

SWOT for Possible Solution #1:
Plant Leucaena as Hedgerows

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

TOWS Matrix for establishing Leucaena hedgerows for soil conservation

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

Topography	Steep slopes	Rolling hills	Undulating	Flat	Sub-sag	Flat	Undulating
Land Use	Forest	Pasture	Bushes	Crop lands	Pond	Crop lands	Residential
Annual crops	—	—	—	rice, beans	—	corn	vegetables
Perennials	mahogany, narra, others	napier, cogon	guavas, ipitipil	—	—	—	banana, papaya, citrus
Animals	—	cattle, 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 grass		use organic fertilizer	explore biogas

1940s



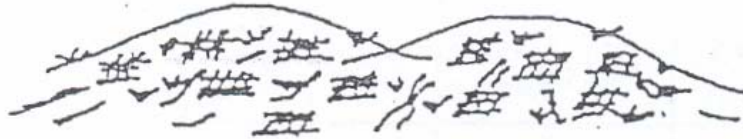
- first settlers arrived in the area.
- forest was still intact

mid 1950s



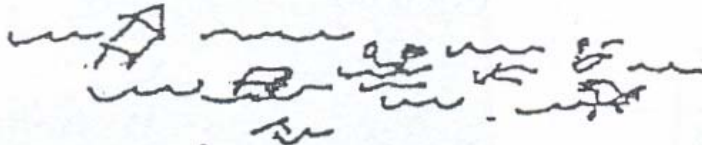
- forests cut and converted to farms.

1960s



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

1973



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

1982


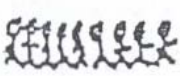
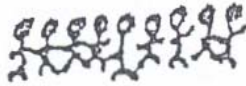
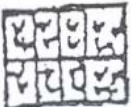






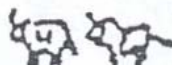












- community tree planting was started by women's club.

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	