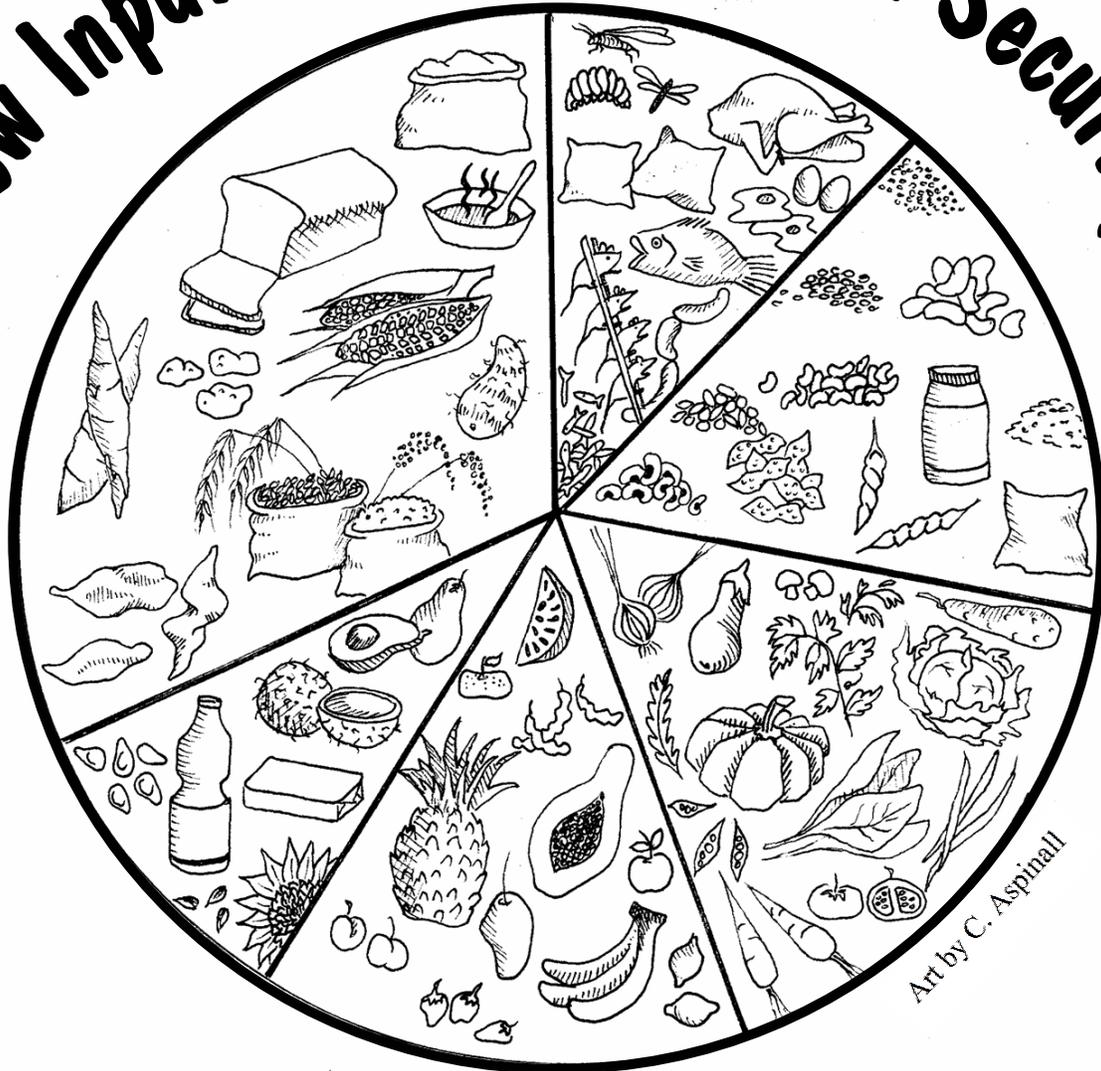


Low Input Food & Nutrition Security



Art by C. Aspinall

Growing & Eating More Using Less

December 2005 First Edition



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World Food Programme Malawi with a Canadian Impact Grant

