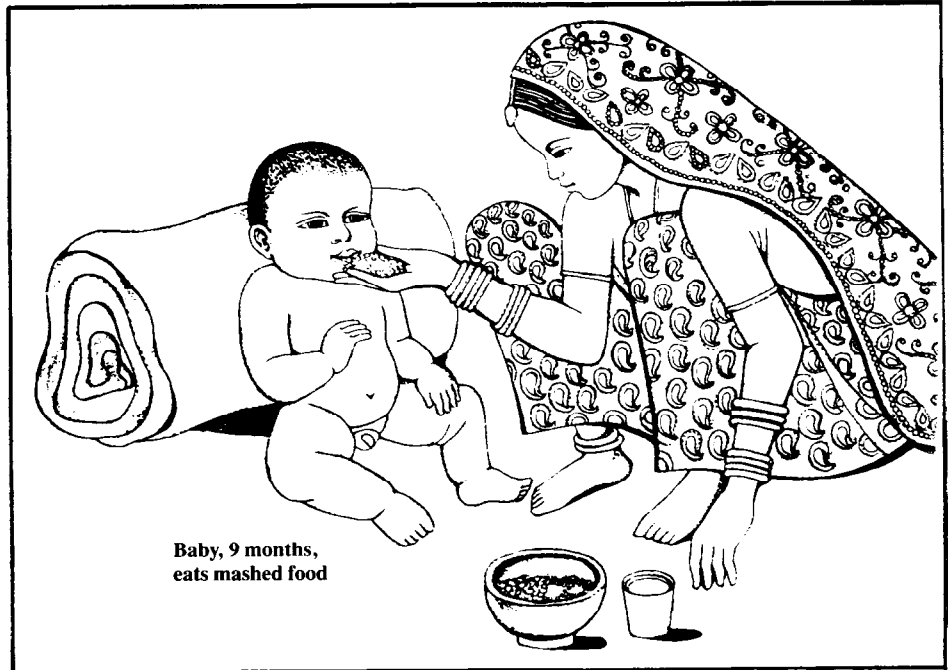


# HEALTH BASICS: WEANING



Breastmilk is the best and safest food for young babies. Older babies need extra foods as well as breastmilk. It is important that babies are given extra foods as well as breastmilk at the right age, and in sufficient amounts, to enable them to grow and stay healthy. Too little food, given too late, or inadequate food with too few nutrients may lead to poor growth and malnutrition. The malnourished child will get sick more often and will be less able to fight off illnesses such as diarrhoea. Weaning foods can, however, be very dangerous for babies. If they are not hygienically prepared they can be a major source of infection. This Health Basics insert describes good weaning practices to help families prevent diarrhoea in their children.



Child-to-child, Macmillan

## What is weaning?

Weaning means giving family foods in addition to breastmilk. Weaning is a gradual process by which the infant becomes accustomed to the adult diet.

It is not good for babies to stop giving breastmilk when new foods are first being given — weaning foods do not replace breastmilk, they complement it. As the baby gets older it needs more food to grow and stay healthy. The number of breastfeeds can be reduced

slowly as the baby starts to eat more and more family foods. However, it is important to remember that until the age of about two years babies can still receive an important amount of nourishment from breastmilk.

