentation delivered?	• How relevant and appropriate are the visual aids? • To what extent do visual aids help convey the ideas?

Source: Anzisha resources rubric – pitch presentation

Anzisha provides one-to-one coaching support for its fellows. This is focused on monthly "wins, opportunities, risks and misses" meetings (WORMS) and information exchange through more informal channels. There is periodic reporting on the meetings and exchanges through a dashboard which contains all the information for each fellow and their venture.

Innovative features of the program

There are a number of innovations which are part of the fellowship aspect of the program. Since 2019 the fellows have access to wellness support through ALA's team of qualified counsellors and there are plans to look at how this support has increased the impact of the program. The program also includes shadowing (of existing entrepreneurs) and consulting (access to consultants for key support). The way in which the incentives are delivered is also unique. There is a stipend model of conditional cash release for the fellows which links to their level of engagement. In addition, the grand prizes are given at the end of year two of the program, whereas in the past it was provided based on prior achievements at the outset. There are four separate prizes: increased revenue, increased jobs created, best storytelling case, best business process integration.

The theory of change has also been adapted to have a better inclusion of other actors (the communities of supporters) and also to raise the prominence of knowledge sharing within the whole ecosystem.

Anzisha is currently redeveloping its indicator system and exploring the use of lead scoring as a mechanism for both monitoring and evaluation. An outline of indicators and metrics is provided in the annex to this case study.

C.1.3.Chapter 2: Delivery processes

The Anzisha Prize is delivered by African Leadership Academy (ALA). There is a dedicated Anzisha team who also have access to other ALA staff, particularly to support finance, monitoring and evaluation. The team that manage the fellowship program is complemented by specialist support by contracting with experts who co-designed the "Systems of Delivery" toolkits.

Governance

The governance of the program is also through ALA. The Head of the Anzisha Program (Executive Director) reports to the CEO of ALA and the Board in line with its mandate from Mastercard Foundation. The Executive Director of Anzisha is held to account for operations, safety and excellence. There is essentially a matrix governance system between the primary funder and the executive and board of ALA. With regard to reporting, there are direct reporting requirements in finance and impact which are provided quarterly to the Mastercard Foundation. ALA has spent significant time with the Mastercard Foundation aligning the results framework with what is needed.

The implementation processes

Each year ALA opens up applications for the Anzisha Prize, with over 1500 applications being received annually. Funding is only available for 25 fellows per year.[35] A reading round requires that each application is read and scored twice. This is followed by a phone interview (150 finalists) and assignment stage (80 finalists) from which the final 25 fellows are selected.

The fellowship package contains a number of elements. All fellows are provided with a coach with whom they meet once a month to provide any support needed for their business (see above). There is also access to the Anzisha and ALA wider community, and connections to a range of business experts, investors, and conferences. The program has a matching fund to incentivise potential investors with a revenue-linked debt instrument. There are other opportunities provided including shadowing an entrepreneur, access to professional consultants and travel support for fellows in school (where the school is in another country).

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[35] In 2020, 296 of the applicants scored "8" or above.

Figure 65 - How the Anzisha Prize/Fellowship works
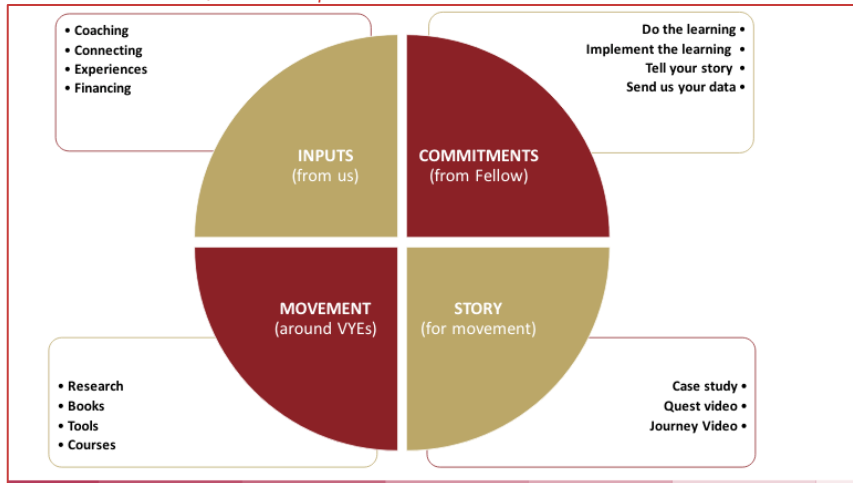
In addition, there are a range of learning modules provided over the period of the fellowship, as well as access to the cash stipends and prizes (using an incentive model). As indicated above, the prizes are thematic or linked to performance. The conditional cash (stipend) based on performance improves the efficiency and effectiveness. There has been a shift in the program's approach to due diligence (which used to have to take place at the outset and involved travelling) which has reduced fraud as well as spend on in-person due diligence.

Figure 66 - Fellowship learning modules and incentives

The whole package of support is costed to be competitive, and is benchmarked against the cost of going to university. Support of this kind should ultimately be less or equal to this cost and therefore seen as a viable alternative for young people and their parents. For the future, one useful innovation (reflected upon in the interview with Anzisha) would be to look at the accreditation for skills acquisition.

Monitoring and evaluation activities

Monitoring, evaluation, research and learning (MERL) is a key function of Anzisha. For the first ten years of the Prize, MERL was outsourced to external parties, who, over time worked increasingly closely with the program team. In the last two years, as Anzisha expanded its theory of change and programming (e.g. including more deliberately communities of supporters), and MERL activities are now carried out by ALA's internal Institutional Learning team, which has a dedicated impact manager. The program and the MERL team work closely together through the impact manager who attends and participates in planning, steering and

weekly meetings and well as through more informal channels. This embedded and collaborative relationship between program and MERL staff ensures that MERL is embedded into the program operations and is actively used to capture learning and assess the progress of the program against its objectives.

Recent MERL activities have been centred on setting up and operationalising new frameworks and systems to ensure that data collection is a smooth process. This in turn allows for analysis and the sharing of insights with the program team and the program's external stakeholders.

Activities have included:

- A reorganisation of the theory of change to more clearly articulate the impact
- Development of a comprehensive results framework based on the new theory of change (which includes measurements on engagement and behaviour change)
- Development and administration of post event surveys to elicit feedback from Anzisha fellows about their experiences in all events from induction through to learning modules
- Identification and operationalisation of (other) data collection mechanisms (surveys, application data, transactional data from the e-commerce platform, management information system data and other self-reported fellow and stakeholder data)
- Updating and maintenance of the Anzisha monitoring information system (MIS) to align with the requirements of the new results framework
- Training for the team on the new data collection and quality assurance protocols
- Building aggregated and automated dashboards allowing quick and easy insight into progress of a range of indicators, necessary for both program observation and decision-making, as well as internal and external reporting

The regular surveys and the data from the application forms, in particular, allow the longitudinal analysis of the impacts of the program. This is all quite new but in comparison to the previous system, it creates better stories. The collection of data tracking Fellows' progress in meeting learning and skill targets and benchmarks within each System of Delivery module is still a work in progress.

Figure 67 - Anzisha program Theory of Change

Drivers and barriers to the implementation

Although the pan-African nature of the program is one of its main assets, it is also the program's main barrier. This drives up costs associated with engaging with the fellows. In addition, Africa is a multilingual continent, and the applicants and fellows speak a range of languages. In order to address the needs of very young entrepreneurs in Africa it is important to include translation and interpretation. `

C.1.4. Chapter 3: Impacts

Impacts recorded (split by individual, organisation and ecosystem / community domains, including specific examples of impact)

During the first 10 years of the programme Anzisha supported 142 very young entrepreneurs. The entrepreneurs' businesses are estimated by the program to have created over 2,500 jobs with 60% of these jobs in the under 25s. The program director in interview highlighted how very young entrepreneurs also tend to hire young people which in turn further supports youth employment in Africa. In 2020 alone, there were 11 fellows who created 148 jobs (60% of which were for under 25s).

The program reports an impressive number of stories about its very young entrepreneurs. The program is trying to change the narrative around how entrepreneurship works, and stories are an important mechanism for achieving this goal.

> *Koffi N'guessan (Cote D'Ivoire) from the 2016 cohort was selected at 19 years old. His business, Yaletite Entrepreneurship Group, was already turning over almost $250,000 annually through crop sales of maize, cassava and pepper. Today, he serves over 7,000 customers and the business is thriving with revenues of almost $1m per year and 116 employees, Anzisha Case Study extract[36]*

Anzisha measures **Advertising Value Equivalency** as a proxy for tracking the growth or influence of an entrepreneurs' story across the media. This is built on the premise that the reach of the entrepreneur's story will increase investment, but also support wider stakeholder engagement.

For example, with an investment of $55K (fellowship costs, winners grant and story promotion), the program estimates an impact of, on average, 17 jobs created per winner plus an AVE of $1.33m (reach of the winner's story). In several countries where there has been good media coverage of the prize winner, the application rates from other young entrepreneurs have increased – thus indicating an emerging young entrepreneur culture in country.

Another focus of the program is the support of young female entrepreneurs. There is still work to be done, but the growth in applications from 2014-2020 is 26%-36%.

The program is also impacting on ALA (the organisation). This includes a better understanding of how entrepreneurship can be learned. This has led to the design, iteration and testing of a youth development model which is used in ALA and provides input into the fellowship program, and professional development resources and events created for ALA alumni interested in growing their entrepreneurship expertise.

There are measures on the wider ecosystem which are incorporated into the MERL system. The data collected is disaggregated by stakeholder type (young people, educators, parents,

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[36] https://anzishaprize.org/fellows/nguessan-koffi-jacques-olivier/

investors and policy makers). There is no current data available as this is a new system for the program. Activities which include policy makers are increasing with for example a series of scenario planning workshops in multiple countries to start the process of influencing policies for very young entrepreneurs.

The influence on policy remains in nascent stages. It is difficult to do well at a pan-African level and future ideas include having Anzisha National Councils in each country which will provide a focal point for collaboration between multiple stakeholders necessary for change at a policy level.

Contributions to achievement of SDGs

The SDGs are not currently fully embedded in the Anzisha approach, but the program is considering the way they can be incorporated and talking about the SDGs. At a broad level, Anzisha fellows can be seen to contribute to decent work and economic growth and therefore align with SDG 8. In 2020, UNDESA (United Nations Department of Economic and Social Affairs) published a report on youth entrepreneurship as a mechanism for achieving the SDGs.[37] The report stated that youth entrepreneurship is also key for meeting no poverty (SDG 1), Gender equality (SDG 5) and Reduced inequalities (SDG 10), all of which align with Anzisha's objectives. There are other SDGs which are more theme specific which can be associated with the fellows enterprising activity.

For example, there have been a number of fellows looking at agriculture (SDG15) over the years.

> *Ignatius is the founder of Art Planet Academy, an organisation that has identified the need to create an agricultural school in order to respond to the needs of the community in Uganda and helps in the wealth creation of the community through, farming skills and food security. Art Planet works with 21 primary schools, 18 secondary schools, 2 universities and 4 institutions to deliver agricultural training to those who need it most. Anzisha Case study[38]*

There has more recently been a shift towards incorporating fellows who are serving the health sector (SDG 3).

> *Alain is the founder of Gifted Mom which is a leading mobile health solutions provider in Africa that leverage last mile technologies to provide pregnant women and new mothers access to health information. Melissa is the co-founder of INFIUSS, an online blood bank and digital supply chain platform that makes sure that patients in 23 hospitals in Cameroon have life-saving blood when and where they need it.[39,40]*

Health is also much more of a focus in ALA more broadly where many more students at ALA now choose health sector venture programs as part of their Student Enterprise Program.

Contributions to strengthening entrepreneurship systems

Anzisha contributes to the strengthening of entrepreneurship systems in a number of ways. The description of the program and its theory of change showcase the importance of the "Anzisha

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[37] https://sdgs.un.org/publications/exploring-youth-entrepreneurship-24572

[38] https://anzishaprize.org/resources/iswy-ignatius/

[39] https://anzishaprize.org/fellows/nteff-alain/

[40] https://infiuss.com/

Movement" which engages with the entrepreneur, those who support the entrepreneurial journey (parents and teachers for example), and those who affect the environment which enables entrepreneurship (investors and policy makers).

There is a significant amount of published work on the program, which helps to demonstrate that very young entrepreneurs present an important investment opportunity and can make a difference. Anzisha collects data on the extent to which their publications are downloaded. In addition, there is investment in advocacy. This is an area where more could be done, as highlighted above, with plans to set up Anzisha councils across the continent which would bring together different types of stakeholders. The focus of the ecosystem in Anzisha in comparison to LIF is different. In 2019, following on from the Very Young Entrepreneur Education and Acceleration Summit, Anzisha had a workshop to look at the future scenarios for Africa and how this translates into the Anzisha ecosystem. Three models were developed as ecosystem blueprints. The **first model** is the ecosystem as a cyclical process with very young entrepreneurs supported by various actors including the education system, government, families, investors and mentors.

Figure 68 - Model one - the stakeholders in the ecosystem and how they contribute to the cycle of activities
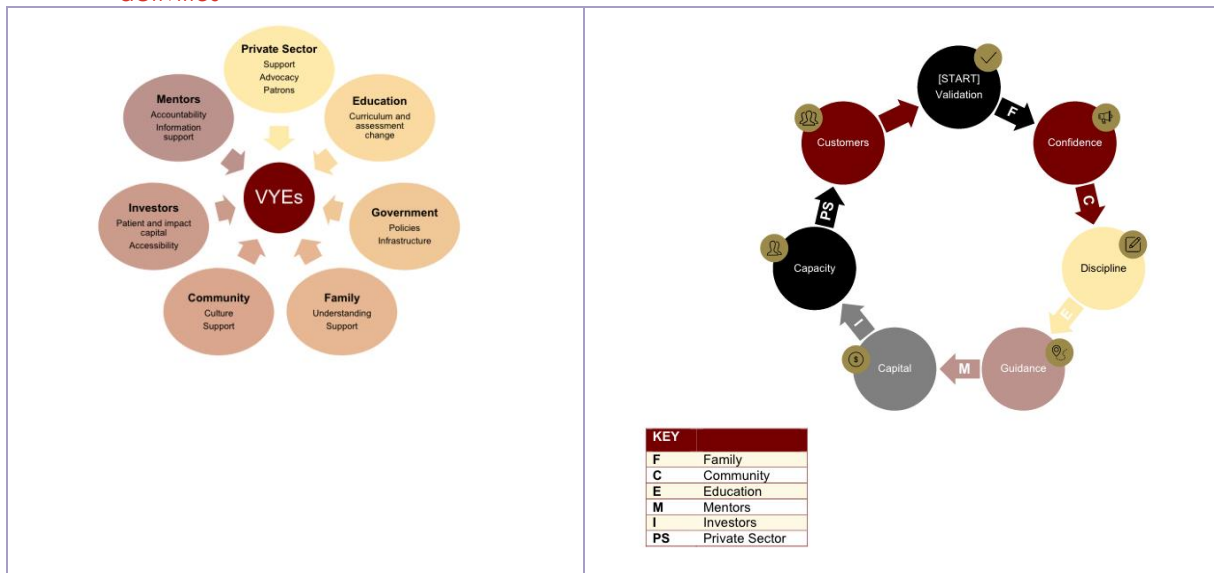
The second model engages with the vision of the entrepreneurial journey through modes of transport. The beginning of the journey is like being on a ship, navigating the ecosystem. The second phase is like being on a plane where the entrepreneurs gain altitude and momentum and the third stage is the rocket where they reach scale and are in a position to support government policies.

