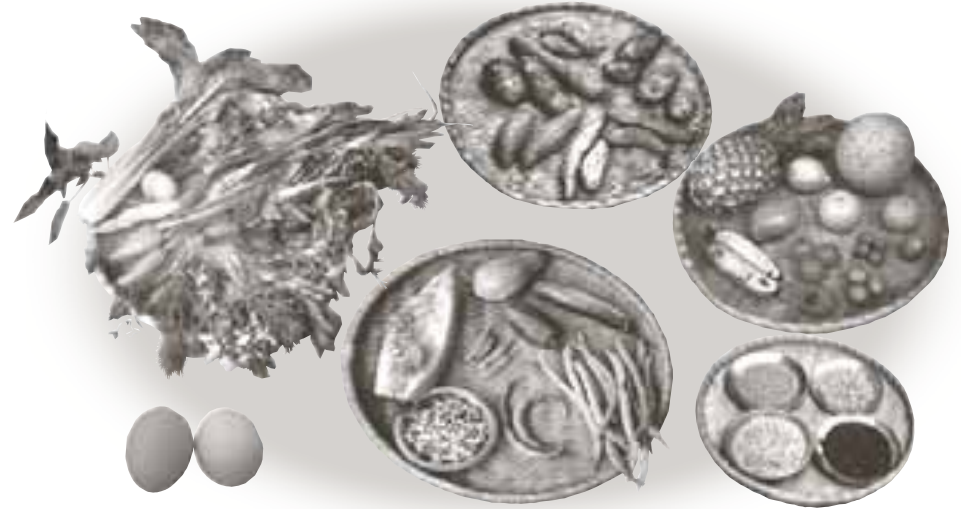




What is Diet and Nutrition ?



In order to live, grow and to protect us from various diseases we need a good, nutritious diet. Nutrition is found in various types of food. Everyone wishes for themselves and their family to remain in good health. A healthy family also makes a healthy and strong homestead. Besides this, you can also help others to be strong. If the family is sick it needs constant expense and can cause much worry. A good, nutritious and balanced diet helps to protect and release the family from sickness. A nutritious diet is not just available from expensive foods. We can also obtain and prepare a nutritious diet from easily available local and even wild foods.

This chapter gives information about what foods are needed for our bodies, where these foods are available, and simple ways of increasing the quality of our diets.

Why Do we need nutrition ?

From the time we are in the mother's womb, for our whole life long, we need a nutritious diet. To give strength, for growing, and to protect or help cure us from illness and disease, there are many types of nutritious elements needed in the body. If any of these elements are deficient in the body, we can become weak and sick. Nutritious foods provide us with energy, help to build and maintain muscle and organs, and help our bodies to produce other important elements which we need to keep us healthy.

Nutritious food, in brief,

- helps us to remain healthy
- helps to protect us from disease
- helps our bodies to grow
- helps us to build a strong household



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Common problems of poor diet in the home and village

If people do not get the needed amounts of the necessary foods they can suffer from **malnutrition and anaemia**. Babies under five years, children, pregnant women and lactating mothers are especially at risk from poor nutrition.

1. Malnutrition. There are several symptoms of malnutrition, for example:

- **Crying** - continuously crying and lack of appetite
- **Wounds** - cuts, boils, etc. spread on the skin and are difficult to heal.



2. Anaemia - lethargic; poor skin colour; yellowish skin, tongue and nails; poor skin texture

3. Vitamin "A" Deficiency

Vitamin A is essential for eyesight. There are several symptoms of this deficiency:

- Night Blindness - unable to see in half light
- Eyes dry out
- A pale, spongy-like spot in the eye (Whit's spot)
- Blindness



One leaf of *Colocasia* ("Taro") can provide **three children** with their daily needs for vitamin A



4. Iodine Deficiency

Goiter - swelling on the throat

Cretinism - mentally handicapped, poor limb use, etc.



How to get nutrition ?

For Health through nutrition we need to pay attention to three things:

1. We need to have the right foods

Foods are best if crops are grown using **sustainable agriculture** methods. Crops grown without chemicals are more nutritious.