## When to start giving extra foods?

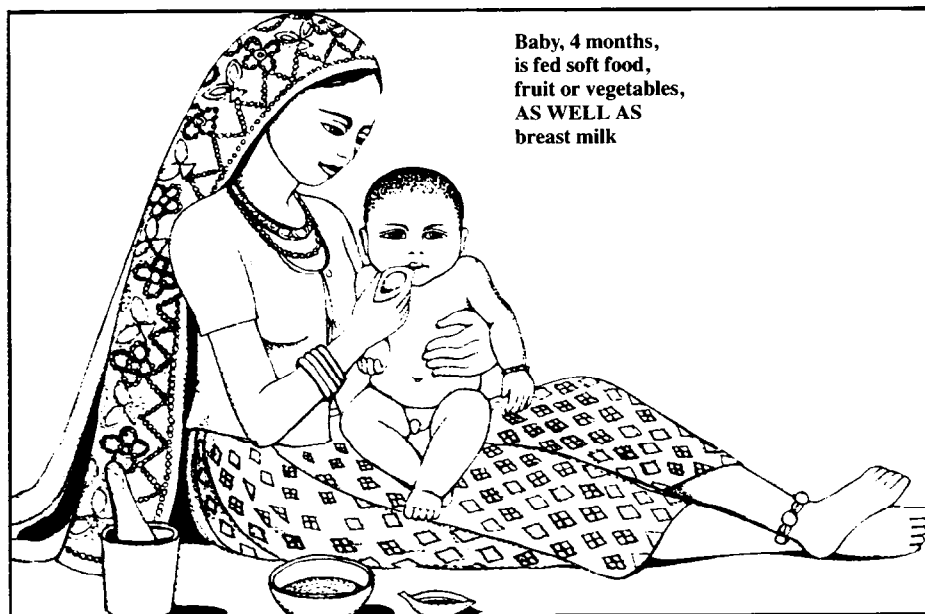
Weaning foods should be given to the baby at about the age of four to six months. At four months most babies

start to need extra food in addition to breastmilk because they are growing fast and breastmilk is no longer enough.

## How should weaning foods be given, and how often?

Start by giving one or two teaspoons a day of carefully mashed food in addition to regular breastfeeds. Do not use a feeding bottle. Slowly increase the number of meals and the amount of food given. By the age of eight months most babies need four 'meals' a day including a variety of foods, in addition to regular breastfeeding. At one year old a child should be able to be given all types of family foods, although the food may still need to be softened or mashed. At this age a child needs to eat about half the daily amount of food its mother eats.

Feed babies using a clean cup and spoon. Do not add water to the weaning food. Watered down weaning food does not have enough nutritional value, and if the water is dirty or contaminated the baby will probably get diarrhoea. Patience is needed when babies are first starting to eat family foods — while they are learning to eat this way they may often spit out the food — this does not mean that they are



Child-to-child, Macmillan

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not hungry. Let the baby get used to one food for a few days before introducing another.

Weaning foods should ideally be:

- high in energy;
- easy to digest;
- low in bulk and viscosity (not too thick);
- fresh and clean;
- inexpensive and easy to prepare;
- not too highly seasoned.

## What are good weaning foods?

A thick creamy porridge made from the basic food of the community is a good weaning food for babies. The basic food or staple is cheaper than most other foods and is usually eaten by the family at most meals. Examples of basic foods include:

- *cereals* — maize  
— wheat  
— sorghum  
— oats  
— barley  
— bread (soaked in gravy, milk, or tea)  
— rice
- *roots* — cassava  
— yam  
— cocoyam  
— potato  
— sweet potato
- *starchy fruits* — plantain  
— breadfruit  
— banana



On their own, especially when cooked in water, most cereals, grains and roots are too low in energy. Some oil or fat (or sugar) should be added to the porridge to make it richer and easier to swallow and digest. Adding oil increases the energy value of the weaning porridge.

Give this porridge in addition to breastmilk for about two weeks — after this time babies need other foods as well as breastmilk and porridge to provide enough energy and a balanced diet. It is important that weaning foods contain oils, fats or sugars; fruits; dark green vegetables or orange or yellow fruits; and food from animals or fish or from legumes (for example lentils). These different types of food provide energy; vitamins; and proteins. The best type of weaning meals should contain something from all of these groups. Continue to give breastfeeds regularly between meals.

Examples of types of foods from these groups are:

### • *peas and beans*

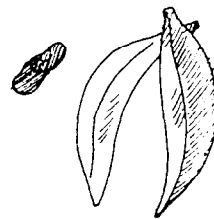
These are as good as food from animals for providing protein but are cheaper. They need to be cooked thoroughly and mashed to make them easily digestible for babies. Examples include chickpeas, cowpeas, groundnuts, soya beans, split peas, lentils, blackeye beans, peanuts, red beans, navy beans.

### • *food from animals and fish*

These are good for babies but are usually more expensive than peas and beans. Examples include meat, fish, offal, eggs, milk, and food made from milk such as cheese and yoghurt, curd, cottage cheese.

