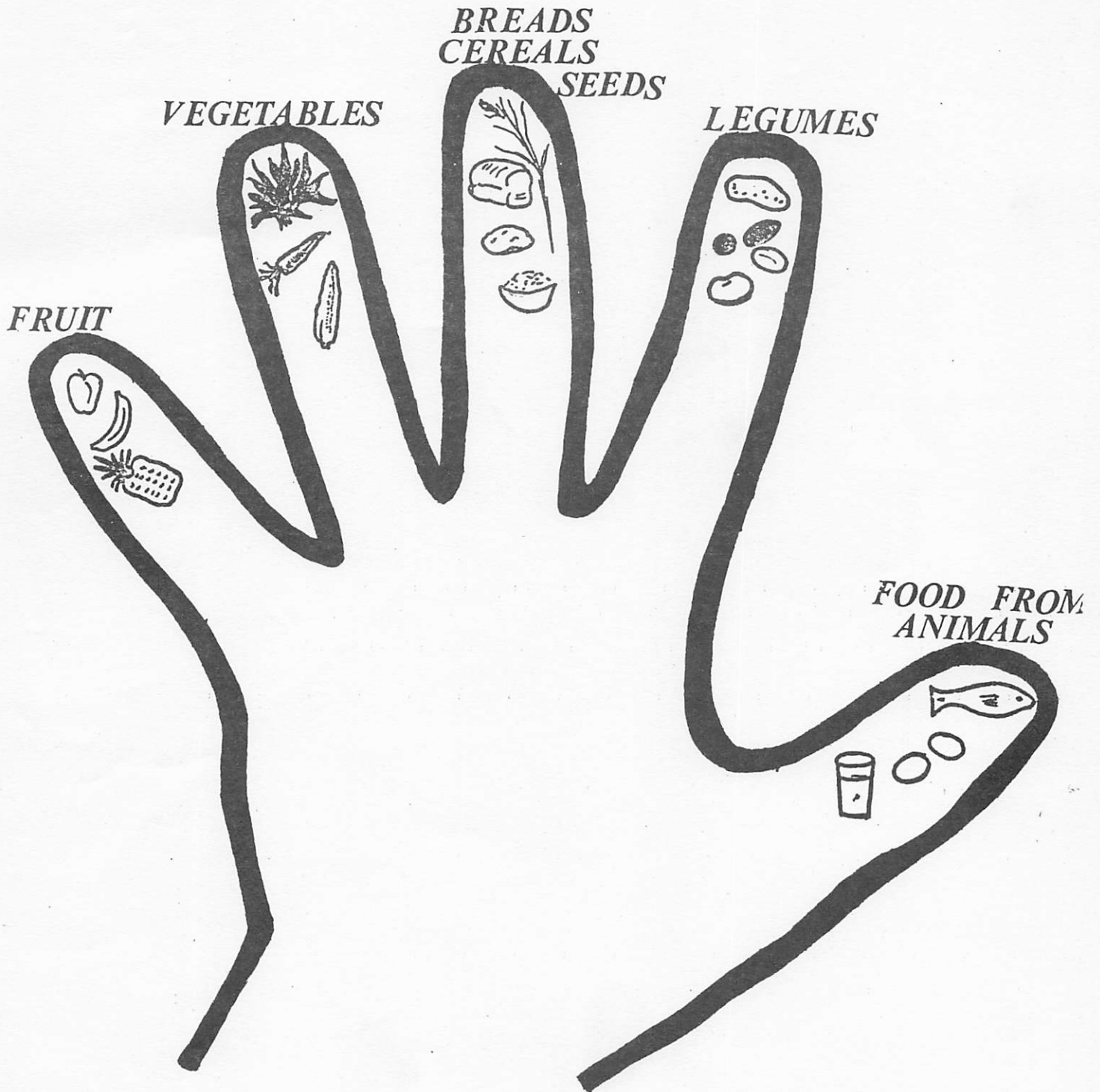
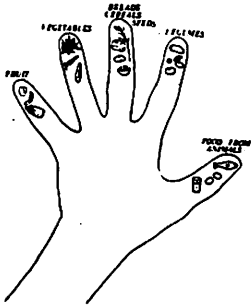


WHAT WE NEED TO KNOW ABOUT FOOD



EVERYONE MUST EAT SOME FOOD FROM EACH OF THE FIVE FOOD GROUPS EVERY DAY.

5 FOOD GROUPS



1. FRUIT GROUP



You may know the fruit group as the flesh that grows around seeds. Some examples of fruits are tomatoes, bananas, squash, oranges, and pawpaw.

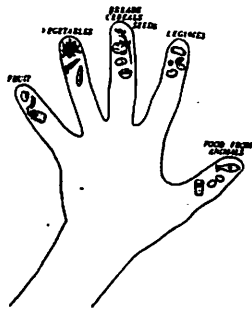
Most fruits provide minerals and vitamins and some provide a lot of energy. There are many different vitamins and minerals, and we require small amounts of them all, so it is the best plan to share several different kinds of fruit in the family each day.

On this page list the fruits common in your area and write the time of year they are harvested and the cost during that time.

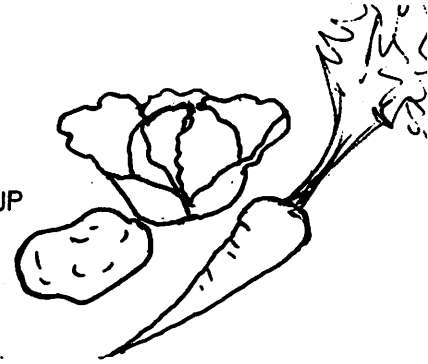
FOOD	TIME OF YEAR	COSTS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Eat Some Fruit At Every Meal  
( a little bit will do)**

5 FOOD GROUPS



2. VEGETABLE GROUP



Leaves, roots, stems, and buds of plants are all part of the vegetable group. Some vegetables are potatoes, spinach, and carrots.

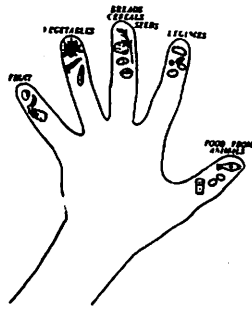
The vegetable group has even more vitamins and minerals than the fruits. People who don't eat enough vitamins might have problems such as coarse or dry hair; red rough skin; skin that bruises very easily; sore crusty eyelids; gums that are red and swollen; or even night blindness.

For example, vitamin A prevents night blindness. It is found in dark leafy vegetables such as Casava leaves or Papaya leaves. What are some vegetables in your area that are dark and leafy? What time of year are they available?

FOOD	TIME OF YEAR	COSTS
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Eat Some Vegetable At Every Meal  
(a little bit will do)**

5 FOOD GROUPS



3. BREAD, CEREAL, AND SEED GROUP

All foods that have seeds that grow exposed are the bread, cereal and seed group. Some foods in this group are rice, wheat, and corn, and foods that are made from the flour of these seeds.

This group of foods is mostly an energy group and supplies some vitamins and minerals, but only if you eat the whole grain. That means rice that has been left brown, wheat that is ground whole or eaten as cracked wheat, and corn that is ground whole. This group can also have body building qualities when eaten with foods in the legume group, (rice and dahl, wheat bread made with soy flour).

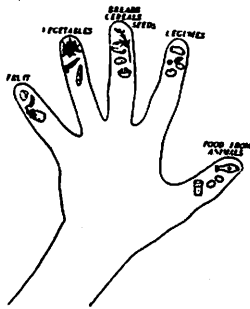
Someone who doesn't eat enough of this group of foods may feel a lack of energy, or their tongue may become swollen.

What are some foods in this group available here?

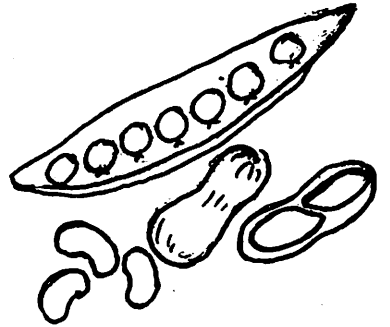
FOOD	COSTS	FOODS IN LEGUME GROUP THAT MIGHT BE USED WITH THIS GROUP
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

**Grains Are Usually The Cheapest Source Of Energy - They Must Be Eaten At Every Meal**

5 FOOD GROUPS



4. LEGUME GROUP



Foods that are seeds grown in pods are foods in the legume group. Some legumes are peanuts, beans and peas.

