CLIMED-FRUIT

Adaptation to climate change and mitigation for perennial crops in Mediterranean Area

HORIZON-CL6-2021-GOVERNANCE-01-23 _ CSA
PROJECT 101060474

Oct.2022 – Sept.2025

Deliverable D1.6_ Guidelines for "simplified" cost/benefit analysis of solutions presented by Operational Groups

Start date of the project	01/10/2022
Duration of project	36 months
Deliverable n° & name	D1.6: D1.4 Guidelines for "simplified" CBA
Version	1
Work package n°	1
Due date of Deliverable	30th April 2023
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Participant responsible	CIHEAM Bari
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Nature of the deliverable		
R	Document, report (excluding the periodic and final reports	x
DEM	Demonstrator, pilot, prototype, plan designs,	
DEC	Websites, patents filing, press & media actions, videos, etc.	
OTHER	Software, technical diagram, etc.	

Dissemination Level		
PU	Public, fully open, e.g., web	x
SEN	Sensitive, limited under the conditions of the Grant Agreement	
CO	Confidential, restricted under conditions set in our Model Grant Agreement	
CI	Classified, information as referred to in Commission Decision 2001/844/EC	

	Quality procedure			
Date of delivery	Version	Date of review	Reviewers	Comments
31/03/2023	V1	18/04/2023	Project coordinator and partners	Simplified the proposed methodology by adding a rating scale for the selected indicators
27/04/2023	V2	28/04/2023	Project coordinator	
21/06/2024	V3	21/06/2024	Project coordinator	V3 including improvements after implementation of the CBA methodology on the selected practices from Climed-Fruit core OG group

Acknowledgement

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More information on the project can be found on the project website.

Project summary

CLIMED-FRUIT aims to share knowledge ready for practice, collected from different Operational Groups (OG) across Europe, for a better adaptation to climate change and mitigation, in perennial crops in the Mediterranean Area (grape vine, olive, fruits). The project builds on the results of a core group of 9 OG coordinated by multi-actor consortium members (advisors, farmer organisations, research and education institutes, standardisation organisation), covering several Mediterranean crops in 7 different countries (France, Spain, Portugal, Greece, Italy, Croatia, Serbia). Best practices collected and shared range from (i) soil conservation and carbon storage, (ii) improving resilience of crops facing climatic hazards (frost, hail), (iii) innovative practices for adapting water stress management, (iv) adaption of food chain processes to climate change and diversification, and (v) preserving biodiversity for better resilience to climate change issues and pests. These groups will share their experience through a combination of innovative digital formats, cross-visits and interactive local dissemination events. In addition, new knowledge and practices will be gathered more widely by organising an open contest. Participants from other European projects, other EIP OGs or even international projects from the Mediterranean area will be invited to propose abstracts. The most applicable solutions will be selected and pitched in a broad online conference. Participants will be invited to rank the best presentations according to the cost/benefit ratio, which will then be widely disseminated and shared. Social media channels, videos, podcasts, and crowd writing contests will be used to spread the knowledge. Specific editorial partnerships will be established with the most popular technical reviews. The network will host a forum to capitalise on existing OG experiences and aims to foster new OGs to spread and explore new practical knowledge related to climate change adaptation.

Objective and executive summary

Deliverable 1.6 is the product of the activities done in task 1.4, which was defined as follows:

Task 1.4. Guidelines for simplified cost/benefit assessment of solutions presented by Operational Groups (Task Leader: CIHEAM-IAMB, Participants: all partners): Each selected practical solution (TRL>8) will be assessed by describing its advantages and drawbacks. Specific attention will be given to provide information interesting for practitioners, such as when possible the cost, the feedback or recommendations of other end-users, the benefits for climate change mitigation of adaptation. Common guidelines for a simplified cost/benefit assessment will be defined (D1.6).

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1. Rationale

Each selected practical solution (9 Extended Practice Abstracts EPA; TRL>8) will be assessed by describing its advantages and drawbacks. Specific attention will be given to provide information interesting for practitioners, such as, when possible, the cost, the feedback or recommendations of other end users, the benefits from the economic point of view and climate change mitigation or adaptation. Common guidelines for a simplified cost/benefit assessment will be defined (D1.6).

2. Introduction

A Cost Benefit Analysis (CBA) represents an analytical tool used to assess the economic pros and cons of different typologies of investment decisions (machinery, software, innovation in procedure or products, and so on) by calculating the welfare changes attributable to its implementation/adoption, both direct and indirect.