### • *dark green leafy vegetables, and orange and yellow vegetables and fruits*

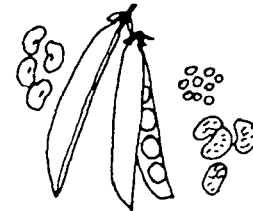
Babies need these foods to prevent eye damage and possibly blindness from shortage of Vitamin A. Examples include: spinach, kale, tomatoes, carrots, amaranth, sweet cassava, pumpkin leaves, calalu, pumpkin and pawpaw.



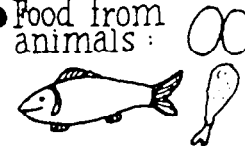
### • *oils, fats or sugars*

These add extra energy to the weaning porridge or cereal dishes. Sugars are not as good as oils or fats and will also damage teeth. Examples include: corn, palm, groundnut, coconut and sunflower oils, ghee, butter, margarine, lard, any animal fat.

### • *Peas and beans*



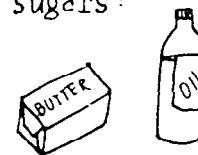
### • *Food from animals*



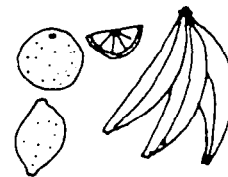
### • *Dark green vegetables and orange and yellow fruits and vegetables*



### • *Oils and fats or sugars*



### • *Fruits*

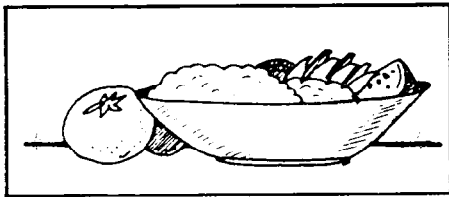


### • *fruits*

Before giving these to babies they should be peeled carefully or washed in clean water, then mashed or the juice squeezed out. If water is added to the juice it must be clean; otherwise babies may get diarrhoea. Examples include: oranges, pumpkin, tomato, banana, papaya, mango, pineapple.

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## Food from the family pot



Family foods, that is foods that the rest of the family normally eat can give babies all the nourishment they need without any additional cost. There is no need to buy expensive commercially manufactured weaning foods. Talk to mothers about what the family usually eats and help them to decide which foods would be suitable to give a young baby. Family pot feeding — giving the family food in a mashed form, without or before adding hot spices or extra salt, and adding something extra like oil, an egg, and extra dark leafy vegetables — is best. Put the child's food in a separate dish or bowl so that it is possible to see how much he or she eats. Also make sure that the bowl or plate and utensils used by the child are clean. This also encourages the child, as it gets older to learn to feed itself. Make sure that the child's hands are clean.

## Cooking weaning foods

Cooking equipment, particularly stoves, plays a vital role in the health of the family or community. Safe, economical stoves are essential to provide heat and light and to cook safe and nutritious meals.

A good cooking stove helps to ensure that weaning foods are well cooked and properly reheated. A stove should be:



Careful preparation of weaning foods helps to prevent diarrhoea.



Photo by N. Rehman (UNICEF)

Use the cleanest water available for weaning foods and for washing uncooked food.

- safe (so that children do not burn or scald themselves);
- easy to use and suitable for frequent use;
- fuel efficient, i.e. should not waste or use too much fuel, or produce too much smoke;
- be capable of cooking and reheating food thoroughly and boiling water using minimal fuel and time.

Food that has not been cooked or reheated thoroughly may contain diarrhoea-causing germs (pathogens). Cooking food thoroughly so that it boils can make it safe by destroying these pathogens (e.g. bacteria and parasitic eggs). Cooking food can also improve its flavour, making it more palatable for children, and the addition of other ingredients can increase the nutritional value of the food. (Badly or over-cooked food on the other hand can cause loss of nutrients and contribute to malnutrition). Cooking food also makes it easier to chew and digest and helps the body to absorb nutrients from it.