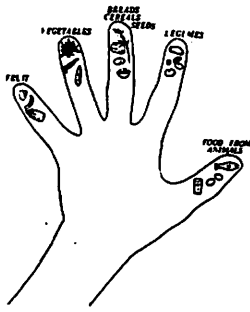
This group of foods, when eaten with foods from the seed group, makes good body building foods, and the combination is especially important where very little food from animals is eaten. People who don't eat enough of this group of foods may experience tiredness or lack of energy.

List some common legumes or beans available to you.

FOODS	COSTS	FOODS IN THE SEED GROUP THAT MIGHT BE USED WITH THESE LEGUMES
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

One Measure of Legume for Every Three Measures Of Grain Is A Good Combination And Should Be Eaten At Every Meal.

5 FOOD GROUPS



5. FOOD FROM ANIMALS



All foods that come from animals are animal foods. Some animal foods are cheese, milk, eggs, chickens, and fish.

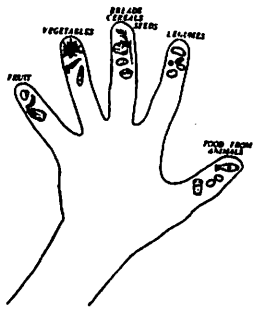
Animal foods are body building foods, but when you don't eat enough energy foods, body building foods will be used for energy instead. This group gives iron and some vitamins. Body building foods are needed for growth and helping the body fight infections. Someone who doesn't eat much food from animals can get body building foods by eating legumes with seeds, cereals, and breads.

What are the foods from animals available to you?

animals and fish available to you	possible food	cost to you
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

You Don't Need Much, But Some Food From Animals Should Be Eaten At Every Meal.

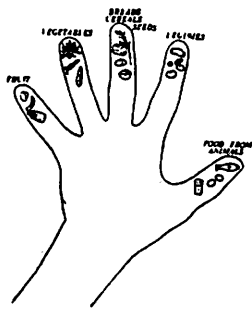
## 5 FOOD GROUPS



Using the five fingers of a hand makes it easy to remember the five food groups. It is easy for mothers to plan something from each food group to every meal. If mothers do so, their families will have better vitality and will be less likely to become ill.

Eating some of each food group at every meal will insure that a person has enough of the energy foods, building foods, and protective foods that he needs.

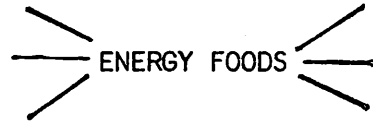
## 5 FOOD GROUPS



## ANOTHER WAY TO TALK ABOUT

## VALUE FROM FOOD

The five food groups contain energy foods, body building foods, and protection food.



Energy foods help us to move about and perform work. Energy is measured in calories or energy units. Some people need more calories (energy units).



Young children need calories (energy units) to grow and play. As a person grows old he doesn't need as many calories (energy units).



People who do hard work like digging in a field need more calories (energy units) than people who sit most of the time.

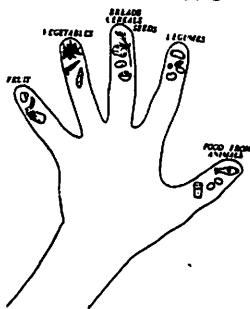
People who live in cold places need more calories (energy units) to keep warm than people who live in warm places.

Pregnant Women need extra calories (energy units) to build the new cells (building blocks) that make up the new baby. She is also growing in size and needs more calories (energy units) for movement and work.

Nursing women need more calories (energy units) to help her body produce the right amount of milk for her baby.

On the following page is a table of energy requirements per day for different ages and types of work.

## 5 FOOD GROUPS

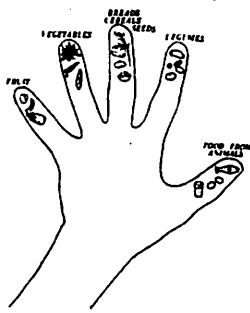


## TABLE OF ENERGY REQUIREMENTS

	CALORIES PER DAY
1 to 2 years	1000
3 to 4 years	1200
5 to 6 years	1400
7 to 8 years	1600
11 to 12 years - girls	2200
11 to 12 years - boys	2000
13 to 17 years - girls	2500
15 to 18 years - boys	3000
pregnancy	2900
lactation (nursing women)	3400
adult man	2400
adult man - very active	3000
adult woman	2200
adult woman - very active	2500

There is some energy in all foods. Most people get most of their energy from grains and legumes. It takes almost exactly a kilogram of dry grain and legumes a day to provide 3,400 calories for an active nursing woman.

## 5 FOOD GROUPS



Body Building foods (proteins) are needed to:

1. Grow - when a child is growing he needs body building foods.
2. Repair and maintain body parts - the cells (building blocks of the body ) are always changing and getting worn out. They have to be repaired and replaced. When the body is hurt, body building foods are needed to repair it.
3. Keep the body in working order - your body gets protein (body building foods) when you eat these foods.

- animal products group - animal products give you complete body building units. You get body building units when you eat eggs, milk, meat, cheese and fish. Young babies get body building units from their mother's milk.

- breads, cereals, seed group and legume group - when eaten separately usually give only a part of body building unit. When you eat them together you get a whole body building unit.

Here are some bread, cereal, seed group and legume group examples. They can be eaten together in any combination as long as you eat one from each group in the following proportions:

1. Use  $1\frac{1}{2}$  cups grain for  $\frac{1}{2}$  cup beans (ratio 3:1)
2. Use some milk with every dish that is mainly beans

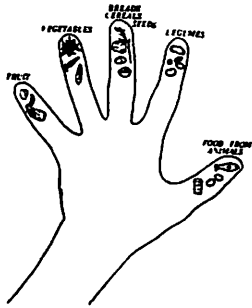
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There are many common combinations of seed and legume groups served in every part of the world. Some of these combinations are listed here:

rice and bean casserole  
wheat and soyflour bread  
corn and soyflour bread  
wheat bread and baked beans  
rice and dahl (lentil) curry  
rice and peas  
corn tortillas and kidney beans

wheat crackers and pea soup  
bread and peanut butter  
sesame salt on bean casserole  
roasted sunflower seeds and peanut  
rice and soy bean curd.

5 FOOD GROUPS



Body Building Foods cont'd

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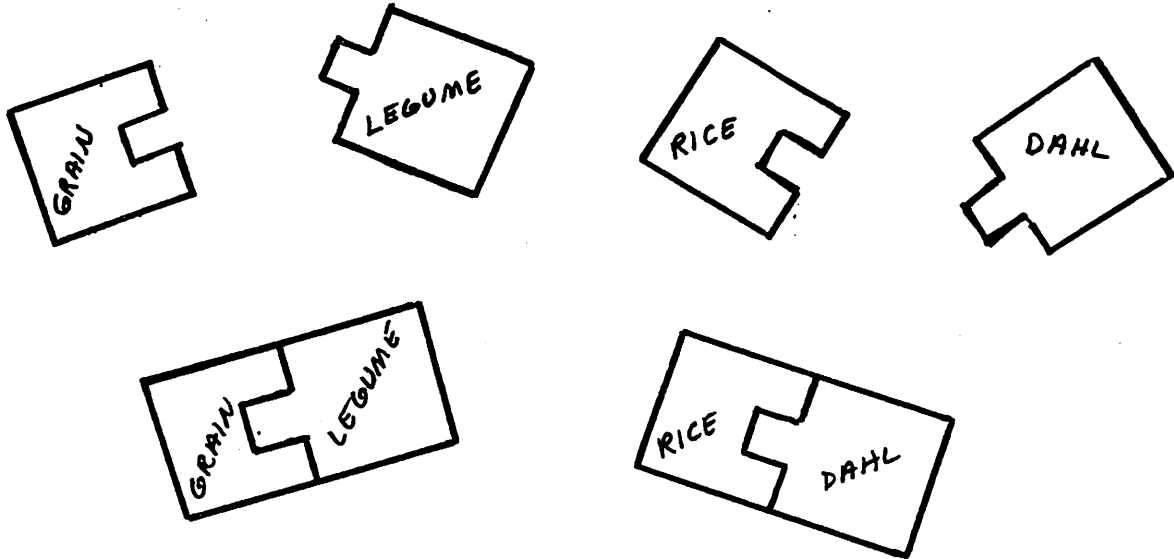
OTHER COMBINATIONS

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Whole Wheat, Rye, Oats  
 Bulgur, Brown Rice, Macaroni  
 Barley Buckwheat, Noodles  
 Wheat Bran, Millet, Grain  
 Sorgham

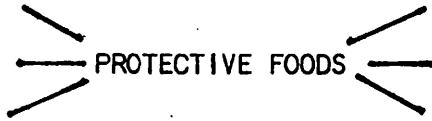
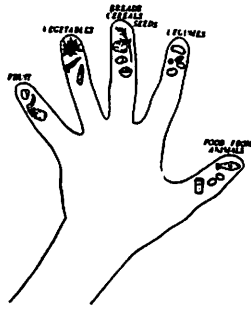
Blackeyed Peas, Split  
 Peas, Full Lentils  
 Chick Peas, Mung Beans  
 Lima, Soybean Curd  
 (Tofu), Kidney, Navy

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FOOD FROM  
 ANIMALS

5 FOOD GROUPS



Protective foods help to protect your body from getting sick and help it work well. It is the vitamins and minerals in the protective foods which help us. In the following pages is a chart with some of these vitamins and minerals and some helpful information about them.

