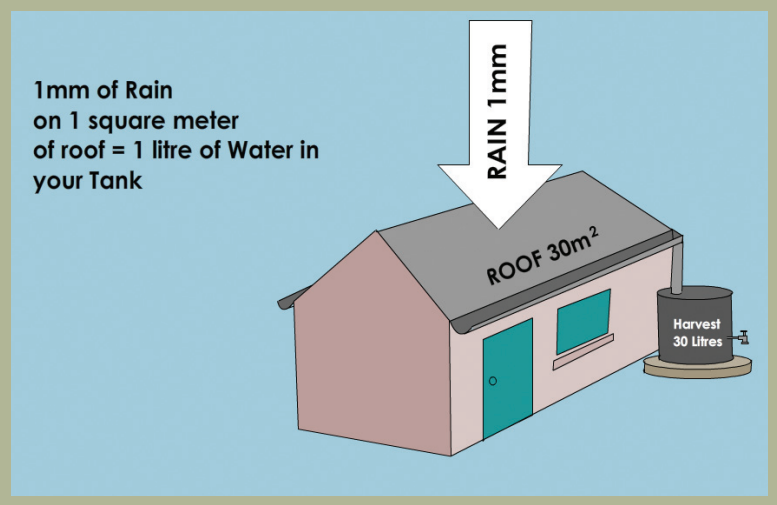


Harvesting water from your roof

Angela spends 3 hours each day collecting water. If she harvests water from her roof, she can spend more time working on the shamba. Imagine, for every meter square of roof you have on your house, you can get 1 litre of water for each 1 millimeter of rain.

In the Makueni district, about **500 millimeters** (19 inches) of rain falls each year. If Angela's roof is **7 meters** (21 feet) by **4 meters** (12 feet), she has a roof area of **28 square meters**. This means she can trap **14,000 litres** of rainwater every year if she has enough gutters.

All the rain does not fall at the same time, so she does not need such a big tank!



Light for free

Angela spent a lot of money buying kerosene for her lamp, and charging her phone in town. The lamp gives fumes that are bad for her eyes and lungs.

The Shamba Shape Up team gave her a d:Light s250 lamp, which charges in 6 to 8 hours and gives light for 100 hours on low light or 4 hours on bright light. The lamp also charges her phone. This means she does not have to spend money on kerosene or phone charging again!



Solar lights are brighter and cheaper to use than kerosene

For more information, SMS 'DLIGHT' to 30606

Produced by Mediae



Watch us on citizen television on
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Series 2: Episode 8

Angela and Joseph's farm - Makueni

This leaflet contains information on: planting trees, choosing good crops for your area, growing sorghum, joining a farmer group, harvesting water from your roof and your fields, solar lights and weather forecasting.



Planting trees as crops

The expert told Joseph to plant tree varieties that grow well in dry areas, make the soil better and give seeds or leaves that can be fed to the family and to livestock. The trees will also produce firewood in the future, and will hold the soil together so the rain does not wash it away.

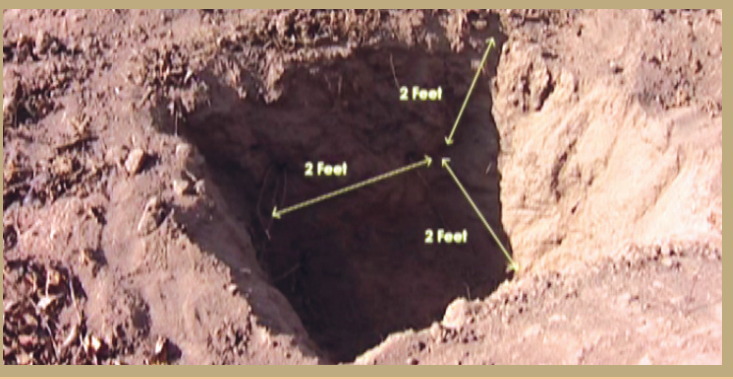
Some good tree varieties to grow in dry areas are: **Grivellia** for shade, firewood, livestock feed and soil fertility, **Moringa onifera** for vegetables for the family, medicine, soil fertility and food for livestock, **Melia** species for fire wood, timber for furniture and for drought resistance.

For firewood, the trees will be ready in 4 to 5 years. For timber, you need to wait for up to 8 years.



Planting trees correctly

Trees need to be planted properly so they can survive droughts. First, dig a hole 2 feet wide by 2 feet deep. Mix the soil you have dug out with manure, and put it back into the pit, leaving a 6 inch space between the soil and the top of the pit.



