

ELENCO MISURE DI ADATTAMENTO

La tabella seguente riporta l'elenco delle misure di adattamento suggerite da DESERT-ADAPT e sperimentate in questo e nei precedenti progetti.

Nelle pagine successive trovi le figure delle misure ma la scritta è in inglese. Tuttavia nella stessa cartella di questo documento trovi un'altra cartella con le schede in italiano della maggior parte delle misure qui elencate.

N°	Nome misura	Tipo di azione
1	Raccolta dei semi	Raccogli dalle migliori fonti
2	Taglio delle piantine (ramoscelli)	Usa le tue risorse
3	Vegetazione preesistente	Taglia o rimuovi: minore perdita di carbonio
4	Micorrize e piante	Inocula materiale vegetale o suolo
5	Micorrize e suolo	Aggiungi micorrize al suolo
6	Trazione animale	Proteggi il suolo
7	Canali	Realizza canali
8	Keylines	Realizza keylines
9	Mezzelune	Realizza mezzelune
10	Rippatura del suolo	Se il suolo è compattato
11	lavorazione conservativa	Riduci la compattazione, etc.
12	Porche e solchi	Usa l'aratro romano
13	Captazione e conservazione dell'acqua	Stagni, piccoli laghi, etc.
14	Fertilizzazione organica	riduce l'impatto sul clima
15	Miglioramento dei pascoli	Leguminose addizionali
16	Semina (annuale)	Tra le file di alberi, etc.
17	Leguminose	Coltiva per migliorare il suolo
18	Colture di copertura	Copri il suolo nudo
19	Arbusti protettivi	Protettori naturali degli alberi
20	Densità d'impianto	Definisci densità d'impianto/specie
21	Scavo delle buche per le piante	Scavo selettivo delle buche
22	Consociazione	Nella vegetazione esistente
23	piantare in miscele	Riduci i rischi, aumenta la produttività.
24	piantumazione regolare	In file, a spaglio o in blocchi
25	Recinti naturali	Recinti naturali multi-funzione
26	Supporto alla pianta	Bozzoli, stuoie di cocco, etc.
27	Irrigazione/irrigazione a goccia	Applica impianti di irrigazione a goccia
28	Protettori per le piante	Modello Cactus o altri
29	Pacciamatura	Truciolli di legno intorno alle piantine
30	Installazione dei recinti	Recinzioni per bestiame e fauna selvatica
31	Innestare alberi	Usa portainnesti resistenti
32	Alberi malati	Rimuovi quando necessario
33	Controllo delle infestanti	Evita sostanze chimiche
34	IPM Controllo delle infestazioni	Gestione Integrata degli Insetti
35	Potature	Usa le potature in maniera ottimale
36	Razza del bestiame	Seleziona razze locali
37	Pascolo del bestiame	Programma di pascolo a rotazione
38	Ecoservizi	Completa le azioni mancanti
39	Biodiversità	Completa le azioni mancanti
40	Sociale	Completa le azioni mancanti
41	Paesaggio	Ripristina il paesaggio naturale
42	Biocarburante	Lavora ad impatto zero sul clima
43	Piantare sulle porche?	Semina in modo intelligente
44	Regola del 10% della legna da ardere	Lascia il legno morto
45	Rigenerazione naturale	Proteggi la rigenerazione naturale!
46	Muri di sponda	Costruisci piccoli muri di pietra
47	Filtri acquatici	Mantieni il tuo lago pulito
48	Alberi da ombra	Crea uno scudo per le insolazioni
49	Potatura degli alberi da frutto	Frutteti alti o bassi?
50	Ampi filari per le macchine	Spazio tra le file
51	Materiali da piantare	Istruisci il tuo vivaio!



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Adaptation Measures in Brief

<p>SEED COLLECTING</p> <p>Collect from best sources</p>	<p>1</p>	<p>CUT SEEDLINGS (TWIGS)</p> <p>Use your own resources</p>	<p>2</p>	<p>EXISTING VEGETATION</p> <p>Cut or Remove: less carbon loss</p>	<p>3</p>
			<p>Genetic selection: collect seeds from selected trees or plants that behave well under climate changes.</p>	<p>Create you own nursery, develop roots on twigs, taken from best genetic sources (that do well under climate change).</p>	<p>Preferable only cut (use shredder) vegetation instead of removing it completely. Otherwise its a carbon loss.</p>
<p>Costs to implement: </p>	<p>Costs to implement: </p>	<p>Costs to implement: </p>	<p>MYCORRHIZAE & PLANTS</p> <p>Inoculate planting material</p>	<p>MYCORRHIZAE & SOILS</p> <p>Add mycorrhizae to soil</p>	<p>ANIMAL TRACTION</p> <p>Protect soils</p>
			<p>Makes plant more resilient to droughts, diseases and increases root surface. Use them also to produce mushrooms.</p>	<p>Improves crop resistance and nutrient availability.</p>	<p>Use animals when there are dangers for soil compaction or erosion and save on fuel.</p>
<p>Costs to implement: </p>	<p>Costs to implement: </p>	<p>Costs to implement: </p>	<p>SWALES</p> <p>Establish swales on your land</p>	<p>KEYLINES</p> <p>Establish keylines on your land</p>	<p>HALF-MOONS</p> <p>Establish half-moons on lands</p>
			<p>Improves water infiltration, avoids soil erosion.</p>	<p>Improves water infiltration, avoids soil erosion.</p>	<p>Improves water infiltration, avoids soil erosion.</p>
<p>Costs to implement: </p>	<p>Costs to implement: </p>	<p>Costs to implement: </p>	<p>SOIL RIPPING</p> <p>If soils are compacted</p>	<p>CONSERVATION TILLAGE</p> <p>Reduce soil compaction etc</p>	<p>RIDGE AND FURROWS</p> <p>Use Roman plough in farming</p>
			<p>Creates planting space, reduces compaction and improves water infiltration.</p>	<p>Using specialized ploughs and equipment to reduce soil compaction, evaporation and soil loss.</p>	<p>Improves water infiltration, avoids soil erosion and loss of SOC.</p>
<p>Costs to implement: </p>	<p>Costs to implement: </p>	<p>Costs to implement: </p>			



