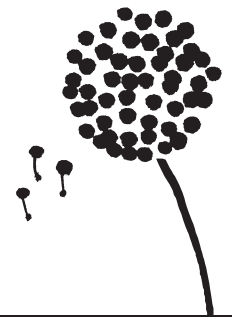


Footsteps

No.54 MARCH 2003

HOUSEHOLD AGRICULTURE



TEARFUND

Does agriculture matter?

FROM THE EDITOR

In recent years there has been a shift in development away from agriculture. Governments, donors and NGOs have focused their efforts more on areas like education, health and water. Why is this? In some countries it is because all the resources invested in agriculture for many years have made little impact. Agricultural production in many

countries remains poor, farmers' incomes are low and migration from rural to urban areas continues.

So does agriculture, whether in rural or urban areas, matter? We believe that the answer is definitely yes! Many of the world's poor depend on farming for most of their food and income. There

is a strong link between improving agricultural production and helping people out of extreme poverty. Agricultural production supports the development of other small industries. In rural areas there are often few other opportunities for activities that are not related to agriculture.

New thinking and policies are needed if agriculture is to develop. More focus is needed on sustainable farming methods and on traditional staple crops. Access to markets and to funding for micro-enterprise has often been shown to stimulate agricultural growth.

This issue looks at a number of practical ideas that may provide some help in different situations. We have tried to look at all the different stages of growing crops and introduce ideas that can be useful throughout the production cycle. In urban areas there may be little or no land available for agriculture. However, people can still grow crops by roadsides, riverbanks, outside their homes or on roofs and window ledges.

We start with ideas for priming seed, making the most of limited land and producing compost to enrich poor soils. We then move to ideas for using waste-water and storing the harvest. The centre pages have recipes for protecting crops against pests and diseases. Sometimes it can really help to work as a small group, so we look at how different groups operate. We include tips for livestock farmers raising animals on poor quality feeds. When expert help and advice is needed, it can be very difficult to find, so we share information about some organisations willing to share their skills and knowledge.

Future issues will be looking at issues requested in last year's reader survey – families under pressure, coping with disaster, and finance and budgeting.

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Photo: Jim Loring, Tearfund

Isabel Carter

Footsteps

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Footsteps is a quarterly paper, linking health and development workers worldwide. Tearfund, publisher of *Footsteps*, hopes that it will provide the stimulus of new ideas and enthusiasm. It is a way of encouraging Christians of all nations as they work together towards creating wholeness in our communities.

Footsteps is free of charge to individuals working to promote health and development. It is available in English, French, Portuguese and Spanish. Donations are welcomed.

Readers are invited to contribute views, articles, letters and photos.

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Priming seed

Crops are like children. If they are given a good start in life they usually grow tall, strong and healthy. But if crops grow slowly after germination they often become stunted, are more likely to be damaged by pests and diseases and will yield less.

When seeds are sown, they have to absorb water from the soil before they germinate. This can take a long time. If this time is reduced by soaking the seeds before they are sown, germination happens more quickly, resulting in a more healthy crop. The idea of soaking seeds before sowing is not new. However, it is rarely practised on a regular basis because farmers are unsure of how long seeds should be soaked, leading to mixed success.

Researchers from the Centre for Arid Zone Studies looked at on-farm seed soaking in many countries. They calculated the length of time seeds could be soaked without damage for a wide range of crops. Once the safe limit for each crop had been identified, simple trials were carried out. The performance of the soaked seeds was compared with seeds that had not been soaked.

The results were remarkable. Farmers reported that crops from soaked seeds emerged faster and grew better. In many cases, crops matured earlier and gave higher yields. They also flowered earlier

and in some cases less disease was reported. Sometimes the soaking gave no benefit, but it was never damaging. Since soaking is very low-cost and has many advantages, the practice can be seen as very helpful for farmers. Seed soaking has become very popular with the farmers who carried out the trials, along with their friends and neighbours, because it is simple, cheap and extremely effective.

Seed is usually soaked overnight and then sown the next day. Apart from swelling slightly and weighing more, soaked seed can be planted in the same way as seed that has not been soaked. If soaked seed is kept dry it can even be kept for several days before sowing. Using the recommended times in the table on page 3, a soaked seed will only germinate if it takes up additional moisture from the soil after sowing.

Farmers were encouraged to experiment with soaked and dry seeds. They visited each other's fields to compare the performance of seed soaking over various soil types and levels of



Farmers in northwest Pakistan compare the contrast between primed mungbean on the right and non-primed seed on the left.

Photo: Dave Harris

management. They discussed the strengths and weaknesses of the soaking technique and made improvements. By participating in the trials, the farmers were able to develop and adapt the seed soaking technique and to appreciate its effects.

Article adapted with permission from a research paper by Dr Dave Harris, DFID Plant Sciences Research Programme, Centre for Arid Zone Studies, University of Bangor, UK.

Website: www.seedpriming.org

Results of seed-soaking trials

CROP	SOAK TIME (HOURS)	COUNTRIES WHERE TRIALS WERE HELD	MAX YIELD INCREASE
wheat	12	India, Nepal, Pakistan	37%
barley	12	Pakistan	40%
upland rice	12–18	India, Nigeria, Gambia, Cameroon	70%
maize	12–18	India, Nepal, Pakistan, Zimbabwe	22%
sorghum	10	Pakistan, Zimbabwe	31%
pearl millet	10	Pakistan	56%
chickpea	8	Bangladesh, India, Nepal, Pakistan	50%
mungbean	8	Pakistan	206%

Door-sized gardens

Many homes, particularly in urban areas, have little room for growing crops or vegetables. However, outside nearly every house is an area of bare ground. The soil may be hard or infertile and people often do not consider using it for growing vegetables. But here is one way of using this unused space for a tiny garden.

The system works best if a number of families agree to work together, building one garden each week. The idea may also be useful in refugee camps.



- Mark out a space the size of a door (about 1m x 2m). Dig out the soil until it is nearly knee deep. If the soil is very hard this will not be easy! Lots of people working together will help. Be careful to keep the top soil (darker colour) in a separate heap from the subsoil (lighter colour and more stones).

- Line the hole with grass and other organic material. Encourage all the families to bring their organic household waste for that day and tip it into the hole – vegetable peelings, waste paper and egg shells. If you can find any animal manure, add this.