Figure 69 - Model 2 - transport model

Transport	Description
Ship	• VYEs begin navigating the ecosystem • As they start navigating, they learn from their environment • Government strategies and policies provide challenges • Religion, family, education, cultural elements assist them
Airplane	• VYEs begin gaining altitude and momentum • Their businesses grow • Education systems redefined to suit VYEs' needs

Transport	Description
	• Religion and family support enables them • Government policies and strategies improve and become more supportive of VYEs
Rocket	• VYEs are prepared to scale • Meet market demands –> market growth • VYEs actively support government policy and strategy development • Growth management • VYEs can provide financial support to others

Model three likened the entrepreneurial ecosystem to the natural ecosystem.

1. Roots: Parents, educators, educational institutions, communities, value systems, and friends who provide support

2. Rain: Access to money for VYEs and support organizations

3. Trunk: Training academies, early stage mentors, funders, incubators

4. Leaves: Community

5. Fruit: VYEs

6. Sun: Possibility, inspiration, potential needs, ideas

7. Compost: Traditional jobs using VYEs to grow their business

8. Farmer: Monitoring and measuring the system

9. Bees: Catalyst, technology

10. Worms: Bad influences, risks, discouraging political system

One key takeaway from this work was the need for all stakeholders in the system to be involved, thus supporting the Anzisha Movement as a concept.

C.1.5. Chapter 4: Lessons learned

Any changes or adaptations to the programmes and the reasons for the change

The Anzisha Prize has evolved significantly over the last 11 years and the story of its evolution is as important as its current philosophy and activities.

At the outset, the programme started with the Anzisha Prize as a central component, which celebrated role model young entrepreneurs. Once the Grand Prizes were awarded, little in the way of support activities were provided to the winners to support the next step of their entrepreneurial journey. This approach has been altered significantly. Five years ago, there was an evaluation of the predecessor program which led to a rethink of the theory of change and a focus on the long-term vision of what the next decade would look like. There was a shift from the centrality of the prize towards supporting "entrepreneurship transitions". From 2018, the fellowship package was changed. Each fellow is provided with a suite of services, investing in the individual alongside the business. The commitment of Anzisha is to support each fellow for up to three years or until the age of 25 (whichever comes first). The prizes are not provided until the end of the program.

An important contextual factor to highlight is that as a consequence of its focus on very young entrepreneurs, there is a different ecosystem at play, in comparison to a more traditional innovation and entrepreneurial ecosystem. The ecosystem includes parents, teachers and other champions as well as the support given to advance in their entrepreneurial journey through the more classic activities of a program (coaching, mentoring, investors). There is also

consideration given to enhancing the policy environment and how to help create better conditions for business start-ups, particularly for the very young

The Anzisha Prize is provided for very young entrepreneurs to take them through a period of transition.

Key lessons learned

There has been some significant work done by ALA and thus Anzisha in understanding the challenge of supporting very young entrepreneurs.

The **first lesson** related to changing society's view that very young people cannot be successful entrepreneurs, unless they have had the experience of a job first. The Anzisha Prize has shown that meaningful numbers of very young Africans are choosing entrepreneurship as a career and not only providing income for themselves, but employing others. Importantly, those who very young entrepreneurs employ are, very often, other very young people (under the age of 25). Given that youth are at the epicentre of Africa's unemployment challenge, this lesson demonstrates how critical it is to invest in entrepreneurs, and in particular, very young entrepreneurs, in order to move the needle on this continent-wide economic imperative.

The **second lesson** has been to debunk the myth that businesses need to secure funding before starting out. More success is found when the focus is on proving that customers are willing to pay. This means worrying less about investment and more about building a strong customer base.

The **third lesson** is program level. Anzisha is aware that in order to have an effect which is wider than on the entrepreneur, it is important to invest in a "demonstration effect". This is a key part of the program, celebrating the stories of the Anzisha fellows, investing in a campaign. By reaching more people there are spillover effects into investment (see above from the measurement of Advertising Value Equivalence).

The **fourth lesson** relates to equality and inclusion. In the case of Anzisha, in order to increase female participation rates, there is a need to do more than have inclusion criteria associated with the selection. There is still work to be done by Anzisha as even though the number of female applications is increasing (2020, the application rate was 36%), there is still not yet parity with the number of male applicants. The program deploys tools including partnering with organisations, a nomination strategy and a targeted digital marketing campaign.

Lesson five is related to lesson four. This is to ensure that the panel is adequately prepared, understands their role and in addition ensuring that the "would be" entrepreneurs have the right type of support for their pitch (this includes language support and judging relative to circumstance for example). The results of the judges are also calibrated with the evaluations of the Anzisha's coaching teams. This has provided better outcomes in the long run.

C.1.6. Chapter 5: Resources and interviewees

- Anzisha Prize: Unlocking Africa's Hidden Job Creators: Lessons from ten years of supporting transitions from education to entrepreneurship, ALA, 2021
- How we have measured the Anzisha programme, ALA, 2021
- Exploring Youth Entrepreneurship, DESA, UN, 2020: https://sdgs.un.org/publications/exploring-youth-entrepreneurship-24572
- Towards the Anzisha Entrepreneurial Ecosystem, Workshop report, 2019
- The Anzisha Prize Fellowship, input for the LIF case study (created by the Anzisha team). May 2022

Figure 70 - Interviews

Name	Organisation	Role	Date of interview
Josh Adler	The Anzisha Prize	Executive Director	13/05/2022
Ahmed Elkarib	The Anzisha Prize	Chief of Staff	13/05/2022

C.1.7. Results Framework

Anzisha's overarching goal is large scale behaviour change to enable the #VYE Scenario (Young African entrepreneurs employing other young Africans to contribute to job creation on the continent) through a self-sustaining movement around 'entrepreneurship as a career'. To realize this impact, Anzisha will work with and seek to influence: (1) very young Africans with leadership potential to become entrepreneurs, (2) parents and teachers to support entrepreneurship as a career choice, and (3) investors and policy makers to specifically create opportunities for very young entrepreneurs.

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
Create knowledge, tools, curriculum, stories and other resources for successful youth transitions to entrepreneurship in Africa.	1.1 Creation of Anzisha produced resources promoting early career entrepreneurship education in Africa	# of Anzisha resources (evergreen) produced that highlight best practices of youth entrepreneurship in Africa	Resource type (books, reports, toolkits, op-eds/articles/white papers, case studies, research studies, workshop reports, and documentaries)	Online Commerce Platform	Quarterly, Annually	√
	1.2 Evidence of sustained, and growing numbers of Anzisha produced resources celebrating successful African entrepreneur role models	# of Anzisha resources produced and publicly available that celebrate Anzisha Fellows	Resource type (books, reports, toolkits, op-eds/articles/white papers, case studies, workshop reports, and documentaries)	Online Commerce Platform	Quarterly, Annually	√
	1.3 Validate quality of Anzisha produced resources	Ratings External validation	Resource type	Online Commerce Platform, Customer feedback/ratings | Program Notes, Peer Reviews	Annually	
Dissemination and application of resources within Anzisha progra**ms to continue to demonstrate what works**	2.1 Number of participants in Anzisha programs	# of ALA students who access entrepreneurship education program allowing simulated practice # of Anzisha Fellows selected per year # of YEF recipients # of parents and educators who complete	Program type, Cohort, Gender, Nationality, Stakeholder/Learning Community	Anzisha MIS | YEF Tracker | Online Commerce Platform, Event registration and/or attendance records | Program Notes	Annually	√

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
		an entrepreneurial course or training (e.g. parent course, teacher training, etc) # of learning community prizes awarded per year				
	2.2 Anzisha provides sustained and targeted technical support to very young entrepreneurs (Anzisha Fellows)	# of Anzisha fellows who actively participate in experiential learning program # of fellows who meet stated benchmarks after each learning module	Type of technical support/intervention (e.g. mentoring/coaching, shadow experiences, short courses, and other support), Duration, Cost, Location (On- vs. Off-campus), type of delivery (Online or In-person) | Cohort, Gender, Country	Fellowship dashboard	Bi-annual	√
	2.3 Anzisha fellows who are active in the 3-year fellowship program show evidence of increased revenue year on year	Average annual revenue increase for fellows who are active in the 3-year fellowship program Revenue growth pre/post sales module	Gender, sector, type of venture	Anzisha MIS, Fellowship dashboard	Bi-annual	√
	2.4 Anzisha fellows who are active in the 3-year fellowship program show evidence of job creation year on year	# of new individuals employed full-time per year # of new individuals employed part-time per year # of new individuals employed seasonally per year	Cohort, Gender, Employees <> 25 years	Anzisha MIS Fellowship dashboard	Bi-annual	√
	2.5 Anzisha Fellow alumni show evidence of job creation year on year	# of new individuals employed full-time per year	Cohort, Gender, Employees <> 25 years	Anzisha MIS	Bi-annual	√

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
		# of new individuals employed part-time per year # of new individuals employed seasonally per year				
	2.6 Growth in the numbers of people employed by Anzisha fellows and alumni all time	# of people employed full-time per year (total per year and average per fellow) # of people employed part-time per year (total per year and average per fellow) # of ventures who meet minimum wage threshold	Cohort, Gender, Employees <> 25 years	Anzisha MIS	Annual (Jan)	√
	2.7 Anzisha fellows and alumni (all time) show evidence of raising funds/ securing external investments	Annual value (US$) of additional funding/investments raised by current Anzisha fellows Annual value (US$) of additional funding/investments raised by alumni	Cohort, Gender, Sector, Grant funding vs. Other types of capital	Anzisha MIS	Annual (Jan)	√
	2.8 Fellows are connected with relevant stakeholders	# of introductions made	By type of person being introduced to | country/location of person introduced	Fellowship dashboard, Venture Partner (VP) coaching notes	Quarterly	
	2.9 Growth in funding of very young entrepreneurs	# of young entrepreneurs <25 who receive funding from YEF #of investors who match YEF disbursements Amount of funding distributed from YEF	Gender, Sector, type of venture	YEF Folders/contracts documents	Annual	
Use resources to promote early career entrepren**eurship among various learning communities**	3.1 Evidence of Anzisha's reach through campaigns and events	# of Anzisha resource downloads per month # of people reached (media reach) per month # Website page views per month	By resource Type | Anonymized vs. non-anonymized | By Anzisha as a brand, Anzisha fellows vs, others| By campaign	Online Commerce Platform | Meltwater | Google Analytics | Buffer	Monthly	√

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
and reach a wider global audience		# Website new users per month # page views across all social media platforms per month # new users across all social media platforms per month # likes across all social media platforms per month # shares across all social media platforms per month # of people registered for Anzisha-hosted events # of people who attend Anzisha events AVE value in US$ per month	type |By social media platform |Cohort Country | Geolocation			
	3.2 Growth in the number of stakeholders who are part of Anzisha learning communities	# of individual stakeholders (young people, educators, parents, investors and policy makers) who are part of the Anzisha movement per month	Gender, Nationality, Stakeholder/Learning Community	Online Commerce Platform | Active Campaign	Quarterly	√
	3.3 Evidence of sustained, and growing use of Anzisha produced resources within learning communities	# of schools introducing Anzisha content into their curriculum or parent engagement strategy # of educators who teach Anzisha entrepreneurship # of students to whom Anzisha content is delivered # of other partners who use and incorporate Anzisha produced resources into their	School, Partner Organization, Nationality	Website pop-up surveys + Annual Learning Community Surveys	Ongoing + Annual	√

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
		curriculum or content portfolio				
	3.4 Overall engagement of stakeholders	% of stakeholders at each stage of behavior change/engagement (awareness, interest, decision, and action) % of growth/movement of stakeholders across each stage of behavior change/engagement (awareness, interest, decision, and action)	Gender, Nationality, Stakeholder/Learning Community	CRM or other approach used for tracking and scoring stakeholders in the movement[41]	Monthly	√
A growing number of **stakeholders embrace entrepreneurship as a viable career path for young Africans**	4.1 Anzisha-hosted event participants express an interest in youth entrepreneurship and/or a commitment to support young entrepreneurs within their sphere of influence	% of event participants who complete event feedback survey and 'agree' or 'strongly agree' with the item [After attending the *EVENT NAME*, I am inspired to find ways to support very young entrepreneurs in my sphere of influence.]	By event type, stakeholder/learning community	Post event feedback surveys	Per event, consolidated annually	
	4.2 Young Africans in their final year of high school report increased skills and	# and % of final year high school students who report increased likeliness	Gender, School, By survey respondent type	Annual School/Student Survey	Annual	

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[41] See internal Anzisha document, <u>Defining the Anzisha Prize movement</u> that sets out the Anzisha movement engagement funnel and lead scoring approach.

