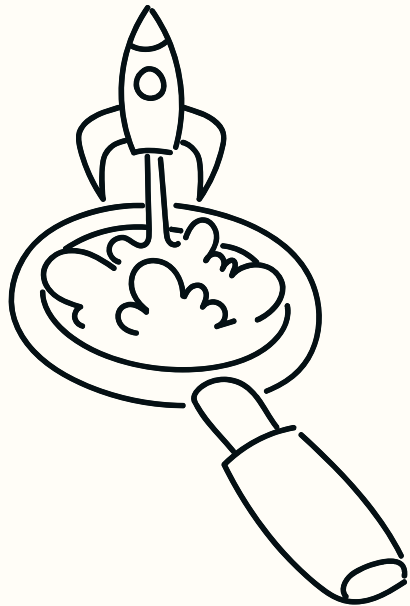


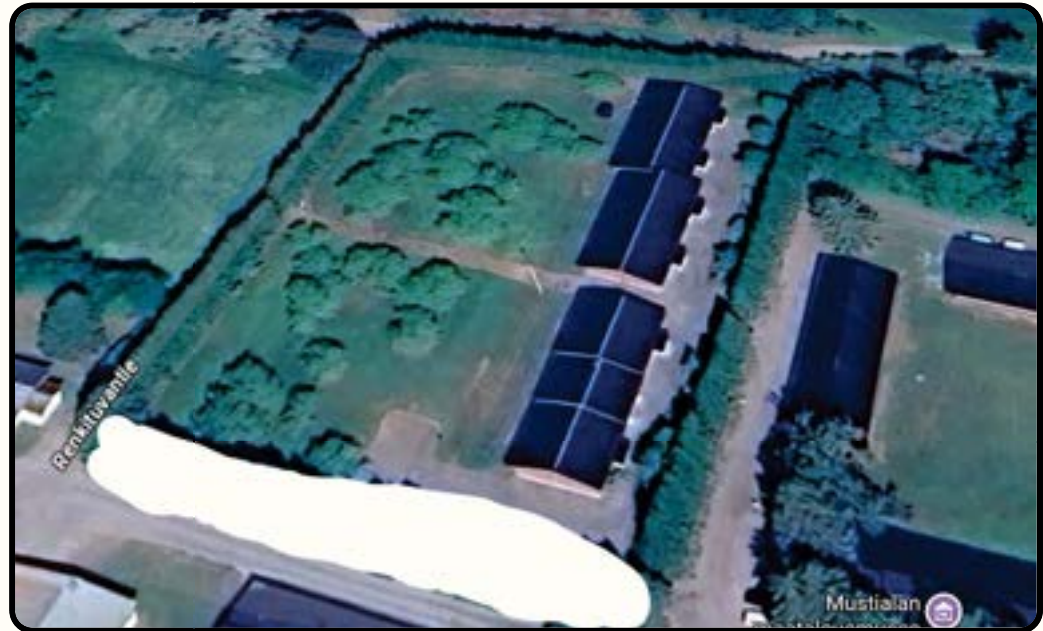
# MUSTIALA APPLE GARDEN



## Facts:

- 21 Apple Trees (some needs pruning and felling)
- Size: 85 x 37 meters
- Different varieties of apple trees
- Open and no (living) fence in one side (south)
- Underused and not income-generating
- Soil: Loamy and rich in organic matter

