

Permaculture Network In Malawi

Issue # 41

Newsletter June-July, 2002

Did you know?

- On a hot summer day, a large oak tree gives off approximately fifty barrels of water in the form of a fine vapor.
- Only about 1.6 percent of the water on Earth is fresh. Most of it is locked – unusable for living things – in snow and the ice at the poles and on the peaks of the highest mountains.
- A drop of water may travel thousands of miles between the time it evaporates into the atmosphere and the time it falls to the Earth again as rain, sleet, or snow.
- A large cumulonimbus cloud can hold enough water for 500,000 baths. Most of the water droplets in a cloud re-evaporate and never reach the ground; only one-fifth actually falls as rain.

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Dry Season Ideas

In dryland areas it is better to store the water underground. In hot climates, water quickly evaporates from dams, so it is best to make water fall into trenches and pits where it can infiltrate into the nearby soil and supply nourishment to the root systems of plants.

Terraces can also be used in drier areas. Planting on slopes is essential for soil stability. Vetiver grass, *Vetiveria zizanioides*, is a remarkable plant that has a very long root system and can survive in both drought and flood. Hedges of Vetiver grass are used in arid areas for erosion control and can trap and accumulate large amounts of topsoil, thus creating mini-terraces at the same time. What's more, it good fodder for stock and easy to propagate. Lemon grass, *Cymbopogon citratus*, is also good for erosion control.

Water use in the garden should be monitored and controlled. Your aim is to obtain the optimum benefit from the water that is used and to minimize evaporation and seepage away from plant root zones. Bury unglazed clay pots in the vegetable garden, fill with water and leave it to slowly permeate through the walls into the surrounding soil.

In dry areas, the daytime soil temperatures can be very high. The surface could be over 40° C. These high temperatures will cause stress to plants and high transpiration rates resulting in wilting and possible death. The use of shade trees, including some that are nitrogen-fixing and general soil builders,



Good planning can make the dry season much

over a food crop is common in some countries.

Mulches should be used in those areas too, as these will help to keep the soil cool and retain moisture. Even stone mulches can be used when this resource is available.

As water is very scarce in arid climates many strategies must be tried, even wire fences which allow dew to condense and drip onto the soil. Dew is a limited water collection strategy, but in these areas any water is helpful for plant survival.

~Taken from *The basics of Permaculture Design* by Ross Mars

Local Seed Collection... 'Tis the Season



Once you decide to incorporate local seeds into your Permaculture Nutrition systems, it becomes a fun task of locating and collecting them. With a bit of practice, you will soon become a seed “connoisseur” and will be seen carrying bags with you everywhere you go just in case you come across a new seed. Seed collection also provides a great opportunity to get out into the community, talk with people, visit your friends and neighbors, and share with others what you have learned about Permaculture and nutrition. You can even set up a seed exchange program in your community if you get enough people interested in utilizing what is available right around them and free of charge. This idea has worked well in many countries for locating and disbursing seeds that may be difficult to find. It has also helped to locate indigenous seeds that have been reduced to limited areas due to the expanding pressure on the land from agriculture and residential development. Many of these seeds are becoming very close to disappearing altogether because of these same reasons. Collecting and using a wide variety of local seeds is one way to help prevent their loss.

If you have found a plant that has gone to seed and you would like to take some home with you to use, there are a few things that you will want to keep in mind:

Many plants go to seed at this time of the year, so think ahead and start collecting for the next planting season!

Selection

Try to choose the largest and healthiest mature seeds from the largest and healthiest plants that you can find. This will help to ensure that you are getting the strongest characteristics of that plant. It will also help to keep the plants that you are growing free of disease or insect attacks. You will usually be able to tell if a seed is mature when it begins to fall from the plant. For fruit and berry crops, wait until the fruit is matured to ensure that the seeds have also developed completely.



Area

Choose seeds from plants that are appropriate to your area. If you live in a low, hot, and dry area you will *not* want to take seeds from plants that only grow well in high, cool, and moist areas. You will also want to take note of your available water supplies and choose seeds from plants that are compatible. If you are planting in a low-lying area with lots of water, then you will want plants that can tolerate high moisture conditions. If your area is dry, you may want to try to find drought resistant types of plants.

