

## PHASE A: CONCEPTS AND PRINCIPLES

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The A phase of the Planning Guide establishes the basic principles of the curriculum planning process in these areas:

- A1 Ideas of health and lifestyle learning.
- A2 The nutrition education curriculum – family, community and school environment.
- A3 The nutrition education curriculum – the classroom.
- A4 The pedagogical approach to nutrition education.

The suggestions made in these areas are not controversial, but neither are they universally applicable in practice. They should be discussed and agreed before going on to the situation analysis in Phase B.

*The Reader* in Phase A outlines and illustrates the concepts.

*The Activities* in Phase A clarify the concepts, open them up for discussion and comparison with existing ideas and attitudes, and lead to a summarizing of the group's conclusions. Finally, the principles and ideas agreed in Phase A are presented by participants and put on permanent display, to sum up the areas of agreement, and to serve as reference points for Phases B and C.



## **NOTE FOR NATIONAL CURRICULUM DEVELOPERS**

The four units of Phase A enable readers to agree the principles and concepts on which the development of the curriculum will be based. These will affect all other parts of the process and will ensure that nutrition education has the best chance of making a real impact on health. It is recommended that these principles and concepts form the introductory chapter of a curriculum planning document.

National curriculum developers should read and discuss the units one by one and look through the Activities