Food and Agriculture Organization of the United Nations

Monitoring, evaluation and learning

Generating evidence on resilience and sustainability in the tropical fruit sector

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Contents

Figures

Tables

Boxes

Abbreviations

AFi	Accountability Framework Initiative
CGIAR	Consultative Group for International Agricultural Research
CSDDD	Corporate Sustainability Due Diligence Directive
CSRD	European Union's Corporate Sustainability Reporting Directive
ESG	environmental, social and governance
ESRS	European Sustainability Reporting Standards
FAO	Food and Agriculture Organization of the United Nations
GHG	greenhouse gases
IFRS	International Financial Reporting Standards
KPI	key performance indicators
M&E	monitoring and evaluation
MEL	monitoring, evaluation and learning
MRL	maximum residue limits
OECD	Organisation for Economic Co-operation and Development
RBC	responsible business conduct
SDG	Sustainable Development Goals
SMART	specific, measurable, achievable, relevant and time-bound
SRS	simple random sampling
SYS	systematic random sampling
ToC	theory of change
VSS	voluntary sustainability standards

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The guide was prepared by María Hernández Lagana, from the Responsible Fruits Project team. The guide benefited from the thoughtful comments from Michael Riggs, Alejandro Schoor Gallardo and Pascal Liu from the Markets and Trade Division. The guide benefited from the thorough review by Marlo Rankin, Senior Value Chain Development Specialist, from the Rural Transformation and Gender Equality Division.

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Chapter 1.

Background and introduction to the guide

The FAO-led project Building responsible global value chains for the sustainable production and trade of tropical fruits (henceforth the Responsible Fruits Project) supports stakeholders operating in avocado and pineapple value chains to strengthen or establish risk-based due diligence systems to make their operations more sustainable and resilient to shocks.

As part of this objective, the project conducted a detailed study in 2022 to identify the main resilience challenges facing avocado and pineapple producers and exporters. Key challenges identified in both sectors include natural resources degradation and exposure to climate change and extreme weather events, international conflicts leading to rising costs of inputs and transportation, changing international trade regulations demanding that industry actors provide evidence of their progress to sustainability, and barriers to accessing technology and knowledge (FAO, 2023a). The study also identified areas of opportunity to enhance the resilience of these value chains, including:

- How to **develop monitoring and assessment plans** and tools to track and generate evidence of the resilience and sustainability of value chains (or segments).
- **The use of participatory approaches for sustainable resources management**, such as sustainable forest management or soil mapping to preserve natural resources and prevent degradation.
- **Implementation of health and safety protocols for workers in the field and packhouses**, to increase the capacity of companies to prevent risks and promote better working conditions.
- **Guidance on how to develop integrated risk management plans** for companies to be able to prepare and cope with the compounded environmental, social and economic risks they face (FAO, 2023a).

While other common challenges were identified as key components to increase the resilience of producers and businesses, such as the need for climate-resilient genetic material and improved agricultural waste management, the above four topics were prioritized by the project for their potential to be addressed through a practical technical guide.

Through a consultative process[1] with a working group composed of some of the main stakeholders in the avocado and pineapple industries, the development of monitoring, evaluation and learning (MEL) systems was selected as the top priority for support. This thematic area was recognized of high importance for sustainability and resilience given the potential of MEL to contribute to:

1. Assisting producers and businesses to **generate evidence and demonstrate their contributions** towards their resilience and sustainability goals and commitments, including improving ecosystems, mitigating climate change and enhancing living conditions of workers and communities they engage with. This, in turn, helps to ensure compliance with sustainability regulations in some importing markets.
2. Supporting producers, businesses and associations in the tropical fruit sector to **improve knowledge and transparency** regarding the sustainability and resilience of their operations.
3. Strengthening the industry actors' capacity to **identify gaps or issues** that require financial, human and time resources to address, and thus, **informing internal decision-making processes** based on robust information.

The use of MEL systems is closely aligned with the adoption of responsible business conduct (RBC) practices and due diligence processes, where companies are required not only to identify and address risks, but also to track and report on the actions to proactively prevent the risks from occurring

[1] The project developed a survey through which companies and producer and trade associations participating in the project prioritized the topic of the guide. The option on how to develop MEL systems received 53 percent of the votes.

and mitigate the negative impacts (FAO, 2016). The guides on RBC for avocado and pineapple producers and exporters developed by the Responsible Fruits Project provide more information on how businesses can put RBC into practice, specifically by implementing due diligence and focusing on identifying, prioritizing and addressing sustainability risks.

Why this guide?

Currently, there is limited practical guidance to producers, businesses and organizations in the tropical fruit sector to plan and manage robust systems for monitoring, evaluating and learning from activities that enhance the resilience and sustainability of their operations. At the same time, there are growing requirements and expectations for industry actors from customers, consumers and governments to demonstrate how they are contributing to sustainability and to report on actions taken to minimize the impact of their operations on the environment and society.

This technical document aims to serve as a starting point to fill this gap by supporting tropical fruit stakeholders to develop a MEL system that is oriented to generate robust evidence on the sustainability and resilience of their operations. Specifically, the guide provides support to:

- define the business' resilience and sustainability goals and establish a strategy to achieve them;
- track and measure progress towards the business' resilience and sustainability objectives;
- identify what went well and what did not in the activities and strategies implemented by businesses, and
- make decisions on how to improve operations based on solid facts.

The guide builds on previous technical work done by the project, such as the guides on "Gap analysis to support due diligence in avocado and pineapple sectors" and the "Resilience assessment of avocado and pineapple value chains". This document is complementary to the Responsible Business Conduct guidance documents for avocado and pineapple producers and exporters prepared by the Responsible Fruits Project. The elaboration of this guide also relied on other relevant work conducted by FAO's Trade and Markets Division, specifically the OECD-FAO Guidance for Responsible Agricultural Supply Chains. The author also consulted important sustainability monitoring and reporting frameworks used by agri-food businesses and producers, including the Accountability Framework and the Global Reporting Initiative.

Who is this guide for?

Given the practical scope of designing and setting up a MEL system, this guide is aimed at:

- Monitoring and evaluation (M&E) officers or other professionals working on measuring progress, assessing and reporting on the impact of sustainability-related activities in avocado and pineapple businesses and associations.
- Managers and sustainability officers of avocado and pineapple businesses and associations overseeing the design, reporting and/or making decisions related to the activities to improve the resilience and sustainability of the business operations.
- Producers, sustainability teams of businesses and associations committed to RBC, and who are looking into improving the resilience and sustainability of their activities.
- Any user interested in learning or improving existing MEL practices in their tropical fruit business.

If you identify with any of the above, then this guide is for you!

What need does this guide address?

The increasing need for businesses to track and demonstrate progress towards sustainable production and addressing potentially negative environmental and social risks linked with ongoing changes to the regulatory environment for trade, make MEL guidance even more important.

The guide focuses on steps that producers, businesses and associations in the tropical fruit sector can take to develop new MEL systems or enhance existing ones for their resilience and sustainability strategies. It aligns with good practices in RBC, due diligence and internationally recognized sustainability reporting systems. The goal is to support industry actors in improving their business resilience and sustainability performance.

How to use this guide?

The guide is structured into two main sections and can be used in different ways:

Beginner

If you are new to MEL systems, we recommend you start from the beginning. **Chapter 2** provides an overview of what MEL is and why it is important for resilience building and improving sustainability of businesses. It also explains what is unique about designing and implementing MEL processes for business strategies aiming to improve the resilience and sustainability performance of avocado and pineapple value chains.

Intermediate or expert

If you are already familiar with MEL practices, you can skip to the specific sections of interest in **Chapter 3**. Click on the links below based on your needs. Each step includes practical examples of how to use these tools.

Step 1. Understand the context in which your operations take place

Step 2. Develop a resilience and sustainability plan for your business: what do you want to achieve and how?

Step 3. Identify the target audience for your MEL system

Step 4. Select the indicators: what kind of evidence do you need to generate?

Step 5. Select the MEL tools

Step 6. Analyse data

Step 7. Report the results and make evidence-based decisions

Throughout the guide you will see some icons that have different purposes:

The warning icon identifies important information or considerations you should keep in mind.

This icon brings attention to notes or explanations about any specific aspect of the MEL system or processes. This signs also provides tips or recommendations.

This icon identifies practical examples of the different MEL steps explained throughout the document.

Let's get started!

Chapter 2.

The role of monitoring, evaluation and learning in business resilience and sustainability

Monitoring, evaluation and learning (MEL) is the process of collecting data on your business' performance to make informed decisions that will ultimately improve your operations (Noltze *et al.*, 2021). By using a structured approach, MEL assesses the effectiveness and efficiency of the activities and strategies that your business has implemented to achieve specific goals.

A MEL system designed to generate evidence on the resilience and sustainability of your business can help you track and verify whether the activities and strategies have effectively:

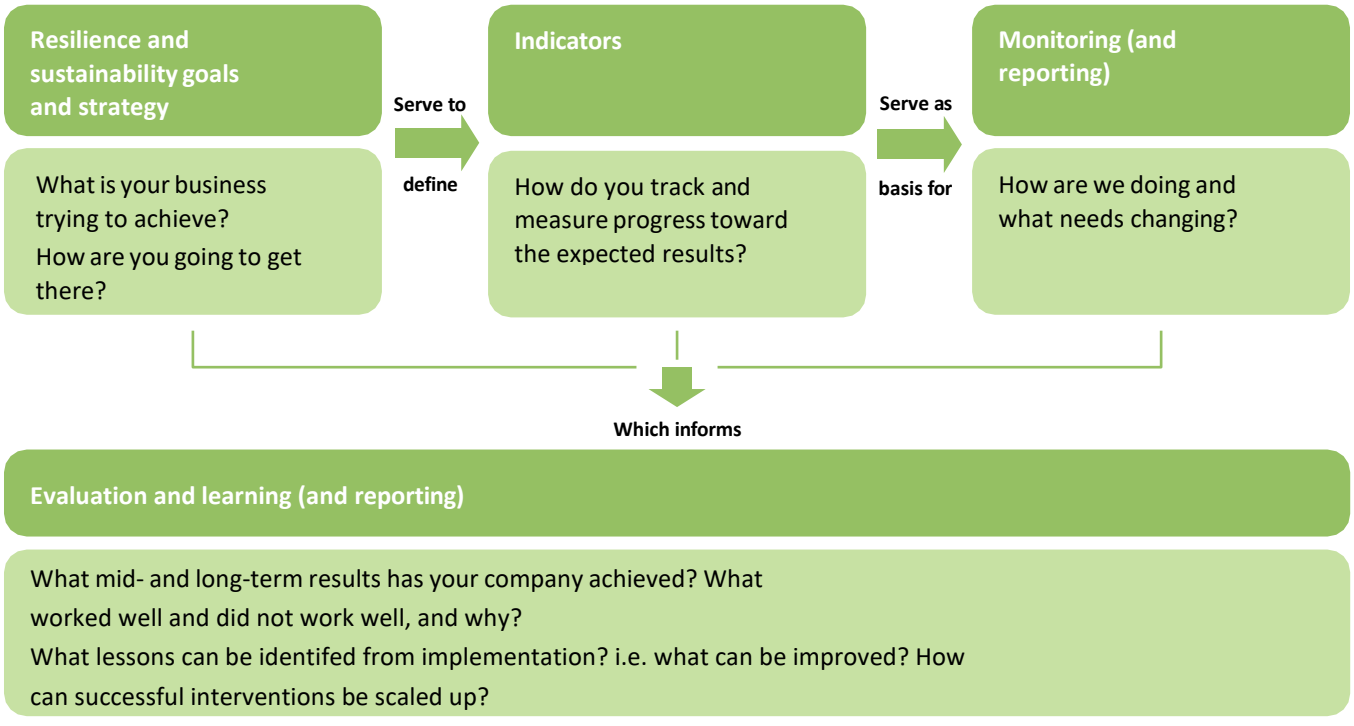
a. enhanced your operations' contributions to environmental, social and economic well-being, i.e. sustainability; and

b. improved the ability of your business to withstand, adapt to, and recover from various shocks, stresses and risks, i.e. resilience (World Bank, 2017).

In other words, a **MEL system for resilience and sustainability provides insights into your business's capacity to anticipate and prepare for disruptions and uncertainties**, such as a new national labour law, a sudden drop in the exchange rate or unexpected climate hazards. It also **tests your business's ability to bounce back** to a desired state after a shock occurred **or adapt to ongoing challenging environments** (e.g. climate change) and emerging risks (e.g. upcoming markets regulation). By doing so, you can ensure your business continuity in the long term. Additionally, a MEL system can support tracking performance relative to market, legal or regulatory obligations that your business must comply with (AFi, 2023).

MEL is a continuous activity that enables your business to adapt operations as needed and integrate learning into its internal processes, policies and systems. This will ultimately help you to identify and develop good practices that will strengthen resilience and sustainability of the business (Figure 1).

Figure 1. Main components of a MEL System



Source: Adapted from **World Bank**. 2017. *Operational Guidance for Monitoring and Evaluation (M&E) in Climate and Disaster Resilience-Building Operations*. Washington, DC, World Bank.

As the name indicates, MEL systems have three components with different functions complementary to each other. **Monitoring** is a constant activity that will support your business to identify risks and

bottlenecks in the operations and processes as they arise. **Evaluation** will take place at specific points in time as you implement specific activities or programmes (e.g. after you have fully completed the implementation of a reforestation programme or halfway in the process) and will help determine whether they contributed to meet your objectives and goals. **Learning** is a continuous process informed by the findings from monitoring and evaluation activities, serving to constantly improve the business operations over time (OECD, 2023; CARE, 2012). Table 1 explains each of these components and their purpose for your tropical fruit business.

Table 1. Definitions of monitoring, evaluation and learning

	Monitoring	Evaluation	Learning
What does it mean?	Continuous assessment of the activity, intervention or strategy that your business is implementing and its context.	Offers a deeper, impartial assessment of the achievements or impact of your business' activities or programmes. It complements monitoring activities.	It translates the findings from your monitoring and evaluation activities into knowledge to improve and/or develop new activities to meet your goals.
What does it do?	Identifies bottlenecks in a timely manner and verifies if everything is going as planned. It help to address problems before they grow bigger.	Generates information on the extent to which an activity achieved the desired results. It provides information for your company's long-term planning and decision-making.	Reflects on which interventions were effective in what contexts and how they can be improved.
Objectives	To enable your business to take remedial actions as soon as issues arise.	To recognize whether the activities implemented by your business were effective at meeting the expected goals.	To understand what went well and what did not and make decisions for continuous improvement.
When is it done?	From the beginning and throughout the entire duration of your business's resilience and sustainability strategy.	It usually takes place at the end of the activity or programme. A mid-term evaluation can be conducted if your business or your partners require this information.	Throughout the implementation of your business' interventions, but it is stressed when you have conducted an evaluation.
Guiding question	How do you know that your activities are happening the way you planned?	How do you know the interventions are contributing to your business' end goal?	What should your business do or how should it change to improve current or future activities based on the new information you have?
Example	Monthly check of the underground water levels after the implementation of new irrigation system.	Water used for irrigation was reduced by 35% by implementing a drip irrigation, compared to fields where no systems were established.	Nutrient management should be done together with drip irrigation. This will increase the efficiency in fertilizer use and reduce production costs.

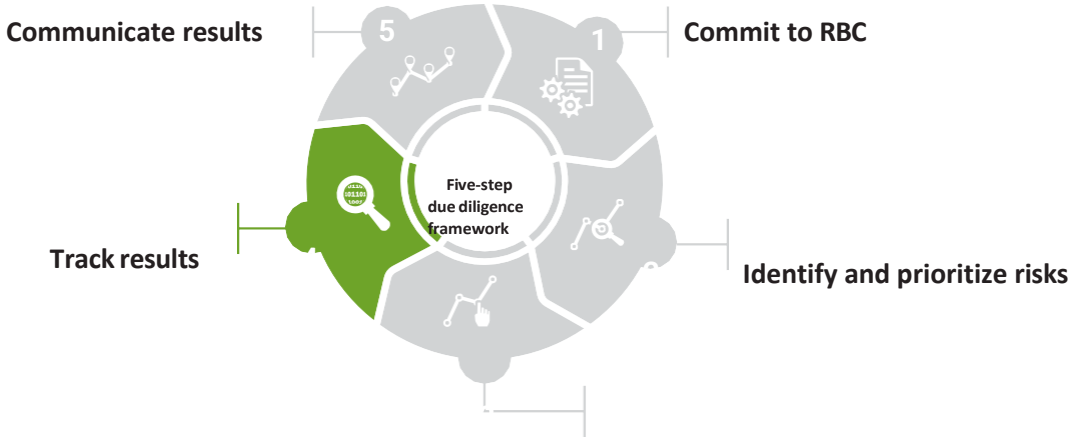
Source: Author's own elaboration based on **OECD**. 2021. *Monitoring and Evaluation Framework: OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas*. Paris. https://mneguidelines.oecd.org/monitoring-and-evaluation-framework.pdf and **USAID**. 2021. *Monitoring, evaluation, and learning (MEL) training module*. www.usaid.gov/sites/default/files/2022-12/MEL_Module.Transcript.Final_.pdf

How does monitoring, evaluation and learning contribute to responsible business conduct and due diligence?

MEL is an integral part of responsible business conduct (RBC) and due diligence processes. RBC means operating your business activities in a way that avoids negative social and environmental impacts resulting from your own business activities and those of your partners (OECD and FAO, 2016). Due diligence is the process through which businesses put their commitment to RBC into practice. It involves identifying, assessing, mitigating, preventing, and remedying risks, as well as monitoring and reporting on how they address such risks and the negative impacts of their activities and those produced by their business relationships on the environment and society (OECD and FAO, 2016; OECD, 2018). Adopting RBC practices is increasingly important as due diligence requirements are becoming mandatory for businesses in some of the main importing markets where avocados and pineapples are consumed.

The design of a solid MEL system can help your business to establish mechanisms and metrics that facilitate risk identification, measure progress towards addressing risks and achieving impact and generate knowledge for continuous improvement (FAO, 2024a, 2024b). MEL is mostly aligned with Step 4 of the five-step framework of the due diligence process, which consists of tracking results (see Figure 2).

Figure 2. Five-step framework for due diligence



Source: Adapted from **OECD-FAO**. 2016. *OECD-FAO Guidance for Responsible Agricultural Supply Chains*. Paris, OECD. www.fao.org/3/i6074e/i6074e.pdf; **OECD**. 2018. *OECD Due Diligence Guidance for Responsible Business Conduct (RBC)*. Paris, OECD. https://openknowledge.fao.org/handle/20.500.14283/i6074e; and **Fairtrade International**. 2023c. *Implementing Human Rights and Environmental Due Diligence: A guide for plantations and other organizations with hired labour*. Bonn, Germany, Fairtrade International. https://files.fairtrade.net/ publications/Fairtrade_HREDD- guide-for-plantations_EN.pdf

However, given the comprehensive nature of MEL systems, these systems can be a powerful tool to your business to feed into other steps of the due diligence framework, by:

- **Having a good understanding of the context of your operations, including the socioeconomic and physical environment in which the business operates.** This will help you identify the main sustainability risks your business is both facing and causing to the environment and people (Step 2).
- **Designing a MEL plan**, which will outline the actions that your business will do to address, mitigate and prevent current and future risks (Step 3).
- **Generating learning** from results and **guiding improvements** in the business operations to make them more resilient and sustainable (Step 3)
- **Providing evidence that can help you report** on how your business is addressing sustainability concerns (Step 5) (FAO, 2024a, 2024b).

