

Compartment Bunding for *In-situ* Moisture Conservation

AMEF Foundation is born out of a concern for ecological agriculture. Embedded in this concern are the livelihood improvements and ecological balances. Choosing to work with resource poor families in fragile ecosystems of dry farming, AMEF seeks to enable them to generate and adopt alternative farming practices, that are acceptable and affordable.

Sustainable agriculture (SA) in dry lands requires adoption of a bunch of practices pertaining to rainwater conservation, soil fertility improvement, diversified crop production systems, along with rebuilding of environmental support.

*Over the years, AMEF has found certain alternative farming practices highly accepted by farmers. Such practices are considered here as Good Agriculture Practices eligible to be widely disseminated. **This good agricultural practice pertains to in-situ conservation of soil moisture through compartment bunding.***

AMEF firmly believes that while farmers alone are the practitioners of these options, as end users, there are several agencies working with them as enablers. This brief seeks to help the enablers to promote SA in their specific context.

Rainfall is the main source of water for dry land crops. The cropping pattern in Deccan Plateau of Indian region is usually determined by the prevailing rainfall behavior. The frequent aberrations in weather situations like low seasonal rainfall and its uneven distribution cause crop failures and hardships to the dry land farmers.

Some traditional practices like fall ploughing, application of organic manure, intercultivation or dead furrows to conserve the available moisture are not regularly followed, today.

These situations call for management practices to cope with the effects of weather uncertainties. Invariably, these practices include sowing of drought tolerant crops and varieties, combined with a choice of technologies for moisture conservation (MYRADA and IIRR, 1997). Under low rainfall situations, the contingency measure like compartment bunding helps in conserving the meager soil moisture to take successful crop.

Sorghum, also known as Jowar, being a predominant crop in Northern Karnataka, is the major source of food and fodder in that region. It is mainly grown in rabi (winter), the sowing of which falls in the month of October. If good showers are received in the month of July, the usual practice is to grow green gram as a catch crop, for the nutritional requirement of the family. After harvesting green gram pods, the crop stalks and residues are incorporated into the soil, as green manure to improve the soil properties.

Many a times, farmers face a long dry spell after green gram is sown resulting in poor crop growth and yield. In such situations, the crop is incorporated into the soil without taking any harvest. Then, farmers prepare compartment bunding for the rabi sorghum crop.

These compartment bunds are of the size of 4.5m x 4.5m in lands with 2% slope and 3m x 3m where the slope is up to 3%. Second fortnight of August is the right time to take up compartment bunding.

Farmers make compartment bunds using bund former, iron plough and harrowing implement with removable blade. They form the square shaped bunds of 0.50 ft height by criss-crossing the field with the implement (see the photograph). Bunds are flattened before taking up sowing.

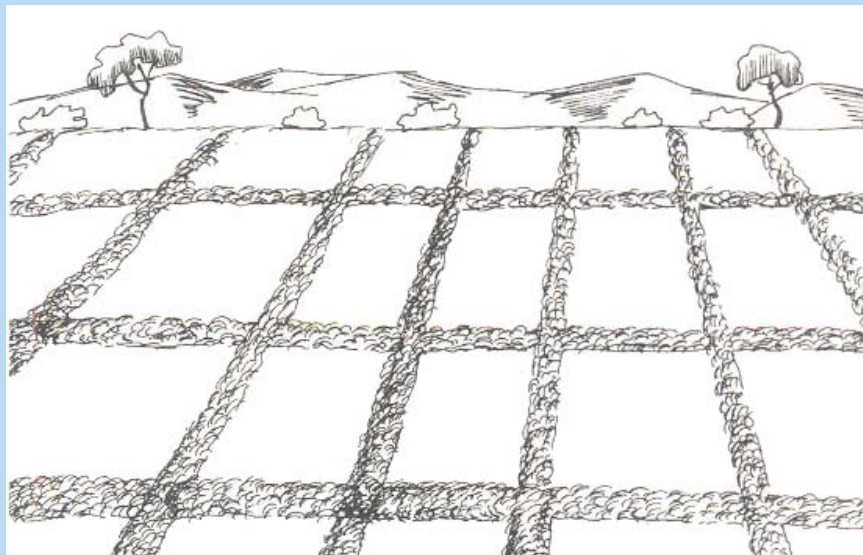
These localized bunds help in arresting run-off and conserving the soil moisture after showers. Generally, farmers have experienced 10-25% increase in yield in crops under compartment bunding. This is most effective in areas receiving very low rainfall (250 mm to 550 mm). Under the poor conditions of weather, it is an important practice to take a successful rabi crop in the dry lands.

Farmers report that blade harrow or iron plough is cost effective compared to bund former. Blade harrow is a multi-purpose implement finding more acceptance among the farmers.

AME Foundation through its Farmer Field Schools (FFS) popularizes compartment bunding as an alternative farm practice for in-situ conservation of moisture under dry land conditions.

References

1. Resource management in Rain fed Dry lands. Information Kit Produced by MYRADA and International Institute for Rural Reconstruction (IIRR), Philippines (1997).



Compartment Bunding



Compartment bunding using bund former

As many as 1045 farmers, in the operational areas of AME Foundation in Andhra Pradesh, Karnataka and Tamil Nadu, have practiced compartment bunding in black soils. They have found it easy to adopt and useful in successfully harvesting rainwater, *in situ*.