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
	confidence in their ability to start and grow a business venture	to view entrepreneurship as a viable career choice # and % of final year high school students who report increased entrepreneurial skills # and % of final year high school students who report increased confidence in embarking in entrepreneurship # and % of final year high school students who report their parents supporting their transition into entrepreneurship				
	4.3 Growth in number of parents and educators (in the Anzisha movement) who embrace the idea of entrepreneurship as a viable career for Young Africans	# of parents and educators who report increased likeliness to support young Africans to pursue entrepreneurship as a viable career choice. % of parents, educators who report that access to and the use of prizes and incentives has **inspired** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence % of parents, educators who report that Anzisha has **inspired** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence % of parents and educators who report that having read/heard about one or more Anzisha Fellow(s) **inspired** them to support young	Nationality, School, Gender, Stakeholder/Learning Community, By survey respondent type	Website pop-up surveys + Annual Learning Community Survey	Ongoing + Annual	

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
		entrepreneurs/youth entrepreneurship within their sphere of influence % of parents and educators who report that having read/heard about a learning community prize recipient **inspired** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence % of parents and educators who report that the availability of funding and other resources **encouraged** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence % of parents and educators who report that the increase in the number of educational/career pathways and other non-monetary incentives **encouraged** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence				
	4.4 Parents and educators (in the Anzisha movement) feel equipped to support young Africans to pursue entrepreneurship	# of parents and Educators who report feeling equipped to support young Africans to pursue entrepreneurship as a viable career choice.	Stakeholder/Learning Community, Gender, Nationality, By survey respondent type	Website pop-up surveys + Annual Learning Community Survey	Ongoing + Annual	

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
	4.5 Increase in parents (in the Anzisha Movement) support of young Africans transitions to entrepreneurship	% of parents who report having supported (seed funding, in-kind support) their child(ren)'s entrepreneurial activity	By gender, by nationality, by sector	Annual Learning Community Survey	Ongoing + Annual	
	4.6 Growth in number of investors (in the Anzisha movement) who embrace entrepreneurship as a viable career for Young Africans	# of investors who report increased likeliness to support young Africans to pursue entrepreneurship as a viable career choice. ## of investors who report that Anzisha has **inspired** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence % of investors that having read/heard about one or more of Anzisha Fellow(s) **inspired** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence # of investors who report having invested in 1 or more business of young African entrepreneurs $ amount invested in business of young African entrepreneurs # of young African entrepreneurs supported by Anzisha investors	Nationality, Sector	Annual Learning Community Survey, Conversation notes/meeting agendas	Ongoing + Annual	
	4.7 Growth in number of policymakers (in the Anzisha movement) who embrace entrepreneurship as	# of policymakers who report increased likeliness to support young Africans to pursue entrepreneurship as a viable career choice.	Nationality, Sector	Annual Learning Community Survey, Conversation notes/meeting agendas	Ongoing + Annual	

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
	a viable career for Young Africans	# of policymakers who report that Anzisha has **inspired** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence % of policymakers that having read/heard about one or more Anzisha Fellow(s) **inspired** them to support young entrepreneurs/youth entrepreneurship within their sphere of influence # of conversations with local and national policymakers to sell the VYE scenario # of policymakers who are members of country councils				
	4.8 Availability of funding needed to start/grow business ventures	# of conversations with donors/investors to sell the VYE scenario # of investors who donated money to promote advocacy and build movement Amount of money raised to promote advocacy and build movement	Nationality, Sector	Annual Learning Community Survey, Conversation notes/meeting agendas	Ongoing + Annual	
	4.9 Anzisha fellows and alumni connect with each other and with other young entrepreneurs	Social network analysis for active Fellows	Cohort	SumApp and Kumu	Annually	
	4.10 Anzisha stakeholder communities (including parents, teachers, investors	Social network analysis for each community	Stakeholder/Learning community	SumApp and Kumu	Other	

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
	and policymakers) connect with each other					
	4.11 The Anzisha Learning Communities maintains an average annual NPS score of at least 70	NPS=% promoters - % detractors [where promoters give a rating (out of 10) of 9 or 10, passives 7, 8 or 9 and detractors give a rating of 0-6]	Stakeholder/Learning community	Annual Learning Community Survey	Annual	
An increased **number of young African entrepreneurs choose entrepreneurship and successfully create jobs to accelerate Africa's development**	5.1 Growth in the size and diversity of Anzisha fellowship applicant pool (eligible applicants) *[proxy for aspirations]*	# of eligible Anzisha Prize applications per year	Nationality, Gender, Sector	Applications data from Submittable	Annually	Applications dashboard (already set up)
	5.2 Growth in the size and diversity of Anzisha fellowship applicants **selected for due diligence** *[proxy for quality of applications*]	# of Anzisha Prize applicants selected for due diligence per year	Nationality, Gender, Sector	Applications data from Submittable	Annually	Applications dashboard (already set up)
	5.3 Young Africans (including those with alternative options) choose entrepreneurship as their career path of choice	# and % of final year high school students who report that they plan to start a business or venture in the next 0-12 months # and % of final year high school students who report that access to and use of prizes and incentives provided the impetus to start their business or venture # and % of ALA alumni who start a business venture # and % of young Africans (in Anzisha partner schools) who start a business venture	By nationality, By gender, By timeframe (e.g. within 0-1, 1-3, 3-5 year(s) of completing a entrepreneurship program), By sector, By school or partner organization	Annual survey Research Study (~2023)	Annually	

Results	Indicators	Metrics	Disaggregation	Data collection methods	Reporting frequency	Include on monthly M&E dashboard
	5.4 Young Africans (including those with alternative options) successfully create jobs to accelerate Africa's development	# of jobs created by ALA alumni/program participants	Nationality, Gender, Cohort, Sector,	Annual survey Research Study (~2023)	Annually ~2023	

C.2. Start and Improve Your own Business (SIYB) - an ILO global programme

C.2.1. Introduction

This comparator programme profile for the International Labour Organisation's Start and Improve Your Business (SIYB) programme is one of a set of profiles produced to inform a review of the Leaders in Innovation Fellowships (LIF) programme commissioned from Technopolis by the Royal Academy of Engineering. Content is based on a combination of desk research and interview inputs from the SIYB Global Programme Team [and SIYB beneficiaries].

The profile begins with a description of SIYB, before moving into structured sections focused on delivery, impacts, lessons learned and resources used. It includes key information around size, scope and geographic reach as well as more qualitative consideration of approach, activities and distinctive features. Aims, objectives, outcomes and impacts are noted, touching on key indicators and wider reporting. Governance models and delivery mechanisms are also considered in overview.

C.2.2. Start and Improve Your Business (SIYB) programme description
Strategic context and purpose

The International Labour Organisation (ILO) brings together governments, employers and workers from 187 United Nations member states in order to set labour standards, develop policies and devise programmes promoting decent work for all women and men. The ILO's main aims are to promote rights at work, encourage decent employment opportunities, enhance social protection and strengthen dialogue on work-related issues.

According to ILO data, the majority of global employment comes from self-employment or micro, small and medium-sized enterprises. In higher-income countries, estimated employment in smaller economic units is around 58 per cent of total employment. In low and middle-income countries, this proportion might be almost 100%. In support of attainment of Sustainable Development Goal 8 (SDG8), the ILO therefore actively promotes development of micro, small and medium-sized enterprises.

In the context of development, the ILO views business training as part of an entrepreneurial ecosystem alongside access to finance and a range of other development dimensions and tools. The ILO flagship Start and Improve Your Business (SIYB) programme provides global entrepreneurship and management training for existing small businesses and potential start-ups.

SIYB programme history and scope

SIYB was not directly created in its current form but evolved in stages from its origins in a 1970s Swedish Employers' Federation training package. This package was adapted for the ILO by the Swedish International Development Cooperation Agency (SIDA) in 1977, to fit entrepreneurial needs in developing countries. The "Improve Your Business" (IYB) programme was soon added, followed in later decades by the "Start Your Business" (SYB) and "Generate Your Business Idea" (GYB) packages. By the 1990s ILO had grouped GYB, SYB and IYB inside a common framework, marketing them together as the "Start and Improve Your Business" (SIYB) programme.
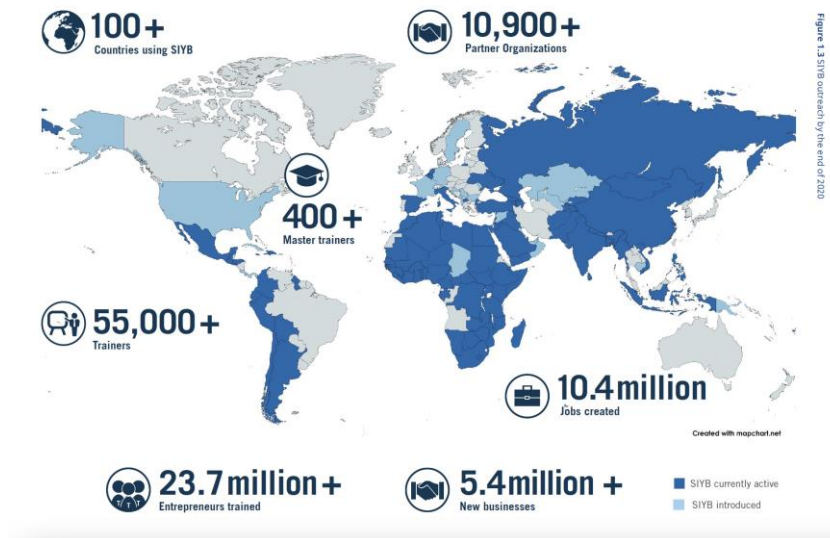
Figure 71 - SIYB outreach and outcome summary map (SIYB Global Tracer Report 2016-2020)

SIYB has since become the bestselling programme on the business training market for micro and small enterprises. By the end of 2020, SIYB had trained over 55,000 trainers across +100 countries. These trainers had then trained around 23.7 million entrepreneurs.

In the same period SIYB was linked to the start-up of at least 5.4 million new businesses, creating over 10.4 million jobs worldwide.

ILO believes that SIYB is likely to be the largest global programme of its kind.

Activities and working model

At the core of SIYB is a well-established but flexible entrepreneurship and business training process and a strong global network of trainers, master trainers, master trainer developers and participants. Training support materials and guidance are maintained by the SIYB Global Coordination Team. These are tailored to fit different countries or sectors as necessary, and available in multiple languages.

Budget and funding

SIYB is a highly devolved and diverse programme. It is not funded by a single dedicated budget within ILO but is an integral part of the Entrepreneurship Department's overall efforts. SIYB modules may be delivered alone, together, or in tandem with other ILO or local training modules (e.g. Women's Entrepreneurship Development) as part of a wider programme of ILO engagement.

Country and sector level effort may be supported by combined ILO, public, private sector, and charitable donor resource, depending on individual country needs and interests. Initial SIYB engagement may be subsidised with ILO project funding but activity is developed to become self-sustaining.

Monitoring and evaluation (M&E)

As with funding and implementation, dedicated monitoring and evaluation of the SIYB programme is significantly devolved to partner organisations, trainers and master trainers who are responsible for implementing the M&E tools locally.

At global level, a five-yearly "Global Tracer" report collates qualitative and quantitative data on SIYB outreach and impacts, although this is explicitly <u>not</u> framed as an M&E tool. The tracer product is complemented by annual SIYB highlight reports and sets of individual success stories, intended to showcase impact and spread good practice.

Where local trainers wish to carry out their own M&E exercise or impact assessment, they can apply to the Global Programme Team for appropriate support and materials (e.g. a Client Score Card) to help them develop a tool for the country, sector and/or demographic of interest.

ILO also carries out broader monitoring and evaluation of its organisational engagement areas which may cover elements of the SIYB programme (e.g. evaluation of strategy and action around promoting sustainable enterprise) including impact-focused case studies.

C.2.3. Delivery processes
Implementation

In line with the ILO's sustainability strategy, and the large scale of the global programme, SIYB programme delivery is decentralised for greater sustainability, effectiveness and efficiency, with implementation, monitoring, and evaluation all devolved to local partner organisations.

In China, for example, SIYB is fully integrated into national systems. Over 22 million participants were reportedly trained by the end of 2020 and the ILO has no ongoing programme delivery role in China.

An SIYB Global Coordination Team sits within the SME Unit of the Enterprises Department at ILO headquarters. Responsibilities include updating, developing and issuing training materials and guidance, as well as playing a support, communication and coordination role for the international SIYB network (e.g. supporting local M&E exercises, publishing global impact reports and success stories).

Implementation of the SIYB programme functions via several clearly structured tiers of delivery partners: Master Trainer Developers (MTDs) are responsible for training Master Trainers (MTs), who in turn train the programme's Trainers.

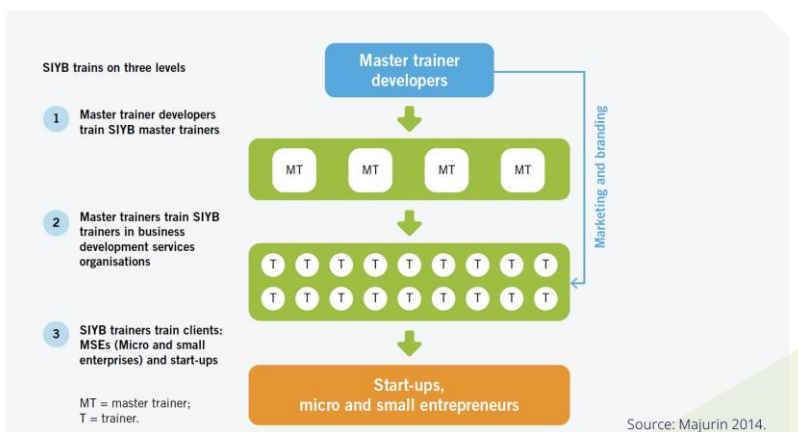Figure 1.2 SIYB implementation structure

Figure 72 - SIYB Implementation Structure (Global Tracer Report 2016-2020)

Trainers then deliver direct training and support to local businesspeople. Where local MTs are not available, the Global Coordination Team may arrange for MTDs or MTs from other countries to deliver local training, or for individuals to join training courses in other countries.

Accelerated by the COVID-19 pandemic, global SIYB colleagues developed a set of SIYB online tools ("e-SIYB") to support programme delivery where face-to-face training is not possible.

Monitoring and evaluation (M&E)

The SIYB M&E system consists of two complementary mechanisms – the SIYB M&E Toolkit and the SIYB Gateway – with data provided for both by trainers and master trainers on the ground.

The SIYB M&E Toolkit is a paper-based system for monitoring SIYB actors at different stages of the training process. Alongside it lies the SIYB Gateway, an instant electronic reporting tool, where master trainers and trainers can enter training data directly into an online database after completion, generating instant certification and licensing. Additionally, users can download training materials from the Gateway and it is also used to produce reports on global, country and partner organisation training.