In fact, it aims at quantifying all benefits and costs related to the decisions mentioned above in monetary terms, including economic, social and environmental impacts.

According to the European Commission, the CBA was a "compulsory tool in the 2014–2020 programming period for projects financed by the European Regional Development Fund or the Cohesion Fund and is a voluntary tool in the 2021–2027 programming period with the necessary contextual adjustments".

"Simplified" Cost-Benefit Analysis

In this context, the term "simplified" refers to the fact that, in general, the analysis is based on rough and indicative estimates using practical economic and environmental indicators when data are unavailable, e.g. using opportunity cost. In other words, it is useful to consider goals and their associated SMART indicators (Specific, Measurable, Assignable, Realistic and Time-based).

Parameters - Reference period

The number of years for which costs and benefits are quantified corresponds to the investment decision/project's economic life to allow foreseen long-term impacts to unfold. Therefore, a sound CBA must hold a reference period long enough to capture all significant costs and benefits; as to the investment decision/project's economic life, this is defined as "the expected time during which the project remains useful (i.e. capable of providing goods/services) to the promoter" . In case the investment decision/project includes assets with different economic lives, it is possible to set the reference period as the value-weighted average lifetime of these assets. Finally, the reference period should include both investment and operations periods.

In the case of "simplified" CBA, we consider the short implementation period of a selected practical solution in the framework of the Project managed by the Operational Group.

3. Methodology

The drafting of a sound CBA requires a series of steps that are outlined as follows:

1. Identification and description of the investment decision/project both in terms of geographical context and features.
2. Description of ex-ante possible development scenarios. Ex-ante is a Latin word which means "before the event"; it can be considered the state of the art or the current result before the realization of the activity or investment as an innovation tool;

3. Description of ex-post possible development scenarios. Ex-post is a Latin word which means "after the event", and it is the opposite of the Latin word "ex-ante", i.e. the evaluation of the results after the realization of an activity or an investment as a tool of innovation.;

4. Identification of expected critical issues;

5. Definition of areas of intervention that the investment decision/project will impact and that will be, therefore, subject to evaluation;

6. Application of the CBA methodology (economic evaluation and environmental assessment).

SMART criteria were initially proposed as a management tool for project and program managers to set goals and objectives (Doran et al., 1981); currently, SMART criteria have been well accepted in the field of monitoring and evaluation and have become an engrained, common best practice approach in developing indicators. Therefore, we should consider the SMART indicators as follows:

- Specific – target a specific area for improvement.
- Measurable – quantify or at least suggest an indicator of progress.
- Assignable – specify who will do it.
- Realistic – state what results can realistically be achieved, given available resources.
- Time-related – determine when the result(s) can be achieved.

As to the methodology, the following tasks need to be accomplished according to the progress level of the investment decision/project to assess. These tasks need to be necessarily performed both in the ex-ante scenario and in the ex-post one.

Moreover, CIHEAM Bari (partner leader of task 1.4) shared a questionnaire on 3rd March 2023 with CLIMED FRUIT partners to identify the relevance of information and data available by partners responsible of OG to finalize the Cost-Benefit Analysis methodology for the assessment of advantages and drawbacks of EPA.

A. Identification and quantification of the economic benefits and costs regarding the experimental field or real farm, in terms of an economic indicator, as follows on

- Revenues (R) = Value of production (Yield x Unit Price)
- Variable Costs (VC) = Costs that occur only if production takes place and tend to vary with the production level (Kay et al., 2008). They include feeds, fertilizers, seeds, pesticides, fuel, seasonal labour, contracted machinery, interests in variable costs, etc.
- Gross Margin (GM) = It is the financial output minus its variable costs (Firth, 2002). The gross margin is a typical short-term tool for evaluating the performance of a given enterprise (Santucci et al., 2013). It belongs to the partial budgeting instruments because it does not take into account the complexity of the whole farm and the relationships between different crops and animal productions, particularly in the comparative economic analysis between different technics or methods of cultivation, like organic and conventional methods rotations, machines,

water irrigation systems, fertilization plans, pest management, etc. The formula to calculate the gross margin for each farm has the following:

Gross Margin = value of output (R) – Variable costs (VC)

Ex-Ante Cost-Benefit Analysis

Extended Practice Abstract : XXX

Operational Group:

Area (ha):

			Costs								**Benefits**			
			Inputs				**Labour**				**Output**			
Date (mm/dd/yy)	**Activity***	**Item description**	**Units (kg, l, m³, n.)**	**Quantity**	**price/unit (€, $)**	**Partial Cost****	**Time Unit (min, hour)**	**Time**	**cost/unit (€, $)**	**Partial Cost****	**Units (kg, l, m³, n.)**	**Quantity**	**price/unit (€, $)**	**Partial Revenue****
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
					TOT	**0,00**			TOT	**0,00**			TOT	**0,00**

NOTES: **Activity: Soil preparation; Fertilization; Seeding or Transplanting; Pest Managemet; Weeding; Irrigation; Harvest; Other*
*** Value in red, when there is automatically formula*

Gross Margin of the practice: XXX	XXX	
Area of application (ha):	1	
	Total ammount €/area	**Total amount €/ha**
Variable Costs	**0,00**	**0,00**
Input	0,00	0,00
Seedlings/Plants	0,00	0,00
Fertilizers	0,00	0,00
Pesticides (authorised)	0,00	0,00
Water	0,00	0,00
Other input	0,00	0,00
Labour	0,00	0,00
Machine costs (driver+fuel&oil+machine rent)	0,00	0,00
Interest on previous costs*	0,00	0,00
Revenues	**0,00**	**0,00**
Gross Margin	**0,00**	**0,00**
Note: * WC x t x i%		

Ex-ante Gross Margin

Ex-Post Cost-Benefit Analysis

Extended Practice Abstract : XXX | **Operational Group:** | **Area (ha):**

			Costs								Benefits			
			Inputs				Labour				Output			
Date (mm/dd/yy)	Activity*	Item description	Units (kg, l, m³, n.)	Quantity	price/unit (€, $)	Partial Cost**	Time Unit (min, hour)	Time	cost/unit (€, $)	Partial Cost**	Units (kg, l, m³, n.)	Quantity	price/unit (€, $)	Partial Revenue**
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
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				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
				0,00	0,00	0,00		0,00	0,00	0,00		0,00	0,00	0,00
					TOT	0,00			TOT	0,00			TOT	0,00

NOTES: *Activity: Soil preparation; Fertilization; Seeding or Transplanting; Pest Managemet; Weeding; Irrigation; Harvest; Other

** Value in red, when there is automatically formula

Gross Margin of the practice:	XXX	
Area of application (ha):	1	
	Total ammount €/area	**Total amount €/ha**
Variable Costs	**0,00**	**0,00**
Input	0,00	0,00
Seedlings /plants	0,00	0,00
Fertilizers	0,00	0,00
Pesticides (authorised)	0,00	0,00
Water	0,00	0,00
Other input	0,00	0,00
Labour	0,00	0,00
Machine costs (driver+fuel&oil+machine rent)	0,00	0,00
Interest on previuous costs*	0,00	0,00
Revenues	**0,00**	**0,00**
Gross Margin	**0,00**	**0,00**
Note: * WC x t x i%		

Ex-post Gross Margin

Gross Margin of practice: ***XXX***			
Area of application (ha): 1			
	Total amount €/ha	**Total amount €/ha**	**Total amount €/ha**
	CB Ex-Ante	**CB Ex-Post**	**Difference (CB Post - CB Ante)**
Variable Costs	**0,00**	**0,00**	**0,00**
Input	0,00	0,00	0,00
Seedlings /plants	0,00	0,00	0,00
Fertilizers	0,00	0,00	0,00
Pesticides (authorised)	0,00	0,00	0,00
Water	0,00	0,00	0,00
Other input	0,00	0,00	0,00
Labour	0,00	0,00	0,00
Machine costs (driver+fuel&oil+machine rent)	0,00	0,00	0,00
Interest on previous costs	0,00	0,00	0,00
Revenues	**0,00**	**0,00**	**0,00**
Gross Margin	**0,00**	**0,00**	**0,00**

Gross Margin comparison - Cost-Benefit Analysis

B. Identification and quantification of the environmental benefits regarding the experimental field or real farm can be assessed using potential environmental indicators in order to the different goals and Extended Practice Abstracts, as follows in the table :

