Water Harvesting

Concept

Methods

Planning and Design

Implementation

Operation and Maintenance

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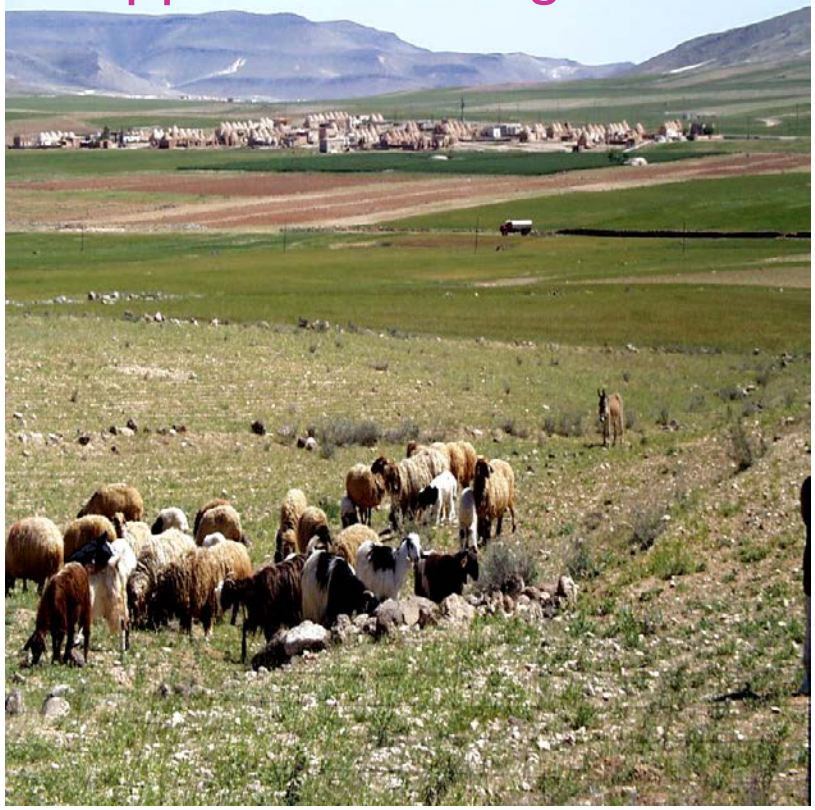
Major environments