At global level, a five-yearly "Global Tracer" report collates qualitative and quantitative data on SIYB outreach and impacts, although this is explicitly not framed as an M&E tool. Tracer data is largely provided by master trainers across SIYB countries and regions, with some inputs added through ILO country offices, project teams and others involved in programme rollout. Data from the Gateway is used to triangulate and complete any gaps in data collection.

To estimate the overall impact of the SIYB programme for the Global Tracer, the SIYB Global Coordination Team tasks a group of master trainers to collect relevant data, in collaboration with ILO country offices and projects who hold their own results databases. Data collected are triangulated with national and international statistics databases (e.g. the Global Entrepreneurship Monitor).

The Global Tracer is complemented by annual SIYB highlight reports and sets of success stories, intended to showcase impact and spread good practice.

Where local trainers wish to carry out other M&E exercises or impact assessments, they can apply to the Global Coordination Team for appropriate support and materials (e.g. a Client Score Card) to develop a tool for the country, sector and/or demographic of interest.

ILO also carries out broader monitoring and evaluation of its engagement areas which may cover elements of the SIYB programme (e.g. evaluation of strategy and action around promoting sustainable enterprise) including impact-focused case studies.

Barriers and limitations to implementation

Data collection for the 2020 Global Tracer study was impeded by the COVID-19 pandemic and lockdown measures. This also rendered the usual level of field mission fact-checking by the SIYB Global Coordination Team impossible.

More generally, SIYB data gathering and use of monitoring and evaluation tools can be less consistent in some countries than others, whether due to local infrastructure issues, parallel reporting requirements to national agencies (e.g. China), or reliance on independent trainers. ILO is aware of gaps and limitations of this kind and seeks to mitigate them in its analysis of outreach and impact (e.g. through triangulation of data with other sources).

C.2.4.Impacts

Individual-level impacts

ILO estimates that implementation of the SIYB programme is linked to the launch of over 5 million new businesses since the programme was launched [, contributing to creation of] over 10.4 million jobs and directly creating] and creating about 4.1 million new jobs since SIYB's inception. NB Other relevant factors contributing to SIYB outcomes for SIYB trainees in this area include access to finance, technical skills, business climate, supporting policies and infrastructure, and personal competency of participants.

Table 2.2 Summary of start-ups and job creation, by the end of 2020

Region or country	Up to 2010	2011–2015	2016–2020	Total
New businesses (new entrepreneurs)	0.5 million	2.1 million	2.8 million	5.4 million new businesses
New jobs (entrepreneurs plus hired labour)	2.2 million	4.1 million	4.1 million	10.4 million new jobs

Organisational-level impacts

SIYB has been subject to a range of randomized controlled trials (RCTs) across regions and target groups, both as a stand-alone training programme and in combination with other services. Overall, investigation shows an overall positive impact of business management training on business practices. Enterprises with improved business management practices were found to be more profitable and demonstrated stronger growth patterns.

SIYB-linked RCT studies in Ghana, Tanzania and Vietnam also demonstrated the advantages of complementary approaches in delivering business management training. The impact of SIYB appeared significantly improved in small businesses when combined with basic elements of Kaizen training on production management and quality control [and ILO Women's Entrepreneurship Development programme?]. Improvements in SIYB-trained entrepreneurs reportedly increased business resilience to shocks and economic downturns compared to untrained entrepreneurs.

Ecosystem / community domain impacts

Where budget and institutional capacity are available, government or private sector entrepreneurship training programmes can have massive outreach potential, particularly benefiting those living in poverty or marginalized communities.

SIYB's major success story is its rollout in China where the ILO programme was introduced over 20 years ago. China's Ministry of Human Resources and Social Security subsequently adopted the SIYB as a major component of a national job creation and poverty reduction strategy. By publication of the 2015 Global Tracer report, China had trained 11 million participants and claimed creation of 1.9 million new businesses and 3.9 million related jobs. In the 2020 Global Tracer study, the number of Chinese trainees had risen to 22 million.

Contributions to achievement of SDGs

As a custodian agency, the ILO reports directly to the UN with data for 14 SDG indicators, grouped under 5 of the 17 Goals. Sustainable Development Goal 8 (SDG 8) targets are particularly closely intertwined with ILO promotion of micro, small and medium-sized enterprises in support of productive employment, poverty reduction and decent work.

The SIYB programme is explicitly identified by the ILO as one of the tools by which businesses can contribute towards the achievement of SDG8. Outputs and outcomes linked to SIYB and other relevant programmes may feed directly or indirectly into SDG 8 indicators.

[The ILO's World Employment and Social Outlook Trends report for 2022 noted that the COVID-19 pandemic and its aftermath would make the achievement of the SDGs even more challenging. Even before COVID, the 2019 Trends report stated that the world was not on track to achieve many SDG 8 targets, especially in lowest income countries.]

Contributions to strengthening entrepreneurship systems

While SIYB is one of ILO's flagship programmes, associated with a high number of distinct individual success stories, ILO high-level evaluations have raised fundamental questions around SIYB monitoring, evaluation and impact at systems level. The programme focus on outreach and outputs (number of trainers, participants etc..), its overall approach to data collection, combined with its internal integration across wider ILO engagement and devolved implementation model may create challenges in reaching definite conclusions around systemic impact.

C.2.5.Lessons learned

The SIYB programme has been running in some form for well over 30 years and has evolved and developed in various ways during that time, influenced by programme growth alongside changing understanding of local needs and demand.

Significant adaptations and alterations at programme level over time include:

- **Decentralisation.** For greater sustainability, local relevance and efficiency, SIYB programme implementation, monitoring, and evaluation are all devolved to local partner organisations.

- **Adaptation of materials.** While developed from a common core, SIYB training packages may be tailored towards individual countries, regions, sectors or demographics. They are available in a range of different languages and there is not an assumed one-size-fits all approach.

- **Flexible funding models.** ILO is open to SIYB programme delivery funded by governments, companies, donors and other sources, or combinations of these. This flexibility allows wider outreach and nimbler rollout, via use of networks and funders already active in local contexts.

- **Online data collection:** the Gateway tool allows easier and more systematic gathering of data inputs from all trainers and master trainers around the world. This gives the Global Coordination Team access to a rich and accessible source of data to inform their communication and support activities (e.g. production of the Global Tracer and success story publications).

- **Digitalisation:** Prompted by the COVID-19 pandemic and lockdowns, but also linked to longer term digitalisation trends, the Global Coordination Team has developed and issued an "e-SIYB" set of new online tools. e-SIYB is intended to enable delivery of the programme virtually when face to face training is not possible.

Country engagement also produces valuable examples of learning:

- Benin SIYB was successful in **boosting the participation of female entrepreneurs** by providing a childcare service and family-friendly scheduling for training.

- Peru SIYB established a sustainable entrepreneurship training model which has been running well for over 10 years by **combining SIYB with mutually reinforcing technical and vocational training**.

C.2.6.Resources and interviewees

Interviewees

- Luisa Lachan, Technical Officer, SIYB Global Coordination Team [19/4/2022]
- [SIYB trainer and/or participant – tbc, pending suggestions from SIYB Global Team]

Resources

- SIYB Global Tracer report 2016-2020
- SIYB Global Tracer report 2011-2015
- SIYB Implementation Guide
- ILO SIYB website and online resources including:
    - SIYB Update Reports 2019, 2020, 2021
    - SIYB Success Stories 2019, 2020, 2021
- Announcement re SIYB e-tools
- ILO SDG statistics and reporting
- [SDG 8 reporting]
- [ILO higher level M&E reports relevant to entrepreneurship programmes e.g. this one from 2019]
- [ILO World Employment and Social Outlook Trends, 2019, 2020, 2021, 2022]

C.3. Young Entrepreneurs Scheme (YES)

C.3.1.Introduction

This comparator programme profile for the Young Entrepreneurs Scheme (YES) is one of a set of profiles produced to inform a review of the Leaders in Innovation Fellowships (LIF) programme commissioned from Technopolis by the Royal Academy of Engineering. Content is based on a combination of desk research and interview input from the YES programme team.

The profile begins with a description of YES before moving into structured sections focused on delivery, impacts, lessons learned and resources used. It includes key information around size, scope and geographic reach as well as more
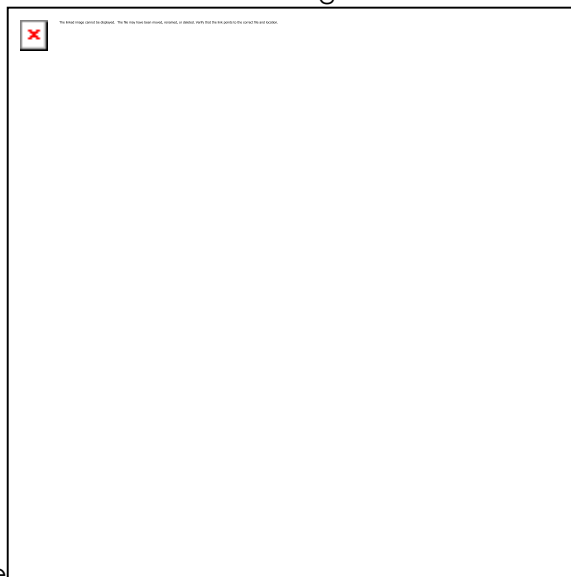
qualitative consideration of approach, activities and distinctive features. Aims, objectives, outcomes and impacts are noted, touching on key indicators and wider reporting. Governance models and delivery mechanisms are also considered in overview.

C.3.2.Chapter 1: Description of programme

YES is an innovative global not-for-profit competition developed to raise awareness among Master and PhD students, postdoctoral researchers, research fellows and technicians around **how ideas can be commercialised**.
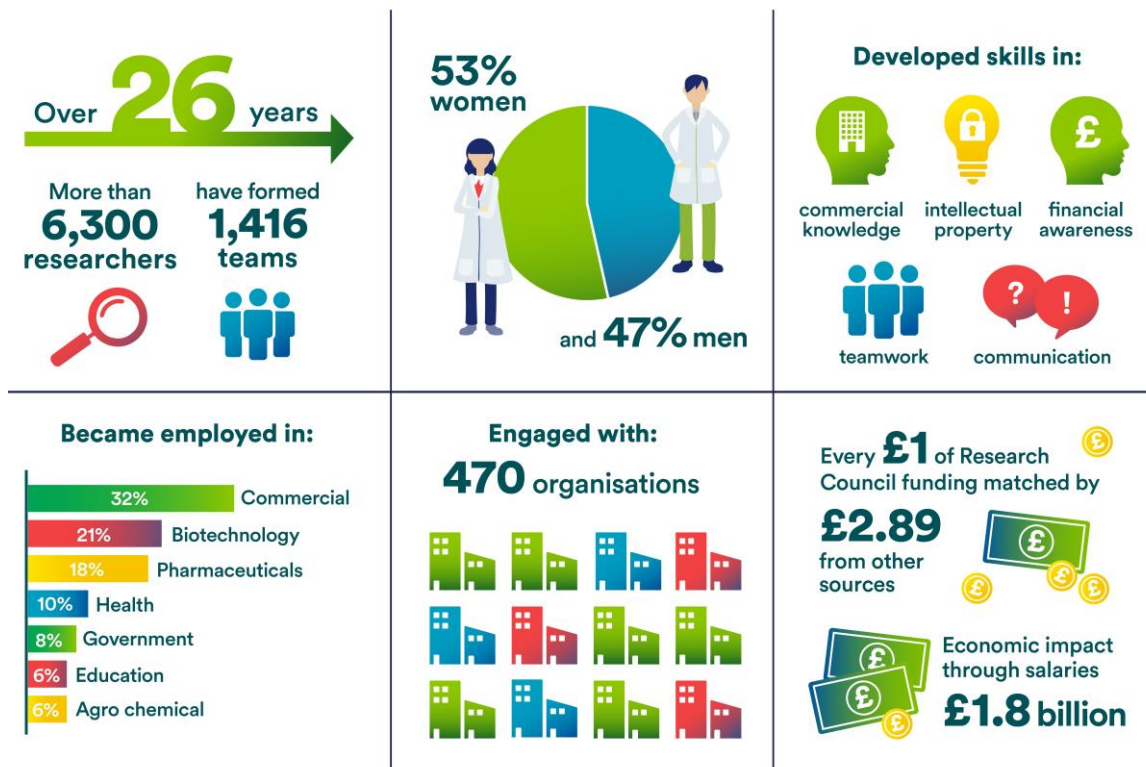
Since its **launch in 1997,** following pilot years in 1995 and 1996, o**ver 6300 participants have been through the programme**, many of whom have joined an **active alumni network**, with 3000 in the YES LinkedIn group alone. Social media and other outreach enable connection to alumni and involve them in delivery of the latest programme.

The programme is global and **open to eligible participants in all countries**, as long as they can cover the cost of their participation and travel to the UK if participating in on-site activities. Entry fees for participation in 2022 are between £500 and £750. Those interested in the programme are encouraged to apply to their own universities for financial assistance in the first instance. For those in the UK or overseas without sufficient resources to participate, **bursaries and scholarships** are available.

YES is run from the **Haydn Green Institute for Innovation and Entrepreneurship** at the University of Nottingham, with **BBSRC, NERC and MRC as as co-organisers**, along with partnership or support of leading companies across several sectors (e.g. **GSK, Unilever and Syngenta)** and the vast majority of UK universities. **Midlands Innovation Talent** are funding 20 bursaries this year.

With each £1 of UK Research Council funding being matched by £2.89 from partners, donations or other sources, the biotechnology strand of YES had reportedly produced an **economic impact of £1.8 billion** from its inception to 2010.[42]

The total **YES programme budget varies from year to year** depending on funding raising, partner investment and number of competition entries. Size of budget is not considered a key metric. As a not-for-profit scheme, money not spent on programme management or organisation costs, is channelled into YES scholarships, bursaries and prizes.

The traditional standard format of the programme has been a **three day workshop** in which participants need to **identify a problem, think through solutions, and choose one to present**. Each idea going into the YES competition must have societal impact and **participants are encouraged to consult the SDGs**. Following the shift to online events and communication following the COVID-19 pandemic, **virtual YES options** and engagement are also now offered.

