

FOREST GARDEN

FARMER'S WORKBOOK

Year 4
English-Anglaise



USAID
FROM THE AMERICAN PEOPLE

TOPS
Small
Grant



Acknowledgments

The Forest Garden Approach was developed by the team at Trees for the Future, drawing on 27 years of experience working at the grassroots level. The technical content referenced in this Farmer's Workbook was developed by Trees for the Future staff drawing on the experience, knowledge and technical resources from several partners, including the United States Peace Corps, Centro Agronómico Tropical de Investigación y Enseñanza (CATIE), ACIDI/VOCA, the TOPS Permagarden Technical Manual, the International Council for Research in Agroforestry (ICRAF), and the New Zealand Digital Library.

This Farmer's Workbook was made possible by a grant from The Technical and Operational Performance Support (TOPS) Program. The TOPS Small Grants Program Improvement Award (PIA) is made possible by the generous support and contribution of the American people through the U.S. Agency for International Development (USAID). The contents of the materials produced through the PIAs do not necessarily reflect the views of TOPS, USAID, or the U.S. Government.

Photo Credits: Trees for the Future, World Scout Bureau, Machete Verde, Kusamala Institute of Agriculture and Ecology

Extend your learning online at trees.org/training where you can access the latest resources, interact with the community and earn your certification.



Table of Contents



Acknowledgments.....	i
Welcome to fourth year of the.....	iii
Forest Garden training program!.....	iii
Year 4 Self-Evaluation Criteria.....	iv
Module 13: Advanced Optimization	1
Module 14: Pruning and Harvesting Trees.....	8
Module 15: Sustainability Planning.....	14

Welcome to fourth year of the Forest Garden training program!



Dear Farmer,

You are on your way to growing a Forest Garden by protecting, diversifying and optimizing your farm with trees and other crops.

This is the fourth Farmer Workbook which includes activities and resources you will use throughout the this last year of the Forest Garden Training Program. We hope you will keep it clean and safe and bring it to all the Trees for the Future workshops.

There is an evaluation checklist with all the skills you are expected to demonstrate in this second year. We have provided this checklists for you to do a self-assessment, and our technicians will use the same checklists when they visit your farm for annual assessments.

If you participate in the workshops, implement the techniques you learn on your own farm, and meet the evaluation criteria, you will earn a Forest Garden Certificate at the end of the program.

Please do not hesitate to tell your facilitator, trainer, or extension agent how this resource has helped you or how it can be improved. We want you to be successful and wish you luck as you progress through the program.

Good luck,

The team at Trees for the Future

Year 4 Self-Evaluation Criteria



At the end of the each year, you will be evaluated on the practices that you learned and discussed during training events. After demonstrating that you have completed that year's evaluation criteria, you will be invited to continue in the second year of the project. Use this list to do a self-evaluation and ensure you are meeting all the year's major evaluation criteria.

- Green Wall
 - Fully surrounding the Forest Garden site
 - Gaps replanted
 - Well-managed
- Alley Cropping and/or Contour Planting
 - Optimum number planted
 - Gaps replanted
 - Well-managed
- Fruit Trees
 - At least 4 species planted
 - At least 2 species grafted
 - Well-pruned
- Timber Trees
 - At least 2 species planted
 - Proper spacing between trees planted
 - Each tree is weeded and mulched
- Compost
 - Three active piles
 - Well-managed
- Permagarden
 - Multiple species
 - Can discuss at least 4 IPM measure applied
 - Demonstrated use of the 4 S's
- Optimization
 - Optimum number of fruit trees planted
 - Optimum number of timber trees planted
 - Demonstrated use of guilds (beneficial plant associations/polyculture patches)
 - Demonstrated use and explanation of at least 5 IPM measures
 - Ground cover planted among fruit and timber trees