Application area	Indicator	Measurement Unit	Tool
Energy	Fuel consumption (Diesel, Petrol, Motor oil, etc.)	Kg/ha, Kg/hour	Direct measurement or technical references
	Electricity/Natural Gas consumption	GJ (Giga Joule)/tonne of product or ha	Direct measurement or technical references
	Carbon Footprint	$CO_{2\ eq}$	Various tools are available to calculate the carbon footprint in certain production contexts (For example IFV developed GES&VIT tool for viticulture)
Water	Water consumption	Meter^3/tonne of product Litre/tonne of product	Direct measurement
	Water Footprint	Litre/kg	Water Footprint from a multidimensional view such as the water used directly and indirectly in the life cycle of a product, can be difficult to calculate. Alternatively, the water withdrawal can be considered (increase or decrase, before and after the application of innovation in the field, such as a new irrigation system).
Soil	Soil quality	Nitrogen, Phosphorus, Potassium, Carbon organic	Chemical-Physical Laboratory
	Pesticide use	kg/ha	Direct measurement or technical references
Air	Air quality	Particulate Matter (PM), Ground level Ozone (O_3), Carbon dioxide (CO_2), Carbon monoxide (CO), Nitrogen dioxide (NO_2), Sulphur dioxide (SO_2), Carbon footprint	Monitoring station
Biodiversity	Biodiversity erosion	Number of species per area (ha)	Direct measurement or technical references. It is possible to detect the number of species directly in the field, before and after the

			application of the new practice. Different protocols are possible, example here.

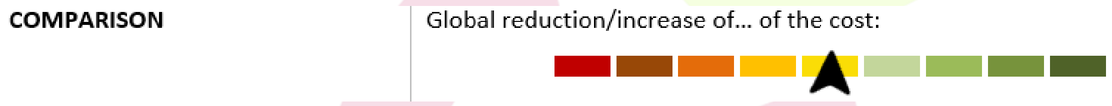
C. Simplified CBA "adapted" methodology

The above proposed methodology was shared with partners for approval before submission. Consequently, the feedback received expressed their unfamiliarity with the methodology and the difficulty to face the results to the end-users of the Extended Practice Abstracts.

At the steering committee on 18th April 2023, it was asked to simplify the methodology again by adding a rating scale and making it more friendly for the partners who will apply it and easy to understand for the end-users, farmers and/or stakeholders interested in the technology.

Starting from the knowledge of the ex-ante innovation situation, the OG contact person for each innovation provides an evaluation regarding both the socio-economic and environmental impacts that the innovation has determined or could determine in the field or scope of application.

The qualified contact person is required to indicate the class in % terms from scoring from 1 to 9, with reference to the increase in costs, or to the non-variation or reduction of costs, as well as to the reduction in revenues and gross margin, or non-variation or increase in revenues or gross margin, according to the following scheme. The ranked value corresponds to a color scale.



Example of colour scale as a visual indicator for the economical part

A. Post intervention/application costs:

1: cost increase from 75% up; red

2: cost increase from 50% to 74%; red/orange

3: cost increase from 25% to 49%; orange

4: cost increase from 1% to 24%; orange/yellow

5: no change; yellow

6: cost reduction from 1% to 24%; soft green

7: cost reduction from 25% to 49%; green

8. cost reduction from 50% to 74%; dark green

9: cost reduction from 75% up; very dark green

B. Post intervention/application revenues:

1: revenue reduction from 75% up; red

2: revenue reduction from 50% to 74%; red/orange

3: revenue reduction from 25% to 49%; orange

4: revenue reduction from 1% to 24%; orange/yellow

5: no change; yellow

6: revenue increase from 1% to 24%; soft green

7: revenue increase from 25% to 49%; green

8. revenue increase from 50% to 74%; dark green

9: revenue increase from 75% up; very dark green

C. Gross margin (Gross Margin) in the post intervention/application:

1: GM reduction from 75% and up; red

2: GM reduction from 50% to 74%; red/orange

3: GM reduction from 25% to 49%; orange

4: GM reduction from 1% to 24%; orange/yellow

5: no change; yellow

6: GM increase from 1% to 24%; soft green

7: GM increase from 25% to 49%; green

8. GM increase from 50% to 74%; dark green

9: GM increase from 75% and up. very dark green

As to the target environmental indicators, the qualified contact person is required to indicate the class in % terms from a scoring from 1 to 9 with reference to the deterioration of the environmental indicator or no change or improvement of the environmental indicator, according to the following scheme.