2. We need the knowledge to select the right foods

What to eat and how much to eat ? We need to know how much of what type of food different people need. Who has special needs ? For example, pregnant and lactating mothers, or sick people should have extra of some foods.

3. We need to know how to prepare and serve the right foods

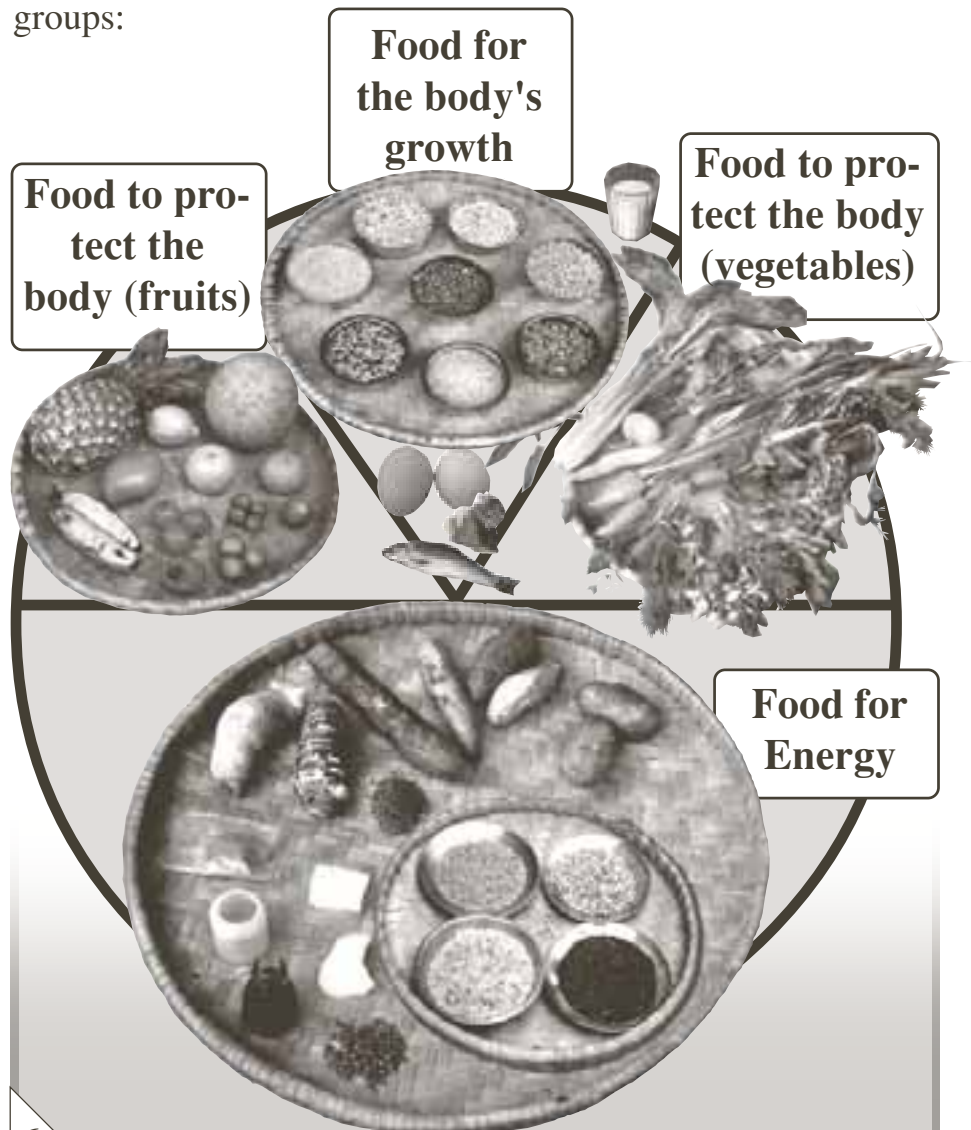
It's not enough to have the right foods, we need to know how to prepare and cook them. Without this knowledge, we can sometimes lose many nutrients in preparation.