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CAPTURE & STORE WATER <i>Ponds, small lakes etc</i>	13	ORGANIC FERTILIZER <i>Results in less climate impact</i>	14	PASTURE IMPROVEMENT <i>Additional legumes</i>	15
<i>For water availability throughout the year and to increase wildlife.</i>		<i>Adds Nitrogen and improves soil texture and availability of moisture and nutrients.</i>		<i>Improving pasture resilience and fodder quality with introducing (seeding) additional species (legumes).</i>	
<i>Costs to implement:</i>		<i>Costs to implement:</i>		<i>Costs to implement:</i>	
SEEDING (ANNUALS) <i>Between rows of trees etc</i>	16	LEGUMES <i>Cultivate to improve soils</i>	17	COVER CROPS <i>Cover bare soils</i>	18
<i>Soil cover is important because covers are expected to decrease temperature and radiation damage to soils.</i>		<i>Adds Nitrogen and improves soil texture and availability of moisture and nutrients.</i>		<i>Cover bare soil to retain moisture, organic matter and to prevent weeds and soil erosion.</i>	
<i>Costs to implement:</i>		<i>Costs to implement:</i>		<i>Costs to implement:</i>	
NURSE SHRUBS <i>Natural tree protector</i>	19	PLANTING DENSITY <i>Set planting density/specie</i>	20	PLANT HOLE DIGGING <i>Selective digging of holes</i>	21
<i>Protects tree seedlings from predation and weather exposure by planting them inside shrubs.</i>		<i>Take into account shadow, moisture, available nutrients and water and climate projections.</i>		<i>Avoids large-scale soil disturbance. Select: by hand, machines, cross-ripping etc.</i>	
<i>Costs to implement:</i>		<i>Costs to implement:</i>		<i>Costs to implement:</i>	
INTERPLANTING <i>In existing vegetation</i>	22	PLANTING IN MIXES <i>Reduce risks, improve productivity</i>	23	REGULAR PLANTING <i>In rows, patched or blocks</i>	24
<i>Improves biodiversity, ecosystem resilience, protects seedlings, prevents soil erosion.</i>		<i>Combine species that are mutually beneficial. Mosaic management and landscape diversification are key words.</i>		<i>Think what fits best the local circumstances. Take into account regular requirements (wind, risks, slopes etc).</i>	
<i>Costs to implement:</i>		<i>Costs to implement:</i>		<i>Costs to implement:</i>	



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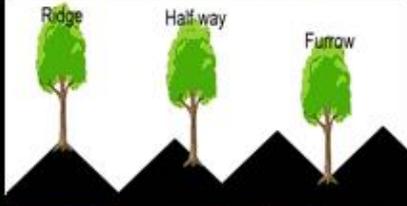
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<p>NATURAL FENCE STYLE <i>Multi-purpose natural fence</i></p>	<p>25</p>	<p>PLANT SUPPORT <i>Plant Cocoons, coca mats, etc</i></p>	<p>26</p>	<p>WATERING/DRIP IRRIGATION <i>Apply drip irrigation/watering</i></p>	<p>27</p>
					
<p>Protects your crop and provides food, fodder and shelter for biodiversity. Shape it as a true fence when required!</p>		<p>Improves survival rates of seedlings under harsh environmental conditions.</p>		<p>Saves water. In principle watering seedlings 4-5 times per year with a tractor & water tank is also an option.</p>	
<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>	
<p>PLANT PROTECTORS <i>Cactus model, or others</i></p>	<p>28</p>	<p>PLANT ASSIST <i>Wood chips or rocks</i></p>	<p>29</p>	<p>FENCING INSTALLATION <i>Livestock & Wildlife fencing</i></p>	<p>30</p>
					