## Preparing weaning foods

Contaminated weaning foods give babies diarrhoea. Careful preparation and storage of weaning foods keeps them safe. Follow these rules for safe preparation of weaning foods:

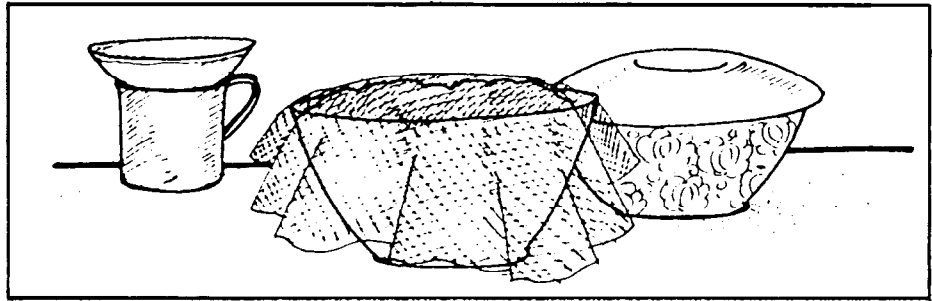
- wash hands before preparing food;
- if possible prepare weaning foods immediately before they will be eaten;
- wash all utensils before preparing food, and scrub chopping boards and tables;
- cook or boil food well;
- reheat food thoroughly if it has been kept for more than two hours, until it boils. Boiling food will kill any germs that may have contaminated the food while it has been stored. Let it cool before giving it to the baby;
- mash foods up with a clean pestle, fork or spoon. Never use a sieve as these are difficult to keep clean;
- use the cleanest water available for making weaning foods and for washing uncooked foods. If possible boil

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the water if it has not come from a clean source such as a tap or water pump. Boiling water will kill the germs that cause diarrhoea.

## Storing weaning foods

- Do not store weaning foods for more than two hours if possible. Keep them stored in clean covered containers that keep out flies and other insects.
- Keep in a cool shady place out of direct sunlight if possible.
- If food has been kept for more than two hours reheat it thoroughly so that it boils.



## Why do weaning age babies get malnourished?

This is usually because:

- they are not given the right sort of weaning foods or enough food;
- they grow very fast and need plenty of energy rich foods — more for their size than older children or adults;
- they may be taken off the breast too early, or suddenly, i.e. as soon as extra foods are given;
- they have small stomachs and do not get food often enough. Two or three meals a day like the rest of the family is not enough for the weaning age baby;
- they do not have enough teeth to chew, and need food that is soft and easy to swallow.

## Why do weaning age babies often get diarrhoea?

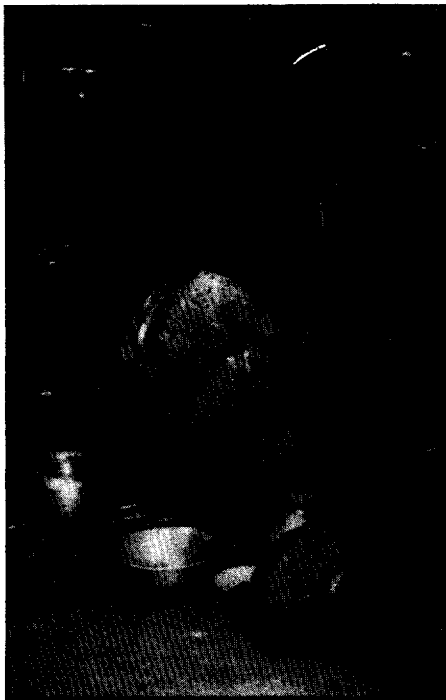
- After four to six months of age babies have lost some of the protection against disease given to them by their mothers at birth (maternal antibody) and from breastmilk.
- They may also get diarrhoea from the new foods that they are being given if these are prepared or given to the baby with dirty hands and utensils. Food that is not stored safely, but which is left uncovered and open to dirt and flies, or kept in dirty containers, will quickly go bad, become contaminated and may give babies diarrhoea.
- Also at this age babies start to move around more, put things in their mouths, and are more likely to come into contact with germs and dirt. However, they are too young to have built up much immunity themselves to protect them against diseases such as diarrhoea.

## The weaning with diarrhoea

As at any other age, the weaning with diarrhoea must be given plenty of appropriate fluids and continue to eat plenty of nourishing food to help recovery and ensure that there is no growth retardation.