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- **World Food Programme / Malawi** who wrote the proposal and provided general support;
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- **Participants** who put together and tested the Model over the 4 month period - each person is listed in the appendix of this manual as a resource for you to utilize;
- **The Model Sites** that tried the ideas and provided feedback to improve the Model in practice – they are also listed in the appendix of this manual as a resource;
- **Stakeholders** who provided feedback, encouragement and who excitedly awaited the compilation of this work – their support was overwhelming!;
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- **Nature** who provides us with all we need to live and the lessons we need to use its treasures. **My mom, grandparents,** and **church** introduced me to nature and taught me to love and be in awe of it all – people, cultures, plants, animals, water, rocks, etc.

A big thank you also needs to go to my colleague and husband, **Kristof Nordin**, who provides most of the artwork for the teaching posters, many of the line drawings in this manual, and guidance for interpreting lessons. Both he and our daughter **Khalidwe** have developed patience with me as I spend most time with other people and at my computer!

Zikomo nonse!

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December 2005

Introduction from the WFP Country Director

Since January 2005 WFP Malawi made a major step towards transitioning from pure emergency to relief and recovery programming. The overriding goal is to enable vulnerable people, especially those affected and infected by HIV/AIDS, to prolong lives and enhance livelihoods. One key strategy is to promote food diversification in the areas affected by food insecurity. This is all in line with government policy for food diversification and nutrition.

As we all know, maize is still the dominant staple food in the country although it has little nutritional value once milled into refined maize flour. Production of other high value and nutritious crops like vegetables, fruits, legumes and animals is only to a limited extent. Even those farmers who grow these crops primarily sell them for money, not consume them.

To address the challenge of diet diversification inside our food security projects and overcome high maize dependency, I suggest we need two pronged approach:

- 1.) Encourage alternative crops, i.e., fruits, vegetables, legumes, animals, etc. (indigenous as well as those introduced) and medicinal plants (local varieties and introduced such as garlic, ginger, neem, etc.) throughout communities and around schools, health-centers and homes.
- 2.) Provide education to community members, students and patients (especially, but not limited to, the most vulnerable) on nutrition and alternative food preparations to improve diets.

With the support of the Canadian Government, WFP launched a nine months investigative study covering twenty pilot projects, to determine an appropriate model for introducing food diversification in food insecure communities, families with chronically ill members, and students (including young children).

This manual, *'Low Input Food and Nutrition Security: Growing and Eating More Using Less'*, is a product of this study. I am pleased to present this final manual to all of you, which was developed and reviewed by many stakeholders in Malawi. The manual presents step by step and hands-on approach to achieve food and nutrition security.

If you look at this manual critically, you will notice this model is about helping people to first understand issues and then to help people choose and adapt interventions that will work for their situation. This is where the mindset of farmers and implementers, including most of us, has failed and needs to change. I strongly encourage you to read and apply the ideas in your own food security projects, your own life, and any other sector. I hope this is an opportunity which you will take full advantage of.

I know some of you have been part and parcel in the development of this manual. Many of you also sent comments to the draft manual which have now been incorporated. I am grateful for all your contributions. I encourage you to use the manual because it is your own product. I also thank the Consultant, Stacia Nordin, who led the whole process in a very participatory manner.

Finally, I am Grateful to the Canadian Government for supporting this study. It is an added value to WFP and anyone else using the model. The model will go a long way in improving our food aid programming so we can improve our lives and our livelihoods.

Domenico Scalpelli
Country Director

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Why & How was this Model developed?

