

SWOT for Possible Solution #1:  
Plant Leucaena as Hedgerows

STRENGTHS	WEAKNESSES
<ul style="list-style-type: none"> <li>- Leucaena hedgerows will serve as physical barriers to run-off and soil loss</li> <li>- Leucaena is a tree that can fix Nitrogen</li> <li>- Leucaena can be used as green manure</li> <li>- Leucaena leaves can be used also as fodder so we can raise cattle and goats, too.</li> </ul>	<ul style="list-style-type: none"> <li>- Leucaena will shade out other crops</li> <li>- Establishing and pruning hedgerows is laborious</li> <li>- We lack knowledge on how to establish and manage Leucaena hedgerows</li> </ul>
OPPORTUNITIES	THREATS
<ul style="list-style-type: none"> <li>- Increased crop yields will provide extra harvests which we can sell</li> <li>- Good market demand and price for cattle and goats</li> </ul>	<ul style="list-style-type: none"> <li>- Leucaena is susceptible to the psyllid pest</li> </ul>

TOWS Matrix for establishing Leucaena hedgerows for soil conservation

	<p><b>Opportunities (O)</b></p> <ul style="list-style-type: none"> <li>Increased crop yields will provide extra harvests that we can sell</li> <li>Good market demand and price for cattle and goats</li> </ul>	<p><b>Threats (T)</b></p> <ul style="list-style-type: none"> <li>Leucaena is susceptible to psyllid pest</li> </ul>
<p><b>Strengths (S)</b></p> <ul style="list-style-type: none"> <li>Leucaena hedgerows will serve as physical barriers to run-off and soil loss</li> <li>Leucaena is a perennial that can fix nitrogen</li> <li>Leucaena leaves can be used as green manure</li> <li>Leucaena leaves can also be used as fodder therefore we can also raise cattle and goats</li> </ul>	<p><b>S-O</b></p> <ul style="list-style-type: none"> <li>Design proper planting configuration to integrate Leucaena into existing crop production system</li> <li>Look for seed sources of Leucaena</li> <li>Use cattle manure as additional organic fertilizer to crops</li> </ul>	<p><b>S-T</b></p> <ul style="list-style-type: none"> <li>Select psyllid-tolerant species for planting</li> <li>Plant also other legume trees including indigenous species</li> </ul>
<p><b>Weaknesses (W)</b></p> <ul style="list-style-type: none"> <li>Leucaena will shade out other crops</li> <li>Establishing and pruning trees regularly is laborious</li> <li>We lack knowledge on how to establish and manage Leucaena hedgerows</li> </ul>	<p><b>W-O</b></p> <ul style="list-style-type: none"> <li>Confine Leucaena along borders to minimize shading of crops if it is pruned at longer intervals</li> <li>Plan a pruning scheme that will keep Leucaena at a low height</li> <li>Request information or training from local government unit or local college regarding proper pruning management of Leucaena</li> </ul>	<p><b>W-T</b></p> <ul style="list-style-type: none"> <li>Invite resource persons to train us on proper establishment and management of hedgerows</li> <li>Avoid pruning during the late dry season when Leucaena is most susceptible to psyllid attack</li> </ul>

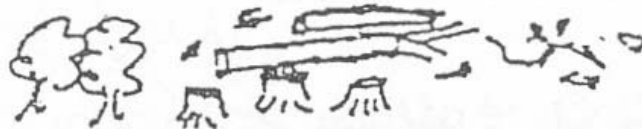
Topography	Steep slopes	Rolling hills	Undulating	Flat	Sub- <del>merged</del>	Flat	Undulating
Land use	Forest	Pasture	Bushes	Crop lands	Pond	Crop lands	Residential
Annual crops	—	—	—	rice, beans	—	CORN	vegetables
Perennials	mahogany, narra, others	napien, cogon	guaves, ipitipil	—	—	—	banana, papaya, citrus
Animals	—	cattler, goats	—	—	fish	—	pigs, chicken
Problems		grass fires, soil erosion	psyllids	golden snail		acidic soil	swine waste disposal
Opportunities	Plant indigenous forest trees	Integrate forage legumes	Also plant Gliricidia	raise ducks to eat <del>grass</del>		use organic fertilizer	explore biogas

1940s



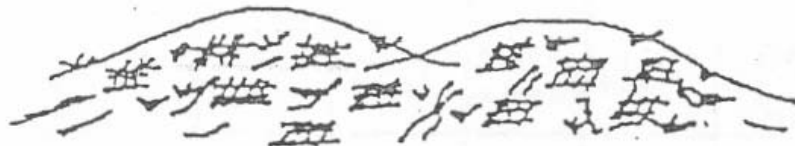
- first settlers arrived in the area.
- forest was still intact

mid 1950s



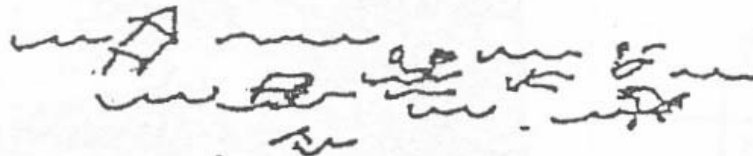
- forests cut and converted to farms.

1960s



- all lands were cleared and planted to rice and corn.

1973



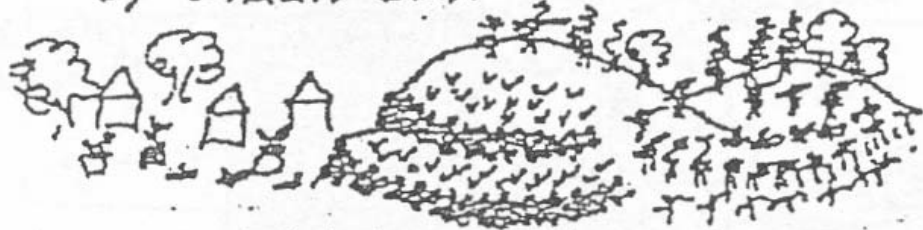
- strong typhoon caused floods.
- many homes, livestock and crops were destroyed.

1982


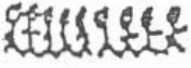

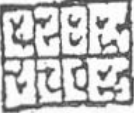





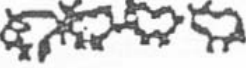


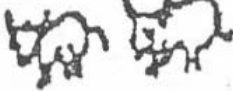


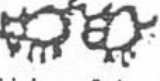




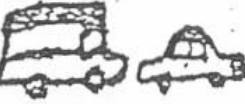


- community tree planting was started by women's club.

1970s to present



- soil conservation technologies were introduced.
- trees were integrated with crops

	Before Land Reform 1940-1972	After Land Reform 1973-1995	10 Years from now
Population			
Rice fields			
Pastures			
Cattle			
Carabaas			
Pigs			
Vehicles			
Roads	