# MUSTIALA APPLE GARDEN



# PICTURE / MAPS



# SOLUTIONS

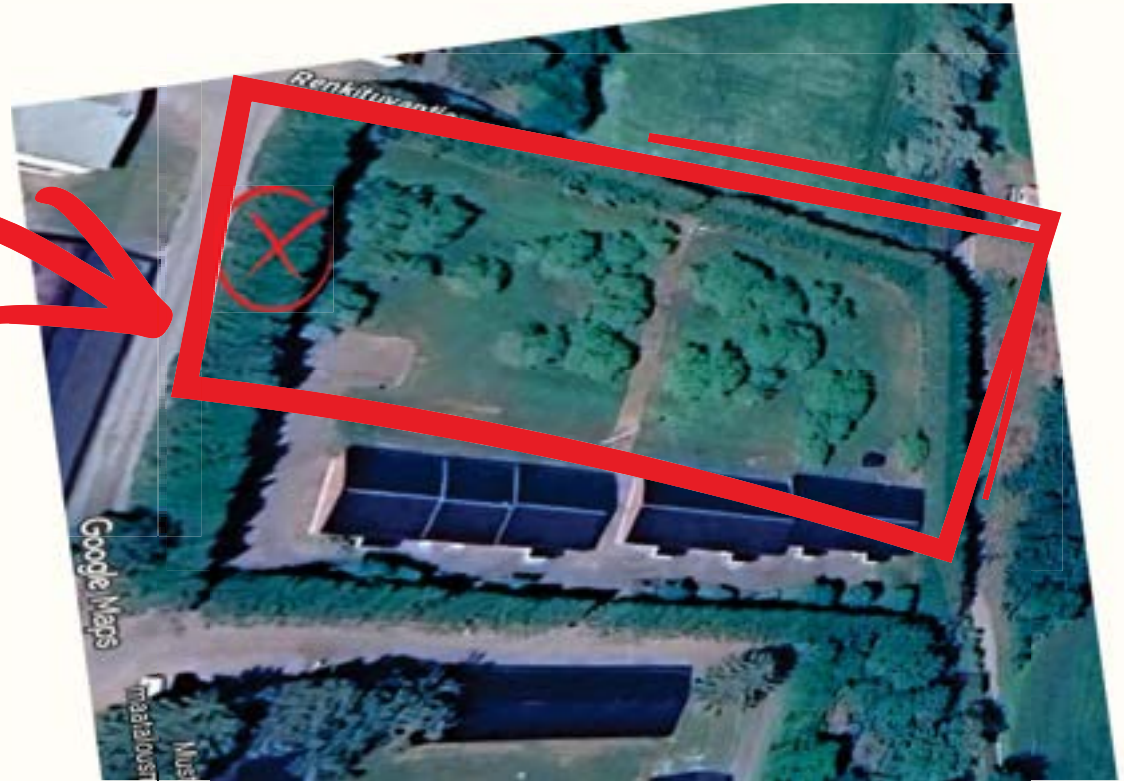
## Mustiala Apple Garden

Challenges	Solutions
Tree Condition & Maintenance	Prune healthy trees, remove old/diseased ones, and reuse wood for mulch or small projects.
Underused Space	Add benches, swings, and pathways to encourage student use and summer activities.
Design & Sustainability	Introduce a multilayer planting system using agroforestry idea, living fence, and small greenhouse while keeping maintenance simple.

**BEFORE**

**Mustiala Apple Garden**

**Challenge: Underused, only apple trees are there that needs pruning and felling and not income generating**



**AFTER**

Theory: Agrisilviculture,  
Permaculture,  
Multilayering



1. Log Storage (small)
2. Pathways (woodchips)
3. Bridge (wood plank)
4. Water barrels
5. Drip Irrigation (in plant boxes only)
6. Man-made Ponds (diy)
7. Glasshouse (used)
8. 5 Log benches & 1 Swing
9. Wooden Table
10. Plant Boxes (from spruce logs)
11. Living Fence (blue berry)
12. Agrisilviculture (the whole garden)