Rainfed

Supplemental irrigation



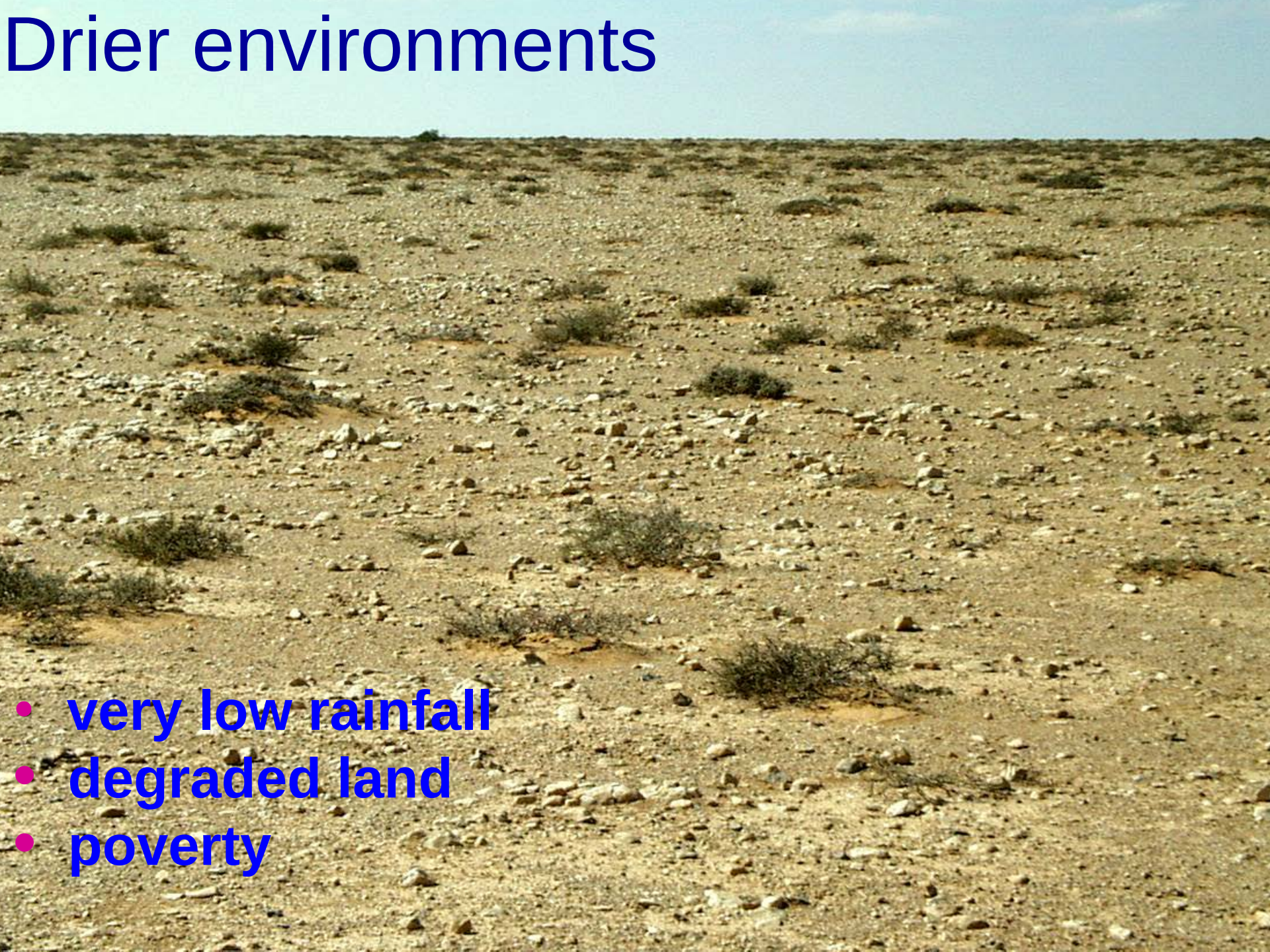
Badia

Water harvesting

Irrigated

Water use efficiency

Drier environments



- **very low rainfall**
- **degraded land**
- **poverty**

Rain lost in evaporation

Runoff lost in salt sinks

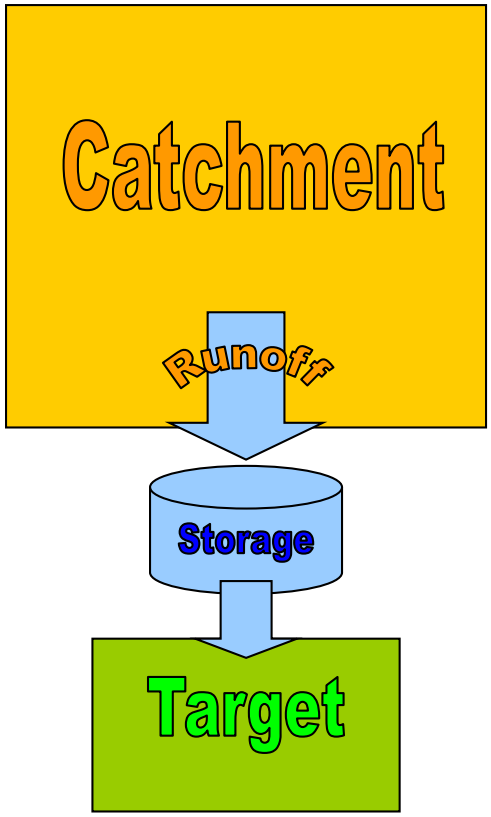
Water harvesting

Concentration of rainfall from larger area into smaller one through runoff for beneficial use