<p>Plastic sheets, wooden or metallic wire, cactus models. Protects plants from predation.</p>		<p>Use wood chips, rocks or other available cover material to protect against weed & to improve soil moisture and fertility.</p>		<p>Protect seedlings against cattle or wildlife and improve natural regeneration.</p>	
<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>	
<p>GRAFTING TREES <i>Use resistant rootstock</i></p>	<p>31</p>	<p>DISEASED TREES <i>Remove when required</i></p>	<p>32</p>	<p>WEED CONTROL <i>Avoid chemicals</i></p>	<p>33</p>
					
<p>Improves overall resilience and productivity by using resistant rootstock with productive fruit.</p>		<p>Avoid cross-contamination.</p>		<p>Use Propelled Abrasive Grit Management (PAGMan). It uses grit (a waste product) to blast away small weeds in the rows.</p>	
<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>	
<p>IPM PLAGUE CONTROL <i>Integrated Pest Management</i></p>	<p>34</p>	<p>PRUNINGS <i>Use prunings in optimum way</i></p>	<p>35</p>	<p>LIVESTOCK BREEDS <i>Select local breeds</i></p>	<p>36</p>
					
<p>Develop IPM, carry out insect & plague control on eco-friendly way. Provide shelter/host plants for predator insects.</p>		<p>Stack the prunings in rows to improve soils, collect water and biodiversity. Hugelkulture. Chipping is also possible.</p>		<p>Improves feed-to-weight ratio and saves on expenses.</p>	
<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>		<p>Costs to implement: ➡</p>	



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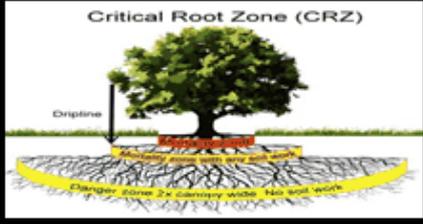
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LIVESTOCK GRAZING <i>Rotational Grazing program</i>	37	ECOSERVICES <i>Finalize remaining actions</i>	38	BIODIVERSITY <i>Finalize remaining actions</i>	39
			<p><i>Grazing plan: Moving herds between fields to promote pasture regrowth and combine multiple types of livestock.</i></p> <p><i>Discuss actions one by one.</i></p> <p><i>Discuss actions one by one.</i></p>		
<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡	
SOCIAL <i>Finalize remaining actions</i>	40	LANDSCAPE <i>Restore natural landscape</i>	41	BIOFUELS <i>Work climate neutral</i>	42
			<p><i>Discuss actions one by one.</i></p> <p><i>Restore waterways, slopes, biodiversity hotspots, traditional infrastructure etc.</i></p> <p><i>Using biofuels as much as possible to erase your carbon footprint</i></p>		
<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡	
PLANTING ON RIDGES? <i>Plant in smart ways</i>	43	FIREWOOD 10% RULE <i>Leave deadwood</i>	44	NATURAL REGENERATION <i>Protect NG !</i>	45
			<p><i>When lands are sometimes flooded, plant on ridges. When always dry, plant in furrows. Or in between!</i></p> <p><i>Leave around 10% of all deadwood, laying down or standing, for biodiversity purposes.</i></p> <p><i>Protect Natural Regeneration by small plant protectors or fences.</i></p>		
<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡	
FLOOD WALLS <i>Build small stone walls</i>	46	AQUATIC FILTERS <i>Keep your lake clean</i>	47	SHADOW TREES <i>Create shield for sunburn</i>	48
			<p><i>Build small stones walls in valleys to slow down water flows during heavy rains. Erosion control.</i></p> <p><i>Every lake or pond needs aquatic plants to stay clean. Plant special aquatic filtering plants.</i></p> <p><i>Some fruit species like apples and pears can be damaged by too much sun. Plant shadow trees in between the fruits!</i></p>		
<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡		<i>Costs to implement:</i> ➡	



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PRUNING FRUIT TREES <i>Low or high fruits?</i>	49	MACHINE WIDE ROWS <i>Space between rows</i>	50	PLANTING MATERIAL <i>Instruct your nursery!</i>	51
					
<i>Decide if you like to create high trees (extensive) or low trees (intensive) with fruit production.</i>		<i>When rows are planted and annuals has to go in between make sure these have the width of a common harvesting</i>		<i>Aim for maximum root systems. Roots are more important than plant! Ask FSG for special guidance document.</i>	
<i>Costs to plant & plant material</i> →		<i>Costs to plant & plant material</i> →		<i>Costs to plant & plant material</i> →	
ROOT PROTECTION <i>No machines around trees.</i>	52	LIVE BARRIERS & FILTER BERM <i>Avoid soil runoff</i>	53		
					
<i>No machine or soil work around each tree. Take at least a 2x canopy wide circle around each tree that is fully</i>		<i>Plant live barriers with sturdy plants to avoid soil runoff, cover the soils and improve biodiversity. Plant them on compost berms.</i>			
<i>Costs to plant & plant material</i> ↓		<i>Costs to plant & plant material</i> ↑			