MEL systems also support businesses' efforts **to improve accountability and transparency** by increasing the evidence base of how your company is addressing the identified risks, by disclosing and sharing information among the relevant stakeholders (e.g. senior management, shareholders and civil society organizations) and by developing feedback mechanisms (Noltze *et al*., 2021). Internally, increased accountability and transparency will help shareholders to understand how resources are being used, what results are being achieved and how these were met. In doing so, your business will also be able to meet market demands, where accountability and transparency also respond to the increasing importance of Environmental, Social and Governance (ESG) issues for financial investors and commercial banks, government regulations in importing markets, civil society advocacy and consumer preferences for ethically sourced products (Liu *et al*., 2023).

Another key contribution of MEL to RBC is through consultations. Engaging with different stakeholders as you develop your business resilience and sustainability strategy would also show your business' commitment to RBC practices. Consultations are particularly important to identify actual or potential adverse impacts of your operations on people (e.g. workers and communities) or ecosystems (OECD, 2018), and jointly identify ways in which your business could address them through its strategy. Regular discussions with impacted stakeholders are also very helpful to track the progress (i.e. monitoring) of your strategy and assess whether your business has been effective at addressing the negative risks through it (i.e. evaluation).

Thus, the establishment of MEL systems plays a key role for your business. These systems not only measure progress towards your goals, but also promote the design and implementation of activities and strategies that will effectively enhance your business' resilience and sustainability, as well as demonstrate commitment to RBC practices. Having robust MEL systems will also enhance trust, transparency and credibility in your business.

Important: MEL systems as such, are not an official component of the five- step framework of the due diligence process. However, the system is a very useful tool to monitor the implementation and outcomes related to your company's commitments to sustainability and can help avoid the duplication of activities, increase efficiency in the way your business verifies and reports on internal processes and reduce costs. For instance, when generating evidence from your RBC interventions through a MEL system, certification auditors may recognize the findings generated from assessments carried out by your business and your business partners without needing to generate new information (OECD and FAO, 2016).

If you want to learn more about RBC when developing or strengthening an existing MEL system for your business, you can review the responsible business conduct guides for avocado and pineapple producers and exporters developed by the Responsible Fruits Project.

When should your business design and implement a MEL system for its resilience and sustainability strategy?

MEL systems should be developed when your business is designing a strategy aimed at enhancing the operation's resilience and sustainability. This means that **MEL systems need to be designed before any activity takes place**. By doing so, your business will be able to truly evaluate the effectiveness and impact of its activities and strategies and gather important lessons for improving operations in the future.

But what if your business has already started implementing activities? Do not worry, it is not uncommon that a MEL system is designed and put in place **after the start of the activities**. There are two main considerations to keep in mind in these cases:

a. If your business already has a sustainability and/or resilience strategy: If this is your case, you should work with the relevant units and staff within your business (e.g. senior management, sustainability officer and team) to identify the key components outlined in the strategy (activities, expected outcomes, overarching goal) and build a MEL system that will help you track and assess progress towards these (Bamberger, 2010). The data generated through your own internal processes and other requirements (e.g. certification audits, risk assessment and management systems, quality control and inventories) can help to build your MEL system.

b. If your business does not have a sustainability and/or resilience strategy: In this case, you can use its internal sustainability and/or resilience policies, if present, as well as any ongoing activities and programs your business is implementing (e.g. soil restoration programme, workplace safety initiatives, etc.), and any sustainability commitments you may have (e.g. compliance with voluntary sustainability standards) to first develop a strategy and then a MEL system for it. Details on how

to do this are provided in **Chapter 3**. As mentioned earlier, data generated through your various internal processes will help inform your MEL system.

Important: Overall, whether your business is developing a new MEL system or strengthening an existing one, **it is advised that the design of your MEL system be largely based on internal processes already undertaken by your business to comply with voluntary sustainability standards (e.g. certification schemes), audits, market regulations, legal obligations and/or other sustainability reporting requirements**. These processes may already provide orientation on what goals are ambitioned, what outcomes are expected, what activities need to be implemented to reach those outcomes, and what is advised to minimize sustainability risks and/or improve the resilience of your operations.

Your internal processes might also be generating essential information needed to report on the progress of the activities implemented and whether the expected outcomes have been reached. For example, the Accountability Framework has developed operational guidance documents that include recommendations for businesses to monitor and verify commitments to environmental sustainability (AFi, 2020). These guidelines include monitoring metrics used by certification bodies, such as Rainforest Alliance, to monitor and verify activities and outcomes related to no deforestation, no land use change and human rights. These metrics can be directly embedded into new or existing MEL systems of businesses certified by Rainforest Alliance. This allows businesses to demonstrate to their customers and consumers how they are adopting practices that positively contribute to environmental and social sustainability.

Leveraging on existing information for your MEL system can help avoid assessment fatigue and increase efficiency in the way your business tracks and reports on progress made. However, in cases where you have prioritized objectives that go beyond the sustainability reporting mandated by certification schemes and other existing systems, you should develop new metrics that can help you track and assess the progress made towards them.

What do you need to consider when developing a MEL system?

Developing a MEL system for your business's resilience goals and sustainability commitments can be overwhelming, as there is no single, standardized guidance for doing so. However, this guide aims to assist you in that process. Here are some important aspects to keep in mind to ensure the success of your MEL system as you start your journey:

- **Engagement from senior management and other relevant staff.** This commitment is vital to ensure that there is a common understanding of why generating robust evidence of your business resilience and sustainability strategy is needed for decision making and to improve the way your business operates.

- **Make traceability a reality.** Your business needs to be able to access information of the functioning of its different processes and activities. This requires strong internal business controls and transparency in the delivery of business operations.
- **Include MEL in your business' budget.** Tracking and assessment activities are usually underbudgeted as they are not perceived as essential to business operations. Adequate planning and budgeting for these tasks will allow your business to generate high-quality information needed to make more effective decisions, improve your activities as you learn from them, and to increase transparency.
- **Assign responsibilities.** Your business should determine who will be responsible for tracking the implementation of activities and the results to different units or offices. This will be based on the nature of the information that needs to be collected. For instance, information on agrochemical use and maximum residue limits (MRL) can be sourced from the phytosanitary officer, while aggregated data on worker's health could be obtained from the safety officer, human resources' department or health insurance services.
- **Understand information requirements from different stakeholders.** This will allow you to generate the evidence that is required and prevent you from generating evidence that might have no use. For example, senior management may require detailed and periodic information on implementing activities to address the main priority areas for the continuity of your operations; third-party certification schemes may have their own topics that must be addressed (e.g. deforestation and fair incomes); and civil society will want to know how the risks identified can potentially affect communities, workers or other groups. Learn more about this in **Step 3** (Identify the target audience of your MEL system) of **Chapter 3** (OECD, 2018; CARE, 2012).

The development of a MEL system for sustainability and resilience building activities will be fully connected to your business' own priorities, whether there is a formal MEL or tracking systems in place, or if it needs to be built from the beginning. The capacity and resources of your business also impact its development.

You should keep in mind that some of the outcomes and impacts that your business would like to see as a result of its sustainability and resilience actions may take time to materialize. For example, activities and programmes aimed at restoring biodiversity in plantation areas or achieving full gender equality within the company might take several years to show results. Understanding the timeframe between designing, implementing, and realizing outcomes can help your business to set realistic targets and budget accordingly. A MEL system should generate evidence for continuous and gradual reporting on your progress towards goals, aiding in decision-making and accountability (AFi, 2023).

Now that we have learned more about what a MEL system is, why it is important and how it can be used to improve the sustainability and resilience of your businesses operations, **Chapter 3 provides step-by-step guidance on how your business can set up a MEL system**.

Chapter 3.

Step-by-step guide to develop a monitoring, evaluation and learning system to enhance the resilience and sustainability of your tropical fruit business

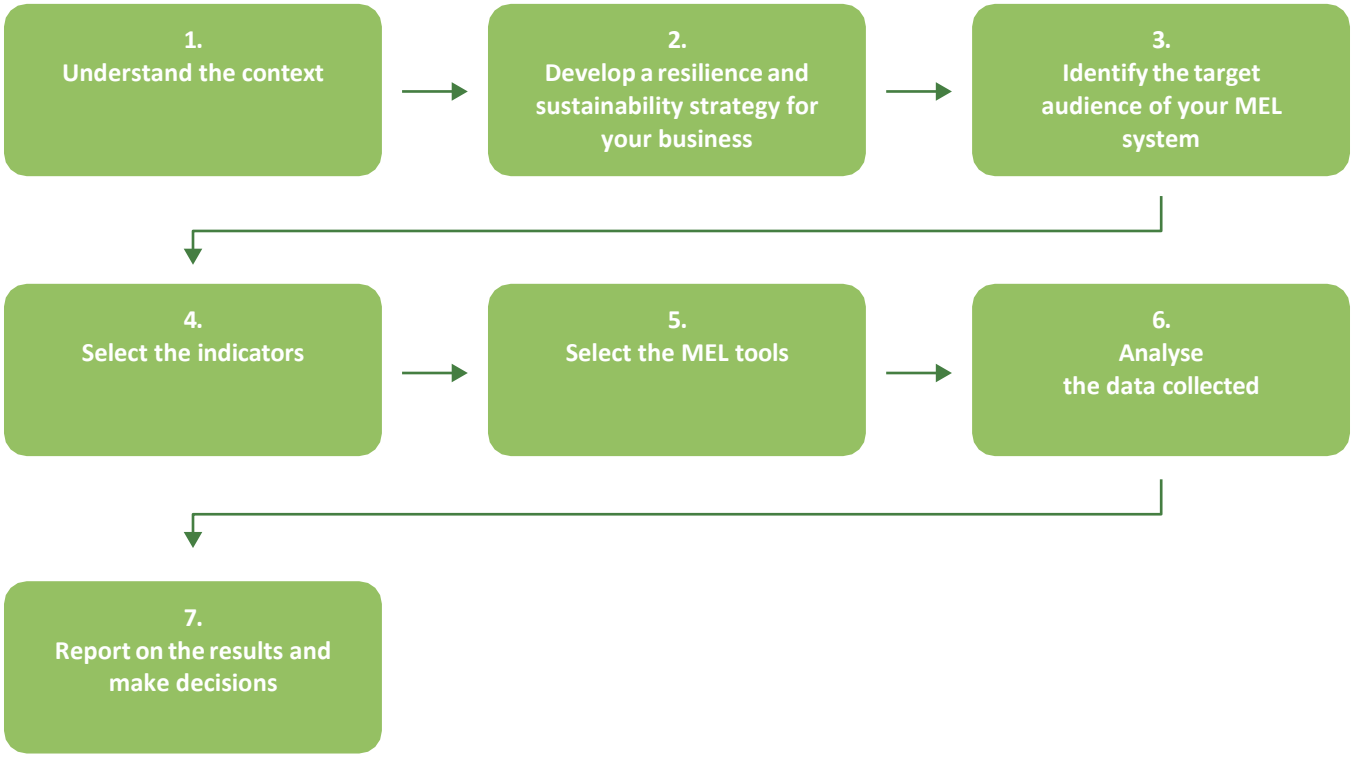
Developing and implementing MEL systems for activities contributing to the sustainability and resilience of your business operations requires careful planning, active engagement from different stakeholders and flexibility during the design and implementation process. It also needs an adequate allocation of human and financial resources.

To help address these requirements, this chapter offers step-by-step guidance on how tropical fruit producers, businesses and organizations can develop and operationalize a MEL

system – or improve an existing one – to be able to track and measure progress towards their sustainability and resilience goals.

The development and implementation of a MEL system usually follows an approach like the one in Figure 3. In this approach, businesses need to first have a very good understanding of the context in which they operate and identify the main issues they face (e.g. climate change, profitability and legal obligations). This understanding allows them to determine their goals and objectives, and how to achieve them. These components will all be outlined in a resilience and sustainability strategy. The strategy will then be the basis for businesses to define how they will measure progress toward their objectives and assess their success in achieving them. Businesses will ideally report these findings to the relevant stakeholders, and if needed, make adjustments in their operations, processes or policies to improve their performance or maximize their impact.

Figure 3. Diagram of the steps to develop a MEL system for strengthening the resilience and sustainability of businesses



Source: Author's own elaboration.

You should note that it is not always possible to follow the sequenced approach proposed in the figure, and in fact, **the process of developing a MEL system** is iterative and not fully linear. That is, you might need to go back and forth between the different steps to adjust as you progress and learn from your operations, achievements and challenges. For example, you may need to go back and adapt the outcome statements in your resilience and sustainability strategy (**Step 2**) at the time when

you are defining your indicators (**Step 4**) and selecting your MEL tools (**Step 5**) if you realize that it might be unrealistic to achieve the targets set within a given timeframe.

The following sub-sections will guide you through each of these steps to develop a MEL system. To simplify the process, the document uses an example from a fictitious avocado and pineapple business, and we will walk through all the steps together using this example. All examples are marked with a book-like icon so you can easily recognize them in the text (see **page 5**).

Step 1 Understand the context in which your operations take place

The starting point to develop a resilience and sustainability strategy for your business is to have a very good knowledge and understanding of the context in which the operations take place. This means, analysing the environmental and socioeconomic situation in which the main business activities (e.g. production, packing, processing, transporting and exporting) evolve. This includes the identification of:

- **Main risks impacting the functionality of the operations** and how they will be affecting the continuity of your business in the future. These include shocks and stresses such as extreme weather events, upcoming changes in market regulations or laws, or reputational concerns.
- **Timeframe** when the risks might take place, i.e. whether they will occur in the short, mid or long terms.
- **Stakeholders and areas of your business** that might be exposed to the effects of shocks, stresses and risks the most. For instance, small-scale producers from whom you source fruits or the hire of migrant labourers working in your plantations.
- **Business's capacities** (knowledge, skills and resources) available to address the issues identified, and which capacities your business still needs to develop to face future risks.

By understanding the context of your operations, and particularly the risks identified, your business will be able to define its vision and ultimate goal for its resilience and sustainability strategy. This approach enables your organization to anticipate challenges and develop effective strategies to address them proactively. By doing so, it enhances performance and provides a structured roadmap for achieving your goals.

> **If your business is required to comply with due diligence obligations to export to specific markets, context understanding is closely linked to Step 2 of the due diligence process** (see Figure 2 in Chapter 2), where businesses should conduct a detailed assessment to clearly identify the sustainability risks caused or influenced by their own operations or their partners'. While this is critical for businesses subject to due diligence requirements, it is equally valuable for those not obligated to comply, as it strengthens their overall operations and preparedness.

The understanding of the context should draw on credible evidence. Your business can rely on data and information collected through mechanisms that it already has in place, such as audits and recommendations from voluntary sustainability standards (VSS), ESG reporting or sectoral initiatives at national or sub-national level. Many certification standards or bodies require producers and businesses

to assess risks within the scope of the certification process. For instance, Fairtrade's Standard for small-scale producer organizations and Standard for traders include requirements for risk assessment with varying levels of detailed instructions for different organizations (Fairtrade, 2019). The Rainforest Alliance has also issued a detailed Risk Assessment Tool used by certified companies as part of the compliance procedure (Rainforest Alliance, 2023). Many other certification standards also include criteria for assessing sustainability risks within the scope of the standards (FAO, 2023b).

If present, your business can also use its grievance mechanisms to identify risks within its operations. As grievance mechanisms are formal processes for receiving and responding to complaints from workers, local community members and other stakeholders, these can be useful tools to detect incidents and emerging risks (FAO, 2024c, 2024d). By doing so, the mechanisms can help to prioritize areas that need to be strengthened as part of your business' resilience and sustainability strategy (**Step 2**).

Your business can also use available open-source resources and tools to gather information on current patterns and future risks on climate trends and weather events, phytosanitary regulations, market and price evolution and forecasts, land use cover change, etc. As mentioned earlier, consultations with key stakeholders such as producers, field workers, union representatives, government officials, among others, can also support your business to better understand contextual factors influencing the resilience and sustainability of your operations.

The Responsible Fruits Project developed **two guides to operationalize Responsible Business Conduct** in avocado and pineapple value chains which can help you to identify global risks in avocado and pineapple value chains. Each guide provides a detailed overview of the risks facing global avocado or pineapple business and their partners, including the risks directly or indirectly created through their business operations and/or relationships. The documents also provide practical guidance on how these risks can be prioritized and manged to minimize the negative impact of the risks and prevent them from occurring in the future. The prioritization process is important given that all businesses have limited time and resources, and as such, it is not realistic to try to address all the risks identified at once.

Other resources are available that can help your business to identify some of the risks threatening the performance of your operations. The Resilience assessment of avocado and pineapple value chains (FAO, 2023a) presents some of the main environmental, social and economic shocks and stresses affecting the resilience of both value chains. The two technical guides on climate change adaptation for the avocado and pineapple producing sectors (FAO, 2024a, 2024b) outline the main current and future climate risks for the production of these commodities and some adaptation options that can help producers to address these.

Once you have identified the current risks facing your businesses and those that have the potential to affect the operations of your business in the future, you can summarize them in a table. Grouping

them by environmental, economic and social domain can help you visualize the different risks and prioritize those that might require more urgent attention. You can also include the stakeholder groups and sub-groups that might be most affected by risks included in the table. This table will also serve as the basis to define the activities that your business can put in place to address the different issues identified.

Box 1

Example of the risk identification process in a fictitious tropical fruit company

"Sunny Tropical Fruits, C.O." is a (fictitious) medium-sized company producing and packing avocado and pineapple for export to the United States of America and the European Union. The company is interested in developing a resilience and sustainability strategy for its operations as it has noticed that the physical and regulatory environments are changing, making productivity and profitability more challenging. Sunny Tropical Fruits has noticed that extreme weather events have become more frequent in the past 10 years, due diligence requirements will become mandatory in its main importing market by 2029, and that stricter national laws on labour rights and land use change are influencing its capacity to expand to meet growing domestic and international consumer demands.

As a first step, the company starts compiling information on the main risks facing its operations in the plantations and its packing house. The company used the tools already provided by the certification standards they comply with, mainly to identify climate and environmental risks. The company complements this information with weather forecasts and the climate information they regularly collect across the plantations and through the subnational meteorological services. According to these data, the company expects that the number and length of droughts will increase in the coming years and decades, which will challenge the yield and quality of production.
Sunny Tropical Fruits also used its internal grievance mechanism and aggregated medical records to identify any issues connected to the well-being of employees. These shed light on issues related to heat stress disorders faced by field workers, as well as some complaints of harassment suffered by women in the packing house.

By analysing historical cash flow, the company also recognized that input prices, transportation costs and access to loans for new investments have become more expensive since the outbreak of COVID-19, further exacerbated by the recent geopolitical situation. The company expects that the economic situation will continue to have implications on production and trade costs in the mid and long terms.

Based on this analysis, the company summarized the main points in a table (see **Table 2**).