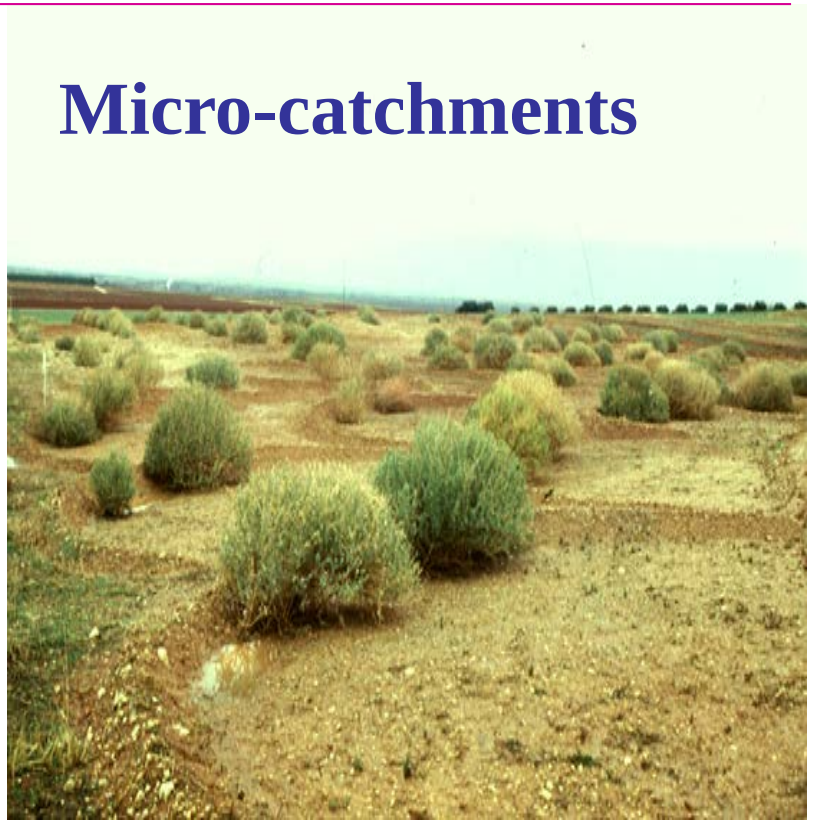
WH System Components

- **The catchment**
  - Micro
  - Macro
- **The target**
  - Agriculture
  - domestic
  - industrial
  - environment

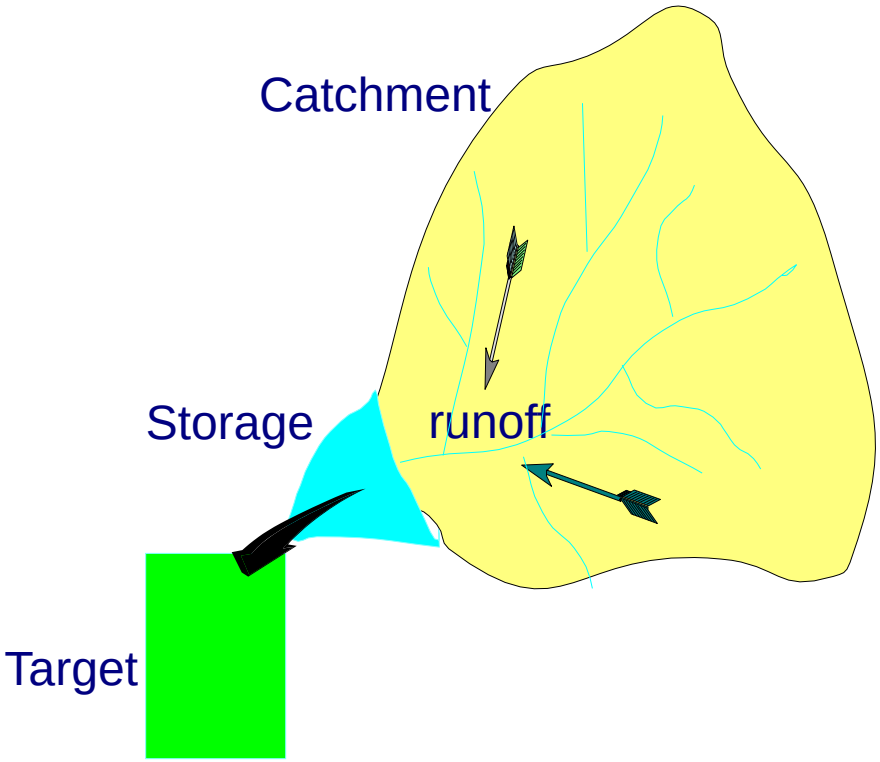
- **The storage facilities**
  - Surface
  - Soil
  - Ground
- **Runoff**
  - natural
  - induced