This Model has been under development for hundreds of years! This is close to the truth – many of the ideas in this Model have been handed down throughout many generations because of their success. The modern world still hands down traditional information verbally from person to person, but more commonly, computers and books are used. We felt that the information in this Model needed to be collected, tested and put together into a Model to share with others so that we all can achieve Low Input Food and Nutrition Security.

The idea for this Model started with World Food Programme (WFP) Malawi as they were moving from emergency activities to recovery activities. WFP wanted to develop and test a model that they could use in their own programmes and share with their partners to improve food and diet diversification. They wrote a proposal to Canada Fund and were awarded 38,000 US Dollars to develop and test the model.



Several programmes and projects within Malawi have attempted to introduce the concepts of food diversification, but experience from these projects report difficulty in sustaining the projects in the long-term because of high outside inputs, labour and water requirements. The failure of these projects primarily lies in their approach:

- Purchasing and distributing 'inputs' such as water pumps, seeds, chemicals, and farming implements instead of focusing on local resources the community has; and
- Providing 'incentives' for participating instead of focusing on those who are truly interested in learning and applying the information.

There are a few projects in Malawi that have been able to successfully sustain food security by using local resources and knowledge while using very little labour, water and outside inputs. Our goal is to share these nationally and globally by putting the information into a model.

Project objectives

The overall objective is to assist communities and government extension workers (and non-governmental organizations who support these two groups) to improve food diversification methods. Specific objectives of this project are:

1. To determine appropriate models for introducing crop/animal and diet diversification in food insecure communities, families with chronically ill members, and students of all ages, but especially in primary school.
2. To devise a monitoring system which will measure the impact of food and nutrition education sessions and gardening activities.

Process used to achieve the objectives

To give you an idea of how we developed the ideas that are in the manual, the following is an overview of the main activities which were used to develop and test this Model:

April:

- The consultant attempted to contact everyone in Malawi that works with food and nutrition security to collect any existing models. There is no need to “reinvent the wheel” and we wanted to get as much experience into the Model as possible.
- Next, we needed to decide who was going to be involved in developing and testing the Model. WFP’s national and district level partners chose 4 districts to develop and test the model, based on a set of criteria that included climate, lifestyles, cultures, etc. – we wanted a model that had basic concepts that work in any setting. The districts were Mangochi, Mulanje, Kasungu and Nkhata Bay.

May:

- Within those districts, we worked with partners to select a variety of sites to develop and test the model to reinforce that the ideas work anywhere! The Model development included schools, churches, hospitals, community based groups, model agricultural villages, etc.
- To find the right participants, we used a set of criteria. The criteria focused on participants dedicated to the idea of the model and how it would help them and help Malawi. No one was paid to participate (no allowances or other bribes!) and everyone had to agree to take part fully in the process, including a low-input workshop that included a menu of local foods with lots of discussions, field trips, group work and mental energy expenditure.

June:

- During the next 4 months from June to September we set up over 20 model sites to test the ideas. About 75 participants worked in teams in each district, with about 18 participants per district. The team members included the Ministries of Health, Gender, Natural Resources, Agriculture, and Local Government; NGOs; CBOs; Churches; Networks, and individuals.
- We started with low input workshops in each district which covered the basic issues, reviewed all materials and projects available, visited a number of sites, and decided on the model’s concepts in terms of technical and implementation approaches. The consultant pulled together each of the district’s ideas to keep the project running as one big team.

July, August and part of September:

- After the workshop, the teams worked together in the 5 model sites for that district. The consultant returned to each model site 2 times to collect feedback on the Model concepts. Not only did we work with the 75 participants, we also worked with hundreds of other people who were at the model implementation sites. There were approximately 4,000 people from more than 70 organizations that tested (and are still using) the ideas.

October

- The consultant put all the Model concepts and ideas into a draft manual and sent it to about 350 Stakeholders for review.

November:

- Sixty stakeholder representatives from forty-five organizations provided feedback at a two-day review meeting.
- The consultant integrated all the feedback into this manual and WFP/Malawi distributed the manual to approximately 80 organizations within Malawi.