Module 13: Advanced Optimization



Activity: Identifying Times of Food Shortage

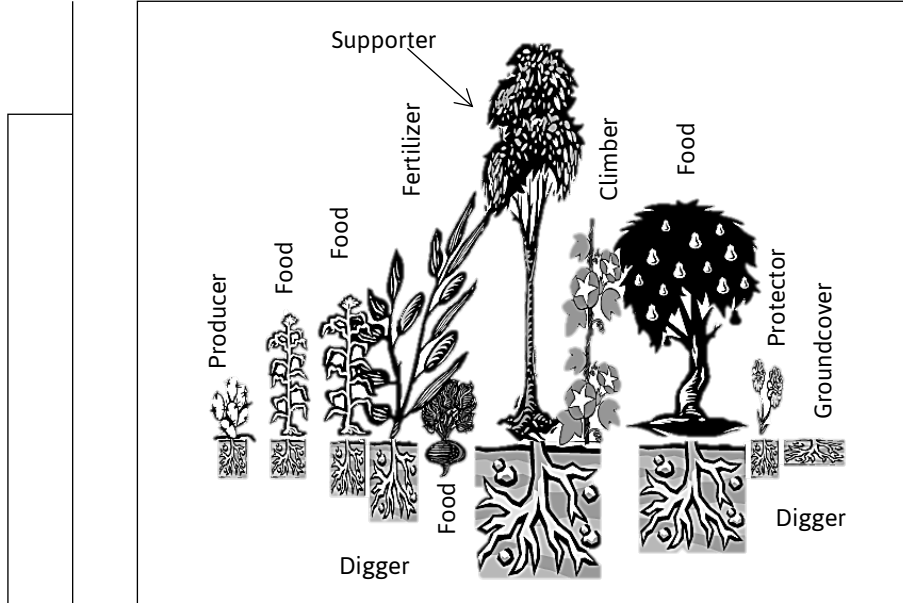


Fill in the calendar with check marks to show when you have products to harvest, sell, eat or trade.

Month or season Crop	J	F	M	A	M	J	J	A	S	O	N	D

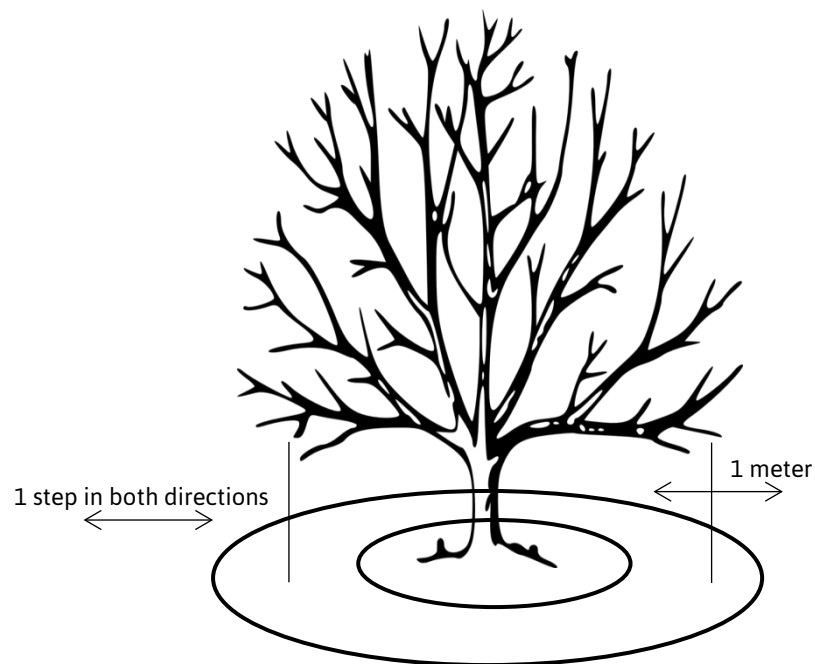
[illegible]

Guild Example



Advanced Soil and Water Conservation Techniques

Procedure for making cuvettes for young and adult trees



Activity: Optimizing Your Forest Garden



What will you do to optimize space, time and water in your Forest Garden?

1.

2.

3.