**Mustiala Apple Garden 2.0**



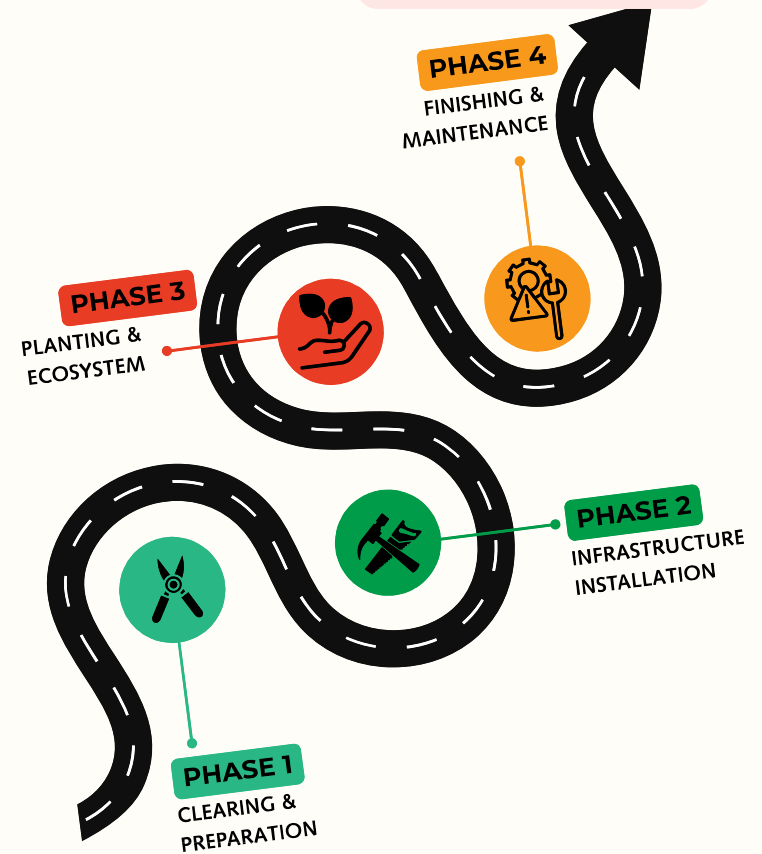
# TIMELINE:

Project Name: Mustiala Apple Garden 2.0

Task Name	Start (Date)	End (Date)	Duration (Days)	Priority	Percentage of Completion
Tree Survey	15/01/2026	30/01/2026	15	High	20%
Pruning & Felling	01/02/2026	15/03/2026	42	High	0%
Log Storage	15/02/2026	30/03/2026	43	Medium	0%
Pathways	01/04/2026	30/04/2026	29	High	0%
Bridge	15/04/2026	15/05/2026	30	Low	0%
Plant Boxes	01/05/2026	20/05/2026	19	High	0%
Water Tanks	05/05/2026	20/05/2026	15	Medium	0%
Drip Irrigation	15/05/2026	30/05/2026	15	High	0%
Man-made Ponds	20/05/2026	10/06/2026	21	Medium	0%
Glasshouse	01/06/2026	30/06/2026	29	High	0%
Benches & Swings	15/06/2026	15/07/2026	30	Medium	0%
Fire Pit or Wooden table	01/07/2026	15/07/2026	14	Low	0%
Multilayering	10/07/2026	15/08/2026	36	High	0%
Living Fence	01/08/2026	30/08/2026	29	High	0%
Agrisilviculture	15/08/2026	31/12/2026	138	High	0%
Harvest & Sales	25/08/2026	15/10/2026	51	Medium	0%

- One Year Construction and Planting
- Maintenance yearly

## Mustiala Apple Garden 2.0



# BUDGET:

## Mustiala Apple Garden 2.0

Category	Task/Item	Materials/Services to Buy	€
Removal & Pruning	Prune 10 keepers, cut 11 bad ones	Chainsaw fuel (pienkonebenssiini), chain oil, safety gloves	150
Woodchipper	Rent for 1 day for path mulch	1-day rental (Oksasilppuri)	50
6 Plant Boxes	Build deep boxes using spruce logs	120mm Torx screws, Landscape fabric (Suodatinkangas), Rebar pins	40
The Bridge	Spruce logs + apple wood railings	Galvanized M12 bolts, Wood oil or Pine Tar (Tervamaali)	30
Garden Furniture	Spruce log benches and a swing	Synthetic hemp rope, 2x Swing hangers, outdoor cushions	70
Watering System	2 used barrels + drip hoses	2x IBC Totes/Barrels, Drip irrigation kit, connectors	160
Used Glasshouse	Self-remove deal from Tori.fi	Silicone sealant, replacement glazing clips, transport straps	350
Ponds & Wooden table	Stones + local Mustiala clay	EPDM Pond liner, Wooden table (free from spruce logs)	60
Plants & Seeds	Berry bushes and bee flowers	Bare-root berry bushes, Meadow seed mix (Niittykukkaseos)	130
<b>TOTAL</b>	-	-	<b>1040</b>