Whether on-site or online, YES participants take part in the same activities, focusing on **developing a business plan** for a hypothetical start-up company. Knowledge and skill-building **presentations and mentoring sessions from industry and academic experts**, include sessions on business models, creative thinking, finance, intellectual property, and regulation. Former YES participants who have started their own company or engaged with spin-out firms also present on their experiences, providing accessible role-models and real-world illustrations of challenges and opportunities. The developed business plans are then **pitched orally to a panel of equity investors**.

Specific objectives and priorities for each year are set by the YES programme manager, and the Director and Deputy Director of the Haydn Green Institute, in consultation with a team of academics. While there is no age limit for those wishing to participate in the programme, it is designed and targeted towards those early in their careers.

Among entrepreneurship competitions, YES is notable for its **high levels of female participation,** on average 53% women to 47% men. In 2021, this ratio was even higher with 59% women to 41% men.

C.3.3. Chapter 2: Delivery processes

YES is a **well-established university / research council / industry partnership** with partners from each sector contributing their own funding, support and credibility to programme outreach and delivery. At its core is the **Haydn Green Institute for Innovation and Entrepreneurship** at the University of Nottingham, which formally hosts the programme and its manager. A number of **programme events are held at industrial partner sites** around the UK, including a leadership session at Unilever. The final normally takes place at the **Royal Society** in London.

There is a **prominent relationship with BBSRC as a founding partner**. NERC and MRC also play an important supporting and co-organisational role and there are **several long-term business relationships** (e.g. with GSK) which have ensured consistent industry connections, funding and expertise for the programme. An outer tier of **"floating partners" from the business and research community** is subject to change each year, potentially bringing a shorter term focus or interest to the competition.

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[42] Webb, D. (2010), 'Evaluation of Biotechnology YES', DTZ. Available at https://webarchive.nationalarchives.gov.uk/ukgwa/20101115155736/http://www.bbsrc.ac.uk/organisation/policies/reviews/business-activities/1007-biotechnology-yes.aspx

In addition to the **original Biotechnology YES strand of the programme**, the competition has expanded thematically and geographically over time, now **covering a range of STEM disciplines** including Engineering YES, Sustainability YES, and Environment YES, along with YES strands tailored to particular countries. This has included India, North America and Malaysia, with FCO support. YES does not invest separate funding in country programmes, but signs an MOU with the responsible officer at a partner institution in-country to define roles and responsibilities for YES implementation.
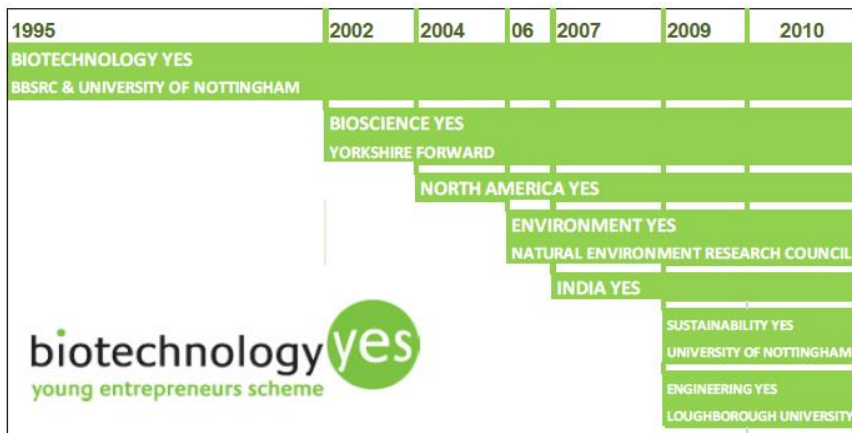
While the programme manager is the **single official YES staff role**, overseeing all programme elements, this role **works closely with the leadership of the Haydn Green Institute for Innovation and Entrepreneurship** on programme agenda setting, and has the support of the Institute's finance, marketing and other corporate leads for delivery.

There is no formal YES governance board mechanism but progress is driven and monitored through **weekly programme team meetings** and ongoing engagement and interventions in specific programme areas.

There are also **three other relevant programmes hosted within the Haydn Green institute** with some complementarities and overlap (the Whitty Scholarship, the Ingenuity Lab student incubator, and the Ingenuity UK-wide social enterprise). This leads to a degree of natural l**oad sharing between programme staff**. Compared to the other programmes, YES is entirely STEM-focused, more skills-based, and more complementary to the PhD journey.

The **YES 'programme team'** may therefore be characterised as a **low-cost, efficient, dispersed and cross-cutting** expert group of academics and practitioners, embedded across synergistic areas and units. The **wider YES delivery team** can be understood to include administrators, academic staff and over 300 speakers, mentors and judges across sponsoring organisations including large corporates, equity providers and academic entrepreneurs.

Following the **shift to online events and communication** following the COVID-19 pandemic, two rounds of the YES competition were held online in 2021, one in January and another in the autumn. YES 2022 is **offering a ten-week online programme** as well as the **intensive three-day on-site workshop option**. Weekly virtual awareness sessions explaining YES backgorund and mechanics are also integrated, along with a virtual careers fair and a number of real life events.

Enabling factors which support YES implementation include the **wide and active alumni networks**, engaged **partnerships with research councils and industry** and the possibilities opened up through **online communication**.

Pre-COVID, **travel costs and time may have been barriers** to participation and success but **widespread use of online technologies and creation of virtual competition options** have mitigated this issue. Following introduction of virtual delivery, stakeholder feedback in 2021 was **even more positive than in previous years**. The online YES mode appears to be neither a

deterrent to competition entry nor a bar to success. In 2021, three winning YES teams had never met in person.

The general working integration and acceptance of virtual technologies in the post-COVID world also means that the programme team are able to develop and deploy a fuller range of recorded training and presentation materials. In the past this would have been prohibitively complex and costly, but it is now normalised. Feedback has shown that students are using and digesting this online content even more than when it was provided in other forms in the past.

Despite the positive aspects of virtual provision, there is also a risk that it may **negatively impact recruitment of participants in future years**, with the programme's profile traditionally benefiting so greatly from strong networks formed at on-site intensive workshops and word of mouth advertising within peer groups. Cohort networks formed solely online may be smaller, weaker and less suited to this function.

As the longest running strand of the programme, **BioTechnology YES has been subject to several evaluations**, including an internal evaluation in 2005 and an external evaluation by DZT (commissioned by BBSRC) in 2010.[43,44] A planned evaluation for the programme's 25th anniversary in 2020 was postponed due to the COVID pandemic and is still to be rescheduled. A 2015 report, "Celebrating 20 Years of Ingenuity", showcased the career successes and appreciation of YES participation from a selection of senior alumni.

While data may be collected on economic value generated as part of evaluations and regular reporting, **YES itself is not-for-profit and is not systematically evaluated at programme level against financial or economic metrics**.   In the 2010 external evaluation of Biotechnology YES, **programme sponsors rated YES value for money as being "very good",** a rating corroborated by the decision of industry and research council partners to maintain the YES relationship for over 25 years. Spending and allocation efficiency is maintained through yearly financial reviews and discussions.

C.3.4. Chapter 3: Impacts

While there is no comprehensive and up to date evaluation of the full YES programme available at this point in time, we can identify examples of impact through earlier evaluations of the Biotechnology YES strand in 2005 and 2010, published case studies in YES reporting, YES data analysis in academic papers, and examples quoted in wider reporting from other organisations.

Illustrations in this section draw on all these sources.

Individual-level

Drawing on interviews, earlier evaluations and a 2017 online survey of YES alumni, a **2021 study of Biotechnology YES participants** concluded that **long-term entrepreneurial career outcomes** can be fostered through this kind of tailored short-term intervention.[45]

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[43] "Investigation of Biotechnology YES past participants career aspirations and destinations (1997-2004)", (2005). PDF available.

[44] Webb, D. (2010), "Evaluation of Biotechnology YES", DTZ. As previously quoted.

[45] Treanor, L., Noke, H., Marlow, S., & Mosey, S. (2021). 'Developing entrepreneurial competences in biotechnology early career researchers to support long-term entrepreneurial career outcomes.' *Technological Forecasting and Social Change*, *164*, 120031. Available at: https://core.ac.uk/download/288430387.pdf

In the earlier Biotechnology YES evaluations, YES alumni indicated that the programme had **boosted their commercial knowledge, financial awareness and communication** skills. 71% also believed that YES had significantly developed their skills in team working and management.

The 2010 external evaluation of Biotechnology YES applied a matched-cohort methodology to determine **longer-term YES impacts around career benefits** for participants compared to peer group PhD non-participants. This analysis found:

- A greater proportion of YES participants than non-YES peers employed in industry
- YES participant salary enhancement of up to 25%
- YES participants involved in entrepreneurial activity said that the programme had been "highly influential" in enhancing their business success
- YES participants involved in entrepreneurial activity attributed 60% of their positive performance outcomes to YES. Benefits quoted in evaluations and papers range from £5000 per annum self-employed turnover to £200k investment funding and potential licensing income of £3m from a single business

In the 2017 survey of Biotechnology YES participants, 84% said that **YES provided deeper understanding of commercialisation and technology transfer**. 62% said that YES participation had positively influenced their self-confidence in commercialising research and/or creating new ventures.

Organisation-level

While we don't have systematic data on the objective impact of YES for participant, speaker or sponsor organisations, organisational level impact can be approached subjectively.

In the 2010 external evaluation of Biotechnology YES, **programme sponsors rated YES value for money as being "very good",** perhaps one element of the decision by industry and research council partners to continue to support and invest in the YES relationship for over 25 years. The same source quoted judges, mentors and speakers as all feeling that the programme was run extremely well.

With universities expected to promote and sponsor YES among their student populations, the success of the **programme is linked to successful university engagement**. Overall interest and applications across YES appear to have been maintained or enhanced over time, **and some HEIs have developed strong and consistent programme engagement** (e.g. Newcastle University; University of Manchester Incubator Company). The 2010 evaluation also touched on awareness raising activities to encourage YES engagement and participation, noting that **some universities struggled to find champions** to take ownership of the programme or undertake promotion activities. **Lack of senior staff engagement** was also a relevant factor.

Ecosystem / community domains,

At entrepreneurship ecosystem or community level, YES is unusual in its **high female to male participation levels.** (On average 53% women to 47% men, and even higher in 2021, with 59% women to 41% men.) This contrasts with a broader tendency for entrepreneurship education programmes to be male dominated (in terms of numbers of participants, trainers, guest

lecturers and quoted success stories).[46] It potentially allows YES to provide a unique contribution and counterbalance to the wider ecosystem in which it operates.

In their annual State of the Relationship report in 2020, the **National Centre for Universities and Business reflected on the importance of YES** and its role in fostering a culture of entrepreneurship among early career researchers. Observing the economic value generated according to earlier evaluations, and that supporting entrepreneurship was crucial to UK economic recovery, the report noted that the **UK government would be wise to support and build on the success of programmes like YES**.

Contributions to achievement of SDGs (discuss the collected evidence)

Ideas behind YES competition entries are required to have societal impact and **participants are encouraged to consult the SDGs**. While there is no formal collection and evaluation of programme impacts against the SDGs, published case studies illustrate impacts relevant to SDG-linked thematic areas. For example:

- **Clean energy (SDG7**): Andrew Jenkins (YES 2014) developed a business solution aimed at saving offshore wind energy developers time and money while conserving energy. His company, Kinewell Energy Ltd, now offers "state of the art infrastructure optimisation solutions that support our global transition to a net-zero society". Since 2015, Kinewell Ltd have been successful in winning clients, and entering the electric vehicle sector, while being awarded a range of UK, EU and other research, innovation and demonstration grants. The company advertise themselves as: "leaders in developing lifetime cost optimisation solutions for low carbon technologies using advanced mathematics and artificial intelligence techniques".

- **Health and wellbeing (SDG3):** Iwan Roberts (YES 2012) and his spin-out company, Puridify, aimed to contribute to global efforts against disease through greater efficiency in manufacturing of biomolecules. Puridify developed "safe and cost-effective bioprocessing platforms using nanofibres to improve current purification technologies and meet market demand for cheaper biotherapeutics". Acquired by GE Healthcare in 2018, Purida is now part of Cytiva Life Sciences, who describe their company as "delivering lasting value for people, the planet, and our business".

- **SDG partnerships (SDG17)**: Alicia Greated (Yes 1997) cites YES as having a major impact on her career which has included being the founder and director of RCUK India; leading the BEIS £735m Newton Fund for UK research and innovation in partnership with emerging economies; and now heading the Knowledge Transfer Network (KTN), which works to connect ideas, people and communities in responding to societal, environmental and economic challenges and driving positive change through innovation.

Contributions to strengthening entrepreneurship systems (discuss collected evidence)

YES contributes to stronger entrepreneurship systems through its building and maintenance of strong research council – academia – industry partnerships and large, proactive alumni network, both discussed earlier in this report. We do not have data to quantify these effects, but the continuation of YES partnerships over more than 25 years and the continued growth and activity of YES networks both support this conclusion.

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[46] Kuschel, K., Ettl, K., Díaz-García, C. *et al.* (2020) 'Stemming the gender gap in STEM entrepreneurship – insights into women's entrepreneurship in science, technology, engineering and mathematics.' *Int Entrep Manag J* **16,** 1–15
Available at https://link.springer.com/article/10.1007/s11365-020-00642-5

C.3.5.Chapter 4: Lessons learned

There have been several **key evolutions and adaptations** since the programme's launch in 1997, most notably:

- **Thematic expansion** from YES Biotechnology to a whole range of STEM fields including engineering, digital, environment, sustainability and energy. Expansion has been underpinned by partnership with the relevant Research Council (e.g. NERC for YES Environment) and engagement with industry sponsors.

- **Geographic focus expansion.** While YES appears to always have been open to international participants, the move to target or prioritise particular countries was a new step. As with thematic expansion, careful thought appears to have been given to effective engagement and delivery, with geographic YES programmes developed through partnership with FCO and in-country partner organisations.

- **Virtual expansion**. After the necessity of online delivery in 2020/2021, and the positive feedback which virtual YES engendered, the YES programme team have fully integrated the option of a virtual mode of delivery alongside the traditional on-site workshop option. Virtual careers fairs and additional online training materials have also been added to the YES standard offer.