Notes



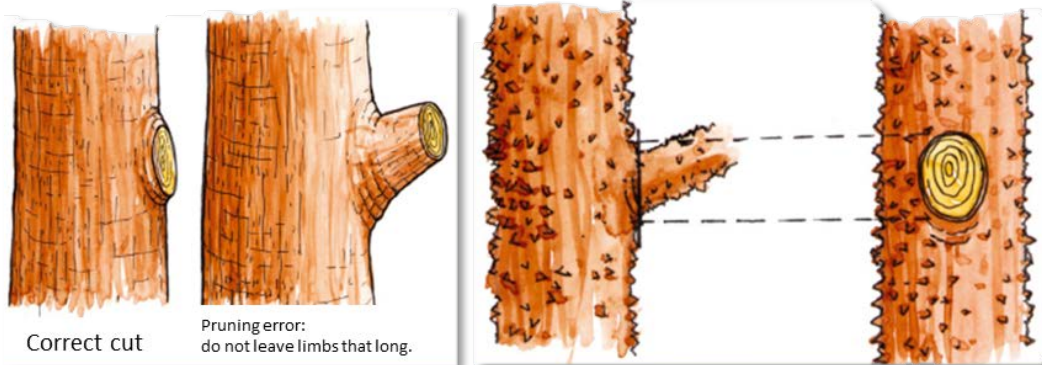
Module 14: Pruning and Harvesting Trees



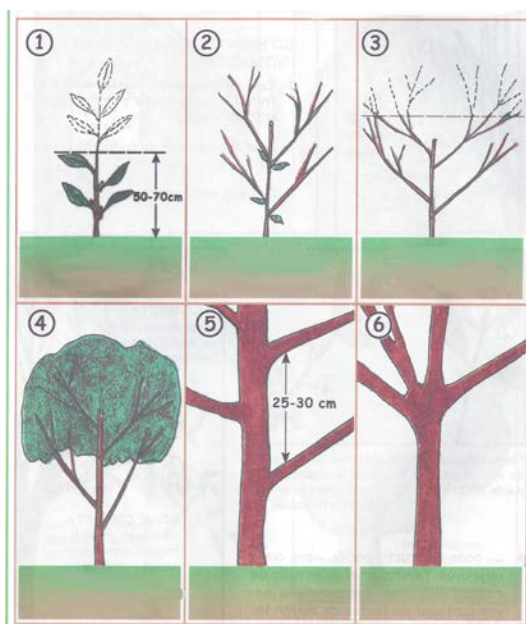
Pruning Best Practices



Basic pruning tools



Prune tree branches near the trunk.



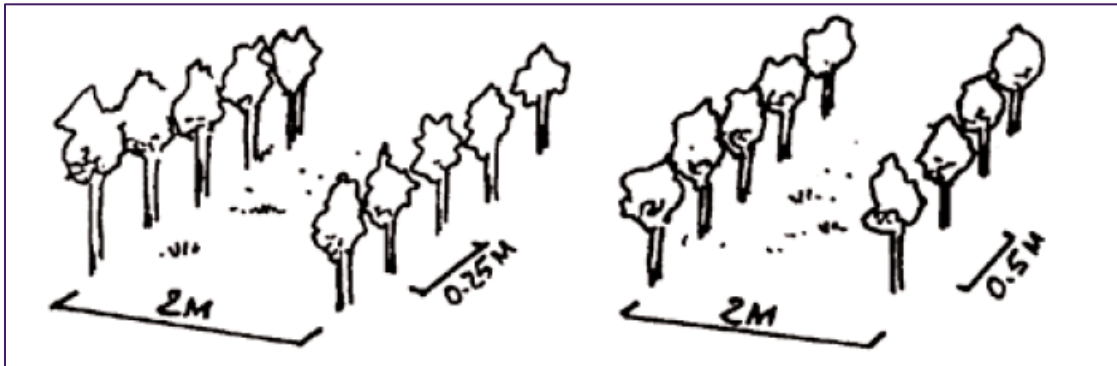
Good times to prune trees:

1. Prune the top of young trees less than a year old if you want them to spread laterally.

2 & 3. Prune branches in the first couple years to shape the tree either tall with a nice crown or short with lateral branching, depending on where the tree is in your Forest Garden.

4, 5 & 6. When trees start to mature, make sure they don't get too dense and that there are not too many branches.

Pruning Foliage



How much tree fodder can you feed to your livestock, and should you feed them green, fresh or dried?