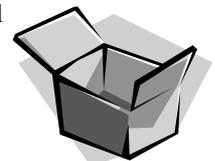


Preparation

Before you store your seeds for any length of time, you will want to be sure that they are properly prepared for storage. Most dry seeds that simply fall from their parent plant can be stored without any special treatment. The ones that you want to do something with are those that come out wet or from the inside of a fruit. If the seed has a moist outer coating, it can often be removed by soaking the seeds in water for a day or two and then rubbing them until the coating comes off. Once this coating is removed, leave the seeds in an area where they can dry quickly and thoroughly. Once dry, they are ready for storage. If a seed comes from the inside of a fruit, you will want to make sure that all pieces of the fruit are removed from the seed and the seed is dry before storing. The reason for this is to avoid developing mold on the seed that can damage it or reduce its ability to germinate. Dry seeds will also lower the chances of attracting insects that can bore into the seeds and damage them. Seed preparation is an easy but essential part of storing your seeds for future use. With a little practice you will find that it comes naturally. You may even find that with some seeds it simply easier to sow them directly into the ground and not worry about storage.

Storage

Storage is another step that you can play around with to see what works for you and what doesn't. The period of time from when a seed leaves its parent plant to when it can no longer reproduce is called its “viability” period. This length of time varies for all plants. Some seeds have been able to be germinated after a period of over a thousand years, others may only be viable for a week or two. It would be impossible to list all of the viability rates for all the seeds in the world, so this is an area where you will have to observe, learn, and share with others. Older people in the community are often a wealth of information in areas such as these. Don't be afraid to ask questions, its one of the best ways to learn.



In general, however, there are a few simple rules that you can follow to make sure that you are maximizing the seed's period of viability. The first thing is to make sure that your seeds are dry before putting them into storage. Excess moisture will encourage molding, spoilage, and even rotting of the seeds. This type of damage will lower the germination rates of seeds and even ruin them altogether. Once you have dry seeds, you will want to store them in a closed container that will keep them dry and away from harmful insects or animals. Paper bags, envelopes, or cardboard

boxes may be used effectively as long as they are placed in an area where they will remain dry and protected. Mixing the seeds with ash or charcoal can help to repel damaging insects. Sealed glass jars, plastic bottles, and plastic bags will work better to protect from insects and animals, but if there was any moisture present when the container was



sealed it will not be able to escape as well as a paper container will allow. Thirdly, you will not only want to store your seeds in a dry area, but you will also want to find an area that will stay cool. The coolness of the air will help to keep the seeds viable for longer periods of time.

Compost

Finally, if you are not the type to spend much time on preparation and storage of your seeds, take advantage of your compost pile, it makes a great seed bed. Seeds that are mixed into your compost pile will often germinate within two to three weeks if they are kept moist. You can then easily take the germinated plant and move it to wherever you would like. Once you have moved as many plants as you want, the pile may be turned. A finished compost pile (6-9 weeks in warm, moist weather) will usually have heated up in the middle sufficiently enough to kill seeds from grass or other “good plants in the wrong place” (weeds), so you won’t have to worry about them taking over when you use the compost for growing things.

Always Something to Eat with Permaculture!

It is very important that our bodies are given a variety of different types of foods to eat so that we can be healthy and productive. Eating maize every day is very unhealthy for our bodies and for our environment. By protecting and planting a variety of different foods around our communities there is always something to eat. In this issue we highlight three foods that are currently in season, the information on these foods has been adapted from Useful Plants of Malawi by Jessie Williamson, the 1975 reprint.

Chichewa: Jamu
Scientific: *Physalis peruviana*
English: Cape Gooseberry
Edible Parts: Fruits
Food Group: Fruits



Description: Jamu is originally from South America. The fruit is found inside the paper shell and is sweetest when the fruit is yellow, although it still retains a tangy flavour.

Uses: Jamu can be eaten fresh or made into jams, pies, or sweet breads, or dried and stored like raisins.

Nutrition: The tangy taste of Jamu is a sign there is a lot of vitamin C, which is important for boosting our immune systems to prevent us from diseases. Fruits also give us carbohydrate.

Chichewa: Coco
Scientific: *Coleus esculentus*
English: Coco Yam
Edible Parts: Tubers & Leaves
Food Group: Staples, Vegetables

Description:

This picture shows the coco plant. The yams are found underground with as many as 12 tubers on one plant depending upon the environment & age of the plant.



Coco likes wet areas—perfect for the end of a borehole or bafa. It also tolerates a lot of shade. It takes about 6 months for the tubers to mature.

Uses: Care needs to be taken with the leaves as older ones can cause mouth irritation. Younger leaves and stems are best. The tubers are peeled and cooked like any other tuber, and can be dried and pounded into flour.