- When the pit is half full, pour on water to soak the waste. Then add the subsoil, followed by the topsoil.



- Plant rows of vegetable seeds and herbs. Useful plants which will add flavour and vitamins to the household diet include tomatoes, spinach, traditional leafy vegetables, peppers, beans, carrots, onions and all kinds of herbs. Try to plant taller plants such as tomatoes and climbing beans in the middle. Cover with a mulch – a thin layer of grass, straw, rice husks or similar – and water well. Household wastewater is ideal if not too soapy.



- If possible, find an old broken basket and sink this into the centre of the plot. Over several weeks, fill this with



Women from the Umzumbe Cabane area in South Africa help each other make door-sized vegetable gardens, using a layer of grass at the base to hold water in the soil.

vegetable waste and weeds. Water mainly through this basket once the young plants are established. This will wash more plant nutrients into the soil.

- Now decide whose home will have the next door-sized garden. If there is space you may be able to build several of these.

ACAT in South Africa have used this idea in KwaZulu-Natal with great success. Many people have been amazed at how easy it is to produce their own vegetables. One lady said she thought she could only grow traditional crops like maize. But now she can grow cabbages, spinach and onions. Her husband is very impressed!

ACAT (Africa Cooperative Action Trust) is a long standing Tearfund partner working in KwaZulu-Natal. PO Box 943, Howick 3290, South Africa.

Black gold THE IMPORTANCE OF COMPOST



and put into compost heaps it quickly rots down and produces excellent compost. It can also just be left to rot on the fields and enrich the soil for the next crop.

Farmers near Jobarpar and Bisherbandi have learned to make balls of compost from rotted water hyacinth. They plant tree seedlings into the balls and find them popular to sell to people in the market.

Compost pits and heaps

In wet areas it is recommended to build compost heaps above the ground. In dry areas, compost pits can be dug. Pits or heaps should be around one square metre in size. For heaps, make a framework from wooden stakes and branches on three sides. Make a base of stones or stalks for drainage. Fill the pits or heaps with layers of dead leaves, green weeds, straw, soil, manure, kitchen waste and ash from cooking fires.

Three pits or heaps are recommended. New material for composting is added to one heap or pit and then moved to another heap or pit every two weeks to add air, mix up the materials and speed up the rotting process. Water is also added. Finished compost that is ready to use can be stored in the third heap or pit. Cover with plastic or matting to protect the compost from sun and rain and to prevent the loss of plant nutrients. The waste material has been changed into something new, productive and useful – black gold!

Peter Musgrave worked with the Church of Bangladesh for five years. His address is: 3 Auckland Rd, Ilford, Essex, IG1 4SD, UK. Tel/Fax: +44 (0)20 8554 0923 E-mail: peter@redbridgcvcs.net

by Peter Musgrave

Compost-making is a vital, life-saving opportunity to save waste and turn it into productive use. Compost is made from mixing together organic waste materials – such as leaves, weed and straw – and leaving them to decompose until a black, crumbly soil is formed. The materials needed to make it are locally available, accessible and free.

Mature compost helps plants to grow better. It enriches soil, which loses nutrients to food-hungry plants. By using compost, people can grow more vegetables and trees to feed themselves. Composting simply copies nature's ways. Leaves fall from trees, plants grow and die and the natural cycle of decay returns nutrients to the soil. Many people know about compost, but they don't take time to make it in an organised way. Many farmers instead rely on chemical fertilisers. However, these are expensive and do not improve soil structure.

We read in the Bible of God's care of nature. For example, Psalm 65 reminds us that God cares about the earth, especially the fertile soil. God created everything that exists. However, there is a taboo in many cultures about touching 'dirty things' like compost and cow dung, and education may reinforce this idea. For many people, the purpose of schooling in Bangladesh is to enable children to get off the land into 'clean' jobs. So, how does God view the dirt?

In the Bible, poor and humble people are lifted high. Dirt and cow dung are at the heart of the Christmas message! The 'dirty' shepherds in the fields at night are the first to be told about the Christ Child. They find the baby wrapped in a blanket, lying in a manger, (a cow's food trough). The message for us too, as farmers, people on the margins or of low caste, is to look among the poor to see God at work in the world.



In wet areas it is recommended to build compost heaps above the ground.

Photo: Peter Musgrave

Producing compost

Compost can be made from any available plant waste, including rice straw and water hyacinth.

Water hyacinth clogs up the water channels all over Bangladesh and is a real problem. However, if chopped up

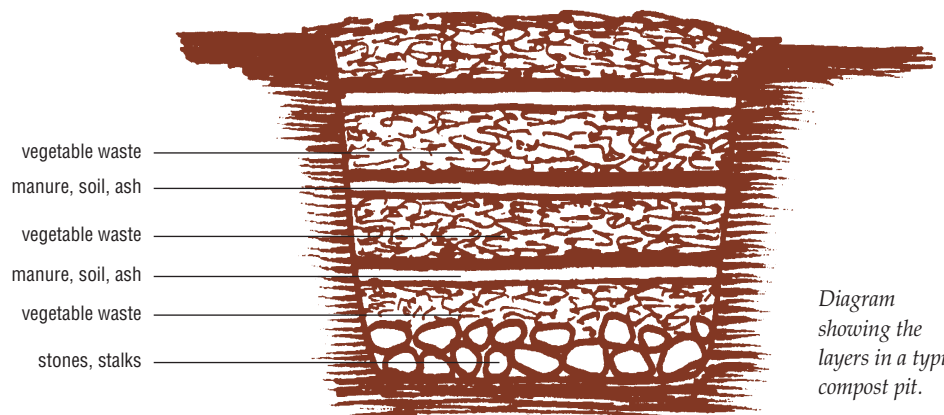


Diagram showing the layers in a typical compost pit.



The INWRDAM grey water filter kit in action.

Photo: INWRDAM

Using waste-water for agriculture

Nearly half of the world's population lives in urban areas. Their need for clean water supplies continues to increase and often competes with the needs of agriculture for water. Poor people in urban areas often pay a lot to receive supplies of clean water.

Researchers are looking into ways of recycling waste-water to use for irrigating crops. Every household has waste-water from washing clothes, dishes and bathing. If treated to remove most of the soap content, all this water could be used for irrigation. Israel, for example, now meets two thirds of all its irrigation needs with treated waste-water.