To get health from nutrition we need **both knowledge and resources.**



Types of Food

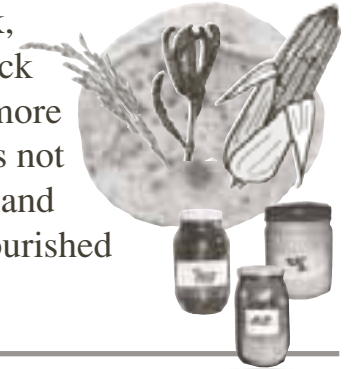
Just as farming can be divided into various types of crop, such as livestock, grain crops and orchards, so nutrition can be divided into three types of food, according to function. In vegetables and meat there are various nutrients. The most important nutrients of our diet can be divided into these groups:



In this chapter, information is given first about the function of different foods. After that, from page 20 to 22 more detailed information on nutrition is given. The centre colour pages show examples of the different foods in each group.

1. Foods Which give Energy (Carbohydrates)

When there is much physical work, before and after childbirth, and when sick people are recovering, the body needs more energy. At this time, if nutritious food is not available people can become weak and catch other diseases more easily. Malnourished children also need more energy foods.



2. Foods Which Help the Body to Grow (Proteins)

Healthy babies grow fast. But if food for growth is not available, babies become weak, and this can cause them many problems in the future. Growth foods are called Proteins.



3. Foods which Protect the Body (Vitamins & Minerals)

The body always needs protection from damaging things. When recovering after being ill, **energy foods** (carbohydrates) help to get better, while **vitamins** and **minerals** help protect the body from disease. These vitamins and minerals are found in **fruit** and **vegetables**.



A Mixed Diet

A mixed diet means many different kinds of food are eaten together. Because there are many types of nutritious elements in a mixed diet it is well balanced. It is not enough for the body eating just to stop hunger, or to enjoy the taste. A balanced diet is always needed. Pregnant women, suckling mothers and babies are in special need of a balanced diet. Relatively expensive foods like fish and meat are not essential for a balanced diet. It is also possible to make a balanced diet from foods common in the villages, such as grains, pulses, green vegetables, spices and fruit.

What, is this Poor People's Food ?

There are many nutritious types of food for good health available in the villages. Nettles, buckwheat, millet, watercress, ferns, pumpkin shoots, etc. are all very nutritious. But many cultures regard these as "poor people's food" and so eat them less. If you eat such foods, firstly they are cheap or even free of cost, and also these foods can provide many types of essential nutrients for the body - often more than highly bred "developed" vegetables.



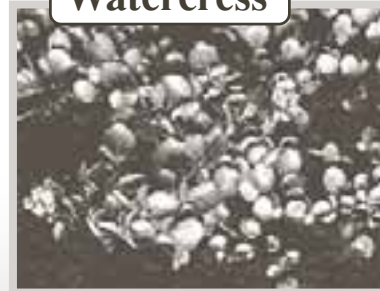
Free Nutrition from the Forest

Community and private forest provides many types of direct and indirect benefits. These include nutritious food available from the wild.

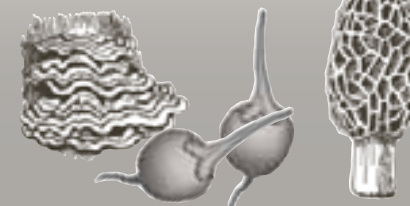
Mushrooms, ferns, watercress, bamboo shoots and wild yams are examples of some vegetables that can be found in the forest. Similarly, fruits like berberis, blackberry, amla, chestnut, hazel, walnut, etc. are also available. It is also possible to grow many of these on the edges of farmers' fields to increase the supply, without needing lots of extra work.



Watercress

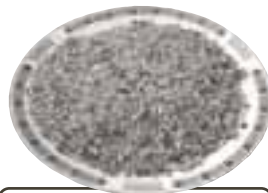


Amla for sale - collected from the forest



How to Preserve Nutrients in Food During Cooking

- Cooking potatoes with their skins and in pieces as large as possible will save vitamin C.
- Don't scrub rice before cooking it as this prevents vitamin B from being washed away
- When cooking rice, don't add too much water which otherwise you'd have to throw it away, along with vitamin B.
- Unprocessed wheat flour has more nutrients than processed white rice flour
- Rice de-husked by hand or pre-boiled contains more vitamin B than rice dehusked in a mill.
- Millet contains more calcium than most other grains.
- When eaten together, grain and pulses provide the same benefits as eating meat



There are more vitamins in rice which has been de-husked less



Pulses



Grains



More Benefits

- Sprouted pulses are very high in nutrients. Pulses can increase their content of vitamins A and C by up to 10 times when sprouted. Vitamin B also increases, and iron and calcium minerals which are in food can be more easily absorbed by the body. For this increase, only a little water and time is needed but the benefits are huge. Why not use easy methods like this?