Possible lessons learned from reflecting on YES experience and success in these cases could include:

- The importance of **engaging the right policy, communication and delivery partners** when rolling out new areas of work. YES has a track record of engaging organisations with well-aligned responsibilities, commitments and objectives, who then go on to maintain long-term partnerships with the programme

- The potential efficiency of **embedding an entrepreneurship programme and its staff in a larger institution or unit**, compared to creating a completely separate entity. YES is able to draw on wider corporate staff expertise and support Haydn Green Institute for Innovation and Entrepreneurship, while benefiting from synergies and overlaps with related programmes

- The value which can be added to a programme by an **active alumni network,** both online and in real life**.** YES alumni play a role in promoting the programme, delivering sessions and role-modelling success as guest speakers, and in informing evaluations and case studies through long term engagement with data collection exercises

- The potential **complementarity of virtual and on-site programme delivery options** in expanding global reach, flexibility and accessibility of information for participants while building programme resilience to pandemic risks and other shocks

- The potential value of **staff continuity and strong institutional memory**. Unlike many networks and programmes, YES has had a single programme manager in place for its full lifespan to date, and the involvement of the same home institution and key academic seniors for most of this time. Points of contact and lines of responsibility are clear, while relationships with sponsors and alumni appear well-established and strong

C.3.6.Chapter 5: Resources and interviewees

Interviewee

Tracey Hassall-Jones, Young Entrepreneurs Scheme (YES) programme manager. 16 June 2022.

Resources

- YES website and online resources including:

- [Case studies](#)
- [Application process](#)
- [Blogs](#)
- **2005 internal evaluation:** Investigation of Biotechnology YES past participants career aspirations and destinations (1997-2004), (2005). PDF provided.
- **2010 external evaluation:** Webb, D. (2010), "Evaluation of Biotechnology YES", DTZ. Available at: https://webarchive.nationalarchives.gov.uk/ukgwa/20101115155736/http://www.bbsrc.ac.uk/organisation/policies/reviews/business-activities/1007-biotechnology-yes.aspx
- **[Young Entrepreneurs Scheme - Celebrating 20 Years of Ingenuity](#)**, 20th anniversary report, 2015
- **[State of the Relationship 2020 report,](#)** The National Centre for Universities and Business
- Simon Mosey , Hannah Noke & Martin Binks (2012) 'The influence of human and social capital upon the entrepreneurial intentions and destinations of academics.' *Technology Analysis & Strategic Management*, 24:9, 893-910. Available at: https://www.tandfonline.com/doi/abs/10.1080/09537325.2012.718664
- Treanor, L., Noke, H., Marlow, S., & Mosey, S. (2021). 'Developing entrepreneurial competences in biotechnology early career researchers to support long-term entrepreneurial career outcomes.' *Technological Forecasting and Social Change*, *164*, 120031. Available at: https://core.ac.uk/download/288430387.pdf
- Kuschel, K., Ettl, K., Díaz-García, C. *et al.* (2020) 'Stemming the gender gap in STEM entrepreneurship – insights into women's entrepreneurship in science, technology, engineering and mathematics.' *Int Entrep Manag J* **16,** 1–15. Available at https://link.springer.com/article/10.1007/s11365-020-00642-5

C.4. Seed Support System programme (India) and its implementation by the iCreate centre

C.4.1. Introduction

This document presents a profile of a business support programme implemented in India (called Seed Support System (SSS)). The main aim of the document is to provide additional comparative evidence which will feed into the evaluation of the Leaders in Innovation Fellowships programme (LIF) implemented by the Royal Academy of Engineering in the UK.

The profile of the programme starts with the description of the programme and continues with an overview of the delivery model and process. In the next chapter, the main impacts at the individual, organisational and ecosystem / community levels are presented. The document concludes with a short overview of the lessons learnt.

C.4.2. Description of programme

The National Initiative for Developing and Harnessing Innovations (NIDHI) is an umbrella scheme which is implemented by the Department of Science and Technology (DST), [47] Government of India, in order to nurture ideas and innovations (knowledge-based and technology-driven) into successful start-ups. The NIDHI implements a number of programmes, among which the Seed

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[47] Official website available at: https://www.indiascienceandtechnology.gov.in/.

Support System (SSS) programme. The NIDHI SSS aims at providing financial assistance to start-ups for proof of concept, prototype development, product trials, market entry and commercialisation.

The NIDHI initiative has been in existence for six years. For the last two years, as a result of the Covid-19 pandemic, the NIDHI team has stepped up its activity around establishing new collaborations and working with start-ups.

The main objective of the SSS programme is "*to ensure timely availability of the seed support to the deserving incubatee startups within an incubator, thereby enabling them to take their venture to the next level and facilitate their success in the marketplace.*" The programme also aims at widening start-up pipelines of incubators and at sharing the success of the start-ups.

The main reason for the existence of the SSS programme is a need to bridge a wide gap in the existing financial support available for technology-driven start-ups, especially those which are in their initial phase. The seed funding therefore provides financial support to start-ups with good potential, promising ideas, innovations and working with new technologies.

The SSS programme offers funding to start-ups, from a very early stage, concept stage, or even when individual entrepreneurs are still at a university, which are looking to scale up. The SSS programme works with start-ups operating in a number of policy areas, such as aggrotech, renewable energies, fintech, electric vehicles. The programme tends to work with start-ups focusing on hardware technologies, rather than software. The programme covers the whole of India.

The SSS support covers the following main areas:

- Product development
- Testing and Trials
- Test Marketing
- Mentoring
- Professional Consultancy (in order to attract academics/experts to work with start-ups)
- IPR issues
- Day-to-day operations
- Any other area as necessary and recommended by the Seed Support Management Committee of the incubator

The programme provides the following support:

- Financial support of up to Rs. 1,000 lakhs (100,000,000 rupees, an equivalent of £1,095,067) to eligible incubators provided in the form of grant funding (to be disbursed to start-ups that the incubator works with)
- Financial support of up to Rs. 100 lakhs (10,000,000 rupees, an equivalent of £109,507) to eligible start-ups
- Average seed funding per start-up is Rs. 25 lakhs (2,500,000 rupees, an equivalent of £27,346)
- Loan, equity and/or equity-linked instruments for start-ups (in case of loans, start-ups can benefit from an interest rate between 2% and 3%)

The eligibility criteria for start-ups are the following:

- They need to be a registered company in India with a minimum of three months of residency at an incubator

- The proportion of shares in the start-up held by an Indian entity should be at least 51%. The programme is not aimed at supporting India-based subsidiaries of foreign companies.

In order for an incubator to be eligible for the funding, it has to be fully operational, and it has to work with at least five start-ups.

The average period of the programme support is between two and three years for each start-up. During the 2021/2022 period, 65 start-ups have been supported so far from the NIDHI-SSS programme. Approximately, 100 start-ups are supported annually. So far, some 450 start-ups have been supported from the programme. Since the start of the programme, 43 technology business incubators have cooperated with the programme, of which eight have been supported in the 20211/2022 period.

C.4.3. Delivery processes

The fundamental operational model of the SSS is based on the NIDHI scheme working together with a series of business incubators. The incubators are in direct contact with start-ups (they recruit them and provide the necessary business support).

Figure 73 provides an overview of the operational model for the NIDHI – SSS programme. The SSS programme provides support to business incubators. The individual business incubators then launch their own funding competitions for start-up selection. The applications from start-ups are evaluated by each incubator separately (Seed Support Management Committees are formed within each incubator).

Figure 73 - Operational Model for NIDHI - SSS programme
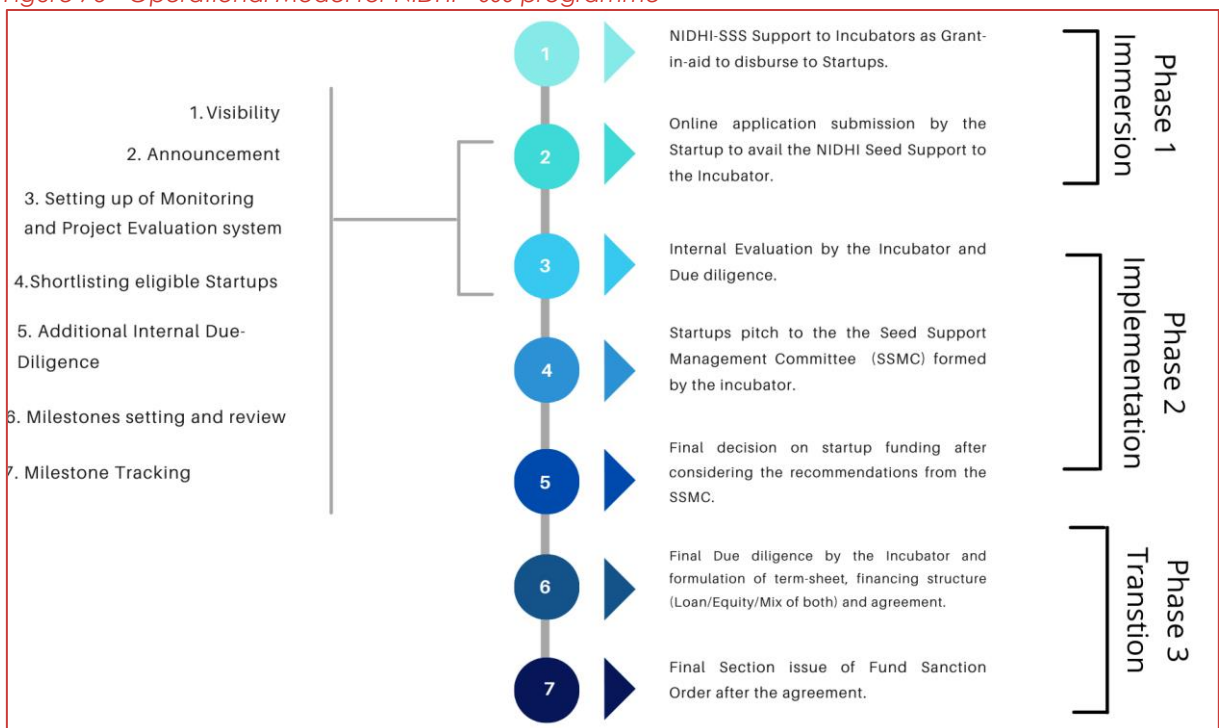
Source: Government of India (2021) *NIDHI – Seed Support (SS) programme guidelines*

There are differences across the business incubators that the NIDHI scheme (and the SSS programme within the scheme) works with. Some incubators provide more than just incubation

services. They also create a holistic entrepreneurial ecosystem. The iCreate centre[48] is an example of this approach. Started in 2012, iCreate is supported by the Government of Gujarat as well as the Government of India to facilitate "Next Generation Entrepreneurship". The iCreate centre does not only encourage technology startups, but it also empowers the Indian youth to become successful entrepreneurs, instead of merely seeking jobs.

The SSS programme forms part of a wider entrepreneurship support offered to entrepreneurs by the iCreate centre. Figure 74 provides an overview of the various NIDHI programmes and the lifecycles of start-ups that they focus on.

Figure 74 – The iCreate centre's support to entrepreneurs (various programmes)

Source: https://www.icreate.org.in/
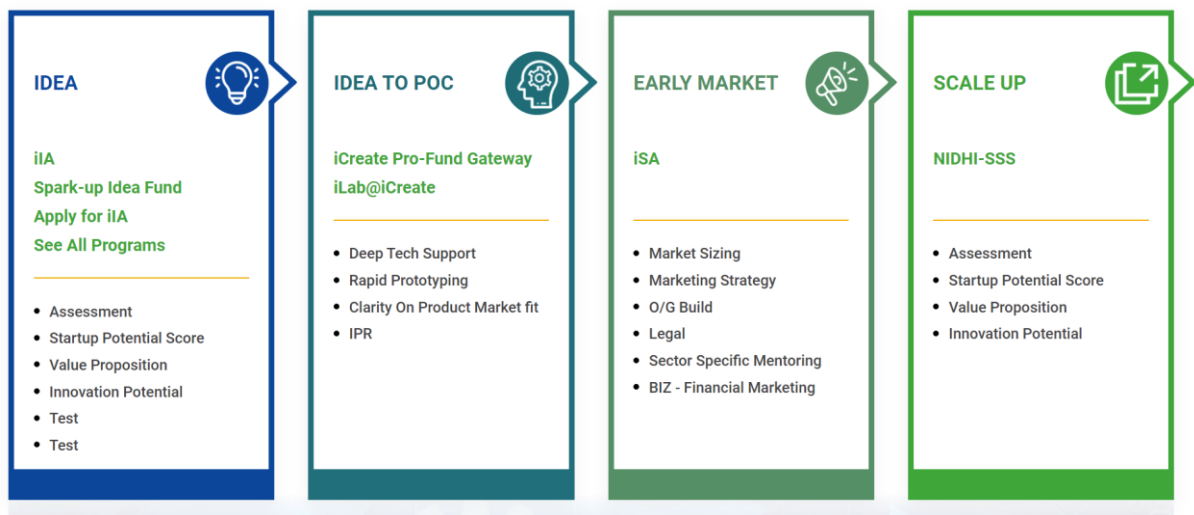
The iCreate's model of working with entrepreneurs is based on a combination of more standard incubation support and accelerator programmes. The centre works with a wide range of experts, ranging from business modelling experts to sales experts, and for very specific expertise, there are specialised panels of experts. The centre also offers in-house mentorship support.

The accelerator programmes are, in general, three to six week-long. With the maturity of the start-up, the programme duration increases as well. It is between two and three years on average. The centre takes a certain share of equity in some start-ups.

The Indian federal government realises that there is a need for a more systematic support of start-ups developing hardware. India aims at reducing the dependency on imported products. In addition, the SSS programme is supported by a number of state governments across the country as well.

In terms of the composition of the participants in the SSS programme, male participants dominate (approximately 90%). The main reason is that higher education engineering courses are also heavily male-dominated and, therefore, men are more likely to start an engineering start-up later on. The iCreate centre has seen a partial improvement and more women active in this area, however this has so far been limited only to certain parts of engineering. For

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[48] Official website available online at: https://www.icreate.org.in/.

example, in IT engineering, the ratio female : male is almost 50 : 50 in India. Unfortunately, the more hardware-based engineering is, the lower the share of female is observed.

C.4.4. Impacts

Based on the discussion with the team in charge of the SSS programme implementation and based on some specific entrepreneurs' testimonials, one of the greatest impacts of the SSS programme has been achieved at the individual level (i.e. at level of the individual participants, owners of the start-ups). The SSS programme allowed the participating entrepreneurs to become focused on issues that really matter in their entrepreneurial effort, and therefore to place the emphasis on the most important areas in their business operations.