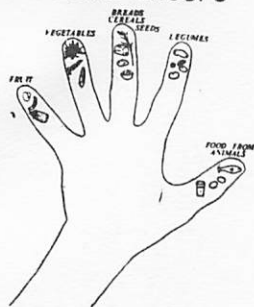
VITAMIN	WHAT IT DOES	WHERE YOU GET IT	WHAT HAPPENS WHEN YOU DON'T GET ENOUGH	PROBLEMS COOKING AND STORING
FOLIC ACID	proper formation of blood cells	<u>animal foods</u> : liver <u>vegetables</u> : asparagus, corn, broccoli <u>legumes</u> : cowpeas, lentils, navy & kidney beans <u>bread, cereal, seed</u> : whole grains	anemia (weak blood)	
VITAMIN B <sub>12</sub>	keeps nervous system healthy	<u>animal foods</u> : liver, kidney, meat, milk, cheese, oysters, fish, yogurt	anemia (weak blood)	

PROTECTION FOODS				
Protection foods help to protect your body from getting sick and help it work well. There are two kinds of protection foods: vitamins and minerals. In the following pages is a chart with some of these vitamins and minerals and some helpful information about them.				
VITAMIN	WHAT IT DOES	WHERE YOU GET IT	WHAT HAPPENS WHEN YOU DON'T EAT ENOUGH	PROBLEMS COOKING AND STORING
VITAMIN A	keeps eyes and skin healthy, helps prevent irritability, keeps nervous system healthy, gives energy from food eaten	<u>animal foods</u> : eggs, meat, fish, cheese, liver, buttermilk <u>vegetables</u> : dark green leafy and dark yellow <u>fruits</u> : deep yellow or dark fruits (mangos or tomatoes) <u>legumes</u> : green peas, green beans	hard to see at night; rough, dry, itchy skin	destroyed by long cooking or drying in the sun
VITAMIN B <sub>1</sub> (THIAMIN)	keeps nervous system in working order	<u>animal foods</u> : meat, fish, liver, pork, eggs <u>legumes</u> : nuts, peas, dried beans <u>bread, cereal, seed</u> : rice, sorgham, maize, wheat (unmilled)	beri-beri (numbness or tingling in feet or toes, fatigue, poor appetite, sensitivity to noise or pain)	lost in cooking water and milling
VITAMIN B <sub>2</sub>	healthy eyes, skin, hair; proper growth; aids body in using air	<u>animal foods</u> : liver, milk, kidney, cheese <u>vegetables</u> : dark green leafy <u>legumes</u> : peas, beans, peanuts, cashews <u>bread, cereal, seed</u> : wheat	bloodshot eyes, lip sores, skin disease	lost in cooking water

MINERAL	WHAT IT DOES	WHERE YOU GET IT	WHAT HAPPENS WHEN YOU DON'T GET ENOUGH	SPECIAL PROBLEMS
IRON	needed for good blood and air in blood	<u>animal foods:</u> liver, red meat, kidney, egg, insects <u>fruits:</u> dried fruits <u>vegetables:</u> green leafy <u>legumes:</u> peas, beans <u>bread, cereal, seed:</u> whole grains, molasses, sorghum, jaggery	anemia (weak blood) fatigue, listlessness	extra amounts needed by pregnant women and people with malaria and worms
CALCIUM	growth of bones and teeth, blood clotting, muscle action and relaxing	<u>animal foods:</u> milk, meat, eggs, small fish, cheese <u>legumes:</u> peas, nuts <u>bread, cereal, seed:</u> whole grains <u>vegetables:</u> green leafy	weakening of bones and teeth, poor growth	Vitamin D in diet also is necessary for calcium to work
IODINE	regulates rate body uses energy	<u>animal foods:</u> fish and salt from the sea	goiter (growth on the neck)	
FLUORINE	keeps bones and teeth healthy	<u>animal foods:</u> some small fish found in some water supplies	bad teeth	too much fluorine darkens teeth

VITAMIN	WHAT IT DOES	WHERE YOU GET IT	WHAT HAPPENS WHEN YOU DON'T GET ENOUGH	PROBLEMS COOKING AND STORING
VITAMIN B <sub>3</sub> (NIACIN) (NICOTINIC ACID)	aids body in using air	<u>animal foods</u> : liver, chicken, insects, fish <u>legumes</u> : groundnuts	Pellagra (mental confusion, scaly skin, weakness, poor appetite)	Lost in cooking water
VITAMIN C	keeps gums healthy; prevents fatigue; necessary for healthy bones, teeth, blood; helps wounds heal fast; helps body resist infection	<u>vegetables</u> : broccoli, collards, kale, onions, brussel sprouts, green leaves, green peppers <u>fruits</u> : oranges, tomatoes, cantelope, lemons, mangos, paw paws, pineapple, bananas	Scurvy (listlessness, lack of endurance, pain in legs and joints, nose bleeding, bruises, bleeding gums)	easily destroyed by heat
VITAMIN D	works together with mineral calcium for healthy bones and teeth	made by action of sun on skin; <u>animal foods</u> : butter, cheese, fish liver oil, eggs, liver	weak bones Rickets (faulty bone growth)	
VITAMIN K	helps blood clotting (to stop bleeding)	<u>animal foods</u> : liver, eggs <u>vegetables</u> : dark, green leafy <u>legumes</u> : soy bean oil, green peas	excessive bleeding in injuries	

## 5 FOOD GROUPS



## BABY FEEDING

### NEWBORN

Breast milk is the perfect food for a baby. It has the right amount of protein (body building food) the baby needs to grow. It also has plenty of calories (energy food) as well as vitamins and minerals (protection food). The milk that comes from a mother's breast the first few days is thin and watery and is called colostrum. It is very good for babies, so they should be put to their mother's breast as soon as they are born. Breast milk alone is enough for the first six months of a child's life. The mother needs to eat more protein and protective foods while she nurses.



### 6 MONTHS

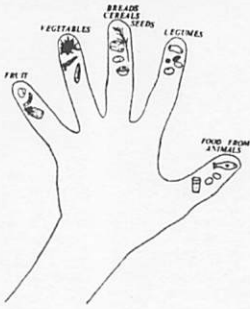
When a baby is 6 months old, he has become so big that breast milk is not enough by itself. If a child is to continue to grow, he must also start eating a thin porridge. His mother can make the porridge by boiling maize, millet, casava or rice in water. This porridge should be given once a day when the baby is most hungry. When he is eating the porridge well, he can have  $\frac{1}{2}$  cup of it 2 or 3 times a day.



In 2 or 3 weeks when the baby is eating plain porridge well, some body building protein foods need to be mixed with it. Animal products such as dry milk powder and egg should be added. The mother can also use the liquid in which she cooks the legumes (seeds in pods) in place of plain water.



## 5 FOOD GROUPS

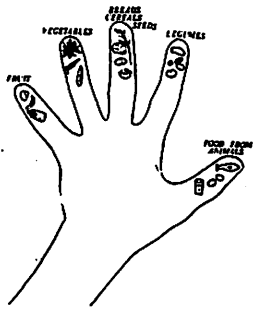


Other foods the mother should add to the porridge as the baby gets older are pounded groundnuts, groundnut butter, mashed skinned beans and pounded fresh fish. At least once a day the baby should eat some protection food such as dark green leaves or fruit.