Nutrition: The leaves contain B vitamins, minerals such as iron & calcium, and some protein. The tubers are mostly carbohydrate.

Chichewa: Kakumpanda
Scientific: *Phaseolus lunatus*
English: Local ‘Lima’ Bean
Edible Parts: Seed & Leaves
Food Group: Legumes & Nuts, Vegetables



Description: Kakumpanda is a heavy climbing bean and needs to be planted near a strong supporter. It bears mature seed from about June – August, and each plant yields a hundred or more pods with 4-5 flat seeds in each pod.

Uses: Leaves are eaten cooked. The seeds are eaten cooked either young in the pod or the mature seeds as beans.

Nutrition: Leaves contain vitamins, minerals & some protein. The mature seeds contain protein & carbohydrate, young seeds probably have less protein.

Cooperation by Leo Kuwani

In any organization, for things to run in a good way, cooperation is needed. The same too with the government: the head of state depends on its Ministers, the Ministers depend on the Members of Parliament, the Parliamentarians depend on Ward Councilors, the Councilors depend on the Traditional Authorities, the Traditional Authorities depend on the Group Village Headmen, the Group Headmen depend on Village Headmen and they too depend on the advisors, (nduna). All this is a chain which shows us that we depend on one another.

Plants and animals also depend on one another. People need to observe, learn, and share for everything is important in one way or another. Permaculture is a bridge of the state, all the government ministries, and departments which deal with the

earth and people. Permaculture needs all its daughters and sons to cooperate with her. A good mother does not choose its daughters and sons. She doesn't say this daughter or son is not mine when one of them does not do well. What the mother does is to counsel with one of them (each other) to solve the problem and find the solution.

This is true with Permaculture. It has to work together with all the ministries and departments. Permaculture, like a mother, works with its daughters and sons like the Ministry of Agriculture, Natural resources and Forestry, Works and Supplies, Housing and Design, Water, Education, Health, Home Affairs,

Defense, all the ministries and the like.

Permaculture cares for the soils, plants, water, energy, animals, our homes for holistic sustainable living, and fair shares for all. We therefore ought to cooperate with nature (Permaculture) for a better future in sharing ideas and its fruits for a better holistic and sustainable living in the global village by caring for the earth, people, harvesting water, planting in guilds, reducing land degradation and setting limits to population and consumption for equal fair shares for all. Help nature to help you. Think. Think and act wisely.



Permaculture needs all its sons and daughters to cooperate with her.

What's Happening? Write in!

This Permaculture Network newsletter belongs to you, the members! Please let us know what you are doing to promote Permaculture practices in your communities. If you have tried something that has worked well let us know so that we can share it with others. If you have tried something that *didn't* work well, share that with us too so that others can learn from your mistakes.

One of the key principles in Permaculture is to observe, learn, and share. If we observe what nature is doing around us, learn

**Observe
Learn
Share!**

how we can use this knowledge to benefit ourselves in a sustainable way, then we need to share this knowledge with others. People say that "Knowledge is Power," but that knowledge can only be a powerful tool when it is shared. If we keep it to ourselves, it is not in keeping with the whole idea of Permaculture.

So, if you have knowledge to share (and everybody does!), send your submissions to:

**Stacia & Kristof Nordin,
PO Box 208, Lilongwe**

Did you know?

- There is so much moisture in the air that if it were all to condense and fall, there would be up to an additional three inches of water added to the earth's surface.
- There is about one quarter-pound of salt in every gallon of seawater.
- In one day, a full-grown oak tree expels 7 tons of water through its leaves.
- Moist air holds heat better than dry, which is why nights in the desert are cool while nights in the humid tropics are torrid.
- More than 71 million gallons of water pass over Victoria Falls in Africa every minute.
- The most drought-resistant tree is the baobab tree. It stores 35,900 gallons of water in its trunk for later use.
- On a hot afternoon, the atmosphere draws up 5,500 million gallons of water an hour from the Gulf of Mexico.

Members: Putting Permaculture into Practice

How much we waste in our society today! The rain falls on the highlands as well as on the lake shore but we let it run away to cause erosion instead of holding it in ponds, reservoirs and dams on the highlands. There water grows plants every month of the year, as **Dr. Glyvyns Chinkhuntha** and **McJustice Betha** show us. It can be piped over a short drop to power a maize mill, as **Mr. K. Maliba** does, or to provide hydro-electricity as **Hastings Mkandawire** and his friends do. That water is never wasted, it still reaches the lowlands later in the

year to extend the growing season there and then the lake. If Malawi were a flat country, we could not think of this so let us use the height of our hills and the rainfall we enjoy to provide irrigation and power in every place possible even on the smallest scale in the village.

