

# Build a sustainable inclusive Business Model for Rural Communities in Mali through Biogas Technology

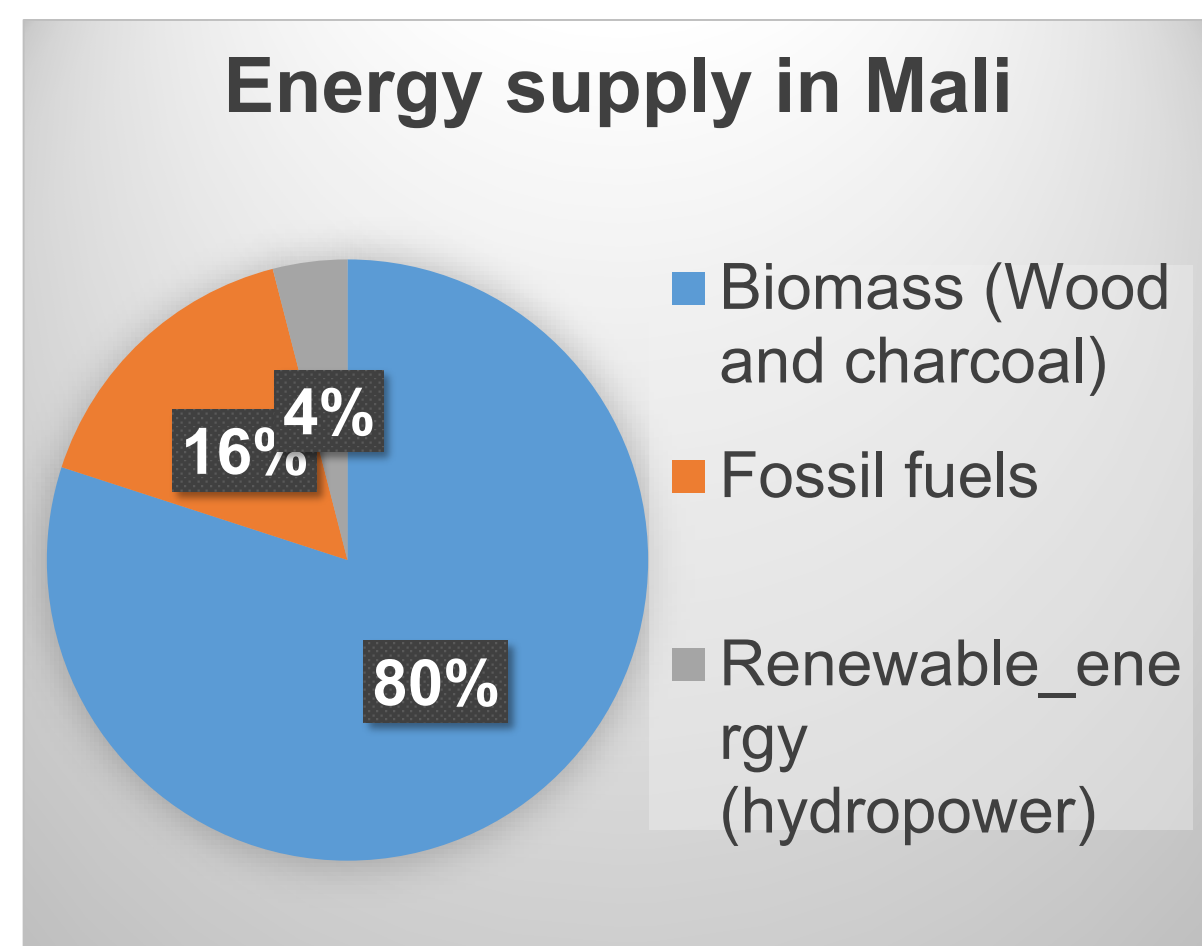
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## Introduction

Mali is a country in West Africa, with a Population of 19 Mio inhabitants of which more than 80% live from agriculture and livestock [MEE, 2019].

## Problem statement

National energy consumption in Mali is based on excessive use of wood and charcoal (more than 80%), followed by petrol (16%) and electricity (4%). In addition, due to demographic pressure and the arrival of famers from drought-stricken zones further north, zones in South Mali are subjected to increased deforestation to provide more arable land. The growth of the population and the rural migration exacerbate wood consumption in secondary urban centres.



Source: Power Africa (2018)

## Value chain affected

Lack of proper value chain for organic waste (agriculture, animal, food waste and waste water) in Mali.