The impact of the model during the testing phase

The results of the Model have been incredible. One of the key concepts of the model is to help people understand each concept and technical methods so they can make their own decisions to improve food and nutrition security. People who participated understand so well that they've come up with their own creative designs better than I've seen in technical books! Model sites that already had 'typical' high-input gardens and farms have been able to:

- ✓ Reduce their work by over half;
- ✓ Reduce their watering by half;
- ✓ Double and triple their yields;
- ✓ Reduce their sweeping area by 25-75 percent;
- ✓ Start mulching instead of sweeping to hold water and make use of more soil;
- ✓ Use 'waste' to creatively design areas to improve soil and water health;
- ✓ Use all water instead of wasting it;
- ✓ Have healthier plants and animals;
- ✓ Improve their financial status by saving money previously spent on water, seed, food, and chemicals;
- ✓ Improve diets through eating less staple foods, diversifying staple and eating more of the other food groups.



Art by Intermediate Technology Publications

See resources in appendix

It was truly astounding at how much progress the model sites made in 3 months. I believe that we all have succeeded in putting together all the pieces that are needed to improve food and nutrition security now and for a lifetime!

Using this Manual

Target Audience

- This manual is primarily written for facilitators who are working with households and communities in Malawi. It is aimed at people providing a tool to people who are planning, implementing and evaluating food and nutrition security projects or other sustainable livelihood projects.
- It can also be used to advocate with leaders in using a philosophy of sustainability when writing policies for a country, city, village, or organization (such as a school, aid-provider, or church, etc.).
- The ideas can be used anywhere around the home, in public areas around the community, at schools, churches, office buildings, road design, markets and other towns or city planning, and in commercial settings.
- It is aimed at Malawi, but is NOT only for people in Malawi as these issues are a worldwide problem! This model can very easily be adapted to other countries and situations.
- The manual is written for people who can speak English, but we aim to use simple wording that is easy-to-read and translate into Chichewa or other language.
- And probably most importantly, it can be your personal guidebook for improving your own life!
- The ideas in the Low Input Model can be applied by ANYONE, technical or non-technical, and that will be stressed throughout. Rich and poor alike can eat better for themselves and for the health of our planet!



Art by C. Aspinall

Manual Style & Format

- We write the manual to you, as if we were discussing the ideas. Those developing the Model attributed a large part of our success to this personal, enthusiastic, yet professional style.
- We aim to create a manual that is easily reproduced through photocopying locally. For this reason the format is all blacks or grays with white backgrounds.
- We aim to use pictures and line drawings that are relevant to the text and the target audience and that can easily be photocopied or re-drawn locally with local artists. In subsequent editions of this manual additional computer photographs can be converted to locally produced line drawings.
- The text portion of the manual is all in this font. The text portions are aimed at both you and the target audience in the community. You can use much of the text portion directly with your

target audience. Where there are questions within the text you may choose to ask this to your audience and elicit a response from them.

- Sometimes there are reduced handouts within the text portion of the manual. All the full page handouts are all in the appendix of the manual. These reduced handouts make it easier to refer to what is in the handout without having to continually flip to the back to see what the handout contains.

Handouts for reference within the text portion of the manual are surrounded by a box like this. At the bottom it will state:
Full page handout available in appendix

- Throughout the model there are teaching notes that are specifically for you, the planner and facilitator. These teaching notes all look like this box:

Teaching Notes

- All notes to you, the planner and facilitator, are in boxes formatted just like this one.
- **Purpose:** These boxes are meant to give you ideas on visual aids, activities, and connections to make to other parts of the model as you teach.

