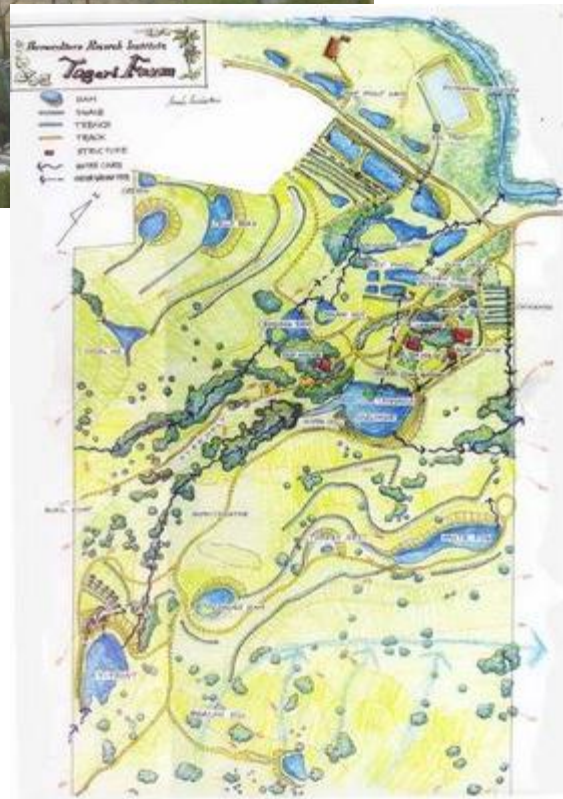


Water Harvesting Technique Comparisons



1. Swales:

Widely spaced uncompacted ditches on contour that are placed to intercept overland and infiltrate runoff for groundwater recharge. These are often connected to dams/ponds as catchment and overflow features.

Best applications are in forestry systems in the humid tropics, summer dominant rainfall regions or the arid drylands where above ground storage of water in dams/ponds is less effective due to extreme evaporation levels.

Costs are between **\$200-\$1500/km** or **\$0.05-\$0.15m²** of swale (4-10m width respectively from top to toe)

Water Harvesting Technique Comparisons

2. Keyline Design Pattern Sub Soiling/Mounding:



Non-inversion cultivation using rigid-tyred aerating sub soil ploughs effected in a pattern that reduces runoff or moves surplus flows from foothill valleys to their adjacent ridges thereby increasing ridge hydration and optimising the conditions for pastoral growth over the broadest possible landscape.

Best applications in silvopastoral and forestry systems in seasonal rainfall regions where evaporation is less than 2m per annum and on slopes of less than 35%. This method can also be applied between swales to increase intra-swale infiltration and soil/groundwater storage.

Silvopastoral/Forestry plantings on cultivated raised mounds will also function using this pattern to increase the effective rainfall by intercepting runoff and directing its flow towards ridges.

Costs are about **\$50/ha or \$0.005/m²** for plowing to about **\$100/ha or \$0.01/m²** for mounded rows @ 4m spacings.

Water Harvesting Technique Comparisons



3. Keyline Design Irrigation System:

Integrated system of gravity-based water harvesting drains, irrigation drains & catchment dams, contour strip forests & farm planning.

This system is best applied in silvopastoral systems in seasonal rainfall regions where evaporation is less than 2m per annum.

These systems can vary widely in cost according to the complexity and specifications of the layout but are usually in the region of **±\$2000-5000/ha.**

Water Harvesting Technique Comparisons



4. Alley Farming:

Integration of wide-spaced belts of Forestry & or Tree/Shrub Forage/Concentrated Fodder Species into cropping & pastoral systems in a broad range of extensive landscapes.

Costs are around **\$600/ha or \$0.06/m²** for 225 trees/ha (4m x 4m x 50m). Where combined with Keyline Plowing the cost increases to around **\$650/ha or \$0.065/m²**.



More Information

www.yeomansplow.com.au

www.keyline.com.au

www.soilandhealth.org.au

www.permaculture.org.au

www.holisticmanagement.org

www.permaculture.biz

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