## Solution approach

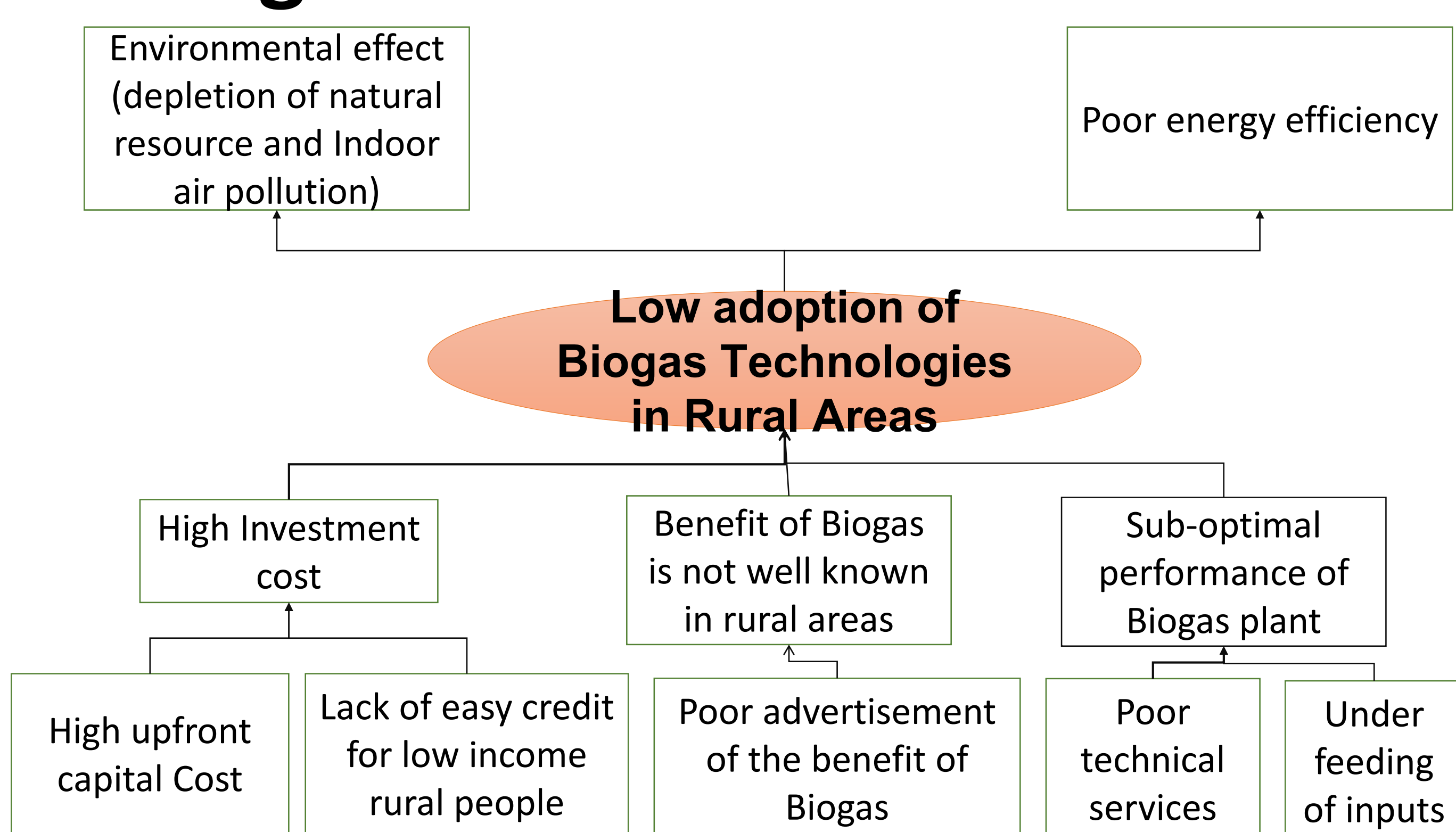
Introducing an integrated farming system centered around a biogas system to improve the living condition of rural communities in Mali. The system will help the rural and per-urban communities have different revenues stream by selling the bio-fertilizer using it to boost crop yield and improve the sanitation condition.