Manual Content & Flow

This manual is an overview of the main concepts in the Low Input Model; it is not a comprehensive teaching tool on its own. The manual should be used with reference and teaching materials that are listed in the appendix. These include:

- ✓ Malawi's Traditional and Modern Cooking
- ✓ Food and Nutrition for PLWHA
- ✓ Permaculture Design Booklets
- ✓ Eco-Sanitation Composting Toilets

In the future, additional resources need to be developed to support Low Input design such as:

- ✓ Field guide to Foods in Malawi
- ✓ Using Grey Water Irrigation
- ✓ Rainwater Harvesting systems
- ✓ Energy use: *Sun, Water, Wind, Animal, Humans*
- ✓ Integrated Fish & other Animals manual
- ✓ Low input posters & other teaching tools – ideas are given in this manual how to produce your own by copying the ideas for handouts and posters.

The manual is based on Permaculture principles, which is a sustainable way of living that includes agricultural designs, building and other infrastructure design, system design such as political structures and financial systems, energy and resource use, etc. (*see appendix for more additional resources on Permaculture*). The majority of this Low Input Model comes from the Permaculture Nutrition Training Manual 2000-2005¹ editions. Some of the text is taken word for word from that manual, other parts have been shortened.

The manual flows in the order that the material should be covered when you are explaining the ideas to others such as in a workshop training format, shorter sessions over time, or personal reading. The content starts with the most basic principles and leads into more complex ideas, planning, and design. Each idea builds on the previous ideas, becoming whole model by the end of the manual. See the Table of Contents for an overview of all topics and concepts:

Topics – The ideas are grouped into 9 topics, within each topic there are a number of concepts. Each topic ends with a few questions that you should be able to answer before going onto the next topic.

Concepts all begin with a checkmark symbol. The concepts help you understand the reasons why each idea is important and then provides you with different ideas for implementing the ideas, along with teaching notes for sharing the ideas with others.

The Appendix has more detailed information such as food and medicine recipes for people, plants and animals; session plans; menus; handouts; and workshop schedules.

Providing Feedback on the Low Input Model and/or Manual

Please provide feedback on this model to World Food Programme Malawi. During 2006, World Food Programme / Malawi plans to evaluate this model and solicit feedback from those who received the manual. This feedback will be analyzed and used to adapt the model and to produce an updated manual along with a teaching packet for facilitators.

As you use the manual and the model, be sure to evaluate the impact of your work and to take notes to continually improve the ideas. Let us know what you use and develop on your own for activities and visual aids so that we can share your ideas in the next edition of this manual.

Manuals are our generation's way of passing around traditional knowledge – let's continue to 'hand-down' these important pieces of knowledge and skills and to improve them along the way to create a better to our future!



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Topic 1: Low Input Implementing

Before starting to learn about the low input technical topics and concepts, it is important to start with describing what low input means. Low input is a way of thinking and living that is used throughout every part of the model. It will be useful if you come back to read this topic again after finishing the manual, as you will understand the ideas even better.

Low *is not* specifically for the poor or the rich. It is for anyone who cares about the world's resources and leaving this world a better place for the next generation.



What does 'Low Input' mean?

Low input refers to the use of just about any resource: money, labour, energy, water, soil, seeds, time, etc. There are two main points to consider as you decide what systems to design:

- 1.) **Balancing inputs with outputs**: The goal is to achieve the highest output from the lowest amount of inputs. It is a “business” mindset that reduces ‘overhead’ and utilizes all ‘waste’ materials produced from the system. Life requires input – without input there wouldn’t be life! We must have ‘inputs’ of food, water and air or our body would provide us with no ‘outputs’. The key question to ask is “Will the output I get from more input be worth it?”
- 2.) **Consider all impacts**: The low input method considers all impacts from each system including financial, social, environmental, psychological, sustainability, etc. In other words, the choices we make in life can affect other people, the soil, the water, the air, the local economy, etc. When you design a system (or develop a programme) aim for strengthening our world by empowering people, improving social and financial systems, and caring for our environment.