The mother should be sure that the food she adds to the porridge are cooked, mashed and mixed in well. Because mother's milk is an important was the baby gets body building protein, a mother should go on breast feeding her child until he is eighteen months or two years old.



5 FOOD GROUPS

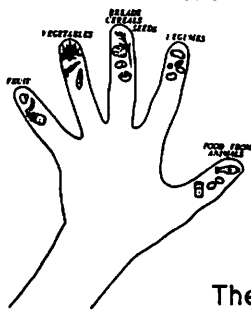


AN ADEQUATE FOOD PROGRAM FOR THE VILLAGE

JOURNEY TOWARDS ADEQUATE VILLAGE NUTRITION

BEGINNING STAGES	DEMONSTRATION STAGES	REFINEMENT STAGES	SELF-SUFFICIENCY STAGES
<p>Survey and analysis Advise Agriculture Guild Establish Auxillary Kitchen Get Scale to weigh babies</p>	<p>Check elders nutritional status Begin Hotel Dynamics Community lunch program</p>	<p>Take on 2 new aides Aides to cook aides Cook aides <math>\begin{cases} \text{cook} \\ \text{purchaser} \end{cases}</math></p>	<p>Take on 2 new aides aides to cook aides Cook aides <math>\begin{cases} \text{cook} \\ \text{purchaser} \end{cases}</math> Cook — Menu purchaser planners Menu planners teach nutrition in Mother-Infant program.</p>
<p>Baby weighing begins detection Emergency Infant Feeding Program Pre-school Feeding Prog. Apply for: Emergency Food Begin Community Garden</p>	<p>Stake gardens initiated (depend on growing season) Take on 2 new aides in Community Kitchen Present aides become cook aides</p>	<p>Nutrition Education begun in Schools</p>	<p>Survey again Analysis - determine Status - advise Agriculture &amp; Industry Guilds</p>
<p>Set-up separate Community Kitchen - launch to open house Formal Infant Feeding program begins Select &amp; train staff for Community Kitchen begin as aides Health Trek</p>	<p>Food from community garden into Community kitchen for pre-school infant feeding Expand community garden</p>	<p>Take on 2 new aides Aides to cook aides cook aides <math>\begin{cases} \text{cook} \\ \text{purchases} \end{cases}</math> Purchaser — Menu cook planners</p>	<p>Emergency Food finished Kitchen Self supporting</p>

## 5 FOOD GROUPS



## WHAT IS ENOUGH ENERGY?

There is a formula on this page to figure out the amount of grain needed to provide enough energy to everyone in the village for a whole year.

Here are some facts you must know to understand the formula:

A calorie is a measurement of energy that you get from food.

3,000 cal per day is the number of calories used by a man at active work.

365 days is the number of days in a whole year

3400 cal is the number of calories provided by a kilogram of grains such as rice, corn, wheat or sorgum and is approximately the number provided by a kilogram of legumes.

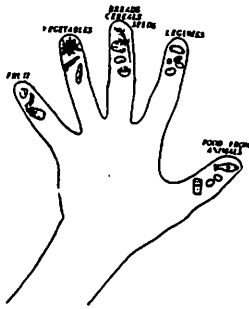
Here is the formula:

$$\frac{3,000 \text{ cal} \times 365 \text{ days} \times \text{population of village}}{3400 \text{ cal}} = \text{kilograms of grain needed each year}$$

The local farmers usually know almost exactly how much land is being used for crops and how much of each crop is produced for each section of land, so it is possible to figure out how much food is grown altogether by the farmers of the village. Compare this amount to the amount that the formula says you need in a year. When there is less food produced than is needed, plans must be made to increase production on land already farmed or to increase the amount of land being farmed. Where there is more than enough food being grown, some of the food can be sold for cash outside the village, and plans can be made to grow a variety of crops to improve the diet available in the community.

The health guild usually works with the agriculture guild to make plans that will guarantee enough food will be grown to feed the whole village. Next the health guild must work with the commerce guild to be sure that the food produced by the village farmers will be made available at a just price to people in the village who have little land and must purchase their food. Working together, the guilds can be sure that everyone in the village has enough food to do his work.

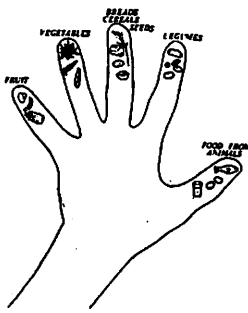
## 5 FOOD GROUPS



## HELPFUL FACTS ABOUT FOOD

1. You need to eat food from all five food groups at every meal.
2. Eat fruits and vegetables raw to get the most food value. Those which are cooked should be cooked with the skins on.
3. Liquids from cooking should be saved and used in soups or drinks.
4. Whole grain is better for you than grain which has been milled, hulled or bleached. Eat brown rice instead of polished rice. Eat whole wheat flour instead of white bleached flour.
5. "Enriched" means the flour has had some of its nutrients put back into it. It is better for you than white bleached flour but not as good as whole grain flour.
6. Darker green leaves and darker orange color of vegetables and fruits have more vitamins (such as Vitamin A) than leaves which are light green and vegetables and fruits which are light orange.
7. Sprouted beans are a good source of Vitamin C.
8. If fruits and vegetables are likely to be contaminated, they must be disinfected or peeled before eating raw. To disinfect, wash thoroughly, soak for 30 minutes in pure water with added disinfectant (Clorox or Lugol's solution). Rinse thoroughly.

## 5 FOOD GROUPS



## NUTRITION SURVEY

A survey is taken by going to many or all of the houses in the village and asking the same questions at each house. For a family nutrition survey, you would ask in every house about what foods were eaten by the members of the household during the past 24 hours. In our survey we would then ask how the food was prepared and whether the family grew that food itself or purchased that food.

In our nutrition survey, we also measure the arm circumference of children between the ages of 1 to 5. This gives us information about how well these children have been fed during the past year.

After you have filled in the part of the survey that the people give answers to, you can find all the foods they mentioned in a "food value table" and find out how many calories and how many grams of protein were eaten by a family that day.

By thinking about the answers we find to our questions, we can figure out what problems of nutrition still remain to be worked on by the health guild. Here are some examples of what we might find out on the survey and what we would then know about the village.

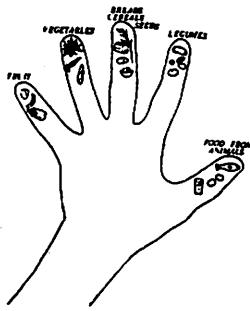
If you find that very few families are eating enough calories and many children have very thin arms.....then you know that the village must work very hard on increasing food production.

If you find that most families have enough to eat, but a few families do not have enough.....then you know that there is enough food produced, but you must figure out how to help individual families increase their family income

If you find that few families can understand the five food groups.....then you know that you must improve your system for teaching about five food groups at every meal.

If you find that families know about the five food groups but do not eat these foods.....then you know that you must teach people how to find or grow the varieties of food they need.

## 5 FOOD GROUPS



### GUIDELINES FOR NUTRITION SURVEY

(refer to section on surveys in Vitality Maintenance Chapter)

1. The left-hand portion of the chart is to be completed during the conversations with the family. The right two columns are for calculations to be made during the evaluation.
2. Record all food consumed by the family, even if not prepared by the homemaker (don't forget to include mother's milk if child is nursing).
3. Determine amounts as close as possible. Make estimated in cups (250ml.)  
The amount which can be held in one (woman's) hand is approximately one-half cup; two hands cupped together (double handful) holds 1 cup.
4. If mixed food is prepared, find out exactly what went into it - such as  
"stew" is recorded as meat - 1 cup  
potatoes- 2 cups  
carrots - 2 cups
5. Children's Arm Measurements: measure arms of all children ages 1-5 years. Instructions follow for preparing and using measuring tape. Record on page following Survey Chart, the number of children in each family and the color the arm band measured for each child.