Table 2. Example of mapping exercise of different shocks, stresses and risks and affected population groups

Domain	Main risks identified by the business	Affected population group(s) or sub-group(s)
Environmental and climatic	Larger number of extreme weather events, mainly droughts, with an increasing trend in the next 30 years.	Agricultural producers, mainly farmers without access to irrigation technologies or drought-resistant seeds.
	Occurrence of unexpected hailstorms in the main producing area, severely affecting production.	Producers in general, small-scale farmers and companies without access to weather insurances.
	Increasing number of pests and diseases due to warmer and more humid weather.	Producers and exporters and communities affected by polluted water streams and residues in food.
	Several hectares of forest have been converted into agricultural land since 2020.	None identified but Indigenous Peoples living nearby might be impacted if the trend continues.
Economic	Increased input prices due to recent international conflict and subsequent inflation rates in fuel and transportation costs.	The whole company as we rely on imported agrochemicals for production and transportation in the field and to the port.
	Higher interest rates imposed by national banks, making it harder to access loans for new investments.	The whole company, especially to make investments in research and development to improve production and packing.
	Changes in market regulations requiring the company to comply with due diligence processes.	The whole business and external producers who are supplying fruit to the company to complement the quantity needed for export.
Social	Higher complaints by field workers related to diseases and disorders related to heat stress.	Field workers, especially during the planting season (for pineapple) and harvesting season (for avocado and pineapple).
	Gender-based violence reported in packhouses.	Women working in packhouses, supervisors responsible for ensuring workplace safety.

Source: Author's own elaboration.

As noted from the example, **the risks facing your business can span across different sustainability domains and might impact different parts of the operations or stakeholders your business is engaged with**. Missing important risks can have serious repercussions in the resilience and sustainability of your operations, as they might not only affect the performance and continuity of your operations, but also influence your business' reputation. This is why having a good understanding of the context in which your business operates is the basis for the design of a resilience and sustainability strategy for your business, which is explained in detail in **Step 2** of this guide. The strategy will serve your business to outline its goals vis-à-vis strengthening the resilience and sustainability of its operations, including how it will address the risks identified.

Step 2 Develop a resilience and sustainability strategy for your business: What do you want to achieve and how?

Once you and your team have a good understanding of the context in which your business operates, you will start developing a comprehensive resilience and sustainability strategy where you will layout the goals for your strategy and how to get there. You can see this as developing a roadmap towards improving the capacity of your business to effectively withstand and recover from different shocks and stresses and enhance its ability to prepare for and adapt to future risks.

Note: if you are developing an action plan as part of your due diligence process, then you can use that plan as a starting point when designing your resilience and sustainability strategy. See more details on Step 3 of the responsible business conduct guides for the avocado and pineapple industries developed by the Responsible Fruits Project.

There are several tools that can help your business to develop a resilience and sustainability strategy in the context of MEL, the most common ones are theories of change and logical frameworks. A **theory of change (ToC)** is an illustration that **explains how a specific action, or a set of actions, taken by your business are expected to lead to one or more outcomes in the future** (United Nations Development Group, 2023). In a resilience and sustainability strategy, the ToC will outline the steps that your business needs to take to achieve its goals to become more resilient and sustainable, as well as the logic behind why those steps will effectively lead to such goals. A key characteristic of a **ToC is that its structure is not linear, and several actions can contribute to multiple outcomes**.

Figures 4 and 5 give an example of simplified ToC diagrams. Other detailed and very comprehensive ToC diagrams have been developed by Rainforest Alliance (2020) and Fairtrade (2018). These show the different interventions and steps taken by these certification bodies – in collaboration with their members – lead to their overall vision to improve environmental and social sustainability.

Logical frameworks (also known as log frames) are planning tools that can **help you structure the main elements of your business' activities, establishing linkages between them**. Log frames consist of a matrix, with **linear relationships** between the steps taken by the business and the goals. This linearity offers less flexibility compared to ToCs, where you can visualize how one action can influence different outcomes.

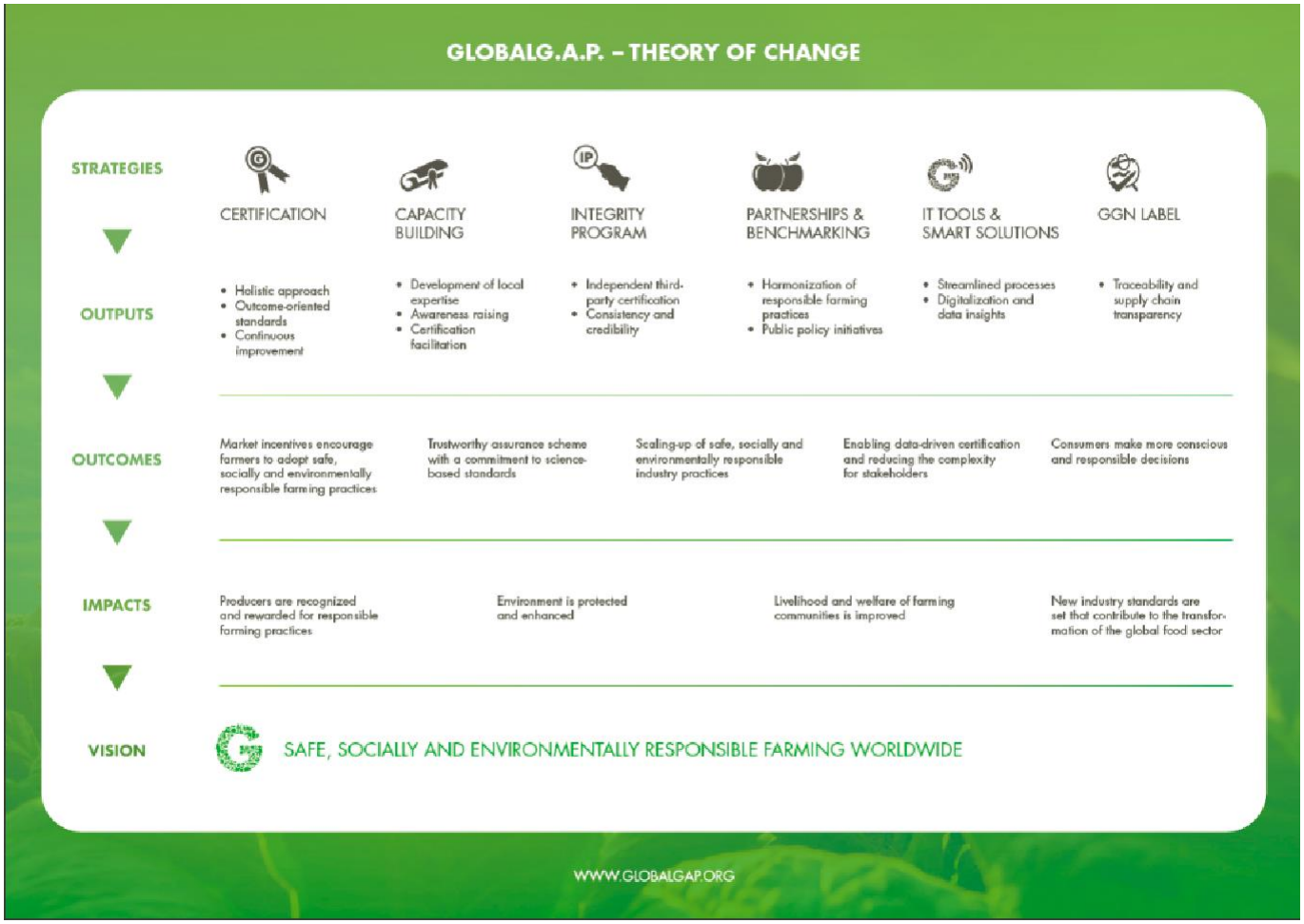
Given the different features and advantages that ToCs and log frames provide to MEL activities, this technical guide will **first walk you through the process of developing a ToC to help design a resilience and sustainability strategy for your business**.

The guide will then explain how log frames can be used to organize your resilience and sustainability indicators (Step 4) and metrics – essentially your business' MEL plan – in direct alignment with your overall ToC and strategy.

Figure 4. Example of visual representations of a ToC from Fairtrade International

Source: **Fairtrade**. 2024. *Theory of Change – Fairtrade's approach to make the future fare*. [Cited on 25 June 2024]. https://toc.fairtrade.net

Figure 5. GlobalG.A.P.'s theory of change diagram



Source: **GlobalG.A.P**. 2022. GLOBALG.A.P. Theory of Change. *In*: GlobalG.A.P. Monitoring and evaluation. www.globalgap.org/about/monitoring-and-evaluation

Why should your business develop a resilience and sustainability ToC?

The primary objective of developing a ToC is to enable senior management and other key stakeholders to visualize and understand the actions necessary to enhance the business' resilience and sustainability. Overall, the process of developing a ToC will allow businesses to clearly articulate the goals and explore strategies to address the risks that are currently impacting their daily operational performance and the businesses' ability to address future sustainability risks.

Thus, by developing a ToC, your business will be able to identify the different entry points through which it can effectively meet its resilience and sustainability objectives and address some of the root causes and barriers limiting the progress towards such objectives.

The resilience and sustainability ToC will mainly help to answer four key questions:

1. What are the **main shocks, stresses and risks** affecting your business' ability to prepare for, respond to, and recover from shocks and stresses (i.e. resilience) and that may threaten the continuity of its operations in future?
2. What risk(s) is your business trying to **prevent or manage**?
3. What **steps will be taken to address** the risk(s) and minimize their effects on your business' operations and people it engages with?
4. How will your business determine that **the resilience and sustainability strategy has been successful** in addressing the risks(s)? (CARE, 2019)

Answering these questions will help your business to identify what the ambition of the resilience and sustainability strategy is, what the business is expected to do, and how you will know and determine whether the strategy worked or not. The development of a ToC will also identify the risks and assumptions that might challenge or enable your business to achieve its goal (CARE, 2012).

In the context of developing a ToC to visualize the resilience and sustainability strategy of your business, the ToC should include the following components:

a. The **overall resilience and sustainability goal of your business**, including who will benefit from it and the actions you will take.
b. The type of **shocks, stresses and risks** affecting the performance of your business. This relates closely to the due diligence processes in RBC regarding the internal and external risks facing your operations.
c. The **actions, projects or initiatives** to be taken by your business to address the shocks, stresses and risks.

d. The **linkages** among the actions, projects or initiatives and their expected **effects** at different points in time in order to meet the end goal (point a in this list).

e. The **assumptions** behind these linkages (e.g. what are the existing capacities, what are the main barriers) and how they will work in practice to achieve the end goal.

These are all guided by a good understanding of the context in which your business operations take place (**Step 1**). Finally, you can develop a brief narrative of your ToC where you describe how the different pathways are linked with each other and how they contribute to the final sustainability and resilience goal.

The development of a ToC should be done through a participatory exercise among all relevant staff within your business. Ideally, this would include senior management, Sustainability Officer, M&E Officer, Operations Officer, union representatives, among others. This would promote an effective consultation and exchange on the views and assumptions of different units regarding how your business will achieve the intended results. A participatory exercise will also help to spot weak areas in resilience and sustainability strategy of your business, and it will help prioritize activities to reach its goal.

Important: in some cases, a single ToC might not be sufficient for what your business intends to achieve, especially if there are many different activities or levels (e.g. business, community and landscape) your business is aiming to cover through a single strategy. If this is your case, you can opt for developing separate, targeted ToCs that will be nested in your overall sustainability strategy (CGIAR, 2017).

How is a ToC for a resilience and sustainability strategy developed in practice?

A ToC is a visual representation of your resilience and sustainability strategy. The illustration is flexible in terms of layout or direction and can be displayed horizontally or vertically depending on the preference of your business, as shown previously in **Figure 5**. The ToC will inform the measurement and reporting system including the selection of sustainability and resilience indicators (**Step 4**), measurement tools to track progress and achievements (**Step 5**), data analysis processes (**Step 6**) and reporting of your results (**Step 7**) as explained in the subsequent steps.

A ToC is developed using a "backward" approach. That means that your business will start developing a ToC by defining its sustainability and resilience goal(s) first and then, define how it will get there. For the latter, you will need to define at all the potential actions required to achieve the goal(s) (i.e. activities) and their expected effects (i.e. outputs and outcomes) in the short, mid and long terms. Each of these components are explained in this section.

a) Define the resilience and sustainability goal of your business

The first step is to define what the ultimate objective of your business is, in a scenario where it would be fully able to withstand shocks and stresses and effectively address, prevent, prepare and adapt to future risks. The resilience and sustainability goal should be aligned with the mission and vision set out by your business and will have a specific timeframe.

> **Important: In most cases, reaching the ultimate resilience and sustainability goals will depend on factors outside the control of your business** and the achievement might depend on the collaboration with other stakeholders and other contextual factors identified in **Step 1** (e.g. policy environment, international trade dynamics, availability of technologies, etc.). However, your business can still take proactive actions under its full control, such as collaboration and engagement with different actors, to achieve its resilience and sustainability goals.

The resilience and sustainability goal statement should be concise but clear. The statement needs to be **specific, measurable, achievable, relevant and time-bound (SMART)**. These criteria will help your goal to remain focused, realistic and achievable, and that progress towards it can be effectively tracked and assessed (Steps 4 to 7).

Since your business ambitions are to build more resilient and sustainable operations, **the goal should reflect the degree to which it will be able to withstand or overcome future shocks, stresses and risks** identified in **Step 1**. In the same way, the goal statement should provide a reference to who

the business will benefit through its actions. Thus, the goal statement should include the following:

- **Definition of what is to be achieved:** what the business can realistically attain.
- **Time frame:** by when is the business intending to reach the resilience and sustainability goal.
- **Stakeholders benefited:** who will be positively impacted by the business's actions. These stakeholders can be internal to your company (e.g. small growers, association's members, workers, shareholders, etc.) and/or external (e.g. consumers, international markets, local communities, etc.).
- **Shocks, stresses and risks:** what is your business building resilience for and what sustainability issues is trying to address or prevent. For instance, this can be to stabilize production in a changing climate context, to increase presence in the markets despite changes in importing regulations, etc.

The following is an example of how your business can determine its resilience goal based on the context analysis and risk identification.

Box 2

Linkages between the context analysis and the goal definition

Context

- Higher competitiveness in international markets and tighter regulations, including on phytosanitary standards and MRLs, reducing profts for producers.
- Increasing frequency of weather extremes, challenging the capacity to produce enough tier-1 category fruit.
- Migrants working in plantations face discrimination by local communities.
- Women working in packhouses and in plantations are reporting that they experience violence at work.
- Increasing demand of tropical fruits by international and domestic consumers, thanks to improved perceptions on health benefts. This is likely to continue in the next decade.

Goal

In the next decade, Sunny Tropical Fruits, C.O. will consolidate its position in national and international markets, by offering safe, healthy and sustainably produced fruits, increasing the proftability of growers and well-being of all workers, despite extreme weather events.

Source: Author's own elaboration.

b) Define the resilience and sustainability outcomes: What needs to happen to reach your goal?

Once your business has defined its resilience and sustainability goal, it will now describe how it will get there, that is, the outcomes. **Outcomes will describe and measure the mid- and long- term objectives and impact, thanks to the actions and activities taken by your business.** For instance, you will be able to tell whether the improved physical well-being of field workers (outcome 1) and lower costs associated with health insurance claims (outcome 2) is related to the training on health and safety protocols for workers (activity) organized by the company.

The outcomes for your resilience and sustainability ToC should have the following key characteristics:

- **SMART statements.** As you did with the resilience and sustainability goal, the specificity of the statements will allow you to define indicators and metrics to measure the impact and effectiveness of your business' interventions later on (Step 3 in this guide).
- **Mid- and long-term focus.** Outcomes focus on mid- and long-term changes or impacts (e.g. 2-3 years and over 5 years, respectively) that your business wants to achieve through its actions. You can have several outcomes based on the nature of the actions (e.g. environmental, social and economic) or the level of these (e.g. field, companywide, community, regional, etc).
- **Direct alignment with your business' goal.** Establish a causal and logical relationships between the outcomes and their contributions to your company's main resilience and sustainability goals and ambitions.
- **Be based on a good context understanding.** Formulate outcomes based on a clear understanding of the context, including the risks, and the needs of your business and population(s) potentially impacted and/or engaged in your strategy (ISSD, 2014).

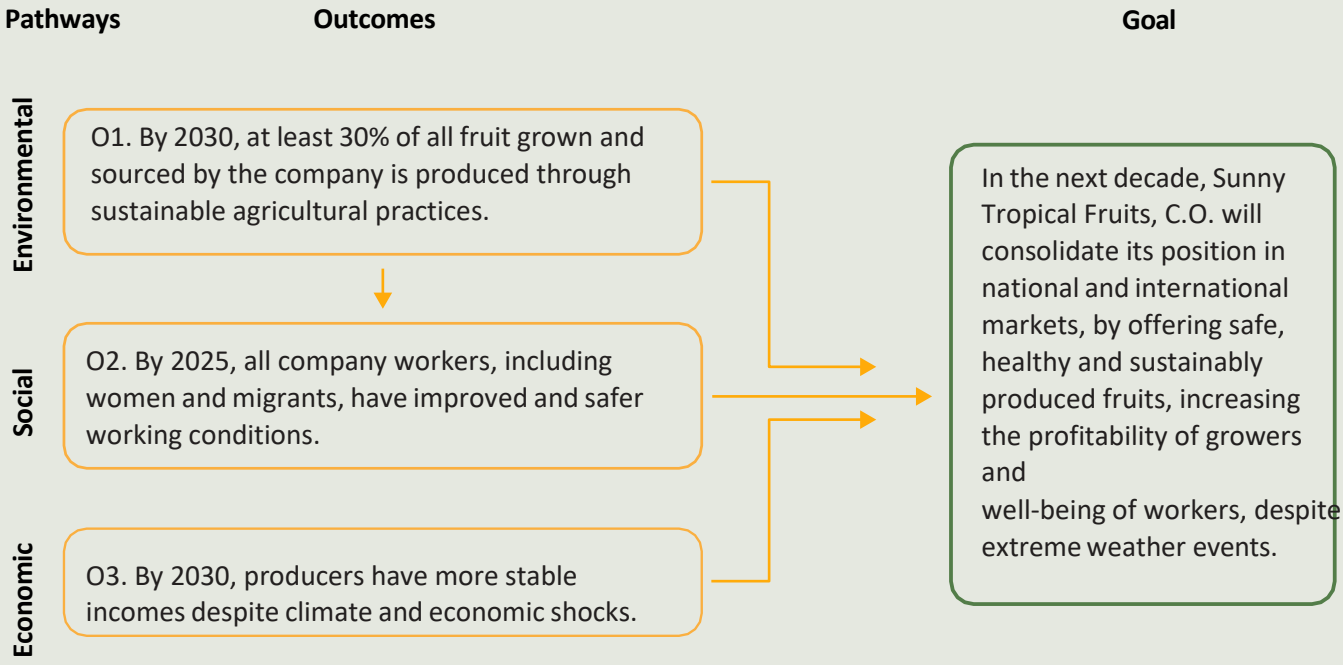
Note: There is no limit to the number of outcomes needed to reach the end goal; however, it is advised that a few encompassing ones are selected to allow your company to set specific and measurable objectives in the subsequent steps. This can be based on the risks that your business has prioritized and/or actions it is already taking as part of a wider business strategy or internal processes (e.g. compliance with VSS and market regulations).

You can identify **different pathways** through which your company can reach its end resilience and sustainability goal. For instance, you can delineate pathways **based on environmental, economic and social sustainability domains**. This approach will not only enable your business to categorize pathways in your ToC, but also to facilitate the visualization of the different sustainability dimensions into the strategy. This alignment can also support your business sustainability reporting later on (see **Step 7**).