The use of waste-water (*grey water*, as it is technically called) can simply mean householders collecting waste-water and emptying buckets over trees and crops. Very simple filters can be built using barrels or drums with layers of charcoal and sand to filter out the chemicals and soap content so the water is less damaging to vegetables.

The Inter-Islamic Network on Water Resources Development and Management (INWRDAM) has been working in a rural area of Jordan with the financial

support of the International Development Research Centre (IDRC). They have developed a system using water filters to recycle waste-water for irrigation. This work has helped many families by reducing their water bills and

enabling them to irrigate trees and grow forage for domestic animals and poultry.

INWRDAM produce a kit made of two 160 litre plastic barrels containing a filter and connected by pipes. The kit provides for a household with ten people and includes drip irrigation for a garden of about 2,000 square metres. It costs US \$250. They have also developed a tank built from concrete blocks, which serves several families (up to 30 people) with drip irrigation supplies for a garden of about 4,000 square metres. This costs US \$1,200.

People who have used these kits in Jordan are very pleased. They save on water bills, pay less to empty their septic pits and find that the crop yield of their gardens is higher because the water used for irrigation contains some nutrients.

Dr Murad Jabay Bino is the Director of INWRDAM, P Box 1460, Jubeiha PC 11941, Amman, Jordan. INWRDAM would welcome the opportunity to share their experiences with others.

*E-mail: inwordam@nic.net.jo
Website: www.nic.gov.jo/inwordam*

Underground storage pits

Underground storage pits can be used to store vegetables in dry areas for a few months. Having a good supply of stored vegetables improves household nutrition and means vegetables can be sold for higher prices later in the year when they are not easily available. Underground storage keeps vegetables cool during the hot season.

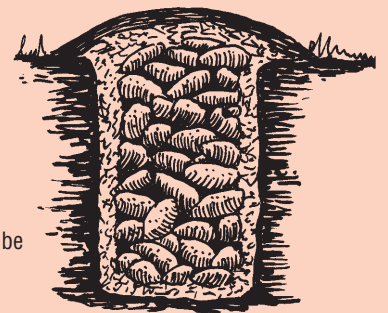
Roots and tubers such as cassava and potatoes store well underground. Solid vegetables such as cabbages can also be stored. Pits can vary in size, depending on the quantity of vegetables to be stored and the level of the water table.

Usually, they are 1–2 metres deep. Place vegetables close together on a layer of sand, straw or leaves. A thick layer of leaves, such as banana leaves, is then placed on top of the vegetables, followed by a 25–50cm layer of soil or sand.

The leaves should provide some moisture to the vegetables. If the weather is very dry, a little water can be poured over the storage pit occasionally. However, too much water will cause the vegetables to rot. Storage pits need to be checked regularly to make sure that any rotting vegetables are removed quickly before the rot spreads.

Putting the vegetables in sacks made from cloth, jute or strong paper allows them to be removed easily and may help to prevent any diseases or pests from spreading. A small amount of insecticide can be put into the bottom of the hole to keep insects away. Experiment using different depths, types of leaves and levels of moisture. Compare the size and quality of the vegetables that have been stored for different periods of time.

Adapted from information in Debacle, Vol VI, Nos 3 & 4 and PILLARS guide to Food Security





Aloe vera

I have noticed with interest the popular use of the plant *Aloe vera* in Nigeria for treatment of various ailments, including skin infections, burns, stomach problems and eye diseases. People are growing the plant in their yards and making money selling its shoots or juice. It can be easily grown by taking leaf cuttings.

There are several publications by herbalists describing the use of *Aloe vera* in the treatment of illnesses. However, as a health promoter, I am concerned about promotion of the plant as a cure-all drug.

Dzever Ishenge
PO Box 684, Makurdi
Benue State
Nigeria

EDITOR:

Scientists have found that aloe juice has antibiotic and coagulating (blood clotting) properties. This means it can be beneficial for treating constipation, indigestion and mild infections. It also seems to speed up the healing of skin wounds. It acts as a skin moisturiser, making it very effective in the treatment of skin burns. While it is definitely a very useful plant, it is certainly not a cure-all drug and should never be advertised, for example, as a cure for AIDS. There are also over 300 species and some can be poisonous. So be careful and take local advice on which species to grow and use.



Aloe vera.

Making coccidiostat for poultry

I would like to contribute a recipe for a herbal remedy that helps cure coccidiosis in poultry. This disease causes bloody diarrhoea, often followed by death in two weeks.

- Collect seeds of slightly mature, but not ripe, papaya fruit.
- Crush, dry well in the sun and pound into powder.
- Collect male papaya flowers (from trees which do not bear fruit).
- Again crush, dry well in the sun and pound into a powder.
- Mix the two powders together in equal amounts.
- Mix to a thin paste with drinking water.

Give this mixture to poultry at the first sign of coccidiosis and it will help to cure the disease.

*The Aged Family Uganda
PO Box 2882, Kampala
Uganda*

E-mail: agedr@yahoo.com

Amaranth

Our Organic Farming Organisation has introduced amaranth grains into cooking. Traditionally, women have only cooked the leaves as vegetables, forgetting the grain itself, which is high in protein. The grain can either be shallow fried or ground in grain mills or on a grinding stone and cooked as porridge for children and others in the family.

Amaranth grain has a perfect balance of essential amino acids and protein. It helps to cure nausea, dizziness and anaemia. *Footsteps* readers in East Africa can ask us for seeds.

*Yembe/Nasusi Organic Farming Organisation
PO Box 643, Kimilili
Kenya*

EDITOR:

Amaranth is found all around the world and is usually eaten as a vegetable.

KiSwahili booklets on agriculture

During my work in Tanzania we have developed a number of booklets, both in English and KiSwahili, about a number

of topics concerning agriculture, largely based on articles in *Footsteps*. We are unable to send these out to individuals. However, if organisations are able to make copies of the leaflets to distribute, we would be happy to send master copies of the leaflets.

These subjects are available in both English and KiSwahili:

Kilimo Mseto (Agroforestry)

Utunzaji wa miti (Tree management)

Mlonge (The moringa tree)

Misingi ya Ufugaji bora (Basics of animal husbandry)

Misingi ya lishe bora ya mifugo (Improved animal nutrition).