- The easiest way to feed the fodder is to let your cattle, sheep, goats browse directly on trees in the range, in fallow land or in your backyard, if the trees are not too tall.
- If the trees are too tall, you may have to cut the branches and carry them to your animals to eat in the field, in your backyard, or in the stall.



In this way, your animals will eat fresh leaves and small stems. Goats will sometimes eat the bark of large stems and this is also good for them. If overgrazing is causing soil erosion where you live, you may choose to keep animals in stalls or fenced off fields and bring them fodder to eat. Another way is to feed dry forage. Cut it and dry it in the sun for a few days, then store it for feeding later on. It is in this dried form that you should feed the fodder to pigs and chickens. After sun-drying, crush or grind the leaves and small stems to make a leafmeal which you can feed directly or mix with other feeds.

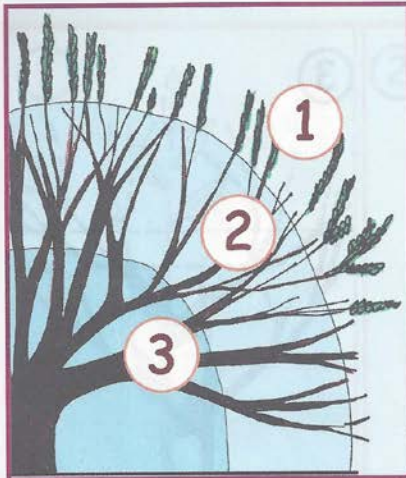
Pruning for Fertilizer



Prune branches correctly and mix the leaves into the soil.

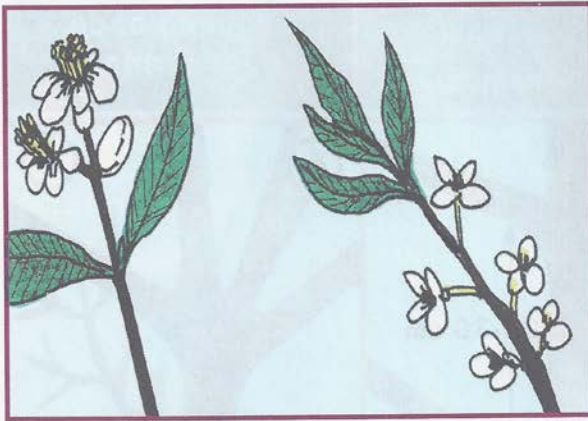


Pruning Fruit Trees



Remove dead, damaged, and diseased branches.

Decrease the density of the branches to promote air circulation, healthier growth, and productivity.



Train the branches to grow how you want them to grow.