Soak pulses for a day in water, then wash and drain them every day. After 4-5 days the sprouted pulses are ready to eat.

This is like getting free increase in benefits! There are many types of vitamins which provide more or less nutrients according to the time. In the spring, vegetables or fruit are less available, so at this time vitamin deficiency symptoms are common. But sprouted pulses can be made at any time and so can solve deficiency problems.

- If you wash green leaf vegetables after they have been cut, nutrients can be lost. Always wash **before** cutting.



① Energy Foods

- * **Grains** - millet, rice, wheat, maize, buckwheat, barley, etc.
- * **Sweet Foods** - sweet potato, sugar, sugar cane, honey.
- * **Oily Foods** - Ghee, vegetable oil, butter, cream, fat.
- * **Roots** - potato, taro, yam, sweet potato, etc.

② Foods for the Body's Growth

- * **Animal Products** - meat, fish, eggs.
- * **Dairy Products** - milk, yoghurt, buttermilk, cheese, etc.
- * **Seeds** - peanut, pumpkin seeds, sesame, walnut, etc.
- * **Pulses** - soya, beans, grams, chick peas, peas, mung bean, etc.

For a Balanced Diet

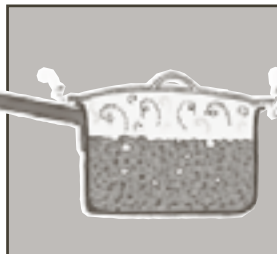
you need to eat food from these 3 groups



③ Foods to Protect the Body

- * **Green Leaves** - nettle, taro, broad leaf mustard, cress, fenugreek, mustard, radish leaf, pumpkin shoot, amaranth, lambs quarters, spinach, etc.
- * **Fruit** - mango, amla, orange, lemon, guava, pineapple, apricot, peach, plum, raspberry, berberis, lichi, papaya.
- * **Vegetables** - pumpkin, cauliflower, sweet pepper, ladies finger, beans, carrot, tomato, etc.

- Partially fermented vegetables increase the amount of iron and calcium available, which improves digestion of grains.
- Leafy vegetables can be dried in the shade to keep their nutrition and colour.
- Making pickles means vegetables can be kept for a long time and increases their nutrition. In places where there is a long dry season without irrigation, then a monsoon, many vegetables can be grown in only a short time. Making pickles and oils allows these vegetables to be stored and eaten all year round, e.g. cucumber, tomatoes, radish, leaf vegetables, etc.
- when cooking leaf vegetables add a little oil, keep the pan covered and don't over cook. This prevents loss of vitamin A, and absorption of oil improves digestability.



Additions to the Normal Diet

Sometimes it is necessary to eat more than the recommended daily diet. For example, a normally active pregnant women should eat an **extra handful** of grain, **half a handful** of pulses, a **handful** of green leaf vegetables, and at least **one extra piece** of fruit per day more than her daily diet. A pregnant women who has a heavier workload should eat an extra **one and a half handfuls** of grain, and if she is malnourished she should also eat an extra **one and a half handfuls** of grain.



A woman who has just given birth should eat an **extra handful** of grain, **half a handful** of pulses, a **handful** of green leaf vegetables, and at least **one extra piece** of fruit per day more than her usual diet.

Six months after childbirth the mother should eat an extra **one and a half handfuls** of grains and an **extra one handful** of pulses.

One to two years after childbirth (still suckling) the mother should be eating an extra **one and a half handfuls** of grains and an **extra half handful** of pulses. At this stage she should also be eating **one extra handful** of green leaf vegetables and **one extra piece** of fruit.



**Good Food
and a Healthy
Family**



**Whose
responsibility
?**

- After childbirth a mother should drink 5 teaspoons of "Jwano" (*Trachyspermum ammie*) each day.