Continuing with our example, outcomes to reach the end goal are found in Box 3, where the pathways have been grouped by environmental, social and economic domains. In this example, we can see two types of causal connections: 1) the outcomes are directly linked to the end goal, and 2) the outcomes are interconnected with each other. For the latter, the box shows that the increased adoption of sustainable agricultural practices (O1) will not only contribute to the company's final goal but will also have a positive influence in the working conditions of employees (O2) and on incomes despite climate and economic shocks (O3). This might be explained by the fact that through the incorporation of better production practices (e.g. lower use of agrochemicals or implementation of integrated water management practices), field workers might be able to reduce their exposure to hazardous substances or minimize the time needed to conduct strenuous work to collect water for irrigation (O2). Likewise, the adoption of sustainable practices for production (O1) can have an impact on the stability of production, thanks to the incorporation of techniques and technologies that build climate resilience (O3).

Box 3

Example of outcome definition using three different sustainability pathways



Source: Author's own elaboration.

c) Define the outputs: What is your business delivering or doing to achieve the outcomes?

Outputs describe the type of deliverables, or short-term results, that will be produced by your business to be able to achieve your outcomes. That is, outputs should reflect the tangible and immediate results of the activities conducted by your business in order to meet your intermediate resilience and sustainability objectives (outcome) and end goal (CARE, 2012). For instance, outputs could be increased knowledge on pesticide disposal among producers thanks to training provided by your business. Outputs can be perceived as short-term outcomes, over which businesses have nearly complete control over their achievement.

However, it is important to note that in some cases other actor(s) with whom you are collaborating might also contribute to the accomplishment of your outputs. For example, you are working with the unions to develop the capacity of packhouse workers on occupational health and safety. In this case, your output will be achieved thanks to the series of workshops organized on the matter in cooperation with the union.

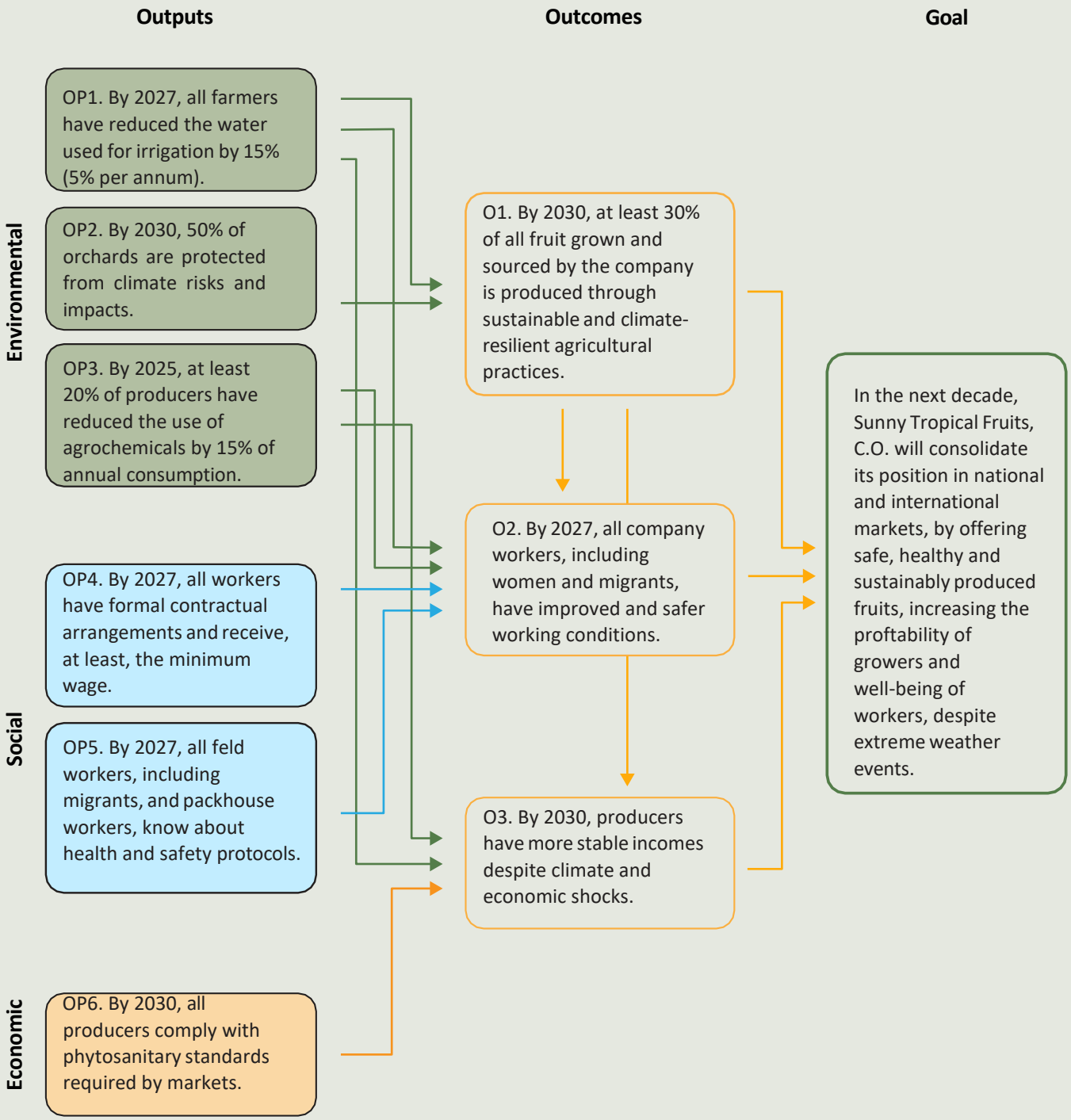
The key characteristics of outputs in a resilience and sustainability ToC are:

- Output statements should be **SMART**.
- They lay out the **tangible products, services, or actions** that will contribute to your resilience- and sustainability-related outcome.
- They are formulated **based on an understanding of the resources that your business has available**, and the activities that you are effectively planning to undertake.
- They **provide a clear link between the inputs and activities** of the intervention and the desired outcomes.

Note: Outputs can lead to outcomes across multiple domains and may influence outcomes among multiple actors, e.g. increased knowledge of good agricultural practices may impact both farmers and consumers as they access safer foods. It is important to outline all these different connections in your ToC (see **Box 4**).

Box 4

Example of how to define outputs linked to the resilience and sustainability outcomes and end goal



Source: Author's own elaboration.

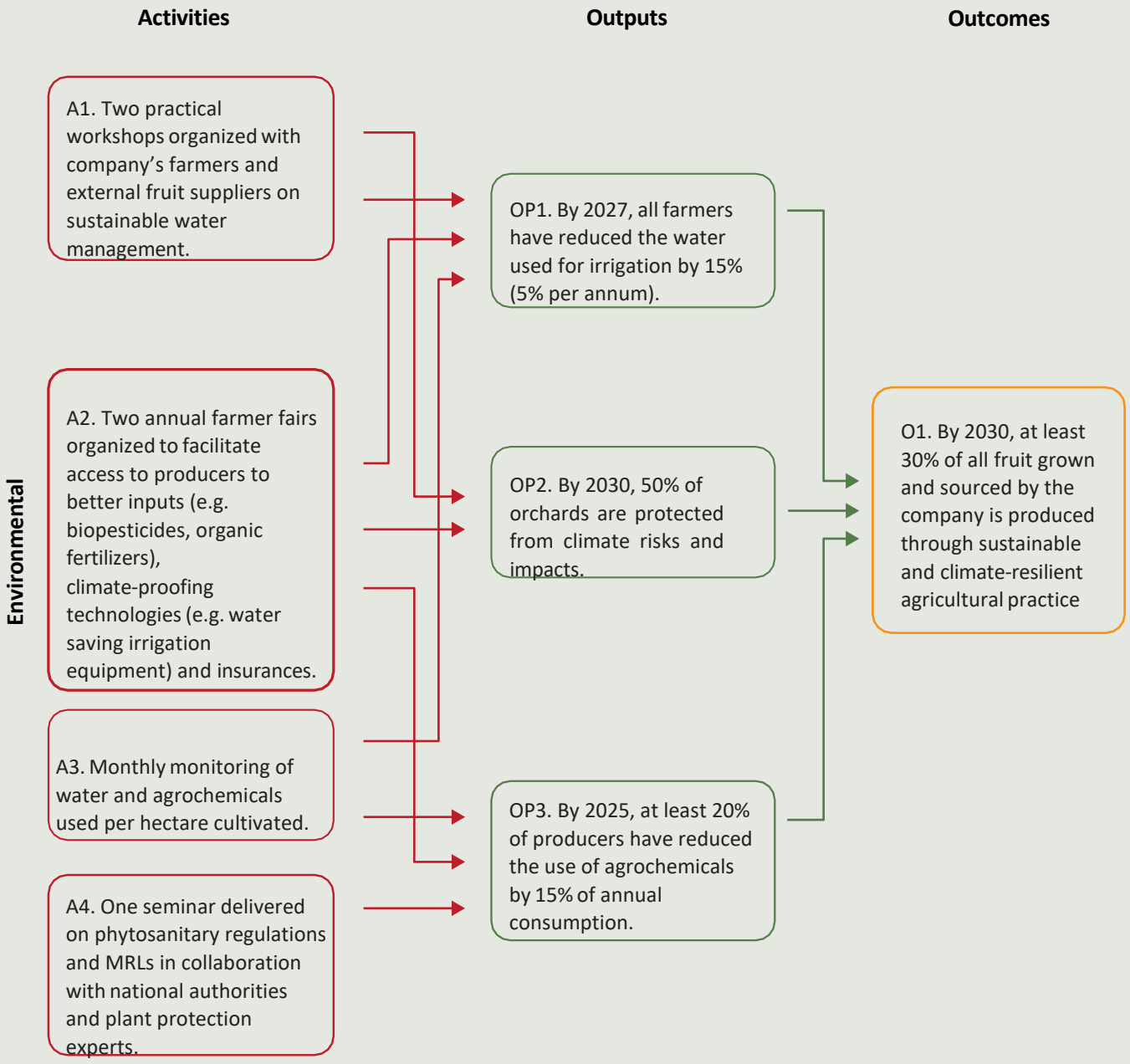
d) Define the activities

The next step is to define the actions that your business will take or implement to be able to deliver what is expected (i.e. the outputs). The activities are under the full control of your business and are usually determined based on the resources, knowledge and capabilities the business currently has. The activities can also be determined by the resources and capacities the business is expecting to develop or access in the short term (CARE, 2012) through financing, training or collaboration with other stakeholders (e.g. communities, research centres, government, etc.).

Following the example of "Sunny Tropical Fruits", **Box 5** presents some of the activities businesses can implement to achieve the outputs stated in **Box 4** for the environmental pathway. The box shows the different types of activities, including workshops or farmer fairs organized by the company to ensure that farmers have the access to knowledge and services essential to achieve the outputs. It is important to note that activities can contribute to outputs from different pathways. For instance, the seminar the company conducted on phytosanitary regulations and maximum residues limits (MRLs), in collaboration with national authorities and plant protection experts (A3 in Box 5), can impact both the producers' ability to reduce agrochemical use under the environmental pathway (OP3 in **Box 5**), as well as their capacity to comply with phytosanitary standards required by markets under the economic pathway (OP6 in **Box 4**).

Box 5

Example of how to define activities contributing to the outputs in the environmental pathway



Note: MRL=maximum residues limits.

Source: Author's own elaboration.

e) Determine causal linkages

Explore and define how the activities, outputs and outcomes that you defined are connected to each other. You can use arrows or lines as connectors to show the interlinkages among the different components in your ToC, especially to show the causal relationships among the different elements. You can do this by thinking about how the interaction among activities, outputs and outcomes will influence or contribute to the achievement of your business' and resilience and sustainability goal.

The connections between the different ToC elements and the end goal can be done by using an "*if and then*" logic. The logic will set a cause and consequence relationship, where elements will be connected by underlying assumptions. For instance, if one of your business' outcomes is to grow food sustainably in the presence of climate hazards, the "*if and then*" logic could be as follows:

Example: if we establish drip irrigation systems in our farm (activity) and have adequate access to accurate and opportune climate information, including sudden changes in rainfall patterns and temperature (assumption), the business will have the capacity to timely and efficiently provide the optimal amount of water required by the fruits (output). If the crop irrigation is done correctly (output) and the irrigation system keeps functioning well throughout the dry season (assumption), the crops will be able to continue growing and producing despite the presence of extreme weather events (outcome).

The relationship among them can be vertical, horizontal or diagonal as seen in **Box 3**, **Box 4** and **Box 5**.

Important: When drawing the causal linkages in your ToC, the important aspect is to make sure that the diagram is accurate and easy to understand for those who will be using this ToC for MEL purposes and decision-making in your business. Remember, the ToC will primarily be used internally within the company to visualize and articulate its resilience and sustainability goals and to demonstrate how the resources and actions taken by the company will help achieve these objectives.

f) Verify your ToC for resilience and sustainability

Once your business has developed a resilience and sustainability ToC, **the verification process is an opportunity to ensure that all the activities, outputs and outcomes are outlined, and the logic embodied in the ToC is consistent and realistic**. At this stage, your business will be

able to identify any missing activities, outputs, or outcomes that are crucial for guiding your business towards its ultimate resilience and sustainability goal. This will also be a good opportunity to test if the linkages established are logical or not. If something is missing or inaccurate, your business can adjust the diagram by adding or removing boxes and causal connections or rephrase statements to make them "SMARTer".

The verification process is a good occasion to (re)engage with those stakeholders that will be part of your resilience and sustainability strategy. These can include growers who you work with, member companies if you are a trade or a producer organization, representatives of worker unions or community leaders, among others. The engagement with other stakeholders, especially those that will be involved or impacted by your resilience and sustainability strategy, will give your business the opportunity to present and discuss its future objectives and ambitions, and how it intends to get there (CARE, 2012). This process will also allow your business to gather knowledge and experience from other stakeholders, identify any risks that might have been overlooked, find joint solutions, and together, refine your business strategy (Aldi South Group, 2021).

You can use Table 3 as a template to verify that your ToC contains all the key elements discussed in this section.

Table 3. Quality assurance checklist to verify the elements and development process for your business' ToC

ToC key elements	What does it mean?	Presence in ToC
Goal	Includes one sentence describing the expected ultimate objective, thanks to the business' interventions and how success will be identified.	
Target population (end-users)	Identifies the actors in the change process and how they will benefit from the interventions of your business.	
Shocks and stresses	Outlines the current and future shocks and stresses that may undermine the performance of your business' operations, including those caused by the effects of climate change, epidemics, market changes, governance, etc.	
Internal risks	Identifies potential impacts that the activities and overall strategy may create when working towards the business' goal.	
Outcomes and outputs	Identifies how change will be achieved by linking short-term outputs and mid- and long-term outcomes.	
Activities	Clearly states the actions or interventions made by the business to achieve your goal.	
Causal links	Determines how activities, outputs and outcomes are linked to each other in a sequenced, logical way, clear and plausible flow.	
Assumptions	Identifies elements that are expected to happen (or not) to materialize each step of the process.	

ToC key elements	What does it mean?	Presence in ToC
ToC development process		
Context understanding	Does it identify the main issues your business faces and examines the underlying causes?	
Participation	Was the ToC development based on a collaborative and participatory process, involving multiple stakeholder perspectives?	
Evidence	Does it draw on available evidence from robust and credible sources (e.g. data, consultations, surveys, field visits, etc.)?	
Responsive	Do the interventions proposed respond to the main challenges faced by your business?	
Responsible	Do your interventions contribute to reducing and mitigating current and future shocks, stresses and risks?	

Source: Author's own elaboration with information from **Stein D. & Valters, C**. 2012. *Understanding theory of change in international development*. London. and **UNDAF (United Nations Development Assistance Framework)**. 2017. *Monitoring and Evaluation – UNDAF Companion Guidance*. New York. https://unsdg.un.org/sites/default/files/UNDG- UNDAF-Companion-Pieces-6-Monitoring-And-Evaluation.pdf

Step 3 Identify the target audience for your MEL system: Who is interested in the evidence that your business will generate?

This step consists of identifying and prioritizing the stakeholders that will use the information generated by the MEL system your business is setting up. You can consider these as the business' MEL system users.

As one of the purposes of the MEL system is to generate and provide information for decision making, understanding both who the users are and their needs is crucial. The needs of your main users will determine **the evidence that you need to generate. Based on this, you will define the type and quantity of information to collect, the methods for gathering it, and the most effective ways to share the findings with the end-users**. The users can be divided into two categories:

- **Internal MEL users:** refers to those who have a high stake and interest in your business' activities, and who directly make decisions on such activities. These users mainly include the Board of Directors, senior management and internal staff. In some cases, businesses implementing certain activities in collaboration with other stakeholders (e.g. local communities) will also be considered as internal users. In this case, businesses will engage them in the MEL system, by including them in consultations and in the design of the ToC, as well as sharing with them the progress made on the activities and challenges faced during the implementation of these.
- **External MEL users:** includes actors not directly involved in the development and/or implementation of your business' activities but who might be interested in learning about the business' activities related to resilience and sustainability. Example of these users could be importing companies, consumers, service providers, retailers, certification bodies, policymakers and research institutions, among others.

How can your business identify and prioritize its audience?

You can identify, categorize and prioritize the users of your MEL system based on the level of influence and importance/relevance they have to the business activities and operations, and as such, their interest in the information generated through the MEL system (CARE, 2012). That is:

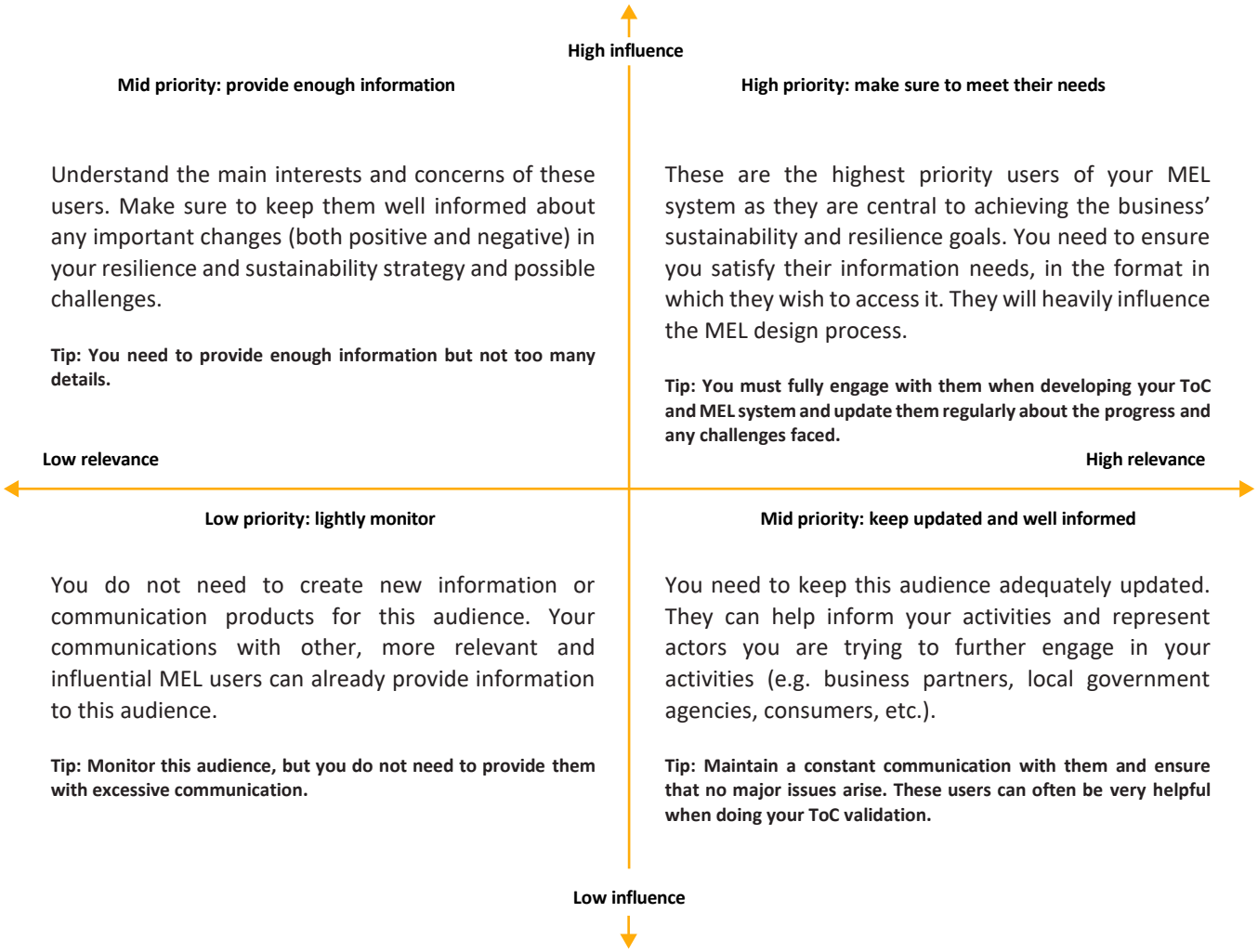
- **Influence:** this measures the relative level of the users' authority or ability to affect decision making in the design and implementation of your business operations and activities. The users with a high degree of influence are those who control or influence key decisions related to your business operations including, which activities to implement (or not) and when, how the goal of the business' resilience and sustainability strategy is defined, among others. **This audience is considered powerful.** Examples of these users include the Board of Directors, direct customers,

suppliers and business partners, growers and association members, communities directly engaged in the implementation or oversight of some activities, VSS audit bodies, labour union representatives, among others.

