Recognize the problem
Low yields have been the major problem for farmers using unsustainable farming systems usually referred to as Conventional farming systems. Conventional farming is where farmers use tools that invade and turn soils to create a favourable field to plant crops. This involves using tools and equipment such as tractor or animal drawn ploughs or hand hoes which result into destruction to soil structures.

Background
Conventional farming technologies involves tillage systems such as ploughing, overall digging or ridge splitting. These farming systems have been used by farmers for many generations in the past. Most farmers were born and raised up knowing these farming systems as the best way of farming even with their low yielding results. These types of land preparation leave soils exposed to sunlight resulting in beneficial nutrients escaping, and in the long run soils become overworked and withered. In order to combat low yielding farming systems, conservation farming tillage systems such as basins are used to achieve higher yields. Basins capture moisture and provide more precision for nutrient application and planting.

Management
Minimum tillage land Preparation basins dug using hand hoes (Chaka hoe):

- **TOOLS NEEDED:** Chaka hoe, or strong hoe with narrow blade, Teren rope, 90cm row sticks, pegs, 30cm basin length measuring sticks
- Dig Basins, 90cms across row between centres of basins. 70cms between centres of basins in the row
- Dig basins 20cms deep to break pans. 30cms long (foot length) to accommodate different crop seeds.
- Make sure when digging soil is heaped at edge of basin as you will need it to back fill
- To dig basins first put pegs and tie a teren rope *(a teren rope has marked points where to dig a basin)*
- Dig basins while moving backwards so that you do not bury the already dug basin.
- Prepare land early starting in June and complete before onset of planting rains.
- In sandy soils, prepare land 2-3 weeks before planting to avoid basins backfilling
- Add recommended manure quantities as indicated in the nutrients’ factsheet

The recommendations in this factsheet are relevant to: Zambia

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