## Weaning education

Before talking to mothers about which weaning foods to give, you will need to be aware of the family's socio-economic status, and availability of different types of foods, particularly those which are seasonal. Some existing beliefs about foods and feeding are beneficial, others may be more harmful, but make suggestions tactfully and explain how a weaning diet can be made more nutritious using local foods. In many places you may also need to win over the support of the grandmother if you

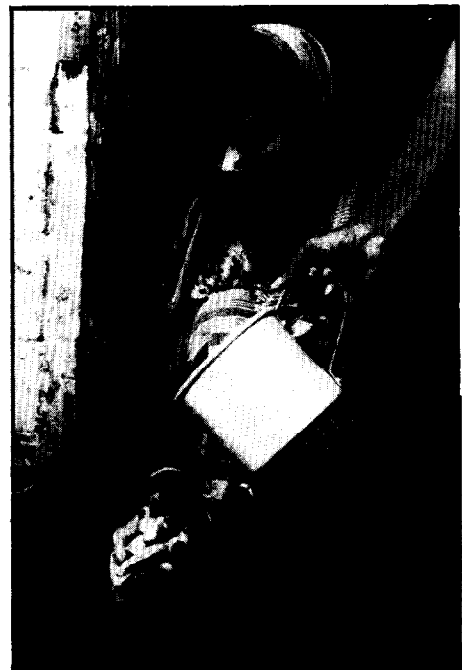


Keep food in a cool shady place.

## Personal hygiene and weaning foods

Hands should be washed before preparing weaning foods and before feeding them to the baby, particularly after using the latrine. Unwashed hands can pass on diarrhoea germs via food to the baby. Mothers should be especially careful to wash their hands, with soap if available, after cleaning their baby's bottom.

**Remember:** *cool, covered, clean cooked food is safe food but faeces, flies, filth, fingers can mean dirty unsafe food.*



Hands should be washed before preparing weaning foods.

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Photo by Carolyn Watson

Remember that no two babies are the same in which foods they like more than others.

are to change what mothers feed to their young children.

For example, there are, in India, beliefs about the digestibility of certain foods and their consistency. Far too often watery gruels or lentil water or thin vegetable soups are given in the belief that the baby will not be able to digest anything else. But these have no or very little energy value. Beliefs in 'hot' and 'cold' foods or, for example, that cereals are bad for the liver, should not be condemned, but can be overcome with patience and alternatives suggested. Many mothers believe that their baby needs expensive or special foods, which they cannot afford. They may also ask how the child can eat proper food before it has any teeth. Emphasise that this is not a problem if the food is properly mashed and soft.

## Feeding the weaning child

### Points to remember

- Feeding is a matter of using good sense. Like adults, babies may like a particular food more than another, and may be more hungry on some days than others. No two babies are the same in which foods they like more than others. Some babies prefer sweet things while others prefer salty things. Make allowances for this.
- Mealtimes should be pleasant and 'force' must not be used in feeding. Remember that learning to swallow semi-solid food may be difficult for a baby who only knows how to suck the breast.
- If a particular food is refused, do not offer it again for a few days. Try something different.

## Home and community weaning food production

This can be done:

- at home using a cereal staple plus legume/seed/nut mixture. The mixture should be easily reconstituted and should have a shelf life of at least one week (simple grinding devices to reduce the time and work involved are recommended); or
- at community level through community groups. Women's groups can initiate and operate communal production/income generating activities which may or may not be subsidised. The use of oils, pineapple juice, papaya juice and fermentation methods as well as germination can decrease the viscosity of weaning foods. Community level activities should have an educational and health component and should be integrated into, for example, children's supplementary feeding programmes.

There are several approaches to decreasing the viscosity and bulk of weaning food. Fermenting sorghum produces enzymes which decrease viscosity, as used in Tanzania. In South India, fermentation of rice and legumes is used to decrease viscosity. With bulky staple foods common in Asia and Africa, a small child would have to consume about 1 kilogramme of cooked rice or cooked banana to obtain only 1,000 calories. Small children cannot cope with such enormous quantities of staple foods to meet their energy needs. More energy dense, less bulky, low viscosity foods for young children should be promoted.