- **Relevance:** this measures the degree to which the interventions cannot be considered successful if needs, expectations, and issues of this audience are not addressed. So, some MEL audience may have little influence but high degrees of relevance, making them **an important audience**. Examples include consumers in the main importing markets, communities not directly engaged in the interventions, national and sub-national governments, among others.

Figure 6 provides guidance on how you can prioritize your MEL audience based on their influence and relevance.

Figure 6. Matrix for prioritizing the MEL users based on their influence and relevance



Source: Adapted from **Care**. 2012. *Guide to Monitoring and Evaluation System Design for Value Chain Projects*. London.

Defining the information needs of your MEL users

Once you have identified who your MEL users will be, you need to define their information requirements. This step is essential as it will also determine how you will generate that information (**Step 5**), how you will analyse it (**Step 6**) and how the results will be communicated to relevant stakeholders (**Step 7**). The latter is closely linked to Step 5 (reporting) of the due diligence process (**Figure 2** earlier).

The following questions can be used to explore information needs for your internal and external users (Adapted from CARE, 2012 and World Bank, 2017):

- **Purpose:** Why does this stakeholder want information about specific areas (e.g. activities, outputs, outcomes and overall resilience and sustainability strategy)? For instance, senior management and compliance officer in your business might need information on pesticides use and residues to back up claims on MRL and access markets. The board of directors might be interested in knowing how the company's operations contribute to restoring and protecting biodiversity in the production area, especially if this is directly linked to compliance with specific certification requirements. Local communities might want to know how new production and agrochemical disposal practices implemented by the firm are reducing the risk of water pollution and ensuring access to safe water for domestic use and children at school.
- **Frequency:** How frequently does the stakeholder expect or need information on the activity or progress made by the business? This will be determined by the timeframe of results expected by the priority stakeholders (e.g. in the short, mid or long term) and the stakeholder type (e.g. certification audit body, consumers, etc.). It is important to note that for certain activities (e.g. forest restoration and regeneration of soils) the results might take significant time to materialize, even years. Thus, it is important for you to take this into account when defining the indicators (next step) and reporting on the results.
- **Robustness:** What degree of accuracy of the results do stakeholders expect or need? Here you will need to define if your company requires high scientific accuracy (e.g. carbon footprint measurement, pesticide residue tests) or if descriptive analysis is enough to meet your information and reporting needs.
- **Formality:** How formal should the information and the tools used to collect it be? How formal should the results be when reported?
- **Type:** Are the users interested in qualitative information (e.g. visual, statements and interviews) or quantitative results (e.g. surveys and lab tests)? (see more about data types on **Step 6**).

The last three points will also help determine the types of tools you will use in your MEL activities. This is discussed in **Step 5**.

Box 6

Identifying the audience of the MEL information

In Step 2, "Sunny Tropical Fruits" defined one of its outcomes in the environmental pathway as:

> O1. By 2030, at least 30% of all fruit grown and sourced by the company is produced through sustainable and climate-resilient agricultural practices.

With three contributing outputs: a) improving uses of sustainable practices; b) reducing the use of agrochemicals; and c) enhancing crop protection (see **Box 5** above).

Based on this information, the company's M&E officer has identified the main users that would be interested in knowing about the progress and results of achieving this outcome: a) senior management as changing practices would have financial implications in terms of new investments, capacity development and short-term productivity; b) certification bodies, because using more sustainable practices will allow the business to comply with their requirements; and c) consumers, as they are interested in accessing safer food and their awareness of the progress on this outcome will benefit the reputation of the company. The officer summarizes the user and information mapping exercise for the company in Table 4.

Table 4. Example of M&E stakeholder mapping and nature of information needs

Stakeholders and criteria	Senior management	Audit service of the certification body	Consumers
Purpose (why do they need the information?)	Decision making about operations and budget (e.g. adjustments of production practices in main plots, budgeting for new sustainable inputs and technologies and budget allocation for training of growers), learning from operations (what went well and what did not) and reporting.	Compliance with the requirements of the certification standards and maintain the label status.	Improve perception of the business' product in the markets.
Frequency	Continuous	Semi-annual or annual, depending on the requirements of the certification standard for reporting.	Updates on progress at specific intervals or when necessary.

Stakeholders and criteria	Senior management	Audit service of the certification body	Consumers
Robustness of the results	High accuracy. Information needs to be precise regarding for instance, costs of new investments (inputs, technologies), variation in yields over time (before and after the implementation of the new practices), etc.	High accuracy is required to fulfil certification criteria (e.g. through lab tests, inventory records and geospatial information).	High accuracy needed but it will depend on the information reported. Descriptive analyses might be sufficient to meet consumers' needs, but these need to be backed up by credible data.
Formality	Formal and informal	Formal	Informal
Type of results	Quantitative (e.g. yield records) and qualitative (e.g. statements from farmers implementing the new practices).	Quantitative (e.g. results of MRLs on fruits, records of number of pesticides applied and land use change after 2020).	Quantitative (e.g. results of MRLs on fruits) and qualitative (e.g. statements from farmers benefiting from new investments).

Source: Adapted from **Care**. 2012. *Guide to Monitoring and Evaluation System Design for Value Chain Projects*. London, Care, and **World Bank**. 2017. *Operational Guidance for Monitoring and Evaluation (M&E) in Climate and Disaster Resilience-Building Operations*. World Bank, Washington, D.C.

Step 4 Select the indicators: What kind of evidence do you need for decision making?

Indicators are tools that help your business **assess its performance and the success** of its activities based on objective and concise results. They are important tools to **measure progress** towards specific objectives, which can later support decision making. Common indicators that you might be familiar with are key performance indicators (KPIs), which are normally used by businesses to assess performance and quantify financial or operational success (e.g. financial goals and sales targets).

In a context of measuring progress and success of a resilience and sustainability strategy, indicators should be developed for any of the components of your business ToC, i.e. activities, outputs, outcomes and the final goal. You can also define indicators to measure the financial resources and inputs that your business needs to be able to implement the activities contributing to the sustainability and resilience of its operations. **Your business should focus on the definition of key indicators that provide evidence for decision-making for the implementation of its resilience and sustainability strategy.** These indicators should answer essential questions and offer insights directly related to your business' objectives in these areas. This is important to keep in mind as **evidence generation requires time and resources** (see more on data analysis on Step 5).

Note: Businesses usually set KPIs or indicators focused on financial performance, customer satisfaction/retention or operational performance. Whereas this information is essential for ensuring the long-term resilience of businesses, these types of indicators might not be sufficient to assess its resilience and sustainability performance. You will need to develop other non-financial indicators to gain understanding of how and whether your activities and actions have worked towards improving resilience and sustainability outcomes. For instance, you may need to define indicators to measure the capacity of your operations to withstand and recover from certain climatic hazards (e.g. droughts, flash floods and hailstorms), reduce the occupational risks of your field workers, or restore biodiversity in your plantations.

Indicators should be SMART as they will help you to generate evidence to make better, more informed decisions. That is, **indicators should describe explicitly what you are intending to measure** and be able to **generate consistent results** and **track progress** under the same conditions over time (Adaptation Fund, 2011). This is particularly important if you intend to compare results at different points in time, across different groups (e.g. farmers producing organic crops under specific certification schemes vs. growers using conventional methods in different plots) and to attribute positive changes in sustainability and resilience to your business actions. To make your indicators SMART, you should define four features:

1. **What: identify what you want to measure** in your activity, output, outcome or goal statements. For instance, the capacity of field workers to adopt safety measures when handling pesticides or the decrease in deforested area across your production units.
2. **Who: define who or what your business is targeting** as part of its activities. For example, field workers or forest area where your operations take place.
3. **How much: set a target, that is, a numeric goal** that your business wants to achieve, that is, what success looks like. For instance, 50 percent of field workers adopt safety measures, or 20 hectares of deforested area is restored.
4. **By when: include a time frame** by which your business will expect to attain the target you set (Hennigan and Main, 2023).

Point 4 of the list will not be part of the indicator statement but will be used when developing your MEL plan (see what a MEL plan is further down).

Indicators should be framed in the most simple, straightforward manner to ease the process of collecting and analysing information and reporting the results. However, depending on the scope of indicators, you should take into account some limitations when defining them. Ideally, indicators to monitor implementation and outcomes related to **natural resources management** (e.g. deforestation, land use change and protection of biodiversity) should allow the quantification of the area targeted by your business strategy to preserve or manage natural resources, and the degree to which the resources are being preserved or managed (AFi, 2023). This is important as reporting the extension targeted does not necessarily reflect the adequacy or sufficiency of the actions taken to restore natural resources, particularly in areas that have been severely degraded.

Also, businesses implementing activities or having outputs and outcomes with impacts on **human rights** (e.g. workers' rights, rights of Indigenous Peoples and of local communities) might need to include indicators related to internal policies, procedures to enforce the policies and performance assessments to verify the effectiveness of such policies and procedures. These high-level indicators are recommended, especially when tracking individuals is difficult (the Danish Institute for Human Rights, 2006). This is often the case for large companies with extensive workforces or those sourcing fruit from multiple growers, as well as associations managing social programs across diverse local communities.

In the context of strengthening the resilience and sustainability of your business, **it is essential for your MEL system to include indicators that allow you to track shocks, stresses, and risks that could disrupt your operations or arise from your business activities**. By including such indicators, you will be able to track the trends and change in shocks, stresses and risks over time and the progress made by your business to address them.

Many VSS and sustainability reporting frameworks used by producers and businesses already have defined monitoring and verification frameworks with set indicators and targets that businesses are required to report on. An example of these is the Accountability Framework's voluntary commitments for agribusinesses, to track and report on no deforestation and forest protection in supply chains, and protection of other natural ecosystems and respect of human rights (AFi, 2023). Also, Rainforest Alliance provides a very detailed indicator framework for MEL activities, with a list of mandatory and suggested indicators to be assessed for all certificates through auditing and traceability processes (Rainforest Alliance, 2020).

It is recommended that your business uses these as starting points to map out the information it needs to generate as part of its commitments and obligations, and to identify any potential information gaps to assess the resilience and sustainability performance of your business based on the strategy developed. Even if your business does not comply with any of these VSS, you can consult these public resources as they can serve as a basis for the definition of your own indicators.

The following example shows how the M&E officer in the tropical fruit company develops an indicator for one of the outputs in its resilience and sustainability ToC.

Box 7

Example of defining indicators

"Sunny Tropical Fruits" company has defined the following output within the environmental pathway (see the example in **Box 4** above):

> OP1. By 2027, all farmers have reduced the water used for irrigation by 15%.

The M&E officer needs to develop an indicator that allows the company to measure whether the farmers directly working with the company have improved their efficiency on water used for irrigation. As the company also has a due diligence system in place where they also assess the risks of their partners' operations, the M&E officer also aims to measure water efficiency use of external growers supplying fruit to "Sunny Tropical Fruits".

The officer first identifies the *who*, *what* and *by when* of the output. That is, who will benefit from the activities implemented, what will they benefit from and by when. In this example, the ***who*** is the

farmers directly employed by the company and the external growers. The ***what*** is the reduction in water used for irrigation and ***by when*** is the year 2027.

Given that the output refers to water used by farmers, the M&E officer decides to develop two indicators that will give the company information on: a) **the amount of water used per hectare irrigated**, and b) **the practices and/or technologies adopted by farmers to minimize the water consumption**. The first indicator is also aligned with a certification scheme the company is ascribed to.

With this information, the M&E officer organizes the information in a table, which will later be consolidated in the company's MEL plan following a log frame structure:

Output	Indicator	Baseline value	Target	Unit	Timeline
OP1. By 2027, all farmers have reduced the water used for irrigation by 15%.	Water used for irrigation per hectare			m^3/ha	2027
	Number of farmers with high-water efficiency irrigation systems and/or use good water management practices			Company farmers and external growers	2027

Source: Author's own elaboration.

How can you tell if you are making progress toward your resilience and sustainability goals?

To effectively measure and report progress against the various indicators identified, your business needs to establish a baseline. **This baseline will serve as a benchmark, providing a snapshot of the current status or situation your business aims to change through its strategy.** The value will be tied to the nature of each indicator and to the timing of implementation of your activities and indicators. The context analysis that you conducted in **Step 1** of this guide can be used to set your baseline.

In some cases, if you are just starting to implement certain activities for the first time, it is likely that your baseline values will be set at zero. Two examples on how to set the baselines depending on different scenarios are offered in Box 8.

Box 8

Example on how to set the baselines

Case 1: Your business aims to have 50 percent of field workers adopting safety measures when handling synthetic pesticides by 2025. To set the baseline, you need to determine the current number of field workers using these safety measures. You have records of the one-week training workshop organized by the company last year on safe pest management practices, including use and disposal of synthetic pesticides. This training targeted 50 growers working with the company at the time. Since then, 15 of these trained workers have remained, and 32 new workers have joined, bringing the total to 47 workers. Consequently, 32 percent of the current workers (15 out of 47) have received training. Routine checks show that all trained workers implement the safety measures, while the remaining 32 workers need further guidance. Thus, the baseline value for this indicator is set at 32 percent (i.e. 15 out of 47 workers), and the goal is for at least 24 workers (50 percent) to implement safety measures by 2025.

Case 2: Your firm is planning to restore 30 percent of deforested area using native tree and shrub species within the next decade. You decide to use geospatial information to map out the deforested area where the company's production operations take place and determine where your reforestation programme will be implemented. A total of 50 hectares are identified, and the area includes land that has been deforested either by the company's operations in the past or by previous agricultural activities in the same area. You have consulted with the company's Sustainability Officer, who has records showing that the company has not undertaken any reforestation activities since it started its operations in 2015. As such, you set the baseline value at zero and you expect to have reforested at least 15 ha, i.e. 30 percent of land, by 2034.

Source: Author's own elaboration.

Time baselines can also be set for indicators. These are reference points in time from which you can measure progress onwards. In some cases, these types of baselines are requested by VSS or government regulations. For example, the European Union's Deforestation Regulation requires companies to conduct comprehensive value chain due diligence to ensure that commodities and goods do not result from deforestation, forest degradation or breaches of local environmental and social laws, from 31 December 2020 onwards (EUR-Lex, 2023). This regulation currently applies to companies trading in cocoa, coffee, oil palm, rubber, soya, cattle and wood only. In their case, companies are required to set a deforestation and forest degradation-free production baseline starting in 2020.

Finally, it is important to highlight that **when selecting indicators, the quality of indicators matters more that their quantity**. You do not need to create a long list of indicators, as the number can be constrained by the time and resources available within your business for data collection, as well as logistics in implementation (e.g. accessibility to field locations and relationship with stakeholders). Focus on developing indicators that will give the information that you need and that will respond to key questions to advance your business' resilience and sustainability performance.

Following on the example of "Sunny Tropical Fruits", the M&E officer sets the baselines and targets for the two indicators defined in Box 9.

Box 9

Example of defining baselines and targets

The M&E officer considers the following output with two indicators:

Output	Indicator
OP1. By 2027, all farmers have reduced the water used for irrigation by 15%.	Water used for irrigation per hectare
	Number of farmers with high-water efficiency irrigation systems and/or use good water management practices

Based on the output statement, the officer identifies that the **targets** set by the company correspond first to the objective to reduce water used for irrigation by 15 percent, and that 100 percent of the farmers ("*all farmers*") should have reduced their water use by 2027. These include the company's farmers and external growers.

To set the indicator **baselines**, for the first indicator, the M&E officer consults with the field operations officer to know the amount of water consumed for irrigation per year. Based on data obtained from the flow sensors installed throughout the plots, the water used is 8 900 m^3/ha per year.

For the second indicator, the officer conducts a survey and some field visits to understand how many farmers and external growers have irrigation systems in place (e.g. drip irrigation, sprinklers, etc.) and/or are using good practices to improve water management (e.g. irrigating early morning or late night to minimize evapotranspiration, regularly monitor weather forecasts, water extraction monitoring, water harvesting, etc.). Through this exercise, the officer realizes that only 40 percent of farmers and growers have water-efficient irrigation systems in place, and that 55 percent implement good water management practices. As the indicator measures the use of either practice, i.e. irrigation or water management, the M&E officer uses 55 percent as the baseline for the indicator.

With this information, the M&E officer defines the baseline values and targets, which will later be consolidated in the company's MEL plan:

Output	Indicator	Baseline value	Target	Unit	Timeline
OP1. By 2027, all farmers have increased the efficiency in water used for irrigation.	Number of farmers with high-water efficiency irrigation systems and/or use good water management practices	55%	100%	Company farmers and external growers	2027
	Water used for irrigation per hectare	8 900 m^3/ha per year	7 565 m^3/ha per year	m^3/ha	2027

Source: Author's own elaboration

How will your business organize all the indicators and relevant MEL information?

Once you have defined the indicators that you need to collect information on, you will develop a MEL plan. A MEL plan is a document where a business can organize all the indicators and other information needs, such as data collection periodicity, assigned responsibilities for compilation and reporting frequency, budget dedicated, timeline of the indicator, etc. This is also known as log frame.

The information is usually organized in a simple matrix where each row represents the different components included in the ToC, that is the final goal, outcomes, outputs and activities. On the other hand, each column presents the information requirements for each indicator. A basic template is offered in **Table 5** and you can write to the Responsible-Fruits@fao.org to get an Excel-based template that you can use and adapt when designing your MEL plan.