WH techniques



Macrocatchments



Farm Reservoirs

Small water harvesting reservoirs

Cisterns

Jessour

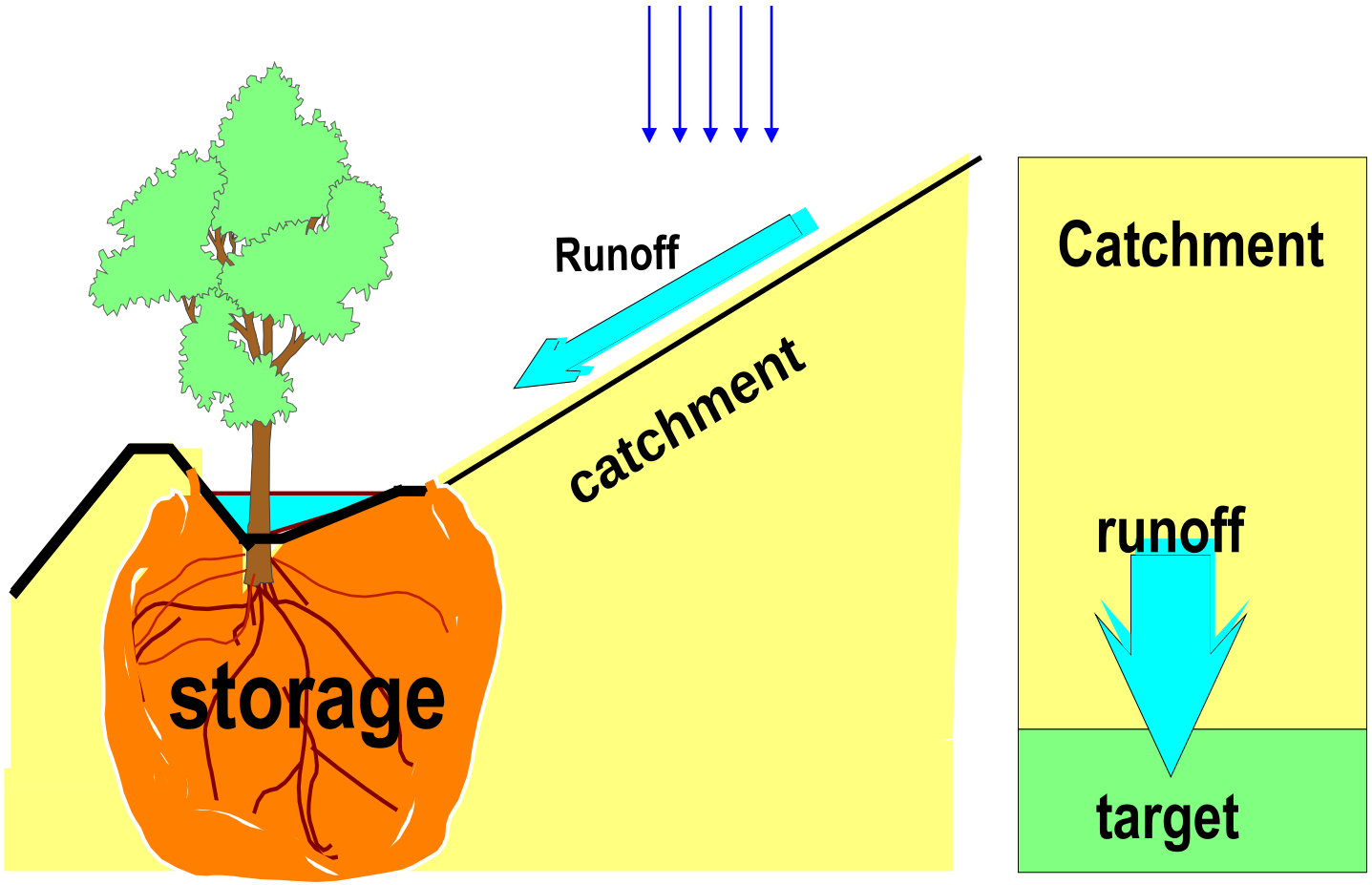
Jessour - Tunisia

Wadi-bed stone walls

Tabia

Water spreading

Microcatchments



Oweis 95

Contour ridges

Implementation


26.8.92

Contour ridges - mechanical

Mechanizing rainwater harvesting

- Manual construction is time consuming and costly. Labour cost aprox. 3000USD/ha
- Mechanization reduced cost, improved precision and ripping
- Laser guiding for contours reduced further the cost and increased precision.