These subjects are available in KiSwahili only:

Kurutubisha udongo (Improving soil fertility)

Utengenezaji wa mboji (Production of compost)

Kupima makingo maji (Measuring terraces with a line level)

Readers should send requests for these books to: info@dynamoderation.de and explain how they plan to use them.

*Heinz Horsch
Arusha
Tanzania*

Footsteps library

I take full advantage of each edition of *Footsteps* and find that issues never cease to be relevant. I keep my issues as reference material permanently in my small personal library. Some of the sections I read the most are the readers' letters and resources. This has allowed me to get in contact with other people and to exchange information.

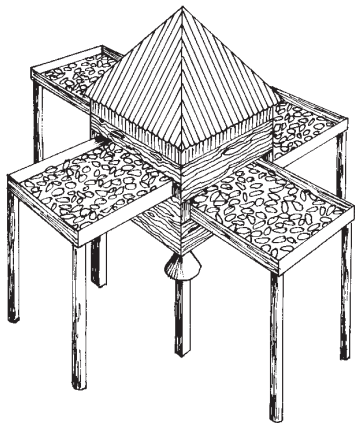
I have some handbooks that I would like to share with Spanish readers. These are distributed freely as part of a government programme here in Argentina. I think they would be useful in other regions. Topics include *Starting a goods exchange market*, *Intensive organic market-gardening*, and *Fruit trees*. I can send them by e-mail to any interested reader.

*Walter Zurdo
Argentina*

proyectojubileo@yahoo.com.ar

Drier

I have designed a simple drier made up of drawers. This is useful for drying leaves, tomatoes, herbs and fruit. You build a square structure, 1.5 metres on each side, raised on posts 20cm above the ground. The structure contains four drawers, one above the other, but each one pulling out to a different side. In front of each drawer two poles are placed which hold up the drawers when they are pulled out.



In the morning, when the sun begins to get hot, you pull each drawer out fully. In the evening or if it starts to rain, you simply push the drawers in. The contents dry because it is hot inside the cabin and there are air holes to allow the air to circulate.

*Pascal Kazadi
Action pour le Développement
BP 1377, Bujumbura
Burundi*

E-mail: paskazadi@iwa.org

Children with disabilities

We would like to thank you for the quality of the information in *Pas à Pas 49* which enhances the status and motivation of people with disabilities. In our work here we find several problems. Very few parents who have children with disabilities take much interest in their training, preferring to take responsibility for those who are in 'normal' schools. Most of the deaf children in our school here in Tshela have been almost abandoned by their parents. For example, they have no uniform provided, no school fees and no supply of pens and exercise books for their school needs. This kind of attitude creates a sense of unease in the minds of the children.

Every parent of a child with disabilities must understand that nothing happens by chance, for all things work together for good towards those who love God (Romans 8:28). Some families even break up as a result of the birth of a handicapped child. However, the family should remain united in prayer and seek ways and means for the future training of the child.

The church must set an example by encouraging the status of people with disabilities, accepting them as full members. For example, allowing deaf people to understand the Sunday sermon by providing a translation in sign language.

*Roger Dimbi-Sanzu
Programme Coordinator for CERHA
BP 145, Tshela, Bas-fleuve
République Democratique du Congo*

Low space vegetable growing

Many people who live in urban areas find it hard to have space to produce home-grown vegetables. Lack of water may also be a problem.

Here is a simple idea for growing vegetables. Fill an old plastic sack to the top with soil, adding manure and compost if available. You may want to tie wires around the side to keep it firm.



Photo: R. Sarvanandha

Sink either a PVC pipe or thick bamboo piece about 1 metre long into the centre. Make slits in the side to plant vegetables such as pumpkins and grow leafy vegetables at the top. Use the pipe to water regularly using household waste water, adding fermented cow urine once a week as a fertiliser.

*R Sarvanandha
Ranjasthan, Thavady
Kokuvil
Sri Lanka*

EDITOR:

Old car tyres with a plastic sheet at the base can also be used in this way, stacked two or three high.

Roadside tree planting programmes

In Bangladesh, roads are one of the few places high enough to grow trees without the danger of the roots suffering from water-logging during the rainy season. Back in 1990, most roads were bare embankments, without any trees planted alongside them. Now many NGOs encourage road-side tree planting programmes.

In Suagram, members of Udoghi Women's Group planted 2,500 flood-resistant trees along 3km of roadside in 1994. These included mahogany, which is good for furniture, the fast-growing rain tree and local varieties which are good for house building. When ready for harvest, income from the trees will be shared between the women's group, the NGO (COB) who provided the seedlings and advice and the local government (who allowed the land to be used). The road is well used and people appreciate the trees for the shade they provide.

During times of flood, roads with such trees act as a shelter for people who are temporarily homeless. The trees also help improve the environment and provide feed for livestock and leaves for compost. Some may also produce fruit or have medicinal qualities.

Peter Musgrave, 3 Auckland Road, Ilford, Essex, IG1 4SD, UK. E-mail: peter@redbridgecvcs.net



Photo: Peter Musgrave

See document 'FS54mid.pdf'

See document 'FS54mid.pdf'

The value of working together



Photo: Isabel Carter

by Isabel Carter

The centre pages of *Footsteps* 53 encouraged people to consider their resources – not just looking at their financial resources (which may be very small) but also other kinds of resources. For example, most people have access to human and social resources. Nearly everyone has family and friends and lives in some kind of community. In difficult situations, working together with other people may bring considerable benefits.

Some years ago I carried out research which studied the work of 75 self-formed groups in Uganda and Ghana. Many fascinating details were learned and the value of combining efforts was clear. Several points are of interest as we look at how to produce food in difficult situations.

Sense of purpose

Groups form for many reasons – by the order of local authorities, to gain literacy, to save money, to build a school classroom, to grow or process food crops or to apply for grants from NGOs. Groups that are independent, have a clear sense of purpose and bring benefits to their members may continue for many years.

Leadership

Sometimes groups are called together by a dominant leader who continues to control what the group does. Such

leaders may provide clear direction – for example in the growing, processing or marketing of farm crops – so that all members benefit. Groups where leaders have other, hidden motives – particularly if this involves profiting financially – are unlikely to prosper. Dominant leadership, however, is unlikely to encourage discussion and reflection so the skills and confidence of members will not develop. Groups with leaders who encourage members to discuss, plan and evaluate their activities usually become particularly successful.

