

## Self Help Schemes - Machakos Miracle

Machakos is in Kenya, in Africa. The land in Machakos was getting worse and worse each year because cows and goats were eating all the plants. Humans were cutting down trees for firewood and building materials.

During the dry season the soil was being blown away by the wind and in the wet season the soil was being washed away.

During second world war soldiers from Machakos went to India and learnt better farming techniques

They have got rid of most of their cows and goats and moved to growing plants for food and money.

The farmers planted trees and protected the remaining trees at the top of the hill. Trees can create rainfall through transpiration. The trees roots suck up water from deep underground and pump it into the air.

They have planted little hedges at the ends of the fields to trap dirt so it doesn't blow away in the wind during the dry season or be washed away by rain during the wet season.

They have turned the slopes into like stairs so the rain doesn't wash away the soil, this also helps to trap rainfall, this is called terracing

They put manure to fertilize the soil and make their own compost, this helps to keep nutrients in the soil

They only cut down branches for fire wood and leave trees standing

They grow cash crops like coffee, so they had money for food in the winter

They have cows to plough the land across the slope and they can get milk to sell to the people of Nairobi.

1. Where is Machakos?
2. What is the problem in Machakos?
3. What happened in the dry season?
4. What happened in the wet season?
5. Where did the soldiers learn the better farming techniques?
6. What have the farmers done to improve their land?
7. What is terracing?

8. What does transpiration mean?
9. Why did they plant the small hedges?
10. What is a cash crop?
11. How do they put nutrients back into the soil?
12. Why do they only chop a branch off the trees when they need firewood?

#### Self Help Schemes - **Magic stones**

- **This project, begun by Oxfam in 1979, uses appropriate technology, local knowledge and local raw materials. It involves all villagers collecting some of the many stones lying around their village.**
- **The villagers will work together to build lines of stone taking turns to work on each other's fields.**
- **The stones are laid across the land to stop surface run-off following the all too rare heavy rainstorms. Water and soil are trapped.**
- **The water now has time to infiltrate instead of being lost immediately through surface run-off. The soil soon becomes deep enough for the planting of crops.**
- **Erosion is reduced and crop yields have increased by as much as 50%. The only equipment needed is a simple level, developed by Oxfam, to help keep the lines parallel to the contours.**

1. Why is this scheme called a self-help scheme?
2. What do they do to trap the water?
3. Why is this scheme low cost?
4. Why do the villagers need to work together?
5. How do the villagers benefit from this scheme?
6. Why is important to catch every raindrop in the savanna?