> *"It helps to remove all the fluff in your thinking and build razor sharp focus on building things…" a quote from an SSS participant*

This improvement in the clarity of thinking is enabled by a very intensive nature of the programme. The participants are in constant contact with their mentors, in discussions with experts, and in frequent talks with other start-ups within the incubator. This impact on the direction of thinking does not always directly translate into a successful business, nevertheless the impact is significant because it positively affects the entrepreneurial skillset of the participants. The improved clarity of thinking has also a positive impact on communication and presentation skills of the participants. As shared by the SSS team, as a result of the programme, participants are better at expressing themselves, they perform better at pitching their products to potential business partners, and at presenting their ideas to others.

All participants are encouraged to be physically present at the iCreate's facility as much as possible. The grounds (across its 40 acres) offer residential accommodation, coworking facilities, and is adapted to interaction within start-ups teams, as well as across companies. This provides valuable opportunities for peer-learning, which, as the SSS team believes, is very impactful.

It is important to add, however, that the SSS programme does not aim at improving all the entrepreneurship skills in the participants to the same level. Furthermore, it is not expected that each participant will be able to acquire deep knowledge on all aspects linked to business operations. The centre often signposts the participants to potential partners who can provide additional specialised skills and/or knowledge.

Another significant impact of the SSS programme has been documented on the start-ups themselves. According to the SSS team, the routes to market have improved significantly for the participants in the programme. Thinking about the market is often something that young entrepreneurs, who are primarily passionate about their invention, product, and innovation, do not consider properly. However, due to their participation in the programme, this changes significantly.

There has also been impact of the SSS programme on the ecosystem and community level. Once a participant successfully completes the programme, the word spreads across his or her university and/or local community, awareness of support programmes, such as SSS increases, and the centre starts receiving a higher number of applications from the participant's colleagues and/or other people in their community. There are, therefore, certain spill over effects of the SSS programme beyond the primary audience. However, the SSS programme manager adds that achieving community-level impact is not among the primary programme's objectives. He also adds that most of start-ups that the centre works with are not social enterprises, so no social impact at the community level can be realistically expected.

C.4.5.Lessons learned

There have been a number of challenges that the iCreate centre has faced in the implementation of the SSS programme, which the programme activities and the programme delivery have had to reflect:

- **Age of start-up entrepreneurs**. Start-up entrepreneurs that the centre works with are very young (around 20 year-old), often fresh university graduates. This means that the level of their awareness and understanding of the business world is limited. There is a permanent risk that they will "reinvent the wheel". Young entrepreneurs often need a lot of time to learn about themselves, rather than on developing their product and taking it to the market

- **Working with hardware technologies**. The ecosystem support for hardware-based products and innovation is still not very developed in India, unlike for software solutions. There is a lack of engineering skills which are necessary for hardware technologies, and a lack of sufficient community support

- **Working with investors and angels**. Investors and angels lack awareness of how to deal with hardware start-ups. It takes more money and time to get a hardware product to the market, compared to software solutions

The SSS programme manager adds that there are *"no fixed methods for supporting start-ups. It is a process with a lot of variability."* This means that the centre needs to try to adapt a bespoke approach to each start-up because each company is different. Over the years, the management of the SSS programme has taught the programme managers to become better at gauging the needs of the start-ups and to improve their ability to ask the right questions to the participating business, and the way in which these questions are asked.

C.4.6.Resources and interviewees

Government of India (2016) *Seed Support System (NIDHI-SSS)*

Government of India (2021) *NIDHI – Seed Support (SS) programme guidelines*

Interview with Shantanu Chaturvedi, iCreate centre, India, 20/04/2022

Official website of the iCreate crntre, available at:
https://www.indiascienceandtechnology.gov.in/

An interview with Shantanu Chaturvedi, conducted on 20 April 2022

C.5. Antler

C.5.1.Introduction

This document provides an overview of the main activities, achievements, and evolution of a global early-stage investment platform, entitled Antler. This overview was prepared as part of the Evaluation of the Leaders in Innovation Fellowship (LIF) Programme carried out by Technopolis. The programme is run by the Royal Academy of Engineering and as part of the evaluation of the programme the study team assessed a set of international comparators to identify good practices and lessons learnt the Academy could use as inspiration for the future enhancements of the LIF Programme.

C.5.2.Description of the initiative

Established in Singapore in 2017, Antler is an early-stage venture capital firm that runs a global investment network. Antler has presence on five continents and individuals and their teams can apply to the different Antler's local representations to participate in Antler run activities

and apply for funding. Antler provides expertise and funding through running a global network of founders, experts and resources for individuals to support their entrepreneurial journey from idea generation through the start-up to the growth phases. At the core of Antler's working methods is the understanding[49] that having the right team, ensuring an early market fit and accessing pre-seed capital can enhance the success of a start-up company to a large extent. Therefore, the global network of Antler brings together these different elements to support the creation and scale up of start-ups by focusing on individuals and their ideas.

Antler aims to remove barriers and support individual on the entrepreneurship journeys, even before they have completely formulated their ideas. This is a risky approach which is mitigated by a significant effort by Antler roughly 200 hours spent with each individual before progressing to a funding stage. The target audience of Antler's activities are individuals in their 30s and early 40s. The more technology-focused entrepreneurs are sometimes a bit younger. They have often established their companies before, have some entrepreneurial activities, but importantly they are already experienced and understand what they want to do with their professional life.

The different activities and services run by Antler are tailored to the development stages of companies and entail:

- **Antler Launch Academy** is a usually five-week long online course for those who are considering setting up their start-up company. The Academy provides access to master classes, offer the opportunity to participate in meetups, idea pitching sessions and connects interested individuals with a community of similar mindset and interest

- Networking through becoming **an individual member of Antler at one of the locations**, finding potential co-funders, further developing initial ideas and exploring funding opportunities

- Once one has a company and initial funding, Antler offers the opportunity **to join as a founder** and explore the services and support available to scale up. joining Antler as a founder is a long terms relationship, as Antler provides start-up funding in return for ownership shares in the start up

- An **incubator programme** that consists of two stages: (1) up to 12-weeks focusing on entrepreneurs developing their business idea and finding suitable co-founders, and (2) working with selected teams and companies to take the next steps and develop their product to secure investments. In some cases Antler also invests in established teams, that have not participated in the first phase

- The **Antler Angel Experience** for potential VC investors providing access to a large portfolio of start-up companies that offer potential investment opportunities

- The Antler portal also helps connect growing start-ups' **recruitment needs** with the engaged community offering the possibility to place job advertisements on the website. It also lists start-ups who are looking for additional team members and offers access to their talent network (for registered Antler users only)

C.5.3.Delivery processes

Antler is run by local teams who are entrepreneurs, technology specialists, investors as well as network and connection builders. Antler was founded by Magnus Grimeland, and he is the CEO of Antler. Antler's management is a 50 strong team of co-founders, partners leading the operations and activities at Antlers numerous locations worldwide. The various Antler locations'

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[49] For further information please see: https://www.antler.co/platform

have slightly different offer in terms of industry fields covered and types of founders accepted. The delivery of the different Antler programmes is slightly varied by nature and are tailored to the local culture. For example, in the US residency elements are common, while in the Nordics the length of the programmes might differ. The successful delivery of the programmes requires slight modifications to suit the local culture. And Antler embraces these variations.

The centres are run very independently by the two partners and finding the right profiles and filling these positions is a crucial element of success. Being embedded in the local ecosystem, while being linked to the international network are important features of Antler.

The management team is supported by a Global Advisory Board and has over 450 advisors, investors and serial entrepreneurs engaged covering a large number of industries for example biotech, block chain, engineering, health care, education, marketing, transportation and venture capital, just to name a few.

Antler's main principles for their activities is set out in the picture on the right.

Put founders first
We obsess about making our founders successful.

Build our people
By developing each other, we build leaders that define the future.

100% ownership
No excuses – own up and get it done.

Best idea wins
We are a meritocracy – the idea matters, not who had it.

Don't tread water
Move fast and deliver high-quality results.

Disagree and commit
We can debate fiercely – but when the decision is made, we commit and execute.

Uncomfortably ambitious
We set improbable goals and meet them.

Do more with less
Any cent spent is spent on the right thing.

Give back
It's not a zero-sum game – when all give back, all receive more.

The operations of Antler are driven by the profit-oriented nature of the organisation. Antler is a for profit organisation, which is reflected in its business model. They apply various renumeration models for their services. The renumeration of the different activities is as follows in broad terms:

- For the first phase of incubation participants can benefit from a grant and Antler reserves 10% of the grant amount as matching fee.
- For the earliest stages of investment to the start-ups Antler retains an ownership share, however with limited investor rights imposed
- During the growth phase of the funded companies Antler maintains its right to further invest in selected companies to maintain its pro-rata ownership share and it might also request some investor rights

Antler set out their detailed terms and conditions for the different stages of operation in a document entitled How Antler thinks about investments.[50] Based on the location, the investment forms vary and can be either priced equity rounds or convertible instruments, such as Antler SAFE: Simple Agreement for Future Equity.

C.5.4. Impacts

Over the past years Antler became the fastest growing venture capital firm with over 400 start-up companies funded in three years. It has a global presence, but it is run in a decentralised manner offering local advice globally through its 17 locations.

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[50] Accessible at: https://antlerco.cdn.prismic.io/antlerco/bbfe790e-2f33-4aa7-9131-4daab5f50296_How+Antler+thinks+about+investments+-+Antler+VC+%282022%29.pdf – last accessed 4th August 2022

Antler monitors the progress of the companies in which it invests through a selection of KPIs, on which the funded companies are asked to report. **Key headlines** of the achievements and the portfolio of Antler funded companies include:

- Over 110,000 applications received and over 3,000 founders selected of which 24% are female
- More than 500 start-up companies funded
- The network engages over 600 advisors globally
- 34% of the funded companies have a female co-owner of which 36% has a female CEO
- Over 70 nationalities are engaged in the funded companies

Based on an estimate, around 160 of the funded companies have already managed to meet their impact expectations. In addition to traditional metrics such as job creation, Antler also assesses the companies' contribution to the UN Sustainable Development Goals (SDGs). They subscribe to using the SDGs as good neutral measure to assess the broader impact of their activities. Most companies contribute to the SDGs, especially in the fields of fighting climate change focusing on reduced carbon emission and carbon capture.

Antler's impact can be best measured through the success of the individuals and their start-up companies over the years. Antler provides a showcase of achievements and successes on their website as inspirational material.

C.5.5. Lessons learned

The Antler provides tailored advice and coaching for companies aligned to their individual needs, which is regarded as one of the key success factors of their operations.

C.5.6. Resources and interviewees

The completion of this template was based on desk-research and was complemented by an interview carried out with a representative of Antler, Rike D Bergérus, the Director of PR and Communications.

Appendix D   List of focus group participants and interviewees

D.1. Consulted LIF participants and alumni

Interviewee(s) Name	Country	Cohort
Luís Carlos Rosa	Brazil	LIF 3 - 2016
Lucas Fachin	Brazil	LIF 6 - 2019
Diego Pedreira de Oliveira	Brazil	LIF 4 – 2017, LIF advance in 2020
Lisane Valdo	Brazil	LIF 2
Fernando Nicodemos	Brazil	LIF 5 - 2018
Bruno Lima	Brazil	LIF 1 - 2015
Otávio Burão	Brazil	LIF 4 - 2018
Taís de Moraes	Brazil	LIF 7 - 2020
Vinicius Marchiori Silva	Brazil	LIF 2 - 2015
Cristian Avendaño	Chile	2015- 2018
Enrique Germany	Chile	2015 - 2017
Barbarita Lara	Chile	2016-2017
Victoria Lobos	Chile	2015
Cristian Ayala	Chile	2016 (LIF 3)
Chen Fei	China	LIF7(2020/21)
Li Yongmei	China	LIF5 (2018/19)
Ma Weiguo	China	LIF2 (2015/16)
Wang Baodong	China	LIF1 (2014/15)
Wang Lei	China	LIF3 (2016/17)
Wang Cong	China	LIF7 (2020/21)
Yang Lei	China	LIF7 (2020/21)
Zhang Defu	China	LIF4 (2017/18)

Interviewee(s) Name	Country	Cohort
Guangyin Yuan	China	LIF Advance
Jorge Patiño	Colombia	LIF4 (2017/18)
Juan David López	Colombia	LIF5 (2018/19)
Cesar Sierra	Colombia	LIF5 (2018/19)
Jorge García	Colombia	LIF Community Grant Lead Applicant – Round 1
Lina Chica	Colombia	LIF7 (2020/21)
Alejandro Moreno	Colombia	LIF3 (2016/17)
Jimy Aguirre	Colombia	LIF4 (2017/18)
Julian Urresta	Colombia	LIF5 (2018/19)
Mónica Echeverry	Colombia	LIF3 (2016/17)
Ahmed Rashed Yahya	Egypt	LIF6 (2019/20)
Mai Sabry Saleh	Egypt	LIF7 (2020/21)
Irene Gabriel	Egypt	LIF4 (2018/19)
Noha Elessawy	Egypt	LIF7 (2020/21)
Mahmoud elsabahy	Egypt	LIF7 (2020/21)
Tarek Ismail Sabry	Egypt	LIF5 Mar 2019
Mohammed Abdel-Megeed Salem	Egypt	LIF7 (2020/21)
Sara Abdelsalam	Egypt	LIF7 (2020/21)
Mohamed Khalid Diab	Egypt	LIF6 Feb 2020
Khalid Gafaar	Egypt	LIF5 March 2019
Abdelrahman	Egypt	LIF7
Sherif Mohamed Shawky	Egypt	LIF Advance
Pankaj Parashar	India	LIF5 (2018/19) / LIF Advance 1 (2020/21)
Himmat Singh	India	LIF Advance 2 (2021/22)