- While a mother is pregnant, and just after childbirth should eat at least 3-4 times a day. For example, 2 full meals and 2 snack meals.



- The best milk for suckling infants is the **mother's own milk**. If this is not given, it can lead to many problems in the future. So it is much better to feed mothers' milk rather than powdered milk.

- Once a baby stops drinking its mother's milk it should be given extra food.

- Always feed a malnourished child extra food.

- A baby with diarrhoea should be fed more liquids. An oral rehydration mixture of salt, sugar and water should be given. It is even better to give the water skimmed off washed or cooking rice.

- It is better to feed a child little and often. Never stop feeding a sick child. Persuade it to drink more liquids. A malnourished child should be given a spoonful of honey or sugar a day. This provides more energy. Also, a malnourished child should be fed a banana every day.



- Similarly, old people cannot digest much food at one time and only eat a little. So they need a mixed meal 3-4 times a day.



Without nutritious food it's not possible to keep healthy



Drumstick Leaves

In sub-tropical areas the Drumstick (*Moringa*) tree is found [this may have other names in your area]. This tree has many benefits. Its leaves are good for livestock fodder and the flowers are good for bees. Its seed helps to purify water. It can be grown easily and quickly from cuttings. Its flowers, pods and newly sprouted, young leaves can all be used as vegetables. The leaves are especially nutritious and can be dried and made into a powder. One teaspoon of this leaf powder provides daily vitamin needs for one person. In cooler, upland areas where drumstick isn't found, you can store and use the powder made in the lowlands.



Super Flour

Maize



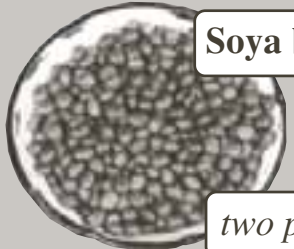
one part

Wheat

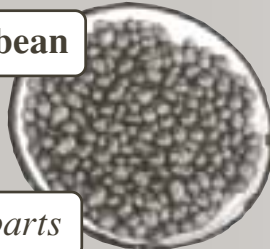


one part

Soya bean



two parts



Maize, wheat and soya bean flour mixed into super flour gives a balanced and nutritious meal. It gives nutrients for energy, growth and protection together

1



Clean the maize, wheat and soya bean

2



Bake each of them separately



3



Then grind the baked grains and pulses separately.

4

Store the flour in an airtight vessel. Then you can use the processed super flour for several days.



5



Make the superflour into a porridge and feed to children above the age of 6 months.

6



Once they're used to it, they'll eat it themselves.

The various types of food and nutrients needed for good health are given below. Information about the function of different elements, effects of deficiency and which foods provide them is also given.

Food type	What does it do?	Deficiency Symptoms	What is it found in ?
Carbohydrate (energy)	<ul style="list-style-type: none"> • gives the body strength & vigour • maintain a balanced body temperature • assists growth & development 	<ul style="list-style-type: none"> • malnourishment (crying, Marasmus, Kwashiorkor) 	wheat, maize, barley, millet, rice, yam, sugar, cane extract, potatoes (all energy foods except oils)
Protein (growth)	<ul style="list-style-type: none"> • used for growth & development • growth & maintenance of muscle • making hormones, red blood cells, digestive juices • helps to make up energy needs if lacking in other foods 	<ul style="list-style-type: none"> • malnourishment (crying, Marasmus, Kwashiorkor, etc.) • anaemia, lack of digestive juices 	cow pea, fava bean, soya bean, amaranth, peas, fish, meat, eggs, milk, peanuts, pumpkin seeds, walnuts, etc. (all growth foods)
Oil/Fat	<ul style="list-style-type: none"> • gives energy • helps in the body's take up of Vit. A • helps in cell formation 	<ul style="list-style-type: none"> • rough skin 	vegetable oils, ghee (purified butter), butter, fatty meat, fish, peanuts, soyabean