Planting trees in large holes like this will help them to grow well

Water the pit well so the tree will have enough water below its roots to grow. Dig a hole big enough to fit the tree seedling in the soil. Remove the wrapping from the seedling, and plant it in the hole.



Give the seedling a little water now, and after a few days. Do not give the seedling a lot of water, as this will mean its roots will not grow far and it will die in a drought.

Choosing the right crop for dry areas

Angela and Joseph live in a marginal area – that is an area that does not receive much rain. When it does rain, there is so much that the fields can get washed away.

They need to grow crops that can stand this weather pattern, like drought resistant crops and trees.

The expert told them about growing **sorghum** which does well in short rains, is resistant to drought and is ready to harvest in 3-4 months, unlike maize. You can feed sorghum to your family, sell the sorghum and feed the stalks to your animals.

If you buy the right type of sorghum, and plant it properly, you can get a very good crop with little rain.

Planting and growing Sorghum

Prepare the land by hoeing or ploughing trenches 2½ feet apart. Every 6 feet, dig a line across the trenches to stop the water running away. Make furrows on top of the trenches and add manure to the furrows.

Then make planting holes 2 inches deep and ¾ foot (20cm) apart. Add a capful (10g) of DAP to each hole and mix with the soil. Then add two seeds per hole, and carefully cover each hole.

You need 3 to 4 kilos of certified sorghum seed per acre.

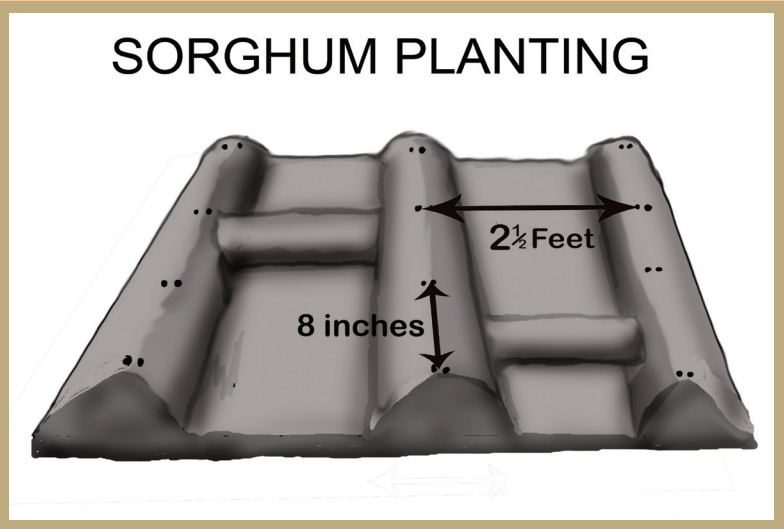
Plant the seed just before the rain starts. You can get this information from the local KARI centre or weather station.

The seed will grow in about 5 days, and the sorghum will be ready to harvest in 90 to 100 days. You should get 12 bags per acre if you grow **Gadam** sorghum, which you can sell at 17 to 25 Shillings per kilo.



Planting sorghum correctly means you will have better harvest

For more information, SMS ‘SORGHUM’ to 30606



Get better prices by joining a group

Angela and Joseph were told about Smart Logistics groups. Smart Logistics gets farmers in one area together to form a group.

The group then gets a contract to grow sorghum for Smart Logistics. Smart Logistics then supplies the group with enough seed and fertiliser for everyone in the group.

When the crop is harvested, they will collect the group’s harvest, weigh it and check it. Then you will get a receipt for the amount of sorghum you sell them, and you will be paid within 3 days.

Smart Logistics will buy all the Gadam sorghum you can grow if you join one of their groups.

They will also get you insurance in case the rains fail and you get no crop.

For more information, SMS ‘GROUPS’ to 30606

Weather forecasting

Angela and her neighbour Agnes are part of a group that works with a research station to check the weather and helps the farmers to plan.

The station at KARI/ICRISAT in Makueni checks the wind speed and direction, the amount of sunshine, the amount of rainfall and the amount of water in the air.

They use this to tell the farmers how likely it is to rain or not to rain so they can plan their farming and be more productive.

The centre also teaches the farmers about how to prepare their land better so the rain does not wash the fields away, like terracing and making trenches.



Harvesting water on your fields

Where there is little rain, you need to make sure all the rain that falls gets to your plants. Joseph had dug trenches on his shamba to direct the water to his fruit trees, which are quite strong but still need as much water as they can get.

The trenches are 4 feet wide and 2 feet deep so they can collect a lot of water, and also the soil that runs off with the water. This means you make the most of your water and also keep the precious soil on your shamba.



Trenches direct the water and nutrients to your trees whenever it rains