Notes



Module 15: Sustainability Planning



The Value Chain



Consumers



Processors

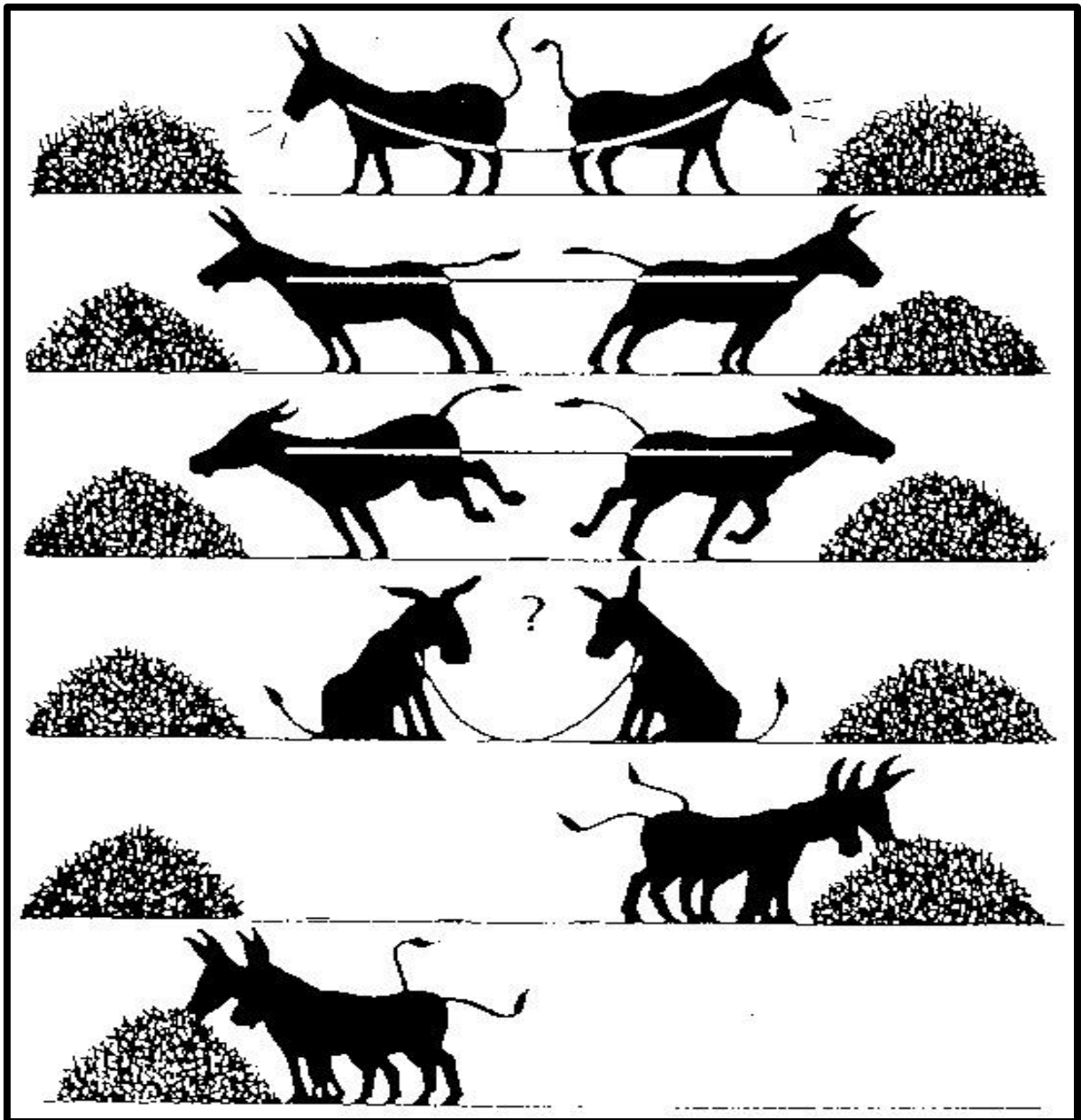


Producers / Farmers



Input providers

Donkey Metaphor for Collaboration



Challenges for Farmer Based Organizations



Challenge	Reasons for happening?	What can we do?

Farm Inputs



Inputs	Quantity Needed	Benefit from collective buying? (yes/no)	How do we purchase it?

Potential Buyers



Buyer	Location	Quality	Volume	Price

Sustainability Plan



Action item:			
Task	Who	When	Cost
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Cooperative Bylaws Template



Because many groups decide to formalize themselves through the course of this training program, we have provided that following bylaws template for newly groups deciding to establish rules or bylaws. This example was modified slightly from a similar template provided by [Cultivate Coop](#). It was modified to be more applicable internationally.

I. Mission, purpose, and legal structure

This section often includes the cooperative's mission statement, vision statement, or stated purpose.^[3] This is also a good place to restate the information outlined in the Articles of Incorporation. The Bylaws should agree with the Articles, but you may wish to include this useful phrase:

"The articles of incorporation are hereby made a part of these bylaws. In case of any inconsistency between the articles of incorporation and these bylaws, the provisions of the articles of incorporation are controlling."^[4]

II. Membership

This section should describe each membership class (if more than one). For each membership class, outline who is eligible for membership, the requirements for membership, voting rights. Specify rules for suspension or termination of membership, including guidelines for returning member investments. Note that membership shares are often non-transferrable.^{[5][2]}

III. Membership Meetings

This section should address the details of annual (or periodic) general membership meetings. Such details may include:

- a) How often are regular membership meetings held? How is the agenda compiled? How is the time and location of the meeting announced?
- b) How are special membership meetings called? How are special meetings announced?
- c) What decision-making process is used? Consensus? Modified consensus? Majority vote? What percentage of participants must vote in favor in order to approve a decision? Do stand-asides affect the outcome? Possible "majority" thresholds include 50% plus 1, 66%, 75%, and occasionally greater percentages.
- d) What number or percentage of members is needed for quorum?^[4]