FAMILY NUTRITION SURVEY

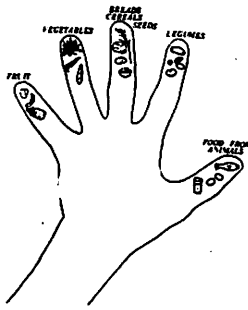
Family Name \_\_\_\_\_

Number of people in family \_\_\_\_\_

Food Eaten In Last 24 Hours			How Prepared	Where	From	Nutrition Provided	
Food Group	Name	*Amount	(boil, fry, raw, bake, etc)	Grown	Purchased	Calories	Protein
ANIMAL							
VEGETABLE							
CEREAL BREAD SEEDS							
OIL							
LEGUMES							
FRUIT							
* how is food stored _____ how often do you go to market? _____						TOTAL FAMILY INTAKE	

1.30

## 5 FOOD GROUPS



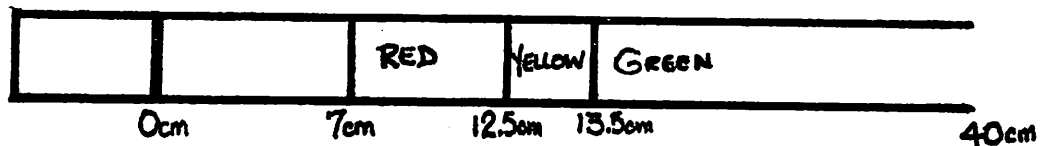
## TAPE FOR MEASURING NUTRITIONAL LEVEL OF CHILDREN 1-5

Tape can be made from thin cardboard, or any non-stretching material. It should be 1cm wide and 40cm long. It is given three colors.

example of colors: red - severe malnutrition

yellow - mild malnutrition

green - normal nutrition



Choose color for the malnourished area that signifies danger in that culture.

### HOW TO USE TAPE:

Measuring the upper arm of the child is most helpful if done every 6 months, for 1-5 year olds only.

Tell the child to stand relaxed with his arm at his side.

Place the tape around the middle of his upper arm.

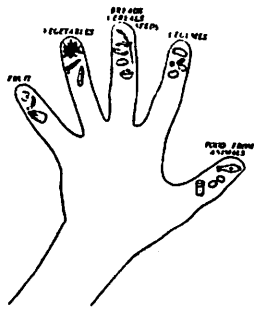
Be careful the tape is not too tight or too loose (should be snug but not dent the arm).

Note the color the child's measurement is and record on sheet labeled "arm band measurement"

It is good to record the total village data on a chart and place it in a public space. Compare these results to the results of a survey done six months previously to see how the nutrition of the children has improved over that period of time.



## 5 FOOD GROUPS

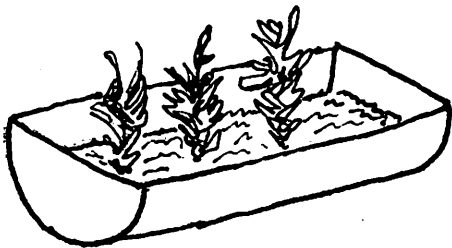


## COMMUNITY GARDEN

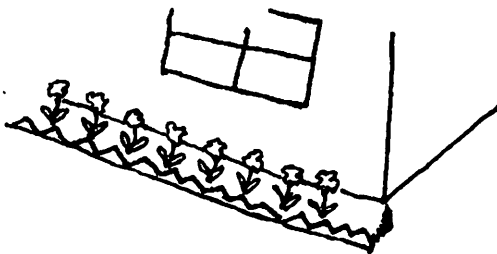
- purpose - to show new foods, show new ways to grow food
- to have food for community kitchen
  - to encourage home gardens



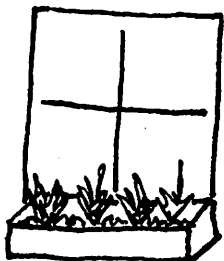
Basket - give to families to take home. Good for plants like tomatoes. May need to stake vine plants.



Barrel - any available container can be used. Put 1-2 inches of loose stones in bottom, add soil. Have holes in bottom for drainage. Have near house and water with used kitchen water.

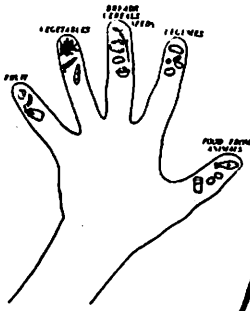


Flower Beds - use areas next to house. Easy to water and can be protected from animals.

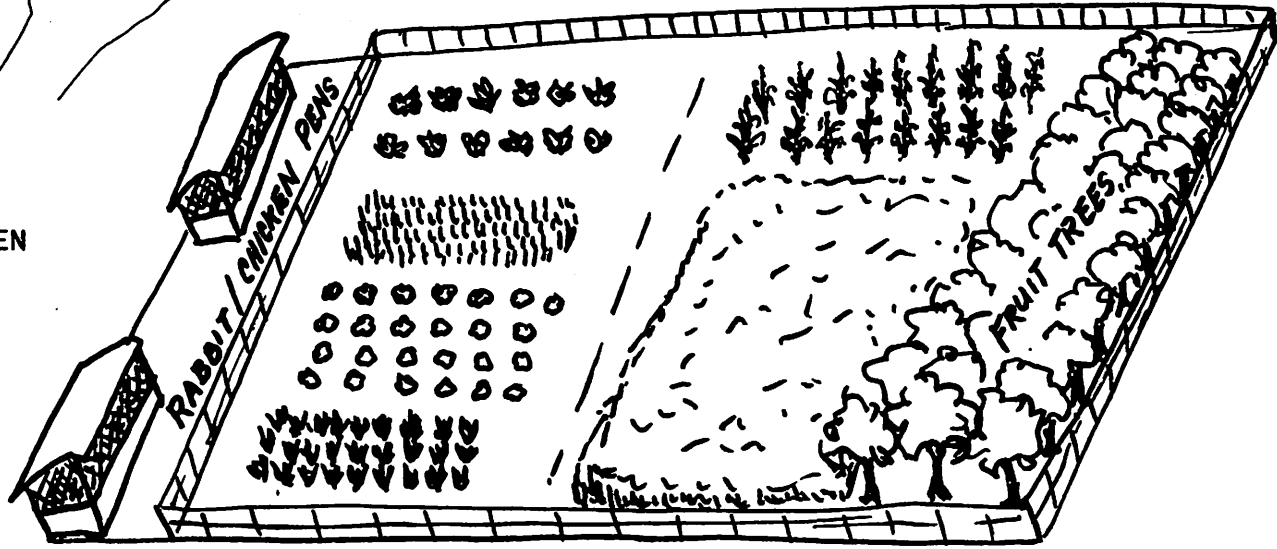


Window Box - can grow small vegetables, like lettuce, onions. Good for elders and crowded places. Need some sun during day.

5 FOOD GROUPS



GARDEN PLOT



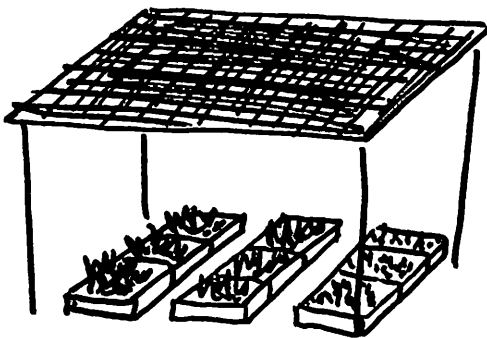
Plant crop that supplies needed nutrition for village. The nutrition survey will tell you what is most important.

The garden needs to be near water (irrigation) or have enough rainfall. There needs to be good drainage.

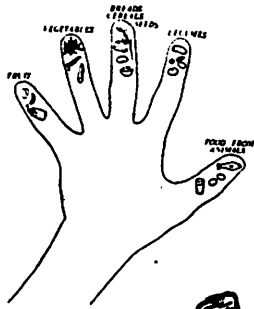
Fencing may be needed if small animals or children are a problem.

SHADED SEED BED

This is a way to plant seeds and have plants ready to put in the ground as soon as the present crop is harvested.