## Acknowledgements

This DD insert is based on an article by Dr Shanti Ghosh and material from:

- Learn More About Breastfeeding and Weaning. League of Red Cross and Red Crescent Societies 1987.
- Primary Health Care Technologies at Family and Community Levels. Aga Khan Foundation, UNICEF, WHO, 1986.
- Feeding Mother and Child. The Caribbean Food and Nutrition Institute.
- Prevention of Diarrhoea. Supervisory Skills. WHO, 1987.

# RESOURCE LIST

Addresses for organisations supplying books/manuals, audiovisuals, and newsletters, are listed under sources of information and materials.

## SOURCES OF INFORMATION AND MATERIALS

- **American Public Health Association**, International Health Programmes, 1015 Fifteenth Street, N.W., Washington, D.C. 20005, USA.
- **Caribbean Food & Nutrition Institute**, PO Box 140, Kingston 7, Jamaica.
- **Child-to-child Programme**, Rm 833, Institute of Education, 20 Bedford Way, London WC1 0AL, UK.
- **Clearinghouse on Infant Feeding & Maternal Nutrition**, American Public Health Association, 1015 Fifteenth Street, N.W. Washington, DC 20005, USA.
- **Find Your Feet**, 13-15 Frognal, London NW3, UK.
- **Intermediate Technology Publications Ltd.**, 103-105 Southampton Row, London WC1B 4HH, UK.
- **International Nutrition Communication Service (INCS)**, Education Development Centre, 55 Chapel Street, Newton, MA. 02160, USA.
- **Institute of Nutrition & Food Sciences**, University of Dhaka, Dhaka 2, Bangladesh.
- **International Children's Centre**, Chateau de Longchamp, Bois de Boulogne, F75016, Paris, France.
- **League of Red Cross & Red Crescent Societies**, 17 Chemin des Crêts, P.O. Box 372, 1211 Geneva 19, Switzerland.
- **London School of Hygiene & Tropical Medicine**, Department of Human Nutrition, Keppel Street, London WC1 7HT, UK.
- **Macmillan Press Ltd.**, Houndmills, Basingstoke, Hampshire RG21 2XS, UK.
- **National Food & Nutrition Committee**, PO Box 2223, Government Buildings, Suva, Fiji.
- **Nutrition Foundation of India**, B 37 Gulmohar Park, New Delhi, India.
- **Nutrition Foundation of the Philippines, Inc.**, 107 E. Rodriguez Sr., Boulevard, Quezon City, PO Box 3, Philippines.
- **National Institute of Nutrition**, Indian Council of Medical Research, Hyderabad 500 007, India.
- **Ministry of Health, Nutrition Section**, Box 2084, Konedobu, Papua New Guinea.
- **Oxford University Press**, Walton Street, Oxford OX2 6DP.
- **Teaching Aids at Low Cost (TALC)**, PO Box 49, St. Albans, Herts. AL1 4AX.
- **Tanzania Food & Nutrition Centre**, Box 977, Dar es Salaam, Tanzania.
- **UNESCO, Nutrition Education Programme**, 7 Place de Fontenoy, 75700, Paris, France.
- **UNICEF**, UN Plaza, 4/1234C, New York 10017, USA.
- **Urban Resource Systems**, 783 Beuna Vista West, San Francisco, CA 94117, USA.

- **Voluntary Health Association of India (VHAI)**, 40 Institutional Area, South of IIT, New Delhi — 110 016, India.
- **World Health Organisation (WHO)**, Nutrition Unit, 1211 Geneva 27, Switzerland.
- **World Federation of Public Health Associations (c/o American Public Health Association, USA)**
- **World Neighbors**, 5116 North Portland Ave, Oklahoma City, OK 73112, USA.