IV. Board of Directors:

The “Board Directors” section should answer these questions:

- a) What is the minimum or maximum number of Board Directors? It may be useful to specify a range in the Bylaws, so the Board can grow if needed. Cooperatives often try to have an odd number of directors. Do you want the Board to reflect certain constituents? Many consumer-owned cooperatives strive to fill a certain number of seats with staff members.
- b) How are Board Directors elected? How long are Board terms? Many cooperatives try to stagger terms, so that only about half of the Board seats are up for re-election at a time. This helps to ensure organizational stability and preserve institutional memory.
- c) How are vacancies filled? Some cooperatives allow the Board Directors to fill vacant seats, while others require a special vote of the membership.^{[5] [6]} Others offer vacant seats to runners-up from recent elections.
- d) Under what circumstances can Directors be removed? What is the process for removing Directors? In cases of serious misconduct or negligence, suspension or removal may be automatic. In other cases, there may need to be a mechanism for empowering members to recall Directors or Board Decisions.
- e) Will Directors be paid for serving on the Board? If so, how much? Different states have different statutes.
- f) Do you wish to prohibit Board Directors from voting if they have a conflict of interest (such as compensation of officers)? Here is a useful phrase:

“It shall be the duty of all board directors to make prompt and full disclosure to the board of any personal, professional, or financial conflict of interest in a matter under discussion. When a conflict of interest is disclosed, the board member must not participate in the discussion or vote on the relevant issue.”^[4]
- g) How often are Board Meetings held? How will the time and location be communicated to members? Under what circumstances can emergency Board meetings be called, and how will they be announced?
- h) What are the general duties of Board Directors? What is their relationship to the management, staff, and members?

- i) What is the role of the management? Typically (co-)managers oversee daily operations in compliance with general guidelines set by the Board, and report to the Board of Directors.
- j) Will there be Board Committees? Should these be defined in the Bylaws? How are Board Committees formed? What are the limitations of Board Committees' decision-making power?^[6]

V. Board Officers

The Board may be required to designate a President / Chair, Secretary, Treasurer, and / or alternatives. Check your area's requirements, and outline the duties of each officer in subsections. Also specify how officers are designated (elected directly by the membership or chosen by Board Directors) and how long their terms last.

VI. Finances

Be sure to cover the following (check your state's statutes):

- a) How are net proceeds (both margins and losses) apportioned?
- b) How are proceeds distributed?
- c) What are your policies for patronage refunds and reserves?
- d) Check the local government's code for guidelines for equity records. Cover equity redemption for terminating members, deceased members, and unclaimed equity.

VII. Administration and Miscellaneous

This section can include a variety of topics (organized into subsections). Topics may include when the fiscal year begins, what meeting process is used (Robert's Rules of Order, Butler's Formal Consensus, or another system detailed in a separate text that can be referenced by members), use of a corporate seal or logo, indemnification and insurance coverage for Directors, financial reviews, options for advisory councils and committees, and more.^[4] Separate sections can be created for these topics if desired.^[5]

