

# IRHA Technical Glossary

## Key Terms in Rainwater Harvesting and Ecosystem Restoration



# Glossary of Key Terms and Abbreviations

**3D Participatory Mapping (3DPM):** A community-based process that combines local knowledge with physical 3D models to map landscapes, allowing participants to visualize terrain, identify resources, and plan land use or development collaboratively.

**Agroecology:** A sustainable farming approach that applies ecological principles to agriculture, integrating biodiversity, local knowledge, and social equity to strengthen food systems and environmental resilience.

**Agroforestry:** A land use system that integrates trees and shrubs into crops and livestock farming to enhance productivity, biodiversity, and sustainability while restoring degraded ecosystems.

**Bio-engineering:** The use of living plants and natural materials to stabilize soils, control erosion, and restore degraded land, combining ecological processes with engineering techniques.

**Bocage:** A traditional landscape system characterized by small fields enclosed by hedgerows, trees, or earth banks, which protects soil, enhances biodiversity, and supports water retention in rural areas.

**Cordons:** Lines of vegetation, stones, or other materials placed along the contour of a slope to slow down water runoff, trap sediments, and reduce soil erosion in arid and semi-arid landscapes.

**Deep-bed:** A soil preparation technique that involves loosening and aerating the soil at greater depth to improve water infiltration, root development, and long-term soil fertility—especially in degraded or compacted lands.

**Earth vegetative bunds:** Small embankments made of soil, reinforced with vegetation (such as grasses or shrubs), built along the contour of a slope to slow water runoff, reduce erosion, and improve water infiltration.

**Ecosystem Restoration:** The process of assisting the recovery of degraded, damaged, or destroyed ecosystems to restore their health, biodiversity, and ability to provide essential services for people and nature.

**First-Flush Filters:** Devices used in rainwater harvesting systems to divert and discard the initial runoff from rooftops or catchment areas, which often contains dirt, debris, and contaminants, before clean water is stored.

**Edge rows:** Lines of trees or shrubs planted along the borders of fields or terraces to reduce erosion, improve water retention, and create microclimates that support soil fertility and biodiversity.

**Gabions:** Wire mesh cages filled with stones, used to stabilize slopes, control erosion, and slow down water flow in land restoration and water management projects.

**Half Moons:** Crescent-shaped pits dug into the soil to capture rainwater and organic matter, slow runoff, and support the growth of trees or crops in arid and degraded lands.

**Household Water Treatment (HWT):** Techniques used at the household level to make water safe for drinking, including boiling, filtration, chlorination, solar disinfection, and safe storage—especially in decentralized or off-grid settings.

**Infiltration Ponds:** Shallow basins designed to collect and store rainwater, allowing it to gradually seep into the ground and recharge groundwater while reducing surface runoff and erosion.

**Integrated Water Resources Management (IWRM):** A process that promotes the coordinated development and management of water, land, and related resources to maximize social and economic benefits without compromising ecosystems.

**Rainwater Harvesting (RWH):** The collection, storage, and use of rainwater from surfaces like rooftops or land to improve water availability for agriculture, households, and ecosystem restoration.

**Retention Ponds:** Engineered basins that temporarily hold rainwater or surface runoff to prevent flooding, trap sediments, and control water flow. Unlike infiltration ponds, the water remains on the surface and is either released slowly or used for irrigation.

**Nature-based Solutions (NbS):** Actions that protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges—such as climate change, water security, or disaster risk—while benefiting biodiversity and human well-being.

**Stone vegetative bunds:** Structures made by arranging stones along contour lines and integrating vegetation to stabilize slopes, reduce soil erosion, and enhance moisture retention in degraded or sloping land.

**Terracing:** The construction of stepped, level surfaces on sloped land to reduce erosion, slow water runoff, and improve soil retention for agriculture and land restoration.

**Water, Sanitation and Hygiene (WASH):** A public health framework that ensures access to safe water, adequate sanitation, and hygiene education to prevent disease and support human dignity, especially in vulnerable communities.

**Watershed Management:** A coordinated approach to managing land, water, and vegetation within a watershed to conserve resources, reduce erosion, and improve water quality and availability for people and ecosystems.

**Water-Soil-Tree triptych:** An integrated approach that links rainwater management, soil conservation, and tree planting to restore ecosystems, improve water retention, and support sustainable land use. This triptych forms the core of nature-based solutions in dry and degraded areas.

**Boulis, Calabash Cistern, Pokhari, Pumpkin Cistern, Zaï:** Traditional rainwater harvesting techniques used in different regions—such as Senegal, Nepal, and the Sahel—to collect and store water for agriculture. While these terms are not used directly in this report, they reflect locally rooted practices adapted to specific soils, climates, and cultural contexts, and are an essential part of community-based water management knowledge.