Examples of Low input thinking

- ? One example of this would be to consider the impact of additional watering of your plants – if you put the additional time, energy and water into the plant will they give you a higher yield? Is that higher yield worth your time, energy and water expenditures? Sometimes the answer will be yes, other times the answer will be no – it depends on your situation.
- ? Another example is that you may decide to divert a stream to build yourself a fishpond that will improve your income, your diet and your water supply. But if you divert the stream completely without allowing the water to continue to flow in its original direction to people downstream – the impact on their lives could be very negative and their reactions may not be worth your inputs. Or, instead you may think of changing the design to eliminate or reduce such negative impacts.

Basic Principles of Low Input

Before you start implementing the model, you will need to get into the right mindset, if you are not already there. For those of you who generally sit in an office, you may need to get out of your office and interact with the types of people you want to work with in order to really grasp these ideas! These principles will surface in every topic that we discuss throughout the model:

1. **Focus on local resources** – Local resources often take less input (such as fuel, money, time, etc.). Resources such as local foods, trees, animals, and cultures are becoming lost and their importance being forgotten. This diversity in our local resources is exciting, unique, and important to the health and well-being of everything on our planet!
2. **Focus on solutions not problems** – It is easy to get bogged down with problems, but try to stay focused on helping people move toward creative solutions. This manual will give you many solution ideas for yourself and to share with others.
3. **Encourage creativity** – Help people think in new directions and develop common sense approaches. New solutions that are better than what we have today are just around the corner, and you or one of your target audience just may be the one to discover it.
4. **Help people choose method(s) from a wide range of ideas (or create their own!)** – There is an old saying that goes: “There is more than one way to skin a goat”. The meaning of the saying is that there is more than one way to do things, and more than one way is ‘correct’. This model will present a range of technical ideas to start people thinking.
5. **Consider local cultures** – Everything in this book needs to be adapted! To the situation, the culture, the time of year. There are many outside influences that will guide you.
6. **Integrate** – Make connections whenever possible. The connections may be to other parts of this Model, or it might be to a related topic, such as messages on gender or health, etc. This means you need to stay informed of what the current messages are in other fields.
7. **Be flexible and adapt** – There will be changes. Every situation is unique.
8. **Look to nature for lessons** – Nature can teach us a lot from its systems, its way of interacting, its way of staying healthy and strong without outside human inputs. We can gain ideas, understand issues better, and build inspiration from time spent in nature.
9. **Use uniform messages in all related sectors** – Advocate with the government to create uniform food and nutrition security messages that all sectors use. The messages need to start at the youngest level of education and continue to the highest levels; to be part of the Health system for hygiene, sanitation, nutrition therapy, and other disease prevention and treatment; to enhance the programs in Gender and Community Services for orphans, vulnerable children, women and gender equality; to support lives of those directly affected by HIV in their home; and to link together with civic education programs for effective mobilization and communication.



Improved Low Input Training: Aim for Understanding

"People will not preserve and protect a natural environment which they do not understand or respect. When people learn about the relationship of all forms of life to each other and to the earth, they begin to have a responsible attitude toward natural resources."

--Author Unknown

Source: Permaculture Nutrition Manual, 2000 edition, Kristof & Stacia Nordin

Low input methods to help gain understanding

The quote just above is not limited to understanding the natural environment, it applies to all topics. The underlying key to success is to help people understand the concepts so that they can make their own choices for their lives. There are many ways to help people understand Food and Nutrition Security issues. Specific ideas will be included throughout the manual in the technical sections, but some more general overarching approaches that work well for achieving understanding are:

- ✓ Explanations using locally understood languages
- ✓ Interactive discussions, small groups, and other ways of sharing information. Farmer Field School-type activities are proving to be very effective when well-facilitated. Personal stories from your own life can be very motivational for others, but don't overdo it, it isn't about you!
- ✓ Pictures, posters, or videos if it is possible in your context – People tend to quickly connect with real-life pictures such as before and after photos or pictures of people that look like themselves doing the activity that you are proposing.
- ✓ Handouts, pamphlets, books, magazines – In simple terms for non-technical people. People who read really soak up the resource tables at workshops and in libraries.
- ✓ Visits, tours, field trips, walks – choose local, low input visits first! There is a lot to see right around us before putting together a proposal to use fuel and money to go far away!
- ✓ Demonstrations and displays – visually seeing something is a lot more effective than just hearing about it. Even more effective is to have someone do it with you!
- ✓ Listening, asking, probing, observing – these are all skills that can provide us with a lot of understanding. My mom always told me that I have two ears and one mouth for a reason!
- ✓ Dramas – a well-made drama can be very effective for integrating social issues into your teaching. (See Theatre for Development and Storybook Workshop in the appendix.)

One of the greatest benefits to using these methods is that everyone's understanding increases, meaning, both the 'teacher' and the 'student' gain a better understanding of the issues through their discussions.

Change the workshop allowance mentality

In addition to these general tools, there needs to be a big change in holding workshops and training. Why do people love to attend a workshop in Malawi? People love to attend a workshop because of the financial allowances that they receive.

The result of this habit is that thousands of trainings have been held in Malawi, millions of dollars have been spent, and we are getting nowhere. This must stop! As part of this model, low input training needs to aim to be a role model itself. This includes:



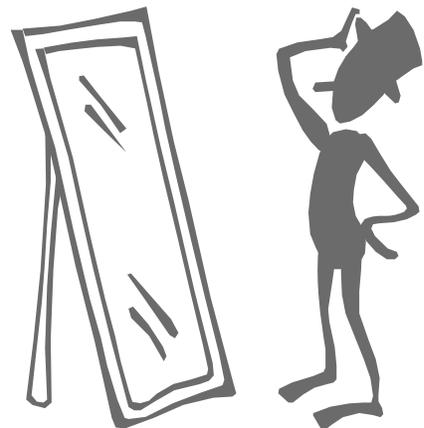
- ✓ NOT paying people to attend trainings. Allowances should NOT be an incentive to attend any workshop. In Malawi, most people cannot afford to pay for training workshops as is done in other countries, so you may need to support transport, food, lodging and trainers fees for participants, preferably through directly paying the hotel and restaurant, not providing cash incentives.
- ✓ All foods and activities should send a message of Food and Nutrition Security. This means that the menu should support the 6 food groups, local foods, and have limited amounts of expensive non-nutritious items. Activities should all follow the principles in the model.
- ✓ Clear communication is required to explain these low-input training principles to the participants before they choose to come, so people are prepared.
- ✓ Advocacy should take place so that all workshops in Malawi take place in this manner.

Increasing Skills: Aim for Creativity

After you have started understanding the basic principles in this Low Input Model and gained an understanding of the technical issues in the following chapters, we challenge you to increase your skills in applying the information. You won't have to go far to find a group to apply the information with - the first person you will want to try the ideas out with is YOU!

Role Modelling – Start with Me!

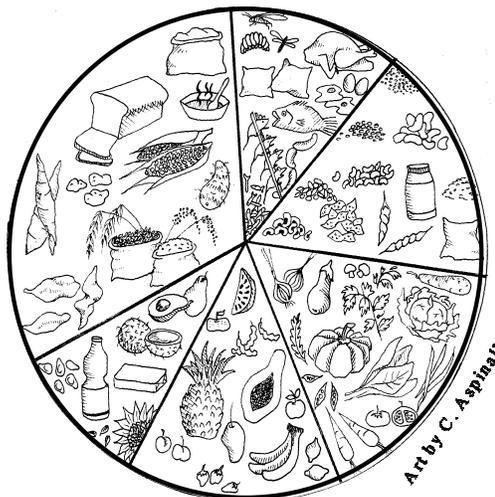
There are many places that you will find to start thinking and acting differently in your own life with what you choose to eat, to buy, what products to use, what you do with your 'trash', how you travel, etc. The longer you use the ideas, the more your eyes will be open to a better way of living.