VIII. Amendment to the Bylaws

It is important to state the procedure for amending the Bylaws. How does

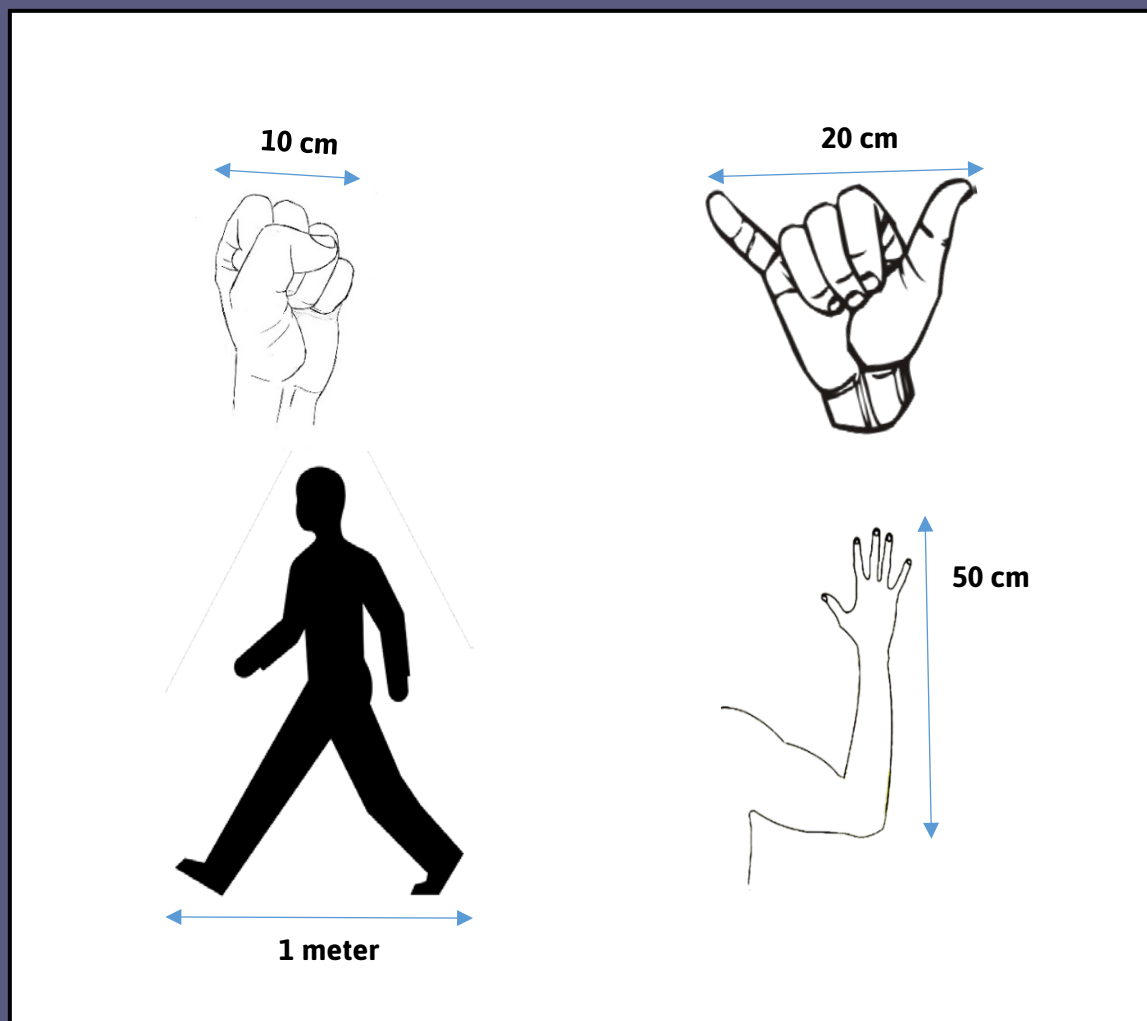
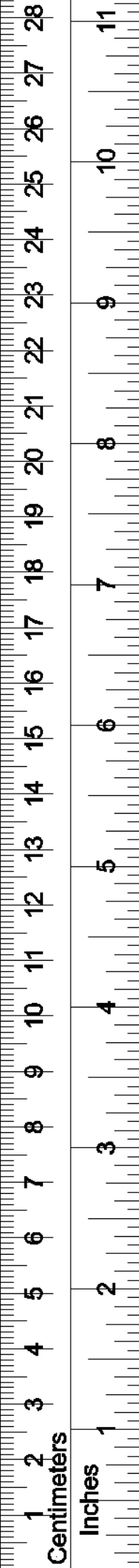
a Board Director or member propose an amendment? How is an amendment approved? (This often requires a period or special general membership meeting and a vote of the membership. Some cooperatives require that members petition for a special meeting and / or Bylaws change in order to demonstrate that their proposal has some support.)

IX. Dissolution

What procedures should be followed if the cooperative goes out of business? If members or Board Directors are interested in dissolving the cooperative voluntarily? How will remaining assets be divided?

Notes

Notes



USAID
FROM THE AMERICAN PEOPLE

TOPS
Small
Grant