Table 5. Example of a simple template of a MEL plan

Results and indicators	Status	Source of information	Responsible unit/team	Frequency	Observations
Outcome					
Output 1					
Indicator 1.1 Baseline: Target:					
Indicator 1.2 Baseline: Target:					
…					
Output 2					
Indicator 2.1 Baseline: Target:					
Indicator 2.2 Baseline: Target:					
…					

Source: Adapted from **UNDAF**. 2017. *Monitoring and Evaluation – UNDAF Companion Guidance*. New York.

Step 5 Select the MEL tools: How will your business generate the evidence?

After defining the indicators needed to track progress on your resilience and sustainability strategy (**step 4**), the next step is to select the tools for generating the data required to measure those indicators. This involves choosing **the methods or technologies to collect data and information that quantify the progress and success of the activities implemented by your business**.

Through this process, you will create your own toolbox where specific tools and methods will give you information about your business' resilience and sustainability activities and objectives. There are many different types of tools available to your business including individual surveys (e.g. of farmers), interviews, geospatial information (e.g. land cover and land use change), lab tests (e.g. soil and MRLs), inventories (e.g. kg of fertilizers used and water withdrawals) and others.

How will you select the right tools for you?

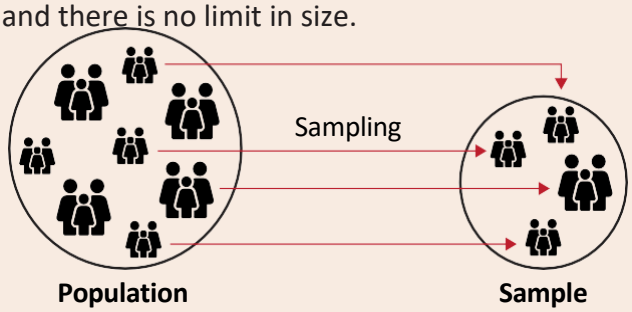
The selection of tools will depend on the type of information that your business needs to generate. For instance, if your business started implementing a reforestation programme two years ago, you may need to use geospatial tools to verify if there was an actual increase in forest cover in areas where your fruit plantations take place. On the other hand, you may want to use individual surveys to understand working conditions of your employees.

You will also choose the tools based on **the type and size of the activity implemented by your business** (e.g. landscape, plot, individual, etc.) and **complexity and accuracy of the information required** by both your business and stakeholders (e.g. lab tests, surveys, etc.). **The budget** you have available to generate that information, the business' capacity to use the tools, and ***actual* data needs** will also determine the selection of tools. As mentioned in **Step 3**, you should focus on generating the information that will be of real use by your business to improve decision-making related to its sustainability and resilience.

Important: You are not expected to collect information on every single unit of analysis (e.g. farmers, plots, employees, etc.) as this would require significant financial and time efforts. Instead, you will select a sample that is representative of your operations, or the part of them, that you want to study. See **Box 10** for a basic definition of a sample and sampling and refer to **Annex 1** for more details.

Box 10. Definition of sample and sampling

A sample is a portion or subset of data from of a larger group of data, also known as population. The population will be defined by your business, based on your specific information needs and targets following your resilience and sustainability strategy. You will draw on your ToC and indicators. The population can be a particular group of individuals (e.g. fruit suppliers, communities, consumers, etc.) or items (e.g. fruits and plots), and there is no limit in size.



Selecting the sample is very important when planning to use data and results for decision making. You should ensure that the sample you select, represents the whole population you are targeting. In other words, the group you choose for analysis should have similar characteristics to the whole group you want to draw conclusions on.

Sampling is the set of activities involved in the selection of the sample. To do that, you first need to clearly define which units are within the scope of your study. For example, all fruit exported by your business regardless of whether it is internally grown or supplied by external farmers, or all the plots under fruit production. Then, you will develop a list of units (e.g. employees, holdings, etc), areas (e.g. with the use of maps), and may also include information about each unit, such as their size, gender, production system, etc. to help with the sample selection. You should make sure that the list is as complete as possible, without omissions or duplications, and without including any units other that those needed for your analysis. Omitting or duplicating information might bias your results.

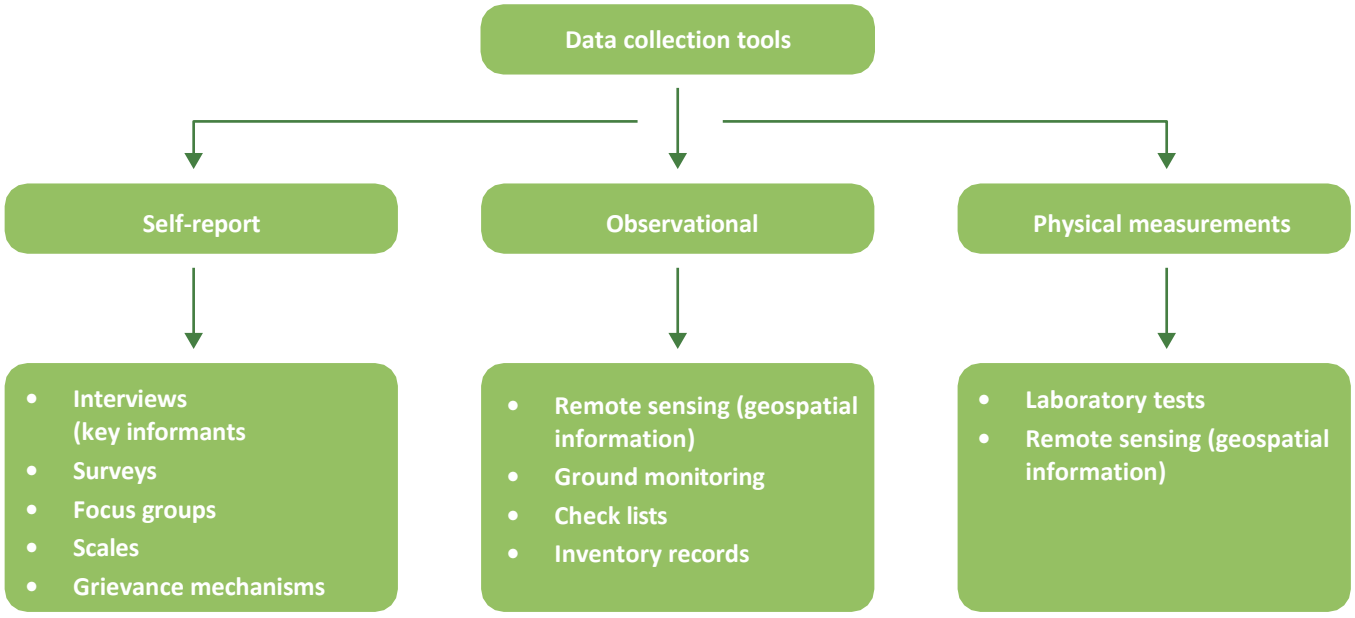
Source: **FAO**. 2015. *World Programme for the Census of Agriculture 2020*. Rome. https://openknowledge.fao.org/server/api/core/bitstreams/c5afd226-08ab-4cda-bc45-871f1f95a3be/content and **Newcastle University**. 2024. About sampling. [Cited 17 June 2024]. www.ncl.ac.uk/webtemplate/ask-assets/external/maths-resources/statistics/sampling/about-sampling.html#:~:text=A%20sample%20is%20a%20selection,group%20of%20individuals%20or%20items.

Whether opting for one tool to source information, or a combination of many, **the key is to select tools that allow your business to generate robust evidence, which will ultimately help you to make better decisions**.

Overall, there are three major types of data collection tools that your business can use to generate the information needed for your business' resilience and sustainability strategy:

1. **Self-report methods:** These tools rely on information that can be gathered via questionnaires, interviews or other means where individuals provide information.
2. **Observational:** These methods are based on information that can be collected through remote or ground-based monitoring.
3. **Physical measurements:** These are supported by laboratory tests or other formal measurements that can quantify robustly a given value.

Figure 7 summarizes the main data collection tools and methods that can be used. These are explained below, including some examples of tools that your business can use to meet its information needs.



Source: Adapted from **Sadan, V**. 2017. Data Collection Methods in Quantitative Research. Vol. 18, No. (2).

1. Self-report methods

Surveys

Surveys are instruments to collect individual-based data (people or items). A **sample survey** is when only data on a portion of the population is collected. Sample surveys are recommended when resources are limited and/or when the target population is large (Newcastle University, 2024).

Digital or paper-based questionnaires can support collection of survey data. You can use surveys to learn about pest management practices and agrochemical use by growers supplying fruit to your business, or to compile information about safety conditions at work in packing houses. You can also use surveys on land areas, for instance, to know the soil quality and organic matter content, when developing a soil fertility programme. Surveys can be simple or complex, long or short, unique or replicable, depending on the scope, and are usually easy to create and administer.

When developing a survey directed to people, businesses should carefully design the questions to ensure their clarity according to the knowledge level of the respondents and avoid any potential ambiguity. Also, businesses should avoid making long questionnaires as respondents may suffer from survey fatigue and threaten the quality of the results (Stantcheva, 2022). If you are planning to use surveys, it is strongly advised that you pilot test the questionnaire before deploying it to ensure that the instrument is clear and able to meet its objective.

There are several online tools available that can be highly accessible, affordable and easily sharable, meaning they can reach many people in a short time. Some of the most popular ones are Google Forms and SurveyMonkey. Other tools include FAO's Open Foris Collect and Arena applications or external tools, such as the Kobo Toolbox. These tools are digital and can be used in combination with other types of tools and information, such as remote sensing data (see below) or focus group discussions.

Interviews and key informant interviews

Interviews are used for face-to-face, virtual or phone discussions with actors that might be able to provide the business with information about a specific topic or issue (e.g. employees on issues related to occupational health and safety, farmers' perceptions of climate change impacts etc). There are several approaches for interviews depending on the data needed, from structured (quantitative), where questions are planned ahead of time and all questions are asked to all individuals in the same order; semi-structured interviews which use some pre-determined questions usually around specific thematic areas; or unstructured where there is an open discussion without pre-planned questions to

focus on the complexity of the individual being interviewed or the issues investigated (qualitative). If done properly, interviews are very efficient to delve deeply into the perspective of the interviewed and to also create a space where they are more comfortable to share their true views.

Key informant interviews (KII) involve interviewing people with specialized knowledge or experience about a specific topic. KII allow individuals to elaborate on their knowledge, views and perceptions on specific topics. Depending on the aim and structure, KII can collect information directly through a questionnaire or checklist, with the added benefit of expanding answers if needed (usually semi-structured).

Key informants might include the operations manager, CEO, union representatives, community leaders, Indigenous Peoples representatives and government officers, among others. Engaging with key informants is crucial as it is part of the consultative process needed as your business develops its resilience and sustainability strategy and ToC. Many businesses may find KII based on self-assessments as a good starting point to get an in-depth knowledge of their operations or value chains in a relatively short time frame and at relatively lower cost than audits (UN Global Compact, 2015).

Focus groups

Focus groups is a method for gathering data through a moderated discussion on a specific topic. Individuals will be invited to participate in group discussions around topics where it is essential to understand their perceptions and experiences in order to minimize risks of negative impacts and to improve sustainability and resilience outcomes. For example, focus groups are particularly useful to have an overview of the general feeling to a specific subject, such as a new community initiative to be implemented by a producer association, the status of natural resources where a business operates, or a new safety protocol implemented for female workers.

Focus groups could involve women engaged in different producing and packing processes, field workers, local communities directly impacted by the business' operations, etc. Focus groups offer a possibility of dialogue through face-to-face interaction and may allow for the participation of people who might not usually be consulted. Although not specific to tropical fruits, FAO Standard Seed Security Assessment has developed a guidance document and a sample questionnaire that can help you implement and facilitate a focus group discussion.

Grievance mechanisms

A grievance mechanism is a formal process for receiving and responding to complaints from workers, local community members and other stakeholders. It allows people to voice their grievances without fear of being punished.

These mechanisms can help businesses to both identify worker's and community's concerns about issues affecting their rights, such as health and safety conditions, discrimination, unfair labour practices, or environmental impacts, and track progress about whether businesses are effectively addressing such concerns. Further information on how to design and implement an effective grievance mechanism in line with the United Nations Guiding Principles on Business and Human Rights (Principle 31) can be found in the Office of the High Commissioner for Human Rights (OHCHR) Accountability and Remedy Project in English and Spanish (2021). A practical guide on setting up grievance mechanisms for the agrifood sector has also been developed (available in Spanish only) by the *Asociación de Empresas de Alimentos de Chile A.G* and ProChile (2023). Proforest's guiding document on grievance management for buyers of agricultural commodities (2023) is also available in English and can be beneficial for businesses or trade associations working with fruit or service suppliers.

Reports

Businesses can and should rely on their internal reporting processes, including any informational report, grievance mechanism reports, reports of third-party experts, auditors and certification bodies, periodic financial reports, ad-hoc research studies and cost-benefit analysis reports, among others. Reports may provide important historical data of the business' activities and performance, as well as business fluctuations through time. Depending on the level of detail and accuracy of reports, businesses can also use these for continued evaluation and learning, enabling better decision making and improving risk prevention.

External reports might also be useful to access important information. For instance, reports on climate trends or market analysis performance reports for the industry, may support risk identification and monitoring.

2. Observational methods

Remote sensing and satellite-based products

These tools use satellite-based information to monitor and assess physical characteristics of an area from a distance. Remote sensing tools are particularly useful to monitor indicators related to land use, land cover or water productivity in large land extensions (AFi, 2020). These tools can help companies measure and manage the risk of deforestation and forest degradation in their own operations and those of their partners. They can also support businesses to demonstrate progress in addressing forest and landscape degradation through initiatives such as reforestation and afforestation programs or wildfire prevention efforts. Some of these tools also monitor climate data, such as temperature and precipitation, and water productivity, which can also support decision making to companies on input use and crop production feasibility in specific areas.

It is important to note that in some cases, commodity production is associated with hard-to-identify land cover types (e.g. shade-grown crops or intercropping between tree crops and forests), making it difficult to distinguish from forest cover or commodity production in smallholder patches/plots (e.g. tree crops). As such, remote sensing tools may not be reliable enough to serve as effective monitoring tools and need to be combined with other tools, such as ground-based monitoring (below).

Many tools already exist and are globally available for all regions in a wide range of production systems. Some examples are Global Forest Watch standard and pro, Google Earth, FAO's Collect Earth and Collect Earth Online from the Open Foris platform. These tools also allow the upload of the location of plots, processing and packing units or administrative-level data that can support producers, businesses and associations to obtain real-time information and historic trends regarding land use and land cover change. FAO's WaPOR dataset also uses satellite information that allows the monitoring of agricultural water productivity at different scales. Depending on the tool selected, the definition of the imagery will vary. Tools as those from Open Foris, WaPOR or Google Earth are based on Sentinel satellites, which give a 10-meter resolution data. The Accountability Framework (2020) offers as detailed guidance of satellite-based tools and considerations needed depending on the type of production system and accuracy required.

Ground-based monitoring/observation

Ground-based monitoring (or ground truthing) is a method to verify the authenticity of data gathered remotely, for instance via remote sensing or KII. This process is focused on collecting data on the ground of specific areas to make sure that the information gathered remotely is the same, therefore confirming that there are no mistakes or variations in the collected information. This process is made through visits or inspections on the ground (e.g. plantations, packing houses and forests) where remote information was collected. Ground-based monitoring in production areas can be an

efficient and accurate way to closely monitor production activities and expansion, as well as the use of sustainable practices to manage natural resources (Afi, 2020).

On-the-ground approaches can also be particularly helpful to verify compliance with and progress towards human rights' commitments (e.g. workers' rights, child labour and respect of Indigenous Peoples' territories). These include field visits and are complemented with interviews with key stakeholders, desk review of company records, grievance mechanism reports and reports of third- party experts.

Important: Ground truthing double checks that the remote data is accurate and leaves little room for errors. This will in turn ensure that the analysis is going to be based on real and relevant data and to understand where the data collecting mistakes are happening for future measurements.

Checklists

This instrument uses a series of questions and responses listed and arranged vertically. Checklists can be used in combination or embedded in other tools, such as individual surveys or ground-based monitoring. Checklists in businesses are essential for maintaining control of processes, including coordination, for instance, by providing a clear focus and guidance for a set of activities to be implemented and to monitor progress towards these.

Checklists can also be useful to track progress towards addressing specific challenges identified. For instance, they can provide a set of instructions that should be followed in specific situations, such as application of pesticides, including use and removal of protective gear, cleaning of spraying equipment and safe disposal of empty containers.

Checklists can be created by a) defining the scope of the list for your business; b) frequency (how often) and when (what times) the list will be used; c) creating the process and/or stage where the checklist will be implemented; d) determining who will be responsible for checking each task in the list; and e) pilot the list before implementing it and adjust as needed.

Examples of checklists are the Responsible Fruits Project's Gap analysis tool. The tool is Excel-based and supports businesses and producers to compare the VSS and policies they use with the OECD-FAO Guidance for Responsible Agricultural Supply Chains, the global benchmark for due diligence and responsible business conduct in the agricultural sector. Another tool is the Biodiversity Performance Tool – Insects, which supports agricultural producers to assess and improve the potential of biodiversity at farm level, with focus on insects (Lake Constance Foundation, 2022).

Certification bodies also tend to use checklists to ensure compliance with their practices. For instance, FLOCERT, the independent certification body for Fairtrade International, has developed different checklists to list what will be verified during an audit and to support producers, businesses and organizations to be prepared for these beforehand. Your business can use existing checklists as M&E tools, adapt them as needed, or create new ones to meet your specific verification processes for your resilience and sustainability strategy.

Inventory records

Inventory records are repositories of data related to businesses' activities, including a detailed account of the quantities, types, and locations of goods, materials and products that a business holds at any given time. Record keeping is vital to ensure business's operational efficiency, financial accuracy (on sales, expenditures, debt, etc.), and even regulatory compliance. Agribusinesses' records can include: labour expenses, pesticide application tracking (L/season), harvest and yield records, planting records, shipping records, certification compliance records, among others. Inventory records can be very useful to support businesses to identify areas that need improvement; for instance, by detecting where resources are being wasted or underused, and that has a direct impact on production costs. By optimizing inventory levels and minimizing waste, businesses can improve their sustainability, both economically and environmentally.

Inventory records are a key component of traceability, which plays a critical role in demonstrating how your business is implementing sustainable practices. Good record keeping can simplify audit processes and can be used to support other processes where the input of business data is needed. For instance, the calculation of your business operations' carbon footprint can be done by using records of the amount of fuel used for field equipment (pumps, harvester, ploughing machines, tractors, etc.), type and quantity of fertilizers applied and electricity consumption, among others.

3. Physical measurements

Laboratory tests

Laboratory testing is a fundamental tool for managing tropical fruit businesses. Testing key features such as soil, water, dry organic matter in fruits and agrochemical residues on fruits, among others, might be required not only for decision making regarding the management of resources, but also for market entry. Lab tests may help your business to demonstrate how specific actions taken are effectively leading to better sustainability and resilience outcomes.

For instance, conducting soil testing can help your business develop more adequate nutrition management programmes, as well as design more effective crop protection strategies based on knowledge of soil conditions in the area. Soil testing can also help to measure soil moisture and plan irrigation based on this information. These actions can in turn increase yields, minimize the load of fertilizers and pesticides uses, reduce water use and damage caused by pests and increase the overall sustainability of your operations.

