Resilience Design Sheet

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Name: | | | | | | | | | | | | | | | | | | | | | |
| Date: | Transect #1 | | | | | Transect #2 | | | | | Transect #3 | | | | | Transect #4 | | | | | Notes |
| Location: | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 | 1 | 2 | 3 | 4 | 5 |  |
| 1. DESIGN: Site has a context-specific design that optimizes resources and external influences. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2. WATER: Site has water harvesting strategies to slow, spread, sink and manage water. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3. SOIL HEALTH: Site creates a soil food web that supports sustained production and growth. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4. BIODIVERSITY: Site has diversity of plant, tree and animal species that work together to support overall health and production. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5. PROTECTION: Site soil and plants are protected from negative effects of people, animals, insects, disease, and other external influences. |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Resilience Design Checklist – Scoring Criteria

|  |  |
| --- | --- |
| 1. DESIGN. Site has a context-specific design that optimizes resources and external influences. | |
| √- | No site design. Site does not work with local context or use external influences for enhanced benefits (no water harvesting, planting not on contour). Basic ag techniques. |
| √ | 1+ functioning on-contour water harvesting structure (e.g. swale, terrace). Crops on contour. Some mulch. Basic protection from wind, sun, people. Use of local organic resources. |
| √+ | Multiple strategies to strengthen resilience and extend production. Crops growing along on-contour berms. Mulch covers most soil. Biological fertilizers used and animals integrated. |
| \* | Water harvesting structures are well vegetated with cover crops. Year-round production of plants. Trees are integrated. Farmer observes feedback and adjusts to enhance productivity. |
| 2. WATER. Site has water harvesting strategies to slow, spread, sink and manage water. | |
| √- | Water harvesting structures not present or not functioning (e.g. water is draining from site). |
| √ | Water harvesting interventions are seen at the highest point. 1+ water harvesting structure is present, on-contour and has an overflow spillway. Mulch is on the water harvesting structure(s) and surrounding field. |
| √+ | 2+ water harvesting structures, covered in living mulches and diversely planted. Overflow spillways present and armored. Berms compacted at pathways. Minimal erosion. Every tree has water harvesting structure. |
| \* | Multiple water harvesting structures are linked, completely vegetated and well-shaded. Overflow spillways are supported and heavily mulched. All surface water is harvested, banked and protected within soils. All plants have water harvesting structures. |

|  |  |
| --- | --- |
| 3. SOIL HEALTH. Site creates a healthy soil food web that supports sustained production and growth. | |
| √- | No deep soil preparation or fertility management. Fields have a shallow soil profile (<30 cm, measured with stick). Signs of heavy tillage, chemical use and erosion. Plants show weak growth. Bare soil is hot to touch. |
| √ | 2+ soil fertility amendments (e.g. cow manure, ash, compost, etc.). Mulch on 1/2 field. Planting rows are on-contour. Plants show average growth. Organic matter present in soil. No visible erosion. |
| √+ | Mulch covers > 1/2 field. Farmer uses green manures/bio fertilizers. Fertility plants growing. Soil structure is not compacted. Soil under mulch is cool. Vibrant plant growth. Various organic matter visible. No erosion. |
| \* | No bare soil (completely vegetated). Animals are integrated. Compost is used. Soil structure is high in organic matter and soil is minimally disturbed after preparation. Perennial plants contribute to soil fertility. |
| 4. BIODIVERSITY. Site has a diversity of plant, tree and animal species that work together to support overall health and production. | |
| √- | Site is monocropped. Most or all trees were removed for crop production and/or field was burned. |
| √ | Intercropping of 2+ crop species and 2+ support species. Farmer does not burn field. Trees/shrubs are integrated. Vegetation exists on water harvesting structures. No chemical fertilizers, pesticides, etc. 1+ crop produces income. |
| √+ | Intercropping of 3+ crop species and 3+ support species. Mix of annual and perennial crops, trap crops, multipurpose plants. Farmer uses biological pesticides/fertilizers. Crop mixture accounts for dry season, lean food and economic cycles. |
| \* | Intercropping 10+ plant species. Fertility plants are integrated. Approx. 30 trees/ha. Farmer uses biopesticides/biofertilizers they produce or source locally. Vertical plant diversity from root crops to overstory trees. Farmer has strategies to grow seed, seedlings, etc. Integrated animal production (bees, poultry, etc.). |

|  |  |
| --- | --- |
| 5. PROTECTION. Site’s soil and plants are protected from any negative effects of people, animals, insects, disease and other external influences. | |
| √- | Ground is bare (no mulch or shade). Damage is visible from water flows and wind. There are no protective structures to guard against wind, animals or pests/disease. |
| √ | 1+ water harvesting structure is present up-slope from crops and within fields. Soils have mulch and trees that protect from sun, wind and loss of moisture. Fence or community strategy limits animal access. |
| √+ | Multiple strategies to protect from water damage and nutrient loss and to protect soil resources (mulch, shade, groundcovers, etc.). > 30 trees/ha to protect against sun exposure/ winds. Site has a living fence. |
| \* | Complete mulch coverage. Trellises protect water harvesting structures from evaporation. Site has a living, productive fence including various plants. Intercropping and push-pull system for pest management. |