## 5 FOOD GROUPS



## COMPOST HEAP

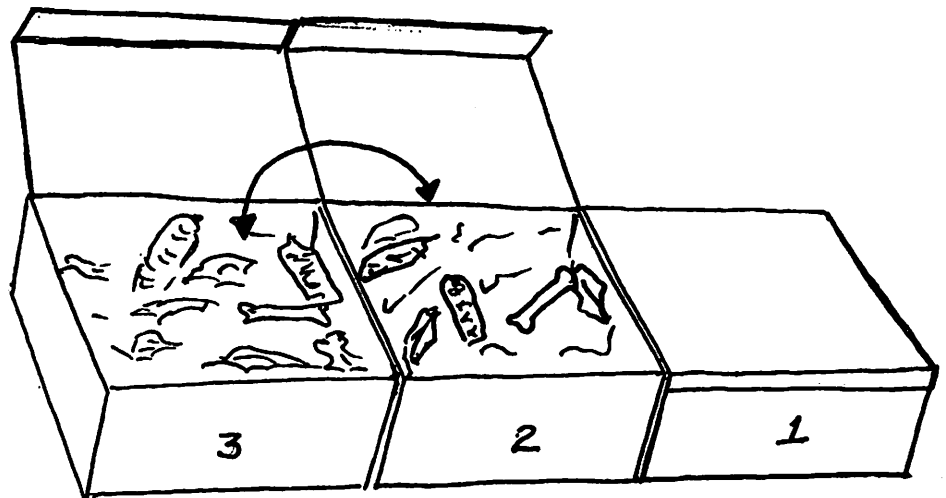
Leaves, weeds, vegetables and fruit peels, fish and chicken bones, tea leaves, cornstalks, animal manure, ashes. Bedding and droppings from small animals (chickens, rabbits, goats)

Protective cover needed in rainy areas

There will be flies and insects. Have away from houses

## Organic Compost Box

layer: sawdust  
manure  
dry leaves  
wet garbage  
sawdust



1. finished
2. working
3. for turning

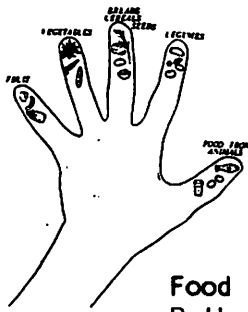
Turn between box 2 and 3 every couple days. Water compost if it is dry. Keep damp, not wet. Add some wet and some dry material. Sawdust is a filler. Use other local things for sawdust, like chopped straw.

Compost is usable in 3-4 weeks.

Use compost material to add to soil, and make plants grow better.

Good Compost Feeds The Soil  
For Better Garden Grown Crops.

## 5 FOOD GROUPS



## COMMUNITY KITCHEN

Food is what we eat. Nutrition is how our bodies use food. Both are important to body-building and to staying healthy. Good nutrition is necessary for people to be able to take part in the community. Calories (energy units) are what give you energy to participate fully in the community.

There is a need then, in Global Social Demonstration for proper nutrition. A Community Kitchen one way to teach and enable a community to feel the difference that getting enough of the right foods can make. To begin with you need to decide the nutritional needs of the people in the village by looking at the babies, children, youth and adults through the survey. It is easier to get food to people after you decide what foods they need.

To begin, choose a food that is already eaten by most of the people. Something simple like bread with a spread is a good start. Bread with peanut butter is an example. After supplying calories (energy foods), body building foods (protein) should be of concern. Protein's are very important because they keep the body strong and healthy, repair it when it is hurt, and give the building blocks needed for growth. Proteins (body building foods ) are in animal foods such as eggs, yogurt, cheese, fish and also in legumes when eaten together with foods made from grain such as cereal or bread or rice.. Bread with peanut butter, tortillas and beans, rice with lentils are examples.

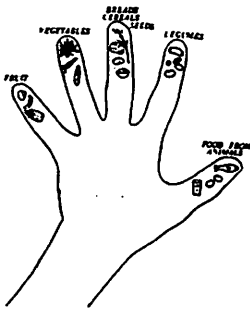
After calories (energy food) and proteins (body building foods) are made available, vitamins and minerals (protective foods) are needed. One way to insure getting several vitamins and minerals is to list the twenty most common foods, the cost of these foods and when they are available during the year. Try to list foods in all of the Five Food Groups. Be sure to use foods from each group.

The Community Kitchen doesn't need to have complete meals or a building in which to get a nutrition program started. The most simple community kitchen is located in a house that is not otherwise fully used. Plan for enough cooking space so that several people can work together in the kitchen. Arrange the kitchen so it will be an example of good food storage and cleanliness.

The first step might be to make snacks for the guild meeting or meals for a work day. Rice balls with soy bean filling or bread and peanut butter are examples. You can then begin to make meals for the pre-school and start the mother-infant feeding program. If food is a critical need in the village, you may decide to offer a daily meal for everyone. As a general rule, it is best to offer a daily meal in the context of some other structure such as literacy classes, daily guild meetings, or work core meeting.

Community Kitchen staff must be willing to get people to try some new foods. Keep in mind that most people don't eat a lot of new food the first time they taste it. Nutrition teachers have learned that you should offer a new food at least six different times before you conclude that the people of the village will not learn to like it. In addition to teaching good nutrition habits, the community kitchen trains the community in sanitation and large group events.

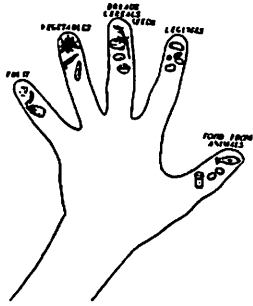
## 5 FOOD GROUPS



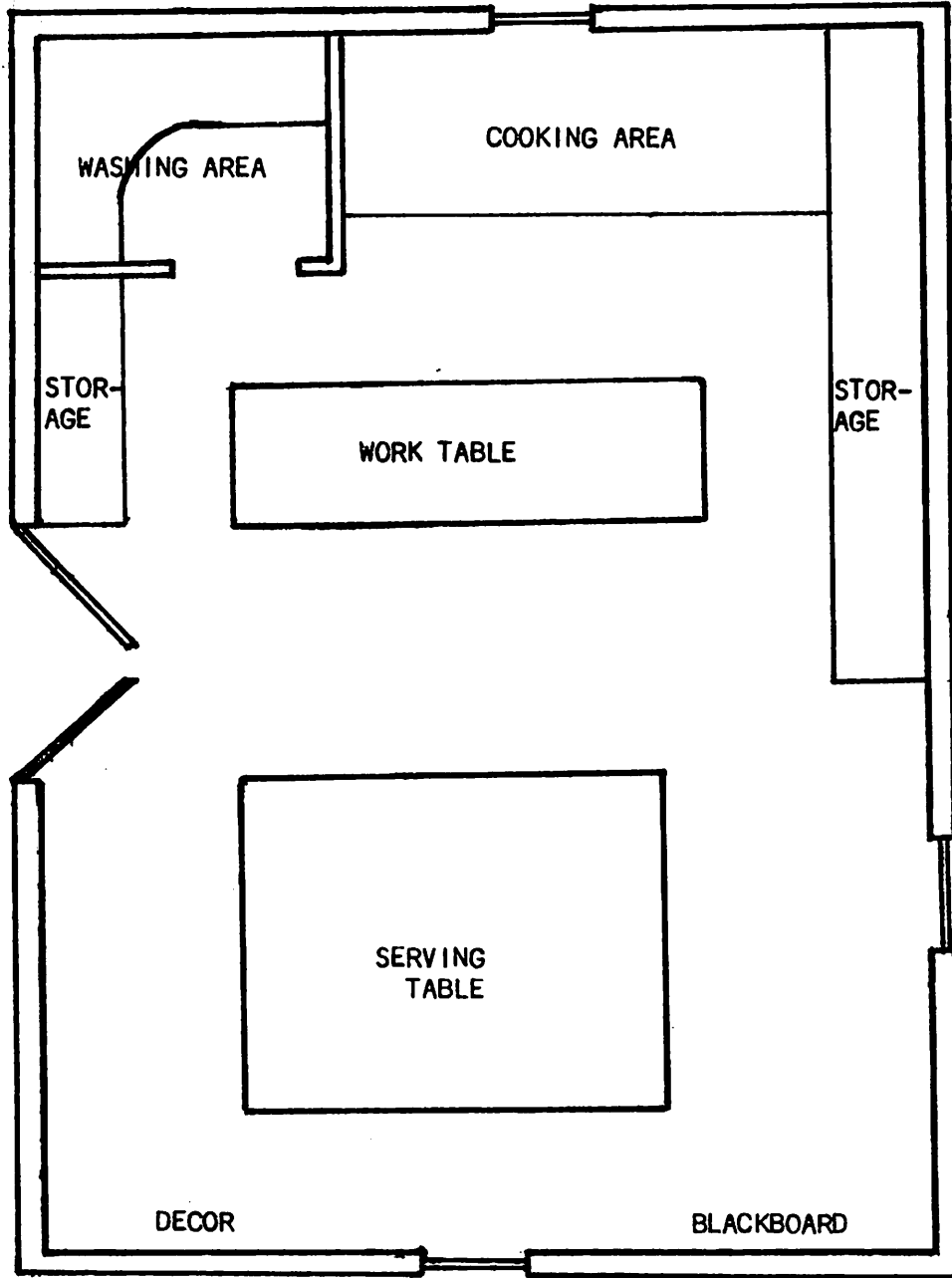
## COMMUNITY KITCHEN (cont)

Once the program is going well, the community may decide it is necessary to build a place planned just for the community kitchen. The building should be built as simply as possible, using local materials. It should show that a building can be made which keeps insects and rats out of the food storage and cooking area. A good latrine should be provided nearby. A kitchen garden will not only supply some of the foods eaten, but will keep the appearance of the area good. In some climates, only a floor, roof and benches are required to give people a place to eat. If it is convenient and nice to look at, people will be encouraged to use the Community Kitchen as a Community Meeting Place.