How many days each year do we have no sunshine? Even in winter the sun shines for long enough to heat all the water we need for a household, in the village or in town. Solar water heaters look expensive because of their initial cost but heat water for free for ever. Solar cook-

ers are becoming more available as improvements are made. Once built, they cost no money to run, nor time spent in gathering firewood – just think how that saves our trees.



Using water and sunshine to their highest capacity will go a long way towards reducing national poverty and rehabilitating our environment –

JUST TRY IT AND SEE!

Food Wastage by M.B. Matengula

I am observing with great shock and surprise that already people are wasting a lot of food to the extent of letting it rot and over-dry.

Yet we still have fresh memories of how badly Malawi has experienced a recent “food crisis”, which is still continuing in some parts of the country.



I am noting pumpkins, cowpeas, and soyabeans that are left unpicked in the fields and madeya (maize husks) being thrown away in rubbish pits to rot.

Yet these are the very nutritionally valuable foods.

Therefore, may I ask team leaders to quickly develop a mechanism to source

little money and begin to buy these wasted foods and carefully store them. Hence distributed them to the needy ones during the periods of “food scarcity” around January to March 2003.

~Mr. Matengula is the Chairman of a non-profit community organization called “RECAPO” and can be reached at PO Box 40394, Kanengo, LL

New Members Please add these new members to your Permaculture Network list.

Reach out and welcome the people closest to you or with your interests!

Name	Address	District	Phone	Profession	Interests
Banda, Isaac	Molima C.F. Home, PO Box 56	Dedza	223-305		Orphan Care
Matewere Wycliff D.	Box 112, Monkey Bay	Mangochi		Teacher	Permaculture
Zgambo, Mrs. E.	C/O Rev. MCD Kadawati, Box 13, Soche, BT4	Blantyre		Teacher	
Nyasulu, J.D.	Box 25	Phalombe	468-245/256	Asst. Coord.	Soil Rehab, Nutrition
Mbewe, AG Somanje	Box 146	Phalombe			
Arshia Khan	Uliwe Post Office	Karonga		Peace Corps Volunteer	Agroforestry, food for health, soil
Borgstein, Sophie	P/Bag 414, Chichiri, BT3	Blantyre			



Permaculture Network

PO Box 46, Monkey Bay

*“See the world through the eyes
of Permaculture”*

Interested in Joining the Permaculture Network?

As a member you receive bi-monthly newsletters with advice on nutrition, food plants, resources, ideas, and contacts of people all over Malawi who are also practicing the sustainable living of Permaculture.

For a subscription send your name, address, all contact details, profession & areas of interest along with a 300 mk yearly membership fee to:

June Walker, PO Box 46, Monkey Bay

Phone/Fax: +265 587-656

*Next Issue: Pollution
& What We Can Do*

**It's the dry season...
Conserve your water!**

**Nthawi ya Dzuwa...
Samalani Madzi!**

Resources & Upcoming Permaculture Workshops: Are you teaching Permaculture where you are?



Leiza Dupreez and Caine Msiska from Lukwe Permaculture Project, Livingstonia, are currently doing a number of 12-day Permaculture courses in Malawi. In May they completed courses in Mzuzu and Tukombo and for June/July they are planning to cover Kande, Nkhotakota and Malomo. Leiza is an experienced trainer in Permaculture. She completed a 6-month diploma course in the UK, then came to Malawi and implemented what she learned over the past 5 years in Livingstonia. Caine has worked with Leiza learning about the principles of Permaculture, and Leiza has learned from Caine about the environment and culture in Malawi – together they make a terrific team! We will try to get an update from them about their training courses and if you live near to one of the places they taught, you can meet up with that community and learn more for yourself!



Are you teaching where you are? Register! We are receiving more and more requests from people all over Malawi people who are interested in learning how to apply Permaculture to their communities, their own lives and their work. We would like to start a register of people teaching Permaculture in Malawi so that we can call on you when requests come in.

If you have been teaching Permaculture send the following to Nordin, PO Box 208, LL:

Your name, your address, any contact information, and a summary of your training experience (including: qualifications, certificates, past experience in the areas teaching or implementing Permaculture, and what you're currently doing.)

**Permaculture Trainers!
Send us your Details!**