- Total mechanized cost is aprox. 32 US$/ha

Small runoff basins (negarim)

Small runoff basins (negarim)

Small runoff basins (nigarem)


Khushkaba

Runoff strips

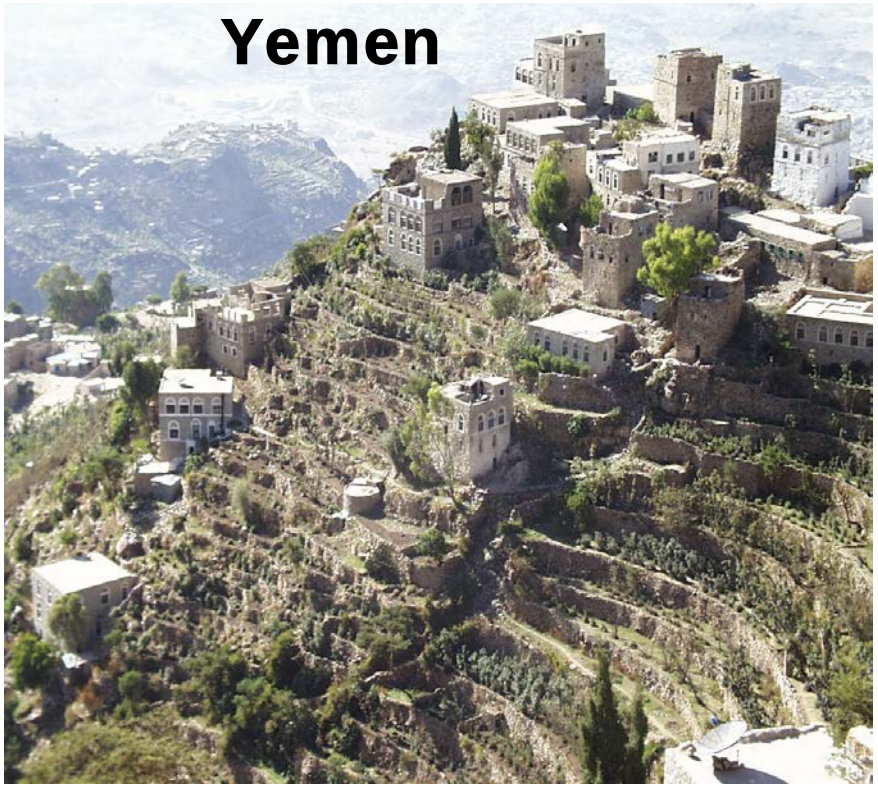
Runoff strips for field crops

Semicircular bunds

Rooftop water harvesting

Roaded catchments

Contour bench terraces



Water harvesting from greenhouses

Runoff coefficient

Runoff / rainfall

Runoff coefficient plots

Rain simulator – runoff coefficient

Runoff inducement

Runoff inducement – plastic cover

Runoff inducement - compaction


Paraffin wax