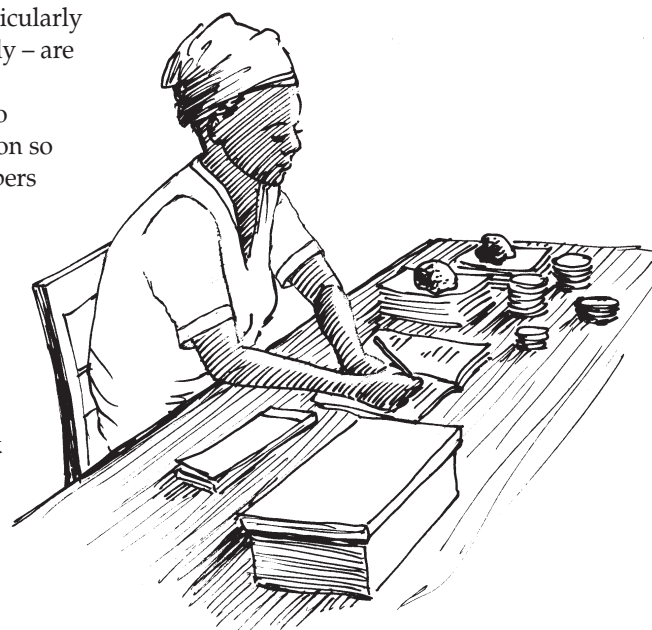
Trust

Groups that have learned to work together on successful practical activities may develop strong bonds of trust over time. Members become relaxed in each other's company, develop close

friendships, are able to joke with each other and are confident in discussion. Such trust can allow the group to take bolder steps and to plan bigger change, simply because people know they can depend on each other. There are rarely short cuts to such trust which usually develops over several years of friendship and experience.

Money

The safe handling of money within groups is very important. Members need to know they can trust their treasurer and officials completely. Without this trust, their work together tends to be limited to working alongside each other and sharing the benefits. For example, groups of women commonly share the work of processing their crops and then sell separately. However, when there is real trust, women may combine their money in more ambitious joint ventures. They may rent extra land to plant crops or vegetables and work on them together, knowing that their efforts will benefit them all equally. They may work towards buying jointly owned food processing equipment such as grinding mills, cassava grinders or bottling equipment for palm oil or fruit juice. Groups may also start revolving credit schemes, paying in a small amount of money each time they meet so that a lump sum can be lent out to one member at each meeting. In this way (depending on the size of the group) a member would borrow a large sum every year or two. The men in Rwancereere Farmers



Association in southwest Uganda paid a contribution each harvest by giving either a sack of potatoes or the equivalent in money. This provided a fund for members to obtain small loans.

Interestingly, few of the groups of men observed were keen to pool their money in these ways! Men preferred the sharing of new ideas and technologies rather than working together. For example, Bikiyiteng Bullock Farmers in Ghana helped share training in the use of bullocks for ploughing and all members were working towards obtaining their own bullocks. Tanyigbe Beekeepers Association shared skills in keeping bees and processing the honey.

Groups that form just to obtain a grant or loan from an NGO to start a small business rarely succeed. This is because they have missed out on the gradual build-up of trust and the experience of working together. Unless a group has been meeting together and successfully working together for two or more years, they are unlikely to use a grant or loan without problems.

Information

One of the findings of my research was that groups enabled the effective sharing of new ideas. Members would support each other in trying them out, and if ideas proved successful they would quickly spread among members. Some groups made time in their meetings to share and demonstrate new skills and information.

Membership

Groups took membership very seriously. People were not able to drop in and out of membership as they pleased. Indeed, some groups even fined members who did not regularly attend meetings. Membership was seen as a privilege which sometimes required a long wait. Occasionally, non-members who were being considered for membership were allowed to attend the meetings. Successful groups would attract new members who could threaten the group's future existence if numbers grew too large. In many cases, groups either

limited their numbers or set up barriers to membership, usually financial.

Nearly all groups elected formal committee members and kept records of minutes, which was surprising given that these were all informal, self-formed groups.

Gender differences

Just over half of the groups visited were women's groups. Only 15% were men's groups. A third of the groups had a balanced mix of men and women, often including wives and husbands. Women were more willing to invest time and effort into establishing long term initiatives such as tree plantations, vegetable production and marketing or animal husbandry. Men preferred clear benefits to be apparent for them as individuals from the outset, such as bullock training and access to irrigated vegetable plots.

Social support

Group membership provided an important social support system. This tended to be strongest among women's groups, whose members were more likely to work together and spend more time in each other's company. For example, older women talked of the reassurance they felt in knowing that during family sickness and death, other members would support them and appear in large numbers for their funeral. Younger women talked of help and counselling received. In groups with revolving credit systems, members mentioned that if a member was in

financial difficulty, their turn to receive a loan might be brought forward.

For example, Zangbogu Women's Association, based in a very poor area of northern Ghana near Wa, met every fortnight. Members worked together growing fuel trees, groundnuts and soya beans and raising pigs. Their husbands had been impressed by their achievements and the group had been given access to 11 acres loaned by various husbands. Social aspects, such as supporting members with ill health and running a small credit system, played an important part in their group.

Confidence

One of the most surprising observations from the research was the growth in confidence which came from successful groups over time. Groups which tried out different ideas and found success with some of them, gained confidence, first within the group setting, but later this confidence often extended to dealing with others in the wider community, including NGOs and government officials. For example, Ihimbi Women's Group near Kabale, Uganda or Sokode Novisi near Ho, Ghana regularly visited government departments or officials to request training or advice.

Isabel Carter has edited Footsteps for Tearfund for 14 years. She carried out detailed research into the ways in which information is shared at grass roots level and has developed the PILLARS materials as a way of putting these findings into action.

Tree nursery – Ihimbi Women's Group in Uganda.



Photo: Isabel Carter

Mineral blocks

When land is scarce or infertile, livestock often survive on poor diets of scrub, crop waste and straw. In these conditions livestock will grow and reproduce slowly and provide less milk and meat. However, the demand for animal produce, whether for milk, meat or leather, remains high. Any ideas that can encourage better growth and health of livestock are to be welcomed.