Your business is most likely already using various tools already to gather important information, whether to comply with different standards or through routine internal data collection and tracking processes. Therefore, it is recommended that you assess which of these ongoing processes can support your resilience and sustainability evidence generation, helping to avoid duplication and streamline your MEL activities.

Depending on the capacity of your business, it is recommended to use digital tools for data collection. These tools reduce human error in the process of collecting, entering and analysing data (see **Step 6**), while improving the efficiency to store and standardize information, and accessing it all in one place. The use of digital technologies can also reduce the amount of time and resources needed to conduct different types of assessments required to generate important evidence for your business' resilience and sustainability strategy, at the time that you fulfil other reporting requirements (e.g. from certification bodies). **Enhancing data collection processes will help you improve your data quality, which can ultimately lead you to make better decisions.**

Step 6 Analyse data: How will you process and use the data collected?

After generating the data needed in **Step 5**, you will move on to the analysis phase.

Analysing the data collected is a critical component of your resilience and sustainability strategy. **Proper analysis and reporting of the data collected through your indicators, as outlined in your MEL plan, will enable you to generate the evidence necessary to assess and verify the progress made in implementing your strategy.** This process also allows you to effectively share your achievements and advancements in sustainability and resilience with stakeholders.

The analysis of the data gathered will provide valuable insights into your resilience and sustainability strategy – essentially, what has worked and why –, supporting evidence-based decision-making to enhance your business performance. Based on your indicators identified and the results of the data analysis, this activity will help you to, for example, understand how climate shocks are impacting higher expenditures in key production inputs (e.g. fertilizers, pesticides and water) and affecting your profitability (e.g. by producing less high-quality fruits or experiencing higher incidence of pre- harvest losses). Data analysis also facilitates learning, enabling adjustments to activities to improve performance and guide investment decisions. The in-depth exploration of your data can also give you information on:

- What is the prevalence and effects of shocks, stresses and risks in your operations? How are they influencing your business performance (e.g. yield, productivity and cash flows)?
- How well is your business prepared to manage current shocks and stressors? Does your business have the capacity to mitigate and prevent future shocks, stresses and risks?
- What areas or capacities your business needs to invest in to become more sustainable and resilient to different shocks, stresses and risks?
- Who will benefit from these investments? (e.g. workers, consumers and growers)
- How is your business contributing to sustainability and resilience, through a better environment (e.g. sustainable agricultural practices and waste minimization) and improve well-being of communities (occupational safety, decent working conditions, etc.)?

This section presents some of the main data analysis methods you can use and how the results can support your decision-making processes.

Important: You are not expected to carry out all the types of analyses presented in this guide. The explanation of each method is general, as the analysis will largely depend on your and your stakeholders' needs, the tools you have selected on Step 5, the type of data generated and the human and financial capacity of your business to process the information generated.

The data will also be analysed depending on their type and the unit.

The **type of data** can be either **quantitative**, i.e. that can be expressed in numerical information, or **qualitative**, i.e. that describes an issue or situation from an individual's viewpoint. **Data collected about a numeric variable is always quantitative, while data collected that has a descriptive nature is always qualitative.** Therefore, you can identify the type of data you will gather even before you collect it, based on whether the variable is numeric or categorical (Australian Bureau of Statistics, 2024). Box 11 provides a definition of both.

Box 11. What quantitative and qualitative data are?

Quantitative data focuses on quantity. It refers to information that can be quantified and is represented numerically. That is, information that can be counted or measured. Quantitative data can respond to questions such as how many, how much or how often. Examples of quantitative data are land extension measured in hectares or acres, number of workers trained in safety protocols, quantity of litres of fuel consumed for transportation and frequency of droughts in the last five years. Quantitative methods usually rely on large amount of data to help ensure robust results and the representativeness of the analysis. Quantitative methods are also useful to present large amount of information in a way that is focused, objective in the results and manageable to apply different analytical processes.

Qualitative data focuses on quality. These data seek to represent information using categorical variables (e.g. what type) and is represented by names, codes or symbols to categorize information. Unlike quantitative data, qualitative information does not require a large amount of data to be "valid", but instead heavily relies on the quality of information collected and the triangulation (i.e. comparison) of this information with data collected from other respondents or other secondary sources. Examples of qualitive data are sex and ethnicity of workers, type of certification schemes producers comply with, main production type in the farm (organic or conventional), soil type (sandy, sand, clay, silt, peat, chalk and loamy), etc. Qualitative data also provides information about individuals' perceptions and experiences. For example, this could involve assessing the effectiveness of a training program on agrochemical use or evaluating the level of trust in the company's grievance mechanisms to properly handle and address workers' claims.

Source: **Munther, M., Tahani, R. K. B. & Khaled, A. D**. 2024. Quantitative Research Methods: Maximizing Benefits, Addressing Limitations, and Advancing Methodological Frontiers. *ISRG Journal of Multidisciplinary Studies*, II(IV), 11–14. https://doi.org/10.5281/zenodo.10939470 and **Rahman, M**. 2016. The Advantages and Disadvantages of Using Qualitative and Quantitative Approaches and Methods in Language "Testing and Assessment" Research: A Literature Review. *Journal of Education and Learning*. 6. 102. 10.5539/jel.v6n1p102

On the other hand, the **data unit** will be tied to the level or scale of your information. The unit can be individual-level data (e.g. person and plot), business-wide, community, landscape or watershed and regional, etc. The unit will depend on the indicators that you defined earlier (**Step 4**).

Different tools will give you different types of data and data units. **You can collect both quantitative and qualitative data from the same data unit depending on whether the variable of interest is numerical or categorical** (see Table 6). Determining the type of data will be important to define how you will analyse and report it.

Table 6. Example of quantitative and qualitative data gathered from the same data unit

Data unit	Quantitative data (numeric variable)		Qualitative data (categorical variable)	
Individual	On average, how often do you apply fungicides to your crops in a year?	10 times	What is the main production method of the farm?	Organic farming
A business	How many workers are currently employed in the packing house?	68 employees	What is the main activity of the business?	Fruit packing
A producer organization	How many tonnes of fresh fruit did the members of the association export last year?	125 000 tonnes	Which is the main exporting market?	The United States of America and the European Union

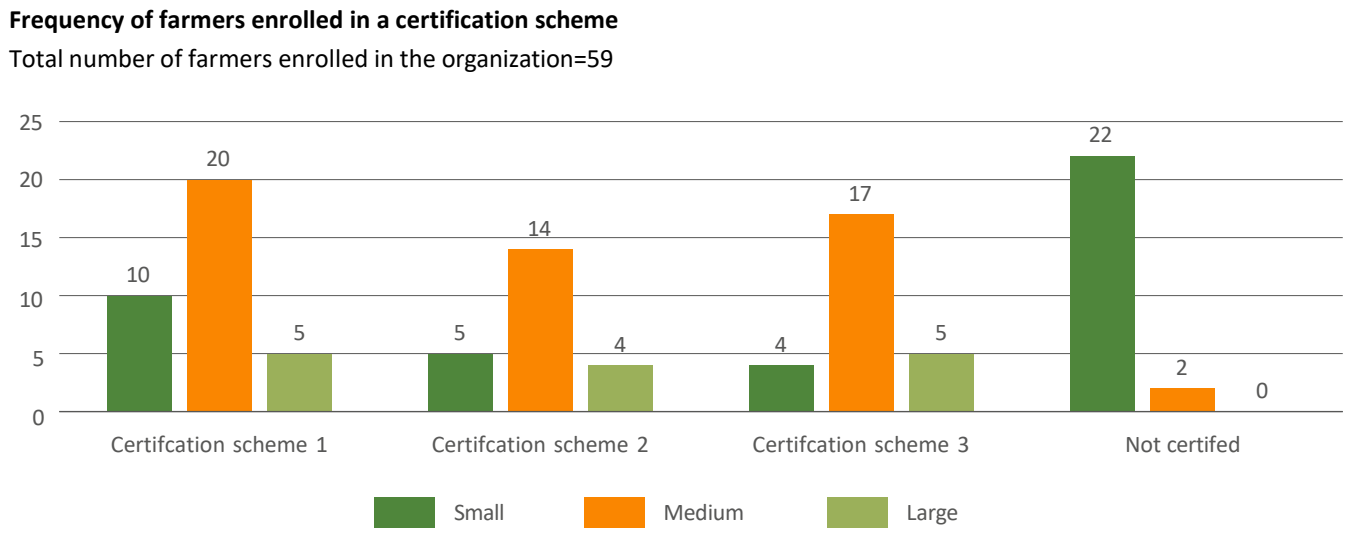
Source: Author's own elaboration.

What kinds of methods can your business use to analyse the data collected?

Frequency counts

Frequency counts report the number of times an observation occurs (frequency) for a specific variable. This method can be used for both quantitative and qualitative data. Frequency counts are useful to produce descriptive statistics (see next bullet point) and calculate percentages, proportions, rates and ratios. An example of how a frequency count can be used to categorize the members of a farmer organization (quantitative data) by type of VSS used (qualitative data) is shown in **Figure 8**.

Figure 8. Example of frequency count analysis



Source: Author's own elaboration.

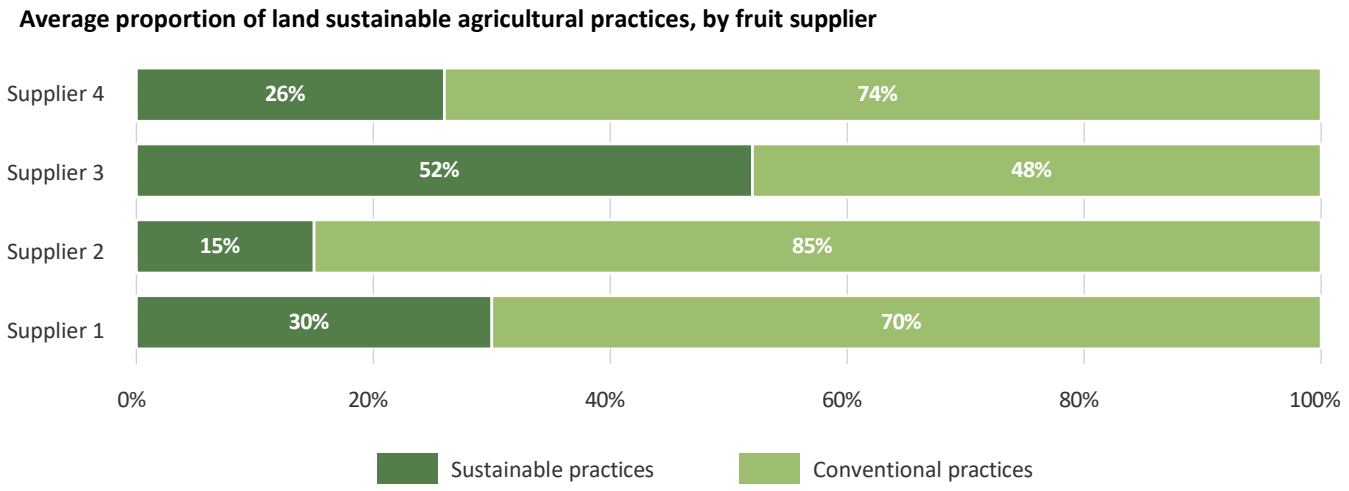
Descriptive statistics (mode, median and average)

These are statistics that describe or summarize data. Descriptive statistics are mostly used for quantitative information, given that it is always numeric; however, in some cases, they can also be used for qualitative data. **Mode** represents the most frequently observed value or feature in the population (quantitative and qualitative); **median**, determines the mid value in a set of data (quantitative); and the **average** is the ratio that represents the sum of all the data units and the number of units information was collected on (quantitative).

Descriptive statistics, particularly averages, are simple but meaningful methods that can provide valuable information for decision making. You may calculate averages for different variables and for different data units (e.g. kilogram, litres, hectares, employees and currency). Averages can also be calculated for different groups or units, depending on their characteristics. For example, data can be disaggregated by geographical regions, production system (conventional vs. organic), gender of the employee, plot size, water saving technology used, type of pesticide applied, or other characteristics. Averages can also be calculated in different points in time (before and after an action taken by your business) and comparison. The data disaggregation and time comparison will be based on your business' resilience and sustainability strategy through your indicators and the key questions you want to respond through your data. An example of averages disaggregating by area of land under sustainable practices in a farmer organization is presented in **Figure 9**.

The comparison of averages between two groups as in the examples above can potentially be used to better focus operational and financial decisions and to sharpen conclusions that are drawn about the activities that your business is implementing. For instance, you can compare the yields between farmers using sustainable agricultural practices and growers using conventional methods for production or compare work-incurred injuries before and after an occupational health and safety training.

Figure 9. Example of descriptive statistics analysis



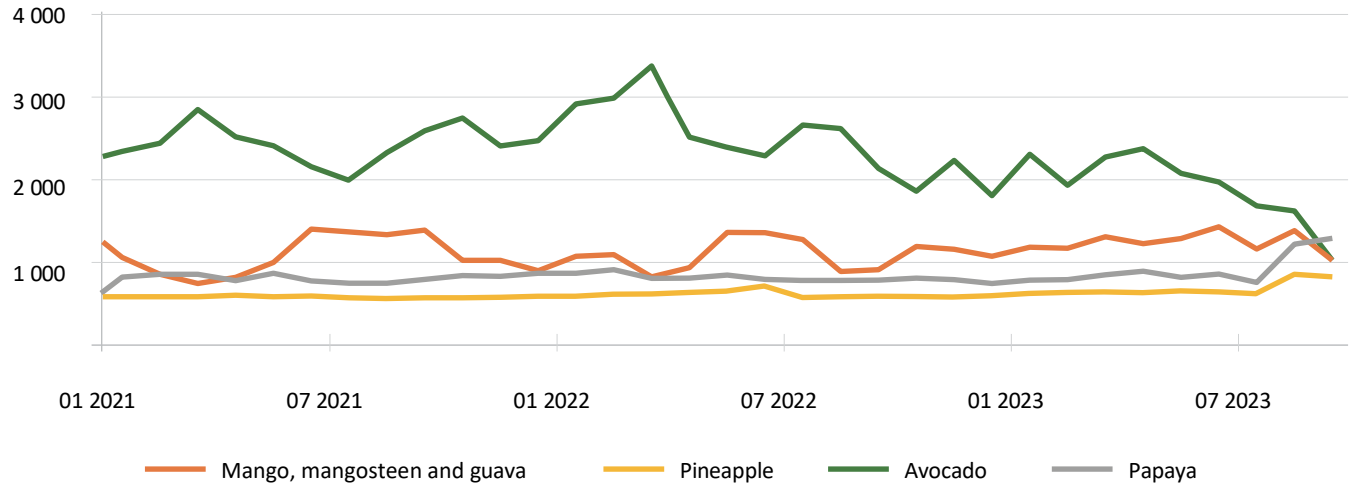
Source: Author's own elaboration.

Examining trends and changes

This type of analysis involves examining trends and changes in key variables related to the resilience and sustainability of your operations over time — short, medium and long term. It considers conditions such as shocks, stresses, and risks that either enable or hinder your business' ability to achieve and maintain the operations and profitability during and after these events, or as new risks emerge.

For instance, you can use trend analysis to understand how productivity levels and cash flows have changed in the last ten years and the number of extreme weather events in the same period. A visual example of this type of analysis is offered in Figure 10, which presents the trends of world average export unit values of the major tropical fruits (excluding bananas).

Figure 10. Example of trend analysis



Source: **FAO**. 2024. *Major Tropical Fruits Market Review. Preliminary Results 2023*. Rome.

Contribution analysis

Contribution analysis is a way to see how much your business' activities have helped improve sustainability and resilience. This analysis is the most complex type of analysis presented in this guide, and it requires more resources for design and data collection, as well as strong data analysis skills. This quantitative method is particularly useful to demonstrate the degree to which your business' activities – or part of these – have effectively contributed to changing sustainability and resilience outcomes as outlined in your strategy. Investigating your business' contribution to these outcomes will help you to understand the success of specific activities and identify additional actions or investments needed to further strengthen the resilience and sustainability of your operations.

This analysis usually involves comparing groups that did and did not receive your interventions to measure the impact of your efforts. That is, you will have one group (people, plots, etc.) that is part of your resilience and sustainability strategy, identified during the development of your ToC (**Step 2**) and the definition of your indicators (**Step 4**). Then, you will also need another group with similar characteristics that is not included in your business strategy, to serve as a comparison. For example, consider farmers employed by your company and external fruit suppliers. Company farmers receive training on sustainable water management practices, whereas external growers who supply fruit to your company do not. You will compare the relevant outcomes for both groups before and after providing the training, by collecting and analysing data of both trained and untrained farmers. The outcomes might involve comparing fruit production and water use between the two groups of farmers. As resilience refers to the capacity to prepare, withstand, adapt and recover from shocks and stresses, it would be important to compare production levels and water use of both groups in the case of a shock that took place during the evaluation period (e.g. a drought) and see if trained farmers were more successful at overcoming the negative effects of it.

However, this method is challenging in many ways. One reason is that you may need to engage with many farmers or communities who are not directly taking part in your business' activities. This would imply that a significant number of resources and time for data collection and analysis might be needed. Also, your business will need to have a dedicated person to design this type of research to ensure its robustness.

The good news is that if this type of analysis is not adequate for your business, there are other ways to analyse data so you can demonstrate your business' contribution to resilience and sustainability. These are:

- **Draw on your ToC.** As explained in Step 2, you can use your ToC as a powerful tool to explain change. By studying the different causal pathways designed (e.g. environmental, social and economic), and the relationship between your activities, your outputs, the sustainability and resilience outcomes, and the ultimate goal, you can see how your business or specific parts of it have become more sustainable and resilient to the impact of shocks, stresses and risks.

- **Assess behaviour of key indicators.** Assess if important indicators of your resilience and sustainability strategy (e.g. production, employees' self-reported well-being, sales trends, etc.) are maintained at acceptable levels or have not deteriorated in the face of shocks and stresses and as new risks emerge. You can also assess whether these indicators have improved since the start of your activities, and by how much.
- **Check differences in groups for different activities you might have implemented.** For medium and large businesses or producer associations, there may be variations in how activities are implemented across different groups. For example, in one community, your business or association may have implemented a reforestation program through a community nursery project, alongside capacity-development efforts for women and youth to grow and plant native tree species. In contrast, another community might have only received the tree seedlings without any training. You can leverage this variation in implementation to compare sustainability and resilience outcomes between areas where the programme has been administered more intensively and those where it has been less so. By comparing outcomes between these groups, you can gain insights into the effects of the program activities. For instance, you could compare the well-being of women and youth in communities with and without nurseries and training. Conducting statistical tests will strengthen these comparisons and help substantiate your findings.
- **Analyse trends** (see above). You can collect data from multiple points in time to see if there are any patterns of improvement or important changes (positive or negative). For instance, before the start of a specific activity implemented by your business and at the end of the implementation, and/ or before and after a shock occurs (e.g. extreme weather event, sudden depreciation/appreciation of the currency, a new law or a directive comes into effect, etc.).
- **Consultations.** You can use subjective assessments by stakeholders to better understand how the activities implemented by your business have influenced people or landscapes you interacted with. You can use surveys, KII of focus group discussions (see **Step 5**). For instance, you can ask specific groups (e.g. farmers, packing houses employees and trainers) and other informants (e.g. union representatives and phytosanitary officers) to share their perceptions of how your activities have supported (or not) their ability to become more resilient to shocks and stressors or address the sustainability risks your business has identified and prioritized for action.