That looks like a nice target audience!

As you and your colleagues advance your skills in Low Input methods, two skills that you will need to work on are:

1. Improved 'designing' skills – “Putting all the information together” into a design is a skill that continues to improve over time. There are many different parts to consider in every design, and there are many different ‘correct’ design options. It will be important for anyone implementing these ideas to keep trying different designs and adapting them as needed over time.
2. Assessing ALL Resources – Food and nutrition assessments need to include a list of all food resources in the area; the season and amounts available based on the food groups; when seeds can be collected for multiplying the foods; organic waste resources for soil health; all natural resources so that income generation ideas can be brainstormed; human resources; all water resources including grey water and potential roof catchments; etc. Malawi is rich with overlooked resources. It is time that we put all our resources to their fullest use. The Malawi Food Guide is one tool to guide your assessments. Another tool is the Monitoring and Evaluation topic near the end of this manual which provides a sample assessment tool. As your skills increase you will see more and more resources around you which can be used!



Low input methods to improve other people's skills

Once you improve your low input skills, it is almost impossible not to share the ideas! It will start affecting both your work and social life. You will find yourself serving different foods to friends and co-workers for tea breaks, you will talk differently, you will look at how people are treating this earth differently, and you will want to help people see the resources that are currently wasted.

You can start by raising awareness and knowledge through using the methods on the previous pages, then when people are ready to advance their skills you can:

- ✓ Mentor, advise, and provide two-way learning and support – It is usually helpful for an experienced person to visit individuals or groups after initial training. Many people leave a workshop or session thinking that they understood a concept, but when they start to apply the concept on their own they find that they have questions or problems. The ‘experienced person’ needs to have good facilitation and mentoring skills to help people think through problems that arise, to focus on solutions, and to continually think about what local

resources they could be using. When we tested this model, we returned to all the model sites in small groups. We found this part of the process to be very effective for both the trainer and participants in order to see what areas weren't clear in the workshop and to see first hand the issues of implementation in that unique setting. It is helpful to have a network or group of people that are using the ideas to support each other and share skills.

- ✓ Provide advanced skills training – Reserve follow up training for those who are actually trying to apply the new skills – your follow up visits will help you identify who is ready for more advanced training.
- ✓ Increase spread of skills through additional trainers – This last step of training trainers is for people who show improved skills in the topic and have the potential to be a great facilitator. Not everyone has the personality to be a trainer – select trainers for this level carefully!



Testing your understanding of Low Input Implementing

1. Define Low Input - What is the goal of Low Input living?
2. List at least 5 methods you can use to help others understand new concepts.
3. List at least 1 important advanced skill and at least 1 way you can support advanced skills development.

Teaching about Low Input

- Defining Low Input - The low input principles are usually covered on the first day of a workshop, or at the start of a project, or before starting to use the model personally. Low input is then reinforced throughout the workshop or project.
- Barriers to Low Input: Discuss with the group some of the barriers to reducing input, some barriers and solutions we've found include:
 - (1) Low input equals 'lazy' culturally and being lazy is looked down upon. Originally we actually thought of calling this the 'lazy person's farming' because of the amount of time and energy we saved and were able to use differently. But, it isn't so much 'lazy' as being creative - we often do a lot less physical work than our neighbors, but we do a lot of creative thinking and designing instead.
 - (2) There is a strong culture of high input, especially energy expenditure and money - sweeping, clearing, burning, hoeing, walking far, and buying instead of using free things. This is true in other cultures and in our development aid programmes, too. Our job is to open people's eyes to why this type of living and development is unsustainable and provide solutions on how we can use the world's resources more wisely.
 - (3) As with any new concept, it takes time to think in a new way and then to act in a new way - be patient, mentor when appropriate, advocate and be a good role model!