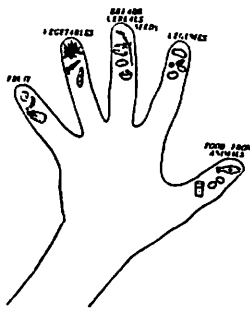
5 FOOD GROUPS



COMMUNITY KITCHEN  
FLOOR PLAN



## 5 FOOD GROUPS



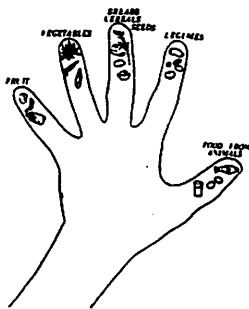
## COMMUNITY KITCHEN EQUIPMENT

The following list of equipment is meant as a resource. The exact equipment needed in each project will depend on local cooking practices and village size. Keep in mind that equipment is not necessary to begin the community kitchen dynamic and will probably be acquired gradually.

**Large Equipment:** Burners with table  
Oven  
Refrigerator  
Food preparation table  
Shelves for dishes and cooking equipment  
Enclosed food storage area

**Small Equipment:** Large pots  
Large frying pans  
Mixing bowls  
Cooking utensils  
Knives  
Rice Cooker  
Grinding stones  
Chopping block  
Dishes  
Garbage bucket with lid  
Trash bucket  
Towels  
Pot holders  
Aprons  
Broom and mop  
Dish cloths  
Soap  
Disinfectant

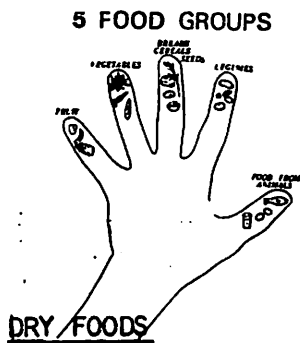
## 5 FOOD GROUPS



## KITCHEN SANITATION

Sanitary practices in the kitchen are necessary to prevent the spread of disease

- WORKERS**      Wear clean clothes or clean aprons  
Wash hands with soap and water before beginning work and after using the toilet  
Clean and cut finger nails  
People with cuts and sores on hands should not work in kitchen
- KITCHEN**      Clean stove, food preparation areas and eating areas after each meal or snack  
Mop floor once a day  
Clean food storage areas as necessary  
Use soap or disinfectant for all cleaning
- COOKING:**      Prepare and cook food on tables raised up off floor  
Wash food preparation utensils (knives, spoons, etc.) before using on a second food.
- DISH WASHING**      Scrape all food into garbage bucket  
Wash dishes in soapy water with an added disinfectant such as chlorine bleach (2 Tib/gallon)  
Rinse dishes in very hot water  
Allow dishes to dry in drainer - must be dry before storing
- GARBAGE**      Have 2 containers - one for food garbage - one for trash (paper cans, bottles)  
Garbage containers must have a lid  
See sanitation section for disposal methods



## FOOD STORAGE

Foods such as grains, flours, sugar and beans should be kept in jars or tins with tight fitting lids. These should stand on a shelf above the floor in a cool, dry storeroom.

### VEGETABLES AND FRUITS

Keep vegetables and fruits in baskets on a raised shelf. All vegetables and fruits should be well washed and disinfected if necessary, before use. (see helpful facts about food) Refrigeration, if available, will preserve these foods longer. Vegetables and fruits can be preserved for long term storage by drying. Wash foods thoroughly and cut off rotten spots. Put them in the sun, in a protected place, on a mat for several days until completely dry. When dry, they can be stored in tightly closed tins in a cool, dry storeroom.

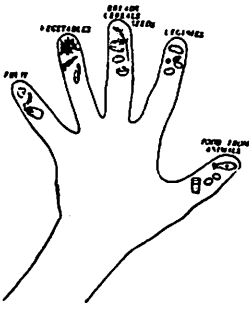
### MEATS

Meats are best kept under refrigeration and will stay fresh for 2-4 days. If refrigeration is not available, large pieces of meat (1 kilo or more) and whole, gutted chicken can be kept for 24 hours by the following method. Boil meat until well done, immediately after purchase. Keep in same water and same pan - covered. Every 12 hours bring to a boil (not simmer) for 10 minutes. Boil it again immediately before use. In freezing climates, meats can be stored outside in protected covering.

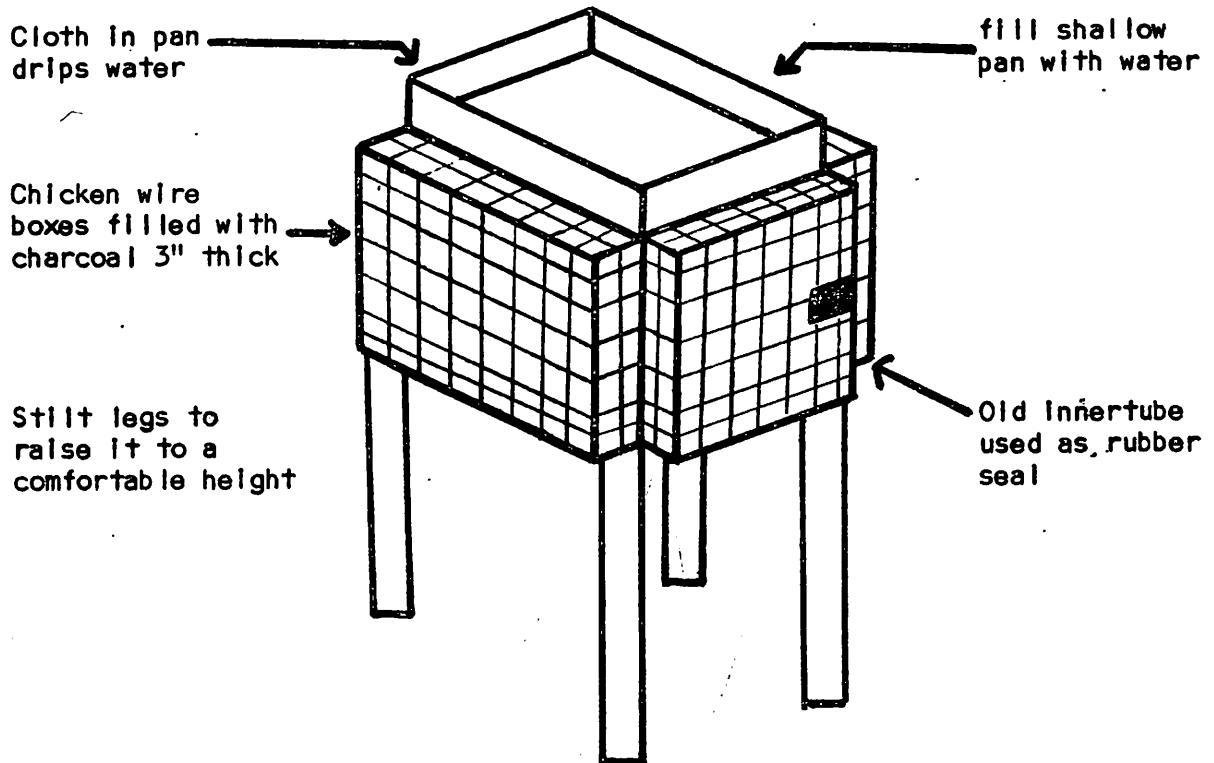
### MILK

Milk is best kept under refrigeration. If this is not available, milk can be kept by boiling for 20 minutes immediately after purchase, pouring into a clean jug, covering well and keeping in a clean place. If milk curdles, it can be used for making cheese or pour on garden for fertilizer.