## BOOKS/MANUALS

- Cameron M & Hofvander Y. **Manual on Feeding Infants and Young Children**. Oxford University Press. 1983
- Child-to-child Programme. **Child-to-child Reader: Good Food**. Caribbean Food & Nutrition Institute (CFNI). **A Guide to Feeding the Weaning Age Group in the Caribbean**. 1982 and **Improving Weaning Practices in the Caribbean. Self Learning Modules for Community Workers**. 1986.
- Ebrahim G.J. **Nutrition in Mother and Child Health**. Macmillan. 1983.
- Ghosh S. **The Feeding and Care of Infants and Young Children**. Voluntary Health Association of India (VHAI). 1985.
- Hollis C. **Using Communications To Solve Nutrition Problems**. International Nutrition Communication Service. (INCS) 1986.
- Israel R., & Lamptey P. **Nutrition Training Manual Catalogue for Health Professionals, Trainers and Field Workers in Developing Countries**. (INCS).
- Joint WHO/UNICEF Nutrition Support Programme. **JNSP Nutrition Learning Packages, Package 4: Young Child Feeding**. League of Red Cross & Red Crescent Societies. **Learn More About Breast Feeding & Weaning**. 1987.
- Nutrition Handbook for Community Workers in the Tropics**. Macmillan/CFNI. TALC, UK. 1986.
- Pacey A. **Gardening for Better Nutrition**. Intermediate Technology Publications. 1978.
- Proceedings First Asian Household Nutrition Appropriate Technology Conference**. Colombo, Sri Lanka. UNICEF 1981.
- Ritchie J.A.S. **Nutrition & Families**. Macmillan. 1983.
- Royal Tropical Institute, Mauritskade 63, 1092 AD Amsterdam, The Netherlands. **Ready-made Weaning Food Mixtures in Developing Countries**. 1983.
- De Sweemer C., *et al* **Manual for Child Nutrition in Rural India**. VHAI.
- Tregoning M.A., & Bova G.S. **Better Child Care**. TALC, UK.
- UNESCO, Nutrition Education Series. Issue 10. **Easy to Make Teaching Aids for Nutrition Teaching Learning**. 1984.
- UNICEF. **The UNICEF Home Gardens Handbook — For People Promoting Mixed Gardening in the Humid Tropics**.
- Wade I. **City Food Crop Selection in Third World Cities**. Urban Resource Systems. 1986.

- World Federation of Public Health Associations. **Programmes Activities for Improving Weaning Practices**. Information for Action Issue Paper. 1984.
- WHO. **Guidelines for Training Community Health Workers in Nutrition**. WHO Offset Publication. 2nd Edition, 1986.
- Nutrition Educational Materials Listing**. WHO. 1984.
- Show and Tell**. Nutritional Educational Programme. UNESCO. 1985.

## AUDIOVISUALS

### Videos

- How to Wean Your Baby**. A 20 minute video cassette & slide/audio cassette. 1986. CFNI.
- Lucky Gary**. A 10 minute video on weaning aimed at eastern Caribbean audiences. CFNI.

### Slides

- Weaning Foods & Energy**. TALC, UK.

### Filmstrips

- Filmstrips available on feeding babies suitable for audiences in Guatemala, Nepal, Philippines. World Neighbors, USA.

### Flipchart

- Infant Care & Feeding**. World Neighbors, USA.

### Flannelgraph

- Series includes: **Feed Your Children Often, Give Your Child Plenty of Soup**. TALC, UK.

## NEWSLETTERS

- Bulletin of the Nutrition Foundation of the Philippines**. Nutrition Foundation of the Philippines. *Bi-monthly, English & Tagalog, Subscription*.
- Cajanus Magazine**, Caribbean Food & Nutrition Institute. *Quarterly, English, Subscription*.
- The Fiji Food & Nutrition Newsletter**, The National Food & Nutrition Committee. *Fiji, English, Subscription*.
- Nutrition**, Division of Nutritional Sciences, Cornell University, USA. *English, Free*.
- Nutrition & Development**. Ministry of Health, Papua New Guinea. *Quarterly, English, Subscription*.
- Nutrition News**. National Institute of Nutrition, India. *English, Free*.
- Nutrition News**, Institute of Nutrition and food sciences, Bangladesh. *Quarterly, English, Subscription*.
- Mothers & Children**. American Public Health Association. *English, French, Spanish, Free*.
- Tanzanian Food & Nutrition Journal**. Tanzanian Food & Nutrition Centre, Tanzania. *English, Subscription*.
- Vitamin A + Sieve**. Rodale Press Information Services, 33E, Minor Street, Emmaus, PA 18098, U.S.A. *English, Free*.
- Xerophthalmia Club Bulletin**. 31 Observatory Street, Oxford, U.K. *English, Free*.