Food type	What does it do?	Deficiency Symptoms	What is it found in ?
Vitamin A	<ul style="list-style-type: none"> • keeps eyes healthy • keeps skin soft • helps to prevent disease from spreading 	<ul style="list-style-type: none"> • eye disease (night blindness, dry eyes) • disease spreads between nose, ear & throat • less ability to fight off disease 	green leaf vegetable & yellow fruit or vegetables, e.g. ripe papaya, pumpkin, persimmon, carrot, spinach, radish leaf, mustard leaf, coriander leaf, beans, watercress, etc.
Vitamin B group	<ul style="list-style-type: none"> • increases appetite • helps nerve growth & function • helps digestion of carbohydrates 	<ul style="list-style-type: none"> • loss of appetite • tingling feet • burning sensation on soles of feet • sore on tongue • sore in corners of mouth 	unhusked grain and its flour, liver, pulses, green leaf vegetables, kidney, fish, meat
Vitamin C	<ul style="list-style-type: none"> • joining muscle fibres • helps wounds heal • helps uptake of iron and calcium 	<ul style="list-style-type: none"> • bleeding gums; infected gums • slow healing of wounds & sores 	<i>amla</i> , lemons, guava, oranges, raspberries, berberis, fresh green leaf vegetables, potatoes, sprouted grains & pulses

Food type	What does it do?	Deficiency Symptoms	What is it found in ?
Iron (a mineral)	<ul style="list-style-type: none"> • making blood, keeping muscle healthy • protection against disease 	<ul style="list-style-type: none"> • anaemia • dizziness, weakness, laziness, breathlessness • retarded growth of babies • miscarriage, still birth 	green leaf vegetables, pulses, millet, beaten rice, fermented vegetables, liver, meat, eggs, fish, sprouted pulses, food cooked in iron pots
Iodine (a mineral)	<ul style="list-style-type: none"> • helps body's growth • helps brain & nervous system • gives heat from energy use 	<ul style="list-style-type: none"> • goitre • cretinism, spasticism • mental disorders, dull • lack of body's growth • paralysis 	seafood, fish, iodized salt
calcium (a mineral)	<ul style="list-style-type: none"> • helps bone, teeth formation & growth • prevents muscle contraction & wasting • helps blood clotting 	<ul style="list-style-type: none"> • poor bone/teeth formation; crumbling bones 	milk & milk products, green leaf vegetables, fermented vegetables, grains, millet, lamb's quarters, pulses, fish

Farmers' Experience

Mrs Thuli Dhimnan



Mrs Thuli Dhimnan

From Nepal, Lalitpur district, Burunchuli VDC, Champi village Mrs Thuli Dhimnan's son Sano Babu was malnourished as a baby. Now let's hear her story.

“ At two and a half years of age Sano Babu was nothing but skin and bone. At that time he wouldn't eat and could hardly even walk. It was so hard to feed him at that time. Then I started to feed him superfine flour porridge with his other food. After only a few days he started to gain weight. After that Sano Babu's two younger brothers were also born but they didn't have the same problems as their older brother. This is how Sano Babu's life improved with a mother's love & care, and good, nutritious food. ”



Sano Babu at two and a half year old, malnourished



Sano Babu at twelve years old, with his mother and 2 younger brothers



Read On !



Subjects Related to Nutrition

Good benefits can be had from the information in this book about nutrition. However, this information is also linked to other methods. For extra benefits let's read, learn and practice other related chapters.

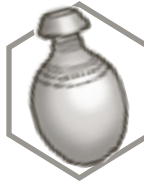
Improved Stove Chapter

In Nepal 95% of households use firewood for cooking food. Everyone knows the effects of too much smoke in the kitchen but what to do ? Now let's learn about an easy and successful method.



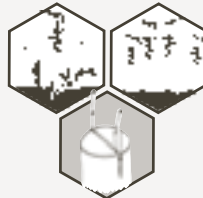
Hygiene Inside the House Chapter

Improved health isn't only about good food. If the kitchen and house is dirty, many diseases can strike. In this chapter information is given about easy methods to keep the house clean.



Fruit Related Chapters

Information on how to produce and grow improved fruit species at home is given in these chapters about the fruit nursery, grafting, budding, top grafting, stone grafting, air layering, fruit seedling planting and integrated fruit orchards.



Kitchen Garden and Polyculture Vegetable Growing Chapters

These chapters give information about how to produce good vegetables with less work.