Interviewee(s) Name	Country	Cohort
Chandrasekaran Jayaraman	India	LIF2 (2015/16)
Bonny Mukesh Dave	India	LIF6 (2019/20) / LIF Advance 2 (2021/22)
Sanket Jasmine Desai	India	LIF2 (2016)
Prakashbhai Vaghasiya	India	LIF4 (2018)
Arijit Lahiri	India	LIF2 (2016)
Soubhagya Sahoo	India	LIF1 (2015)
Aji Teguh Priatno	Indonesia	LIF1 (2018)
Analia Tanuwidjaja	Indonesia	LIF 6, LIF Advance
Dara Farhaniza	Indonesia	LIF 5
Mohamad Hutasuhut Hagorly	Indonesia	2017, LIF advance
Novita Hartono	Indonesia	LIF5 (2019)
Sander Purnama	Indonesia	LIF5
Analia Tanuwidjaja	Indonesia	LIF Advance
Ala Khalifeh	Jordan	LIF7 (2020/21)
Amna Ramadan	Jordan	LIF7 (2020/21)
Abeer Albashiti	Jordan	LIF6 (2019/20) / LIF Community Grant Lead Applicant
Aia Abul-haj	Jordan	LIF7 (2020/21)
Bayan Btoush	Jordan	LIF6 (2019/20)
Reyad Shawabkeh	Jordan	LIF6(2019/20)
Feras Kafiah	Jordan	LIF6(2019/20)
SAEED ALBAWAB	Jordan	LIF6 (2019/20)
Mayyas Al-Remawi	Jordan	LIF6 (2019/20)
Mahmoud Hammoudeh	Jordan	LIF Advance
Zacharia Kimengich	Kenya	LIF4 (2017/18)

Interviewee(s) Name	Country	Cohort
Jack Oyugi	Kenya	LIF5 (2018/19) / LIF Community Grant Lead Applicant – Round 2
Catherine Wanjoya	Kenya	LIF6 (2019/20) / LIF Advance 2 (2021/22)
Irene Ikarede Etyang	Kenya	LIF7 (2020/21)
Lilian jepkemboi songok	Kenya	LIF6 (2019/20)
Stephen Mwongela Moses	Kenya	LIF4 (2017/18) / LIF Community Grant Lead Applicant / LIF Advance 2 (2021/22)
Beth Koigi	Kenya	LIF Advance
Wan Fazlida Hanim Abdullah	Malaysia	LIF6 (2019/20) / LIF Community Grant Lead Applicant
Rozzeta Dolah	Malaysia	LIF7 (2020/21)
Rahinah Ibrahim	Malaysia	LIF5 (2018/19)
Rohayu Che Omar	Malaysia	LIF4 (2017/18)
Harun Sarip	Malaysia	LIF3 (2016/17)
Badariah Solemon	Malaysia	LIF5 (2018/19)
Norziana Jamil (Ziana)	Malaysia	LIF5 (2018/19)
Wahidah Hashim	Malaysia	LIF6 (2019/20)
Jaspaljeet Singh Ranjit Singh	Malaysia	LIF Advance
Delfina Guedimin	Mexico	LIF3 (2016/17)
José de Jesús Pérez Bueno	Mexico	LIF1 (2014/15)
Joaquín Díaz Solano	Mexico	LIF5 (2018/19)
Martha Poisot	Mexico	LIF1 (2014/15)
Gabriela Gutierrez	Mexico	LIF6 (2019/20)
Rolando Cruzado	Peru	LIF 72020-2021
Monica Chavez	Peru	LIF 6 2019-2020
Robinson Lopez	Peru	LIF 6
Giannina Honorio	Peru	LIF 6

Interviewee(s) Name	Country	Cohort
Ricardo Rodriguez	Peru	LIF 6
Raisa Lama	Peru	LIF 6
Paulo Velo	Peru	LIF 6
Pamela Tadeo	Philippines	LIF 5 / 2019
Robert Kerwin Billones	Philippines	LIF 5 / 2019
Filmann Simpao	Philippines	LIF 5 / 2019
Maria Leonora Guico	Philippines	LIF 2 / 2016
Kristine Mae Magtubo	Philippines	LIF 1 / 2015
Romy Martinez	Philippines	LIF 5 / 2019
Sarah Esteban	Philippines	LIF 6 / 2020
Dennis Dela Cruz	Philippines	LIF 6 / 2020
Dr. Nilo Bugtai	Philippines	LIF Advance
Thando Gumede	South Africa	LIF6
Keneiloe Kganane	South Africa	LIF6
Excellent Sithembiso Khumalo	South Africa	LIF6
Tshepo Mangoele	South Africa	LIF6
Maryam Amra	South Africa	LIF 7
Neo Semousu Moloiu	South Africa	LIF 7
Deon Neveling	South Africa	LIF 7
Mehdi Safari	South Africa	LIF 7
Alisa Vangnai	Thailand	LIF6 (2019/20)
Assoc. Prof. Dr. Wilairat Cheewasedtham	Thailand	LIF1 (2014/15)
Kamronwit Thipmanee	Thailand	LIF5 (2018/19)
Nalinee Kovitwanawong	Thailand	LIF1 (2014/15)
Suchada Sukrong	Thailand	LIF6 (2019/20)
Dr. Osman KARA	Turkey	LIF7 (2020/21)
Ali Risvanli	Turkey	LIF4 (2017/18)
Mert Kılınçel	Turkey	LIF6 (2019/20)

Interviewee(s) Name	Country	Cohort
Asiye Karakullukçu	Turkey	LIF4 (2017/18) / LIF Advance 1 (2020/21)
Deniz BAS	Turkey	LIF6 (2019/20)
Mehmet Akif ERDOĞAN	Turkey	LIF7 (2020/21)
Gorkem Astarcıoğlu	Turkey	LIF7 (2020/21)
UGUR UZUNER	Turkey	LIF5 (2018/19)
Deniz Topcu	Turkey	LIF7 (2020/21) / Peer to Peer Mentoring Programme
Nguyen Trong Duy	Vietnam	LIF 7
Ngo Tat Trung	Vietnam	LIF 4
Nguyen Phan Kien	Vietnam	LIF 1
Vu Manh Cuong	Vietnam	LIF 3
Le Vu Cuong	Vietnam	LIF 6
Pham Thu Dung	Vietnam	LIF 7
Tran Van Binh	Vietnam	LIF 1
Chu Duc Hoang	Vietnam	LIF 1
Le Thi Nhi Cong	Vietnam	LIF Advance

D.2. Consulted LIF in-country partners and Newton Fund team members

Category	Interviewee(s) Name	Country	Organisation
Newton Fund team member	Diego Arruda	Brazil	Newton Fund Programme Manager, British Consulate
In-country partner	Esteban Zapata	Chile	ANID (National Agency for Research and Development)
In-country partner	Paula Andrea Marina	Chile	CORFO (Production Development Corporation)
Newton Fund team member	Richard Baker	China	Newton Fund
In-country partner	Luis Calzadilla	Colombia	British Embassy
In-country partner	Angelica Pinzón	Colombia	British Embassy
In-country partner	Alejandro Hincapie	Colombia	Ruta n

Category	Interviewee(s) Name	Country	Organisation
Newton Fund team member	Ms. Shaimaa Lazem	Egypt	Newton-Mosharafa Program Officer at the Science, Technology & Innovation Funding Authority, Egypt (STDF)
In-country partner	Eric Batliwala	India	In-country partner, CIEE
In-country partner	Supriya Nair	India	In-country partner, CIEE
Newton Fund team member	Tamil Chandru	India	Newton Fund team, FCDO
Newton Fund team member	Babita Sharma	India	Newton Fund team, FCDO
In-country partner	Pak Muchlis Fasdihu	Indonesia	National Research and Innovation Agency (BRIN)
Newton Fund team member	Safiera Nadya	Indonesia	FCDO
Newton Fund team member	Ms. Muna Zaqsaw	Jordan	Newton Fund team
In-country partner	Ms. Rima Ras	Jordan	In-country partner
In-country partner	Agnes Tsuma	Kenya	Kenya National Innovation Agency
In-country partner	Adikhairul Azha Mansor	Malaysia	MIGHT, Malaysia
In-country partner	Ida Semurni Abdullah Ali	Malaysia	MIGHT, Malaysia
In-country partner	Mariel Mesa	Mexico	Secretaría de Economía de México
In-country partner	Aldo Ruiz	Peru	Worked at Concytec during LIF implementation
In-country partner	Ana Sobarzo	Peru	Worked at Concytec during LIF implementation
In-country partner	Claudia Celis	Peru	British Embassy in Lima
In-country partner	Leah Buendia	Philippines	Assistant Secretary, Dept of Science and Technology (DOST)
In-country partner	LUCY MOTEKA	South Africa	TECHNOLOGY INNOVATION AGENCY (TIA)
In-country partner	Mr. Nopadorn Panyachon	Thailand	NSTDA (สวทช)

Category	Interviewee(s) Name	Country	Organisation
In-country partner	Miss Supakanya Sakulpaisith gthavorn	Thailand	NSTDA (สวทช)
In-country partner	Cansu DURUKAN	Turkey	TÜBİTAK
In-country partner	Pınar Çelikcan	Turkey	TÜBİTAK
In-country partner	Phan Tien Dung	Vietnam	Vietnam Academy for Science and Technology

D.3. Consulted business partners and colleagues of LIF participants / alumni

Interviewee(s) Name	Country	Organisation
Felipe Baroni	Brazil	Extremus Surface
Wang Lei	China	Earth Pulse (Wuxi) Technology Co., Ltd.
Jorge Hernan Salazar	Colombia	Integrasoft
Dr. Basma Shaheen	Egypt	British University in Egypt (BUE) and Farouk El-Baz Centre for Sustainability and Future Studies (FECSFS) at BUE
Akshita Sachdeva	India	Trestle Labs
Titos Jatiarso	Indonesia	Java tech Automations
Aprillia Annisa	Indonesia	Institute for Innovation and Entrepreneurship Development, Bandung Institute of Technology.
Dr. Ismail Hinti	Jordan	AlHussein Technical University in Amman, Jordan
Azuddin Rahman	Malaysia	Inno-b consulting
Luis Amaya	Mexico	Universidad Panamericana
Pamela Tadeo	Philippines	De La Salle University-Manila – Intellectual Property Office
Mr. Pruitti Kerdchoochuen	Thailand	Dairy Home
Prof. Kannika Sahakaro	Thailand	Prince of Songkla University (PSU)
Dr. Apiradee Saelim	Thailand	Prince of Songkla University (PSU)
Mürsel Baydemir	Turkey	AKSENSE

Interviewee(s) Name	Country	Organisation
Nguyen Khac Huynh	Vietnam	Department of Application and Development of Technology at Vietnam's Academy for Science and Technology (VAST)

D.4. Consulted representatives of BEIS and Academy Fellows

Interviewee(s) Name	Organisation / function
Liz Gilfillan	BEIS
Peter Cozens	BEIS
Liesbeth Render	BEIS
Norman Apsley	Academy
Priya Guha	Academy
Roger Ansell	Academy

D.5. Success story vignette 1-on-1 interviews

Name	Country
Luís Carlos Rosa	Brazil
Barbarita Lara	Chile
Li Yongmei	China
Jimy Aguirre	Colombia
Sherif Mohamed Shawky	Egypt
Bonny Mukesh Dave	India
Dara Farhaniza	Indonesia
Abeer Albashiti	Jordan
Stephen Mwongela Moses	Kenya
Rozetta Dolah	Malaysia
Victor Manuel Téllez López	Mexico
Miguel Malnati	Peru

Robert Kerwin Billones	The Philippines
Advocate Thando Gumede	South Africa
Wilairat Cheewasedtham	Thailand
Asiye Karakullukçu	Turkey
Nguyen Trung Dung	Vietnam

D.6. Scoping interviewees

Interviewee(s) Name	Organisation
Martine Davies	ChangeSchool
Lino Velev	FarStar
Meredith Ettridge and Ana Avaliani	The Academy
Gerry Jennings	Business Mentor / Oxentia
Alejandro Hincapié Baena and Luis Calzadilla	Colombia (Ruta N and FCDO)
Susmita Gosh and Tamil Chandru	India (IIMA and FCDO)
Muna Zaqsaw and Rima Ras	Jordan (FCDO and HCST)
Lucy Moteka and Katekani Chabalala	South Africa (TIA and FCDO)
Gaelle Coullon and Fabio Bianchi	Oxentia
Shaimaa Lazem	Egypt (Informatics Research Institute)
Lisa Rose, Hollie Andrews, Juliana Bertazzo, Gaelle Elisha	The Academy
Emily Mattiussi and Mahmoda Ali	The Academy
Aleksandra Love	Mentor / SetSquared

Interviewee(s) Name	Organisation
David Falzani	Mentor / Polaris London
Ian Ritchie	Academy Fellow / CopperTop
Jorge Patiño	Colombia (LIF Champion)
Atchara Poomee	Thailand (LIF Champion)

Appendix E   LIF Theory of Change

Inputs

UK funding of LIF activities

In kind contributions from partner countries

Experience of:
- Mentors
- Suppliers
- Country partners
- Fellows
- Academy team

Networks of:
- Mentors
- Suppliers
- Country partners
- Fellows
- Academy team

Activities

Core programme

Residential training course

Follow on support: 1:1 project support, in-country events and tailored support from suppliers

LIF Community offering

Sharing **success stories**

Online Community

Community Grant projects

Peer mentoring

LIF Advance For most promising business ideas: tailored ongoing support and networking

Short-term outcomes

Individual

Adoption of entrepreneurial mindset

Improving business knowledge

Adoption of evidence-based business practices

⇧ ⇩

Organisation

Steps taken towards commercialisation of idea

or

Scaling up existing commercialised idea

or

Pivoting away from original LIF business idea

⇧ ⇩

Ecosystem / community

Expanding and diversifying network

Knowledge sharing in home organisations

New local communities of engaged innovators

Impacts

Individual

Increased number of **highly skilled and motivated entrepreneurs**

Organisation

Increased business starts, survival and performance

New and decent jobs created

Ecosystem / community

A positive change of culture around commercialisation in the country

Improved local ecosystem to support entrepreneurship and innovation

Improved innovation policies

Improved inclusion of **marginalised groups**

Benefit for the UK (e.g. reputation and preferred partner status)

Greater adoption of innovation **contributing to the SDGs and to major societal challenges**

Increased international collaboration

Assumptions

Individual pathway

That the programme has selected individuals that are sufficiently motivated

That the training is sufficiently well-designed and pitched

That the mentors are appropriately skilled and experienced

Organisation pathway

That the contextual factors that allow for business survival and growth are in place

Ecosystem pathway

That national governments are receptive to policy changes

That the LIF programme is viewed favorably to lead to reputational enhancements

That the effects of the LIF programme are of a sufficient scale to lead to system-level impacts

That the connections created during the programme are enduring

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