Example of colour scale as a visual indicator for the economical part

A. Post intervention/application target environmental indicators:

1: indicator worsening from 75% up; red

2: indicator worsening from 50% to 74%; red/orange

3: indicator worsening from 25% to 49%; orange

4: indicator deterioration from 1% to 24%; orange/yellow

5: no change; yellow

6: indicator improvement from 1% to 24%; soft green

7: indicator improvement from 25% to 49%; green

8. indicator improvement from 50% to 74%; dark green

9: indicator improvement from 75% and up; very dark green

4. Improvements of the methodology

The methodology described above was tested on the practices selected within the Climed-Fruit OG core group. The following improvements and simplifications were adopted during this first phase of applying the methodology within the project consortium:

Global aim of the CBA: it is important to bear in mind that this analysis is a simplified one, essential information must be highlighted and all the useful links and sources should be provided so that practitioners can easily find additional information

Context: costs can vary greatly depending on the region in question. The costs considered are often linked to a specific region, so the geographical area and context should be specified in the introduction.

Economical part (table):

- The lines of the table with the costs in the template are flexible and can be adapted to the practice to highlight items where there are significant changes (or not, eventually) in costs between the ex-ante and ex-post situations

Economical costs and benefits

Short explanation about the context of the economic part: add to which region the data is referring

Legend

Estimated indicator

Measured indicator

	Ex-ante	Ex-post
Variable costs		
Input		
Fertilizers		
Water		
Installation (material + labour)		
Labour (excluding installation)		
Machine costs (fuel + depreciation)		
COMPARISON	Global reduction/increase of… of the cost:	

Example of the table for economic information

- Sometimes there are different levels of implementation of the practice, that means different costs. The simplest situation or at least the most cost-effective compromise should be considered
- Benefits: the benefits can often be difficult to calculate in cost terms… We advise to add a "benefits box" below the table of costs to be completed if you have a precise estimate/information on the subject.

Environmental part:

- All the information/estimates you feel are legitimate should be used, but in a transparent way: cite the sources and references (bibliography to be included at the end of the CBA)
- When precised data are available, precise how it was obtained: What type of measurement was used to obtain the data? Which tool was used?
- No need for long explanations: just the main information and then refer the reader to additional useful links

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ANNEXE

Climed-Fruit CBA template

Extended Practice Abstract Nº XX

CLIMED-FRUIT		*Partner's logo and OG logo*

Simplified cost/benefit analysis

Name of the practice

Introduction – presentation of ex-ante and ex-post situation

Climate change context of the practice + Description of ex-ante & ex-post situation considered for the analysis

Economical costs and benefits

Short explanation about the context of the economic part: add to which region the data is referring

Legend
Estimated indicator
Measured indicator

	Ex-ante	Ex-post
Variable costs		
Input		
Fertilizers		
Water		
Installation (material + labour)		
Labour (excluding installation)		
Machine costs (fuel + depreciation)		
COMPARISON	Global reduction/increase of… of the cost:	

Environemental costs and benefits

Energy — Indicator worsening/improving of …%:

Explain how this score is attributed: precise the indicator considered +
- *If estimated => how the estimate is based (bibliography, other trials, empirical knowledge…)*
- *If measurement => which measure, and which tool was used?*

Water — Indicator worsening/improving of …%:

Explain how this score is attributed: precise the indicator considered +
- *If estimated => how the estimate is based (bibliography, other trials, empirical knowledge…)*
- *If measurement => which measure, and which tool was used?*

Soil — Indicator worsening/improving of …%:

Explain how this score is attributed: precise the indicator considered +
- *If estimated => how the estimate is based (bibliography, other trials, empirical knowledge…)*
- *If measurement => which measure, and which tool was used?*

Air — Indicator worsening/improving of …%:

1

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<table>
<tr><td colspan="2">Explain how this score is attributed: precise the indicator considered +
- If estimated => how the estimate is based (bibliography, other trials, empirical knowledge…)
- If measurement => which measure, and which tool was used?</td></tr>
<tr><td>Biodiversity</td><td>Indicator worsening/improving of …%:
</td></tr>
<tr><td colspan="2">Explain how this score is attributed: precise the indicator considered +
- If estimated => how the estimate is based (bibliography, other trials, empirical knowledge…)
- If measurement => which measure, and which tool was used?</td></tr>
</table>