Step 7 Report the results and make evidence-based decisions

The final step is to **effectively report the results you obtained and communicate these with the relevant stakeholders who you identified in Step 3**. The reporting of the results should focus on identifying and communicating what worked well in advancing your business' resilience and sustainability according to your ToC and commitments (e.g. VSS, pledges to comply with international standards and internal business policies). Additionally, it should highlight the bottlenecks encountered and specify areas needing improvement to actively address or prevent future risks.

How you decide to communicate this progress to the different stakeholders will depend on a number of a factors as discussed in **Step 3** of this guide. For example, you will need to decide on the frequency of the communication (e.g. annually or biannually) and the form for communicating. Such forms include established and endorsed sustainability reporting templates, forms provided by VSS, your company-designed reporting mechanisms, or a combination of all of these. The scale of your business, the information requirements of your value chain partners, as well as the reporting requirements in your country of operation and in importing markets will affect your choices on how to communicate information.

It is suggested that businesses should publicly report relevant information on processes that businesses are proactively taking to address resilience and sustainability risks. An example of this is reporting on due diligence processes undertaken by companies, especially when these are required by importing markets (OECD, 2018).

> **Important: Not all data needs to be publicly disclosed, especially where it is related to commercial confidentiality and other competitive or security concerns.** For example, for some businesses, providing emissions data for specific greenhouse gases (GHG) or processes, may compromise business confidentiality. If this is the case, the data does not need to be publicly reported but can be made available to those auditing the GHG emissions data, assuming confidentiality is secured (GHG protocol, 2022).

Reporting should be done in good faith, and businesses should strive to create a report that is as transparent, accurate, consistent and complete as possible, without resorting to greenwashing practices. All reporting should be evidence based in order to support any claims made in your resilience and sustainability report on progress made to address risks, contribute to the Sustainable Development Goals (SDGs) and any other claims related to the business' resilience and sustainability attributes or credentials (FAO, 2024a).

The business' annual sustainability or corporate responsibility reports are a good way to publicly communicate the results on the business' resilience and sustainability strategy and should be

published in a way that is easily accessible by the interested parties, for example on the business' website or targeted communication. It is also a good practice to have physical copies of your reports or key results (e.g. using infographics or other visual representation) at the business' premises so that workers and community members can access them easily. Other ways to communicate the results of your business' resilience and sustainability efforts and results include:

- in-person meetings with the different units and staff involved in the design and implementation of the business strategy;
- workers, trade unions and/or local communities who were consulted or participated in any way in the development of your ToC;
- online dialogues; and
- meetings through an appropriate intermediary (e.g. trade union representatives and local leaders).

When deciding which form is most appropriate for communicating with stakeholders, the following guiding questions may be useful:

- Who is the audience?
- How can the audience access information?
- What are the capacities of the audience to access and understand the information (e.g. language, literacy, location, time, availability and technical competence) (OECD, 2018)?

Following the OECD's reporting guidance on sustainability, your business can follow the structure proposed in Box 12 for annual reporting on sustainability and resilience results and efforts.

Box 12. Suggested content for resilience and sustainability reports

a. **Describe your resilience and sustainability strategy** based on your ToC (the outcome of **Step 2** in this guide), including any resilience and/or sustainability policies that your business has in place.
    - In this section, you may mention all information on measures taken to integrate resilience and sustainability into your internal policies and management systems. For example, you may incorporate any commitment done on RBC and due diligence practices, or any other international standard, or VSS compliance.

b. **Outline of the significant adverse impacts of shocks and stresses or risks identified**, prioritized and assessed, as well as the criteria used to decide prioritization (**Step 1**).

c. **Describe the actions taken to prevent or mitigate those shocks, stresses and risks.** That is, what activities your business started implementing and the challenges faced in the implementation.
    - In sustainability reporting, it **is necessary to report on any human rights impacts** that the business might be causing or contributing to.
    - You can also disclose information on cooperation with other stakeholders (e.g. communities and workers) in any remediation.

d. **Report on the main results obtained to the date of the reporting based on the analysed data** (**Step 6**) and how you measured those results and got to those conclusions (**Step 5**). You may prioritize the outputs and outcomes where results were expected to materialize in the reporting timeframe. You may also mention progress made to other long-term outcomes and goals.

e. **Include any changes your business has made to operations** in response to new or emerging needs and evidence gathered through your MEL system (**Step 6**).

Source: Author's own elaboration.

There are a number of existing resources available that can help you to structure the way you report on RBC in the context of sustainability. The Global Reporting Initiative (GRI) 13: Agriculture, Aquaculture and Fishing Sectors standards (2022) aims to increase the completeness and comparability of sustainability information for all organizations around the world involved in crop cultivation, animal production, aquaculture or fishing. The GRI 13 becomes applicable for reporting starting on 1 January 2024 and will be used together with the GRI Universal Standards and the GRI Topic Standards for companies wishing to report on their environmental and social impacts. One of the benefits of the GRI 13 standard is that it also maps the risks identified (or material topics in the GRI 13 standard) against the SDGs, allowing

businesses to see how addressing each risk topic can help to support their contributions towards achieving the 2030 Agenda. The standards are available in English, French and Spanish.

The European Union's Corporate Sustainability Reporting Directive (CSRD) provides updated guidance on how companies need to report on social and environmental information and can be useful for companies aiming to comply with the European Union's Corporate Sustainability Due Diligence Directive (CSDDD), which was approved on 1 June 2023 and will be fully voted later in 2024 . The European Union's CSRD entered into force on 25 July 2024 and requires a broad set of large companies and some small- and medium-sized enterprises operating inside and outside European Union and their supply chain partners to report on sustainability. Companies will need to disclose information on their due diligence systems, the risks and opportunities arising from addressing social and environmental issues and the impact of their activities on people and the environment. Companies subject to the CSRD must report according to European Sustainability Reporting Standards (ESRS).

Content to be included in your company's report must cover the following:[2]

- ESRS 1 – General requirements
- ESRS 2 – General disclosures
- ESRS E1 – Climate change
- ESRS E2 – Pollution
- ESRS E3 – Water and marine resources
- ESRS E4 – Biodiversity and ecosystems
- ESRS E5 – Resource use and circular economy
- ESRS S1 – Own workforce
- ESRS S2 – Workers in the value chain
- ESRS S3 – Affected communities
- ESRS S4 – Consumers and end-users
- ESRS G1 – Business conduct

[2] See Annex 1 to the Commission Delegated Regulation supplementing Directive 2013/34/EU as regards sustainability reporting standards for more information on sub-topics covered under the ESRS standards.

With the exception of the ESRS S4 on consumers and end-users, all of the mentioned topics covered by the ESRS are discussed in the risk mapping section of the guides on responsible business conduct developed by the Responsible Fruits project for avocado and pineapple producers and exporters. This mapping aims to support any avocado and pineapple business required to report using the ESRS standards to become familiar with the risks.

Important: Reporting should be proportionate to the size of the company and should not impose an unnecessary administrative burden on businesses, especially to firms with micro and small-size operations.

The UN Global Compact's Communication on progress guidebook is also a helpful resource that provides guidance, including reporting references and a glossary of terms, to assist companies to report on their efforts to measure progress in a standardized way, facilitating recognition, transparency and comparability of corporate actions to implement the Ten Principles of the initiative (UN Global Compact, 2024). The guidebook is available in English, Spanish and other languages.

Other standards, such as the Carbon Disclosure Project and the Sustainability Disclosure Standards, are available and can help businesses structuring specific aspects of their corporate sustainability reporting. The Carbon Disclosure Project can support reporting on environmental impacts of businesses' operations on climate change, forests and water security. The Sustainability Disclosure Standards of the International Financial Reporting Standards (IFRS) can support companies disclosing environmental sustainability-related information in order to enhance dialogue between investors and businesses.

Other resources that can provide useful information on how to structure your sustainability report in a way that also integrates RBC efforts include The Accountability Framework Initiative's Operational Guidance on Reporting, Disclosure and Claims (2019), and the *Guía para la elaboración y comunicación de reportes de sustentabilidad en la industria de alimentos procesados* (available in Spanish only) by the *Asociación de Empresas de Alimentos de Chile A.G* and ProChile (2021).

Chapter 4.

Key takeaways on monitoring, evaluation and learning for resilience and sustainability

As highlighted in this guide, monitoring, evaluation and learning are crucial for a high-performing business. By carefully tracking resilience and sustainability-related activities, programmes, and interventions, assessing their effectiveness, and making necessary adjustments, businesses can proactively identify and address risks, preventing them from negatively impacting their operations.

MEL is also a key component of responsible business conduct (RBC) and due diligence processes, which are increasingly required by major importing markets in the tropical fruit sector. A well-designed MEL system helps businesses establish mechanisms and metrics that not only identify sustainability risks but also measure progress toward mitigating those risks and achieving

meaningful impact. MEL directly aligns with Step 4 of the five-step due diligence framework (see **Figure 2**), which involves tracking results, and it also contributes to other steps in the process.

While there is no one-size-fits-all approach to designing a MEL system for tropical fruit businesses, this guide outlines essential steps to help users create a system that fits their operations, including:

- **Understand the context of the business operations.** This involves identifying the main risks, shocks, and stresses that could affect the resilience and sustainability of a business.
- **Develop a resilience and sustainability strategy.** This is essentially a roadmap that outlines the resilience and sustainability goals and how the business plans to achieve them. The use of a theory of change is recommended as a starting point for this.
- **Identify the target audience for your MEL system.** Although often overlooked, this step ensures that the information generated will be useful to those who need it.
- **Define indicators to measure progress.** Measurable, time-bound indicators are essential for tracking progress. They enable businesses to provide evidence of their advancements in sustainability and resilience.
- **Select MEL tools for data collection and analysis.** Data collection and analysis are key interrelated steps. Choosing the right tools to generate evidence and thoroughly analysing the data helps determine the effectiveness of a business' sustainability and resilience initiatives, which is critical for improving operations and ensuring that they are sustained in the long term.
- **Report results and make decisions.** This step involves identifying what has worked well in advancing resilience and sustainability according to the business' strategy and commitments (e.g. voluntary sustainability standards, pledges and internal policies). It also highlights challenges and areas for improvement to mitigate future risks.

Businesses are encouraged to build on existing internal processes and utilize data and information already collected through established mechanisms when developing their MEL system. This approach helps streamline internal processes, reduce duplication and minimize the burden of generating new information. Such mechanisms can include audits, processes and recommendations from voluntary sustainability standards (VSS), ESG reporting, sectoral initiatives at the national or sub-national level, and compliance with domestic and international laws and regulations.

Developing a MEL system for sustainability and resilience will depend on a business' specific priorities, capacity and available resources, whether it already has a formal system in place or is starting from the beginning. **Engaging senior management and relevant staff in the design process is essential** to ensure that there is a shared understanding of the importance of generating robust evidence to guide decision-making and improve operations. Additionally, **MEL activities should be included in the business' budget**. Adequate planning and budgeting will ensure that the business produces

high-quality information, enabling more effective decisions, improving activities based on lessons learned and increasing transparency.

When working on developing a resilience and sustainability strategy and a MEL plan, it is important to keep in mind that some of the outcomes and impacts that businesses would like to see as a result of their actions may take time to materialize. For instance, restoring biodiversity in plantation areas or achieving full gender equality within a company might take several years to show results. Understanding the timeframe between designing, implementing, and realizing outcomes can help your business to set realistic targets and budget accordingly. A MEL system should generate evidence for continuous and gradual reporting on a business' progress towards its goals, aiding in decision- making and accountability.

In the tropical fruit sector, specifically the avocado and pineapple value chains, businesses are recognizing the need to improve their MEL systems not only to track progress toward their goals but also to substantiate their sustainability claims, which are increasingly demanded by both markets and consumers.

Capacity-building efforts will be necessary to help tropical fruit businesses and other users of this guide develop effective MEL systems for resilience and sustainability interventions. This guide serves as a starting point for developing or improving a resilience strategy and a MEL plan that are directly aligned with each other.

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Annex 1.
Sampling strategies for quantitative analyses

Why does your business need to sample?

Sampling is done because one usually cannot gather data from the entire population. Sampling enables your business to collect and analyse data from a smaller portion of the population (sample) and then apply (or generalize) the results to the whole population. This costs less money for your business.

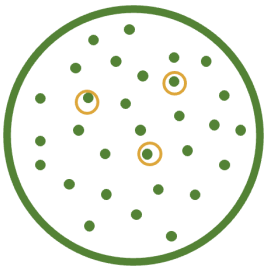
There are two main types of sampling, probability and non-probability sampling as explained above:

- **Probability (random) sampling** is when all members of the population have a measurable probability of being selected. That is, all members have the same chance of being selected to be part of the sample (e.g. like in a lottery). Quantitative surveys tend to rely on probability sampling and this annex focuses on probability sampling.
- **Non-probability sampling** is when not all the individuals in the population have equal chances of being selected. This might be because of specific characteristics that may favour or exclude specific individuals (e.g. gender, location, purpose selection). Qualitative research tends to rely on non-probability sampling such as convenience sampling or purposive sampling.

To ensure that sampling is done correctly and meets your business' MEL purposes, you should determine a) the method for sampling and b) the size of the sample. It is important to note that you can combined different sampling methods.

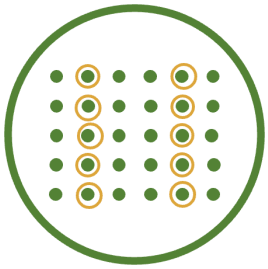
a) Determine your sampling method

Simple random sampling (SRS)



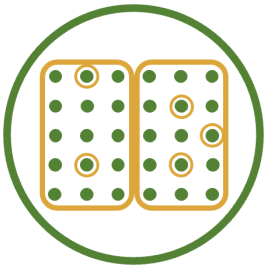
Everyone in the population has an equal chance of being selected in the sample. SRS should be considered as the first choice, assuming that it is not too difficult or time consuming, since it has the least sampling error. An example of this could be 22 employees in the packing house operated by your business.

Systematic random sampling (SYS)



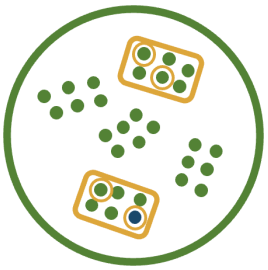
In this type of sampling, the units are selected according to a random starting point but with a fixed, periodic interval. This interval, called the sampling interval, is calculated by dividing the population size by the desired sample size. This sampling method is similar to SRS except that not every member of the population has an equal probability of selection. For instance, two elements adjacent to each other will never be chosen. Thus, this type of sampling is to be applied only if the population is logically homogenous. E.g. Every 5th smallholder farmer is interviewed in a producer association with 200 members, with a sample size of 116.

Stratified sampling



This type of sampling involves dividing the population members into mutually exclusive groups, which comprise all the population characteristics needed. These groups are called strata, and are defined by characteristics selected by your business and each stratum is sampled separately. Strata may be geographic locations, or sex of the employee or grower, adherence to any VSS, etc. Once the population is divided into sub-groups, then either simple or systematic random sampling can be applied within each stratum and everyone belongs to only one stratum. For example, 12 female workers are interviewed, and another 12 male workers are interviewed.

Cluster sampling



Cluster sampling is used when logistical or budgetary constraints make it impractical to reach every household using a simple or systematic random sampling approach. To conduct cluster sampling, you would need more than 30 groups with members that are homogenous between them, but that are internally heterogenous. The communities your business collaborates with can serve as clusters. In two-stage cluster sampling, you first randomly select clusters and then apply simple or systematic random sampling to select individuals within each selected cluster. For instance, 7 farmers are interviewed in each of the 10 communities where your business or association operates.

To determine which sampling method is the right one for your business, you can consult **Table 7**.

Table 7. How to select the sampling method for quantitative data collection

1. Is your unit of analysis (e.g. employees, growers) geographically dispersed requiring logistics to reach them and do you have well-defined geo-location with more than 30 communities (i.e. clusters)?	2. Do you want to stratify your sample to have representative results disaggregated by strata?	3. Do you have a list of all the population that you would like to study (e.g. all growers part of your association, all company employees)?	4. Is the population of interest ordered systematically (e.g plots)?	Probability sampling method
No	No	Yes	No	SRS
No	No	No	Yes	SYS
No	No	Yes	Yes	SRS or SYS
No	Yes	Yes	No	Stratify + SRS
No	Yes	No	Yes	Stratify + SYS
No	Yes	Yes	Yes	Stratify + (SRS or SYS)
Yes	No	Yes	No	Cluster + SRS
Yes	No	No	Yes	Cluster + SYS
Yes	No	Yes	Yes	Cluster + (SRS or SYS)
Yes	Yes	Yes	No	Cluster + Stratify + SRS
Yes	Yes	No	Yes	Cluster + Stratify + SYS
Yes	Yes	Yes	Yes	Cluster + Stratify + (SRS or SYS)

Source: Adapted from **World Food Programme**. 2020. *Research, Assessment and Monitoring – Cheat sheet sampling for quantitative surveys*. WFP Regional Bureau for Asia and the Pacific, Bangkok.

b) Determine the sample size

To calculate the sample size, you can use online tools available for **simple random sampling** and **cluster sampling**. However, you will first need to identify and decide few things to feed the information needed into these tools:

- **Size of the population:** You need to know what the size of your population is, for instance a total of 60 employees working in your packing house. It is important to highlight that the sample size does not increase proportionally with the size of the population. If the size of the population

you are targeting is small, then it is likely that your sample will be large to be representative. On the other hand, if your population is large (few thousands), your sample will be "small" in comparison to the total population.

- **Precision level/margin of error (also known as confidence interval):** This is the range, measured as a percentage, that your population's responses may deviate from your sample's. A narrower margin of error requires a larger sample size. If a survey reports that 60 percent of fruit is free of synthetic pesticides, with a margin of error of ± 5 percent, then it means that, between 55 percent and 65 percent of the fruits produced by your business is free of synthetic pesticides. A precision level of 5 percent is strongly recommended if your business decides to conduct surveys. However, if you face budgetary or logistics constraints, precision levels between 5 and 10 percent can also be used.
- **Confidence level:** Reflects the probability that the actual mean of your sample falls within your margin of error. Thus, a study with a 95 percent confidence level with a 5 percent margin of error means that your statistic will be within 5 percent points of the real population value 95 percent of the time. Please note that a higher confidence level requires a larger sample size. If you face budgetary or logistics constraints, precision levels between 95 and 90 percent can also be used.
- **Known/expected prevalence of key indicator:** If no information is available to estimate the prevalence of a key indicator defined for your resilience and sustainability strategy (e.g. prevalence of Vitamin C deficiency among all organically produced fruit by the company, or prevalence of poverty among small-scale farmers members of the organization) or if there are multiple key indicators, estimated prevalence value of 0.5 should be selected. This will generate the most "conservative" sample needed to generate a statistically significant result.
- **Non-response rate:** If you are doing individual surveys (e.g. questionnaire of KIIs), you might find some who will refuse to answer certain questions, drop out mid-way through the data collection and be absent during the survey. It is important to oversample considering potential non-responses. It is suggested to expect a minimum 10 percent of non-response rate if your budget allows.
- **Design effect:** This is an adjustment needed in cluster sampling through which you increase the sample size in order to compensate for larger sampling error that is expected, compared to simple random sampling. The design effect compares the actual variance of the cluster survey sample to the variance expected with simple random sampling and tells you how much to increase the sample size. For instance, a design effect of 2 means that the variance is twice as large as one would expect with simple random sampling.

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