## Objective(s)

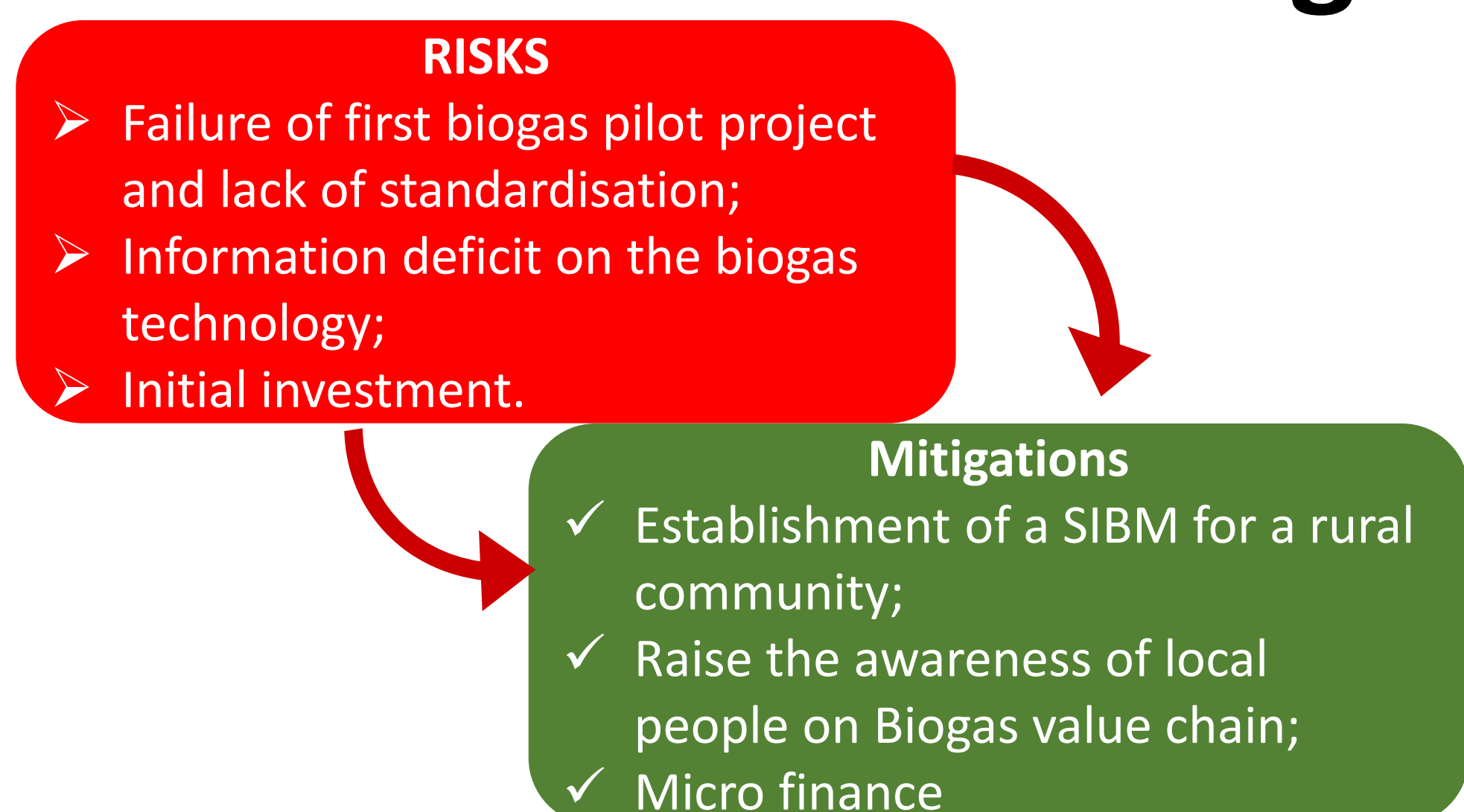
Increase the adoption of Biogas technologies in rural communities which will then help:

- ✓ Reduce the cost associated with cooking fuel and chemical fertilisers;
- ✓ Provide clean environment (quality air and good health);
- ✓ Empower women and improve their social status

## Problem tree on low adoption of Biogas



## Possible risks and Mitigation



## Implementation steps (milestones)

Activities	Partner involve	From 2020 to 2023														
		A	S	O	N	D	J	F	M	A	M	J	J	A	S	O
Acquiring technical skill on Biogas Entrepreneurial-ship	Postgraduate training (Germany) ISEES Ghana	█														
Business registration with Government	Agency for Investment Promotion (Mali)					█										
Setting up of the integrated farming system (Demo Farm)	Dembe Green Solutions (Mali)							█	█	█						
Promotion on the benefit of biogas technology (demo farm)	Social media, TV, Website											█	█	█	█	█
Starting installation of Biogas system and advisory services	Dembe Green Solutions												█	█	█	█
Business monitoring & evaluation	Dembe Green Solutions														█	█

## Expected costs

Items	Quantity	Unit	Amount
<b>Fixed cost</b>			
Registration	1	€ 300.00	€ 300.00
Small tools	10	€ 10.00	€ 100.00
Internet Installation	1	€ 95.00	€ 95.00
Laptop	1	€ 410.00	€ 410.00
Printer	1	€ 250.00	€ 250.00
Furniture	1	€ 650.00	€ 650.00
Brick Mold	5	€ 85.00	€ 425.00
Other costs			€ 334.50
<b>Total fixe cost</b>			<b>€ 2,564.50</b>
<b>Variable costs</b>			
Rent (3years)	36	€ 130.00	€ 4,680.00
Light bill	36	€ 20.00	€ 720.00
Water bill)	36	€ 10.00	€ 360.00
Marketing (media) salary (Manager)	36	€ 25.00	€ 900.00
Internet	36	€ 300.00	€ 10,800.00
Other costs			€ 720.00
<b>Total variable cost</b>			<b>€ 20,907.00</b>
<b>Total Costs</b>			<b>€ 23,471.50</b>
<b>TOTAL COST for 3 year</b>			<b>23,471.50</b>

## Expected outcome(s)