## 5 FOOD GROUPS



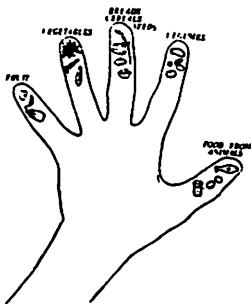
## COMMUNITY KITCHEN REFRIGERATOR DESIGN



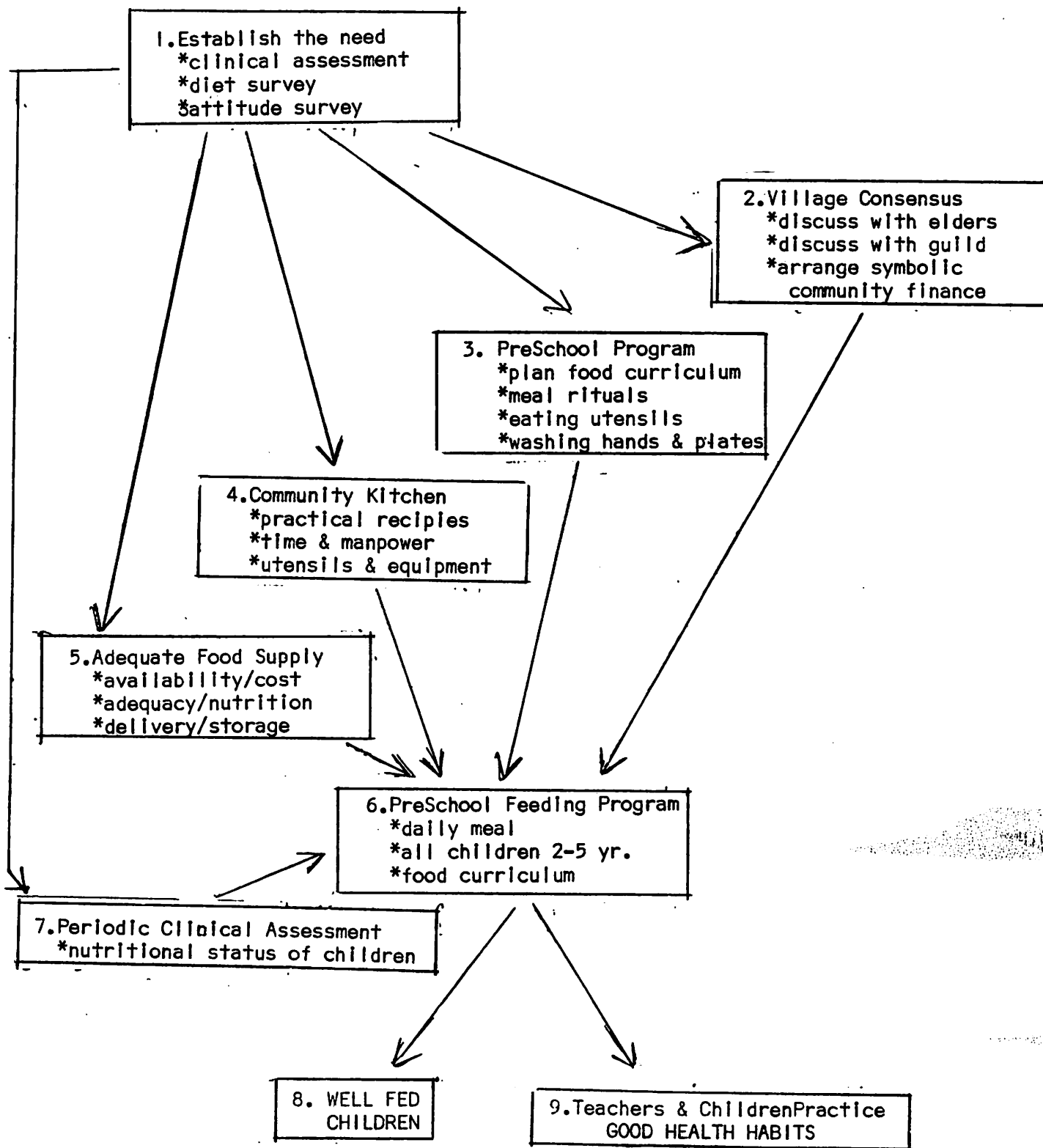
1. Limit of size - 3 feet
2. Use chicken wire as shelves
3. Build side frame with 1:by 2" slats
4. Build top and floor with wood

PRINCIPLE: The water drips over the cloth, down through the charcoal and is cooled by the air.

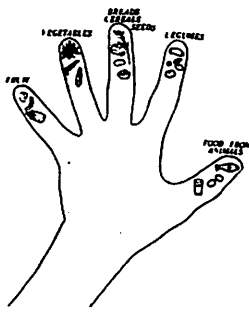
5 FOOD GROUPS



LAUNCHING A PRE-SCHOOL FEEDING PROGRAM



### 5 FOOD GROUPS



### PRE-SCHOOL MEALS

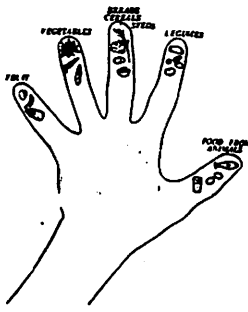
The pre-school feeding program is designed to provide half the calories and all the protein needed for a child 3 - 6 years old. This can usually be done by serving one portion from each of the 5 food groups. The foods are given as a snack and meal, as children cannot eat so much at one meal.

Below are 3 sample menus. In the blank column, fill in possible menus for your pre-school.

	Mallwada	Bayad	5th City
meal	rice 150 gm (weight before cooking) dahl curry 50 gm (weight before cooking) papaya leaves 10 gm	Balodi 150 gm (wheat bread) cheese 25 gm (water buffalo) Barseme 10 gm (green leaf) tomato 50 gm	bread 240 gm (3 or 4 slices) peanut butter 40 gm (thick spread) carrot stick 20 gm
snack	milk 200 gm ripe papaya 50 gm	Balodi 150 gm raw garden peas 50 gm	milk 200 gm (1 pt) apple 100 gm (½ apple)

U.S.D.A. surplus commodity foods are sometimes available through C.A.R.E. or Catholic Relief. While their use is justified in the face of severe malnutrition, their use must not be allowed to dampen resourcefulness and ingenuity in using local resources. Local people need to be trained in use of locally grown foods rather than imported commodities.

## 5 FOOD GROUPS



## WHEAT - SOY BLEND (WSB)

### WHAT IT IS

WSB is a supplementary food obtainable from Catholic Relief Services around the world. It is made from 73% wheat and wheat products, 20% soy bean flour, 4% refined soy bean oil and 3% vitamins, minerals and iodized salt.

### HOW TO USE IT

WSB is pre-cooked, making it easy to use and easy to digest. It has very little taste so that each community using it can add to it the flavoring it likes best. Recipes for its use can be obtained from Catholic Relief Services.

### ITS VALUE

50 grams of WSB daily can supply most of the vitamins and minerals required by a 1-3 year old child. Its protein (a good quality mixture of cereal and legume protein) contributes over 40% of the child's daily requirement. However, it is not a complete weaning food because it is not very high in calories

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### Food Tables Available

11. Nutrition Value of Foods, U.S. Department of Agriculture, Home and Garden Bulletin # 72, Revised April 1972.
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## FOOD VALUE TABLES

It is possible to find Food Value Tables that list the food values for the specific foods eaten in your area of the world. Inquire at a local hospital food department, or the National Nutritional Institute. The chart below will provide an estimate that will allow you to proceed until you can get more adequate information.

FOOD GROUP	EXAMPLE	CALORIES/kg (as harvested)	GRAMS PRO- TEIN/kg. (as harvested)
Legumes	Peanuts	4000	200
Cereals & Grains	Corn	3500	100
Oil, Seeds & Nuts	Cashews	4400	150
High Energy Vegetables	Sweet potato	900	15
Low Energy Vegetables	Bean sprouts	350	35
Fruits	Oranges Bananas	440	4
Meat & Fish	(bone-in)	1550	125
Eggs		75/egg	6.5
Milk		800/Liter	35