Better nutrition

Scientists have found that small changes in the balance of nutrients and minerals given to livestock can result in faster growth, better milk production and also higher fertility. Better nutrition is important for livestock, not just for people!

Most livestock benefit greatly from increased levels of nitrogen, which helps them digest tough vegetable materials such as stalks and scrub. Minerals such as sulphur, phosphorus, sodium, calcium and magnesium also improve their health. Expensive salt or mineral blocks can be bought – but the good news is that farmers can make these very cheaply using a mixture of the following ingredients:

Urea (a low cost inorganic fertiliser) is a cheap source of nitrogen.

Molasses (a by-product of sugar refining) is a good source of minerals and vitamins.

Binding materials to make the blocks stick together firmly include cement, clay or

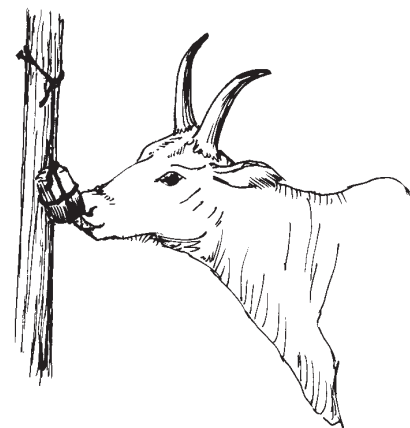
INGREDIENTS	A	B	C
molasses	5kg	1kg	–
urea	1kg	1kg	1kg
salt	0.5kg	1kg	1kg
cement powder	0.5kg	0.5kg	0.5kg
clay	–	–	1.5kg
bran or cotton seed meal	2.5kg	6.5kg	6kg
water	–	5ltr	3–4ltr

pounded okra. Clay from a termite mound is ideal after pounding and sifting.

Other useful by-products, which may be used if commonly available, are palm oil sludge, wheat or rice husks, cotton seed meal and coconut meal.

Sample recipes for mineral blocks

Three recipes (A, B and C) are shown in the table, so farmers can choose one that uses ingredients easily available in their area.



■ Dissolve the urea in water or molasses. In a separate container, mix together the other dry ingredients. Slowly add the urea liquid to the dry ingredients to make a thick paste. Add water if necessary, but only enough to mix the mixture together (you should not be able to squeeze any water out of the mixture).

■ Place in wooden boxes, in wide metal bowls or calabashes, or in big tin cans lined with plastic bags. Let the blocks set and harden for two weeks. Once dried, put the blocks out for your livestock. Animals should not be allowed to eat too much as the urea in the block can be harmful to livestock if too much is consumed. One useful suggestion is to make these available by the water source so that animals can use them for short periods each day. The blocks can be placed on the ground or tied to a tree or fence post.

Income generation

Some farmers and community groups have started producing salt licks for sale in their village as an income-generating activity. Farmers in Kenya could not afford commercial mineral blocks, but when some farmers' groups started producing local mineral blocks, villagers began buying them.

These blocks should only be used for adult grazing animals (ruminants) such as cattle, sheep, goats and camels. They should not be used with horses, donkeys, mules or poultry.

Based on information provided by A Issaka and F Djangno in Baobab 25 and Kristin Davis and Don Cobb (Echo Development Notes 65 and 76).



Photo: Isabel Carter

PRODAD

One of the main activities of PRODAD in Nicaragua, is encouraging kitchen gardens.

PRODAD teaches people that growing vegetables improves both nutrition and the household economy. They use a demonstration plot to encourage families of the benefits of kitchen gardens. PRODAD provides practical training in growing vegetables and medicinal plants.

Families use waste-water from the kitchen to water the gardens. This works well as long as there are not too many chemicals in it.

This programme has had an impact on various areas of family life:

Improved nutrition People now eat many more vegetables and have a more balanced diet.

Health Families used to grow their own medicinal plants. Today most people buy drugs in shops. PRODAD is trying to recover the tradition of growing medicinal plants to save costs.

Economy People can save money by producing their own vegetables.

Spiritual The church learnt that their work was incomplete if they only helped people's spiritual needs and neglected their practical needs. They believe the kitchen gardens improve both the diet and integral life of the family.

PRODAD (Programa de Alimentación y Desarrollo) is a programme of the Assemblies of God church in Condega, Nicaragua.

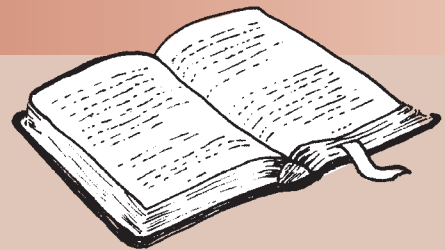


Farmer Luis Bellorin with a good crop.

Photo: Uziel Bucardo, PRODAD

BIBLE STUDY

Investing our lives wisely



We can do three things with our lives. We can waste them, we can spend them or we can invest them. The Bible teaches us to **invest** our lives to make a difference for eternity. We should not live on this earth to be a consumer. Instead, we should make a contribution with our lives. We will be held accountable by God for how we invest our lives. Let's take time to look at how we use our abilities, resources, time and experience.

Read Matthew 25:14-30

- Discuss who the man, the servant and the property represent in this parable.
- Do the servants have any influence over what is given to them?

Everything we have belongs to God. We are allowed to borrow things for a number of years. We brought nothing into this world and we are taking nothing out of this world when we leave. We are here to manage and use God's resources.

Verse 15 God has given each one of us some unique talents. Discuss how many talents or gifts you can think of. People are given different talents. But no-one is without any talents.

Verses 16-18 God expects us to use our talents. One day he will ask us, 'What did you do with what you were given?'

- Why is it wrong to bury what God has given us? What would make us do this?

Verses 19-23 If we use our gifts and talents to serve other people, they will start to grow. God encourages us to step out in faith in this. If we use our talents wisely, we will be rewarded.

- How can we use our talents or gifts more?
- What did God say to these stewards? What was their reward?

Verses 24-30

- What were the reasons this steward gave for not using his talent?
- How much did he respect his master?

Fear often keeps people from using their talents. There are three kinds of fear: self-doubt (lack of confidence), self-consciousness (fear of what others will think) and self-pity. Remember that God likes to use imperfect people. A \$100 note, however dirty or torn, is still worth \$100. In God's eyes we never lose our value!

- How can we deal with fears that prevent us from serving God?
- What motivates our own desire to serve God?

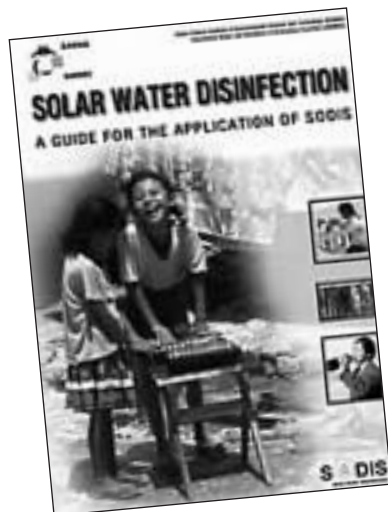
Discuss verse 29 which is a very challenging verse.

- Have we observed this in our own lives or in the lives of others?

Let us be encouraged to invest our talents wisely. We need to take what little we have and start using it in serving other people. Then we may see God multiply our talents too!

From Keve Társaság, an association of Christian Professional and Business People, 1091 Budapest, Kálvin tér 7, Hungary.

Books Newsletters Training materials



Solar Water Disinfection: a guide for the application of SODIS

EAWAG/ SANDEC recently published a manual on the use of SODIS (Solar Water Disinfection) This was mentioned in Issue 51 of *Footsteps*.

The SODIS manual is written for field staff who are encouraging the use of this system. It contains useful technical information on SODIS, its advantages and limitations, detailed information on its use and important factors to consider. It is based on over ten years experience of promoting SODIS.

The manual is freely available as a PDF file on their website: www.sodis.ch

Regula Meierhofer
SANDEC/ EAWAG
PO Box 611, C
CH-8600 Duebendorf
Switzerland

E-mail: regula.meierhofer@eawag.ch

Malaria Education CD-ROM

A new version of an educational CD-ROM is available from the Royal Perth Hospital in English, French and Spanish. Copies of this are available free of charge to medical and educational institutions.

The hospital website contains up to date information on the diagnosis, prevention and treatment of malaria. However, the CD-ROM should be particularly useful

to centres that do not have reliable Internet access.

www.rph.wa.gov.au/labs/haem/malaria

For the CD-ROM, write to:

Graham Icke
Malaria On-Line Project
Royal Perth Hospital
Perth
Western Australia

E-mail: graham.icke@health.wa.gov.au

Mwongozo kwa waelimishaji wa elimu ya afya

by Dr M Serventi and T Zebroff

A well illustrated booklet on health education, available only in Kiswahili. It contains information on various topics, including hygiene, treatment of ulcers and diarrhoea, nutrition, breastfeeding and preventing malaria. It costs \$1 and is available from:

L VIA Coordinator
PO Box 1498
Dodoma
Tanzania

Technical advice

Not many people are fortunate enough to have expert advice readily available. However, here are a number of organisations which are able to provide useful and practical advice. Please note these are **not** funding agencies, so please do not waste their time asking for money.

SEPASAL

SEPASAL (Survey of Economic Plants for Arid and Semi-Arid Lands) is a database on the uses of more than 6,220 wild plants of tropical drylands, focusing on Africa. SEPASAL has been developed and maintained at the Royal Botanic Gardens, Kew, with a regional base recently established at the National Museums of Kenya, Nairobi. SEPASAL collects and shares information to help support the sustainable use of tropical drylands. They record scientific and common names, distribution, ecology, uses, chemical analyses, seed sources (where possible) and references. A recent project (African Wild Harvest) is



collecting information on the nutrient contents of African wild food plants.

You can contact SEPASAL by e-mail, letter or through their website. When writing, please give as much detail as

possible about your work and the types of information you require (for example the type of plants you are interested in, the country, the climate and the environmental conditions). Please note that they do **not** cover major commercial crops or plants that are widely cultivated.

SEPASAL
Centre for Economic Botany
Royal Botanic Gardens, Kew
Richmond, Surrey, TW9 3AE
UK

E-mail: sepasal@rbgkew.org.uk
Website: www.rbgkew.org.uk/ceb/sepasal

The Honey Bee Network

This network aims to exchange knowledge and ideas in ways that benefit both those who share and those who learn from them. They connect innovators with each other and encourage feedback, communication and

networking in local languages. They produce a newsletter full of practical information and in India have local associations using languages such as Tamil, Hindi, Gujarati and Kannada.

Honey Bee Network
SRISTI, PO Box 15050, Ambavadi PO
Ahmedabad 380015
Gujarat
India



E-mail: honeybee@iimahd.ernet.in
Website: <http://csf.colorado.edu/sristi>

ECHO

ECHO deals with technical requests, generally concerning advice on appropriate crops and trees which could be introduced. They ask that enquiries sent by e-mail contain the full postal address and the name of the organisation with which people are working. Full information about the local climate is very helpful if available. They recommend that you tell them the four most commonly grown crops for the area and the time of year when they are grown and harvested.

ECHO
17391 Durrance Road
North Ft Myers, FL 33917
USA

E-mail: echo@echonet.org

Christian Veterinary Mission

This organisation provides a service for small farmers who lack access to a veterinary service, enabling them to consult veterinary specialists about animal health. A form is available which asks for all the information needed to make a diagnosis. You can also send information by letter or e-mail. As much information as possible should be provided. For example:

- location and description of farm (landscape, area)
- climate by season
- number of sick and healthy animals by age, sex and type
- whether the sick animals are kept separate and what method is used
- distance to nearest farm with same species as sick animals
- animal sanitation and nutrition, worm and insect control practices
- symptoms (signs of sickness, body temperature, any treatment given). All symptoms should be described, no matter how minor they may seem.

Christian Veterinary Mission
c/o World Concern
Box 33000
Seattle
Washington 98133
USA



E-mail: comvetdrdeg@ftc-i.net

Agromisa Foundation

Agromisa was established in 1934, and is linked to Wageningen University and Research Centre, the Netherlands. Its aim is to exchange information on small-scale sustainable agriculture and related topics. Its target group is the underprivileged population in rural areas.

Agromisa's main objective is to strengthen self-reliance and to improve livelihoods by sharing experience and knowledge. They believe that the gap between scientific knowledge and farmers' knowledge should be bridged.

Agromisa's Resource Information Centre has three sections:

■ **The Publication Section** is responsible for writing, translating and publishing the *Agrodok* Series. These practical booklets will also be available on CD-ROM from 2003. The aim is to publish this series more locally so that it is better adapted to local conditions and, if necessary, in local languages.

■ **The Advisory Section** runs the library and the Question-and-Answer Service. This service works through using people with experience in a network of organisations. It is provided free of charge.

■ **The Training Section** organises a two-week training workshop on 'Participation in Development' in the Netherlands and one-week workshops in other countries.

AGROMISA
PO Box 41, 6700 AA Wageningen
The Netherlands

Fax: +31 317 419 178
E-mail: agromisa@agromisa.org
Website: www.agromisa.org

Agromisa in action

Salt problems in Orissa, India

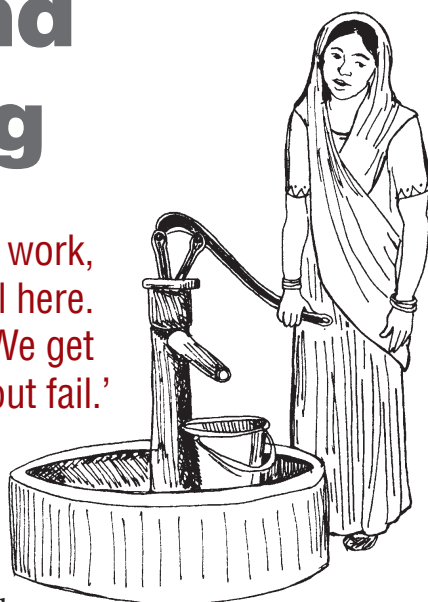
Agromisa received an inquiry, through a Dutch NGO, from the disaster area in Orissa. As a result of the severe floods in 1999, the salt content of the soil has become a problem in many parts of Orissa. A project in the area is seeking to help affected farmers by providing planting material (rice) and fertiliser (urea). Agromisa was asked for possible solutions to the salt problems.

Crops vary in their tolerance to salt. Rice and maize are sensitive crops, but sorghum and wheat are much less sensitive to high salt contents. Salt levels in the soil change throughout the year. In the wet season the salt content falls as a consequence of excessive rainfall. In the dry season the salt content increases as groundwater with a high salt content moves up through the soil. Agromisa advised against planting rice for the first year or two. They also recommended that soils should be well drained. Soils with high salt levels are often acid (low pH value), which means poor uptake of many fertilisers. However, urea is a good choice of fertiliser in these conditions as it does not add more salt to the soil, unlike other fertilisers. After the soil has recovered, it is advisable to use organic fertilisers such as manure and compost, which will help improve soil structure, organic matter content and living organisms in the soil.



Alcohol and advertising

'There is no water, work, school or hospital here. But what do we get? We get alcohol every day without fail.'



Advertisements shape what we think and how we feel. They sell more than the product itself. They sell ideas or messages that encourage people to buy the product. Companies that produce alcohol spend a lot of time and money creating images that make drinking alcohol seem attractive. The message they give is that alcohol will make life better.

What the advertisements do **not** focus on is the harm that too much alcohol can do to the health, success and well-being of an individual, family and community.

Looking closely at alcohol advertisements can help people to:

- learn how advertising encourages people to buy and drink alcohol
- understand that advertisements often present ideas about alcohol that are not true
- find ways to communicate more truthful messages about alcohol to others.

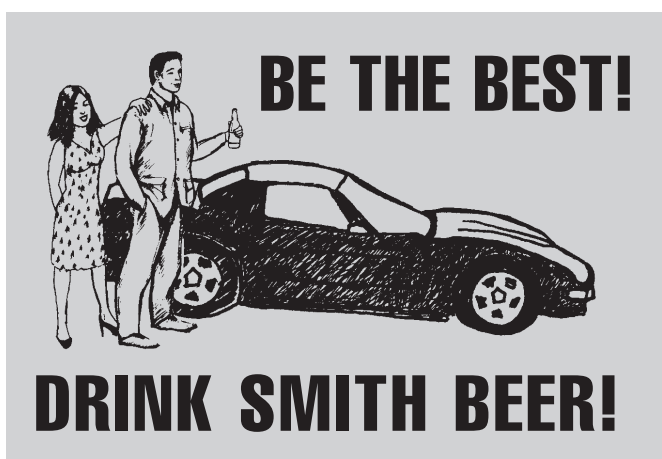
The following activities can be carried out with community groups. They take around two hours, although you might want to arrange other meetings for the last stage.

Identify alcohol advertisements. Ask people to think about the alcohol advertisements that they have seen or heard. Show examples of these, perhaps from the local newspaper.

Look at the ideas that the companies are selling. To help the discussion, ask questions like...

- What do you notice about the advertisements? Describe the pictures.
- Who do you think the advertisements appeal to?
- How do they want people to think about alcohol? Why?

Look at how the reality of alcohol is often different. Ask the group to think about whether or not the ideas the advertisements are presenting are true. Consider how drinking too much alcohol can affect individuals, families and the entire community.



Create alternative messages about alcohol.

Large companies are not the only ones who can advertise. Some community groups are using advertisements as a way to spread information about the harmful effects of alcohol. Ask the group to create new advertisements with their own messages and then share their ideas with the rest of the group. They might want to:

- write a song or poem about the problems caused by drunkenness in their community
- draw a picture that could be painted on a wall
- alter a newspaper advertisement by adding pictures or messages
- develop a script for a radio advertisement
- act out a TV advertisement with a new message.

Plan to share the messages. Ask the group to discuss how their ideas can be shared with the community. Maybe they could perform a drama, paint a picture on a wall or ask the radio station for some airtime. For example, a women's group in India called MASUM wrote a play which noted how politicians and rich land-owners in their area used alcohol to gain control over people. Though they were worried at first about the response they might have, the play was well received and eventually shared on television.

Adapted from Women's Health Exchange Issue 9, produced by the Hesperian Foundation, 1919 Addison Street, Suite 304, Berkeley, California 94704, USA.

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Website: www.hesperian.org*

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Tearfund staff spend considerable time dealing with many thousands of funding requests that we are unable to support. This is taking them away from their work of bringing good news to the poor through current partnerships. **Please note** that all funding proposals will be rejected unless they are from current Tearfund partners.