# EXCEL CALCULATION:

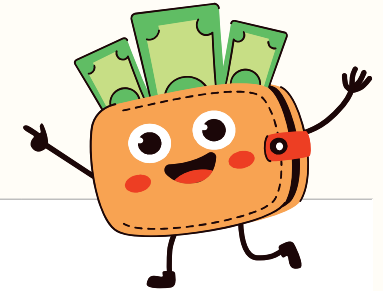
Mustiala Apple Garden 2.0

Effective working hours (%)	84%		
Indirect employee costs (%)	53%		
Other costs include VAT:	YES		
<b>Salaries (e.g.)</b>			
	months	salary €/month	Salary in total €
Maintenance Gardener	4.0	2,000	8,000
<b>SUM</b>			<b>8,000</b>
Salaries, total (effective)		Salary sum*effective working hours	6,720.00
Indirect employee costs		salaries*indirect employee costs	3,546.14
<b>Personnel costs in total</b>			
<b>Other costs</b>			
<b>Materials</b>			
Plant Box Materials (120mm screws, Suodatinkangas, rebar)		40	
Bridge & Furniture Hardware (Bolts, Rope, Pine Tar)		100	
Watering System (2x IBC Barrels + Drip Hose Kit)		160	
Pond & Pit Materials (Pond liner + Kivituhka)		60	
Plants & Seeds (Berry bushes + Meadow seeds)		130	
Glasshouse Parts (Silicone, clips, transport straps)		50	
<b>Equipment</b>			
Used Glasshouse Frame (From Tori.fi)		300	
Consumables (Chainsaw fuel, chain oil, safety gloves)		150	
<b>Services</b>			
Machinery Rental (1-day Woodchipper rental)		50	
Travel expenses		0	
Other costs		0	
<b>Other costs, total</b>		<b>1,040</b>	
<b>Total costs</b>		<b>11,306</b>	



# COST-SAVING:

## Mustiala Apple Garden 2.0



To Do / Add	Labor & Volunteers
Pruning & Felling	<b>Professional + Forestry Students:</b> Students assist with felling as part of their "Sustainable Forest Management" modules.
Log Storage & Paths	<b>Student Volunteers:</b> Organized "Talkoot" (voluntary work bees) with coffee/sauna rewards for dorm residents.
Water & Irrigation	<b>Agro-Technology Students:</b> Design and install the drip system as a practical "Smart Agriculture" course assignment.
Glasshouse Build	<b>Horticulture Students:</b> Led by Lepaa campus students as a "Protected Cultivation" construction project.
Benches & Swings	<b>HAMKO Volunteers:</b> Summer students building social areas via Student Union "Well-being" workshops.
Multilayering	<b>Horticulture &amp; Agriculture Students:</b> Responsible for plant selection, soil health, and planting as a core "Crop Production" credit.
Agrisilviculture & Maintenance	<b>Student Thesis Workers:</b> 1–2 students per year manage the system for their final thesis research (15 ECTS).

# ADVANTAGES & DISADVANTAGES

## Mustiala Apple Garden 2.0

+

- Existing apple trees reduce planting costs.
- Multilayer agroforestry increases biodiversity.
- The garden can be used for student learning and recreation.
- Berry plants and apples can generate small income.
- Reusing wood from trees reduces material costs.

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- Old trees require pruning and maintenance.
- The small area limits large production.
- Fruit production depends on seasonal weather.
- Regular care such as watering and pest control is needed.
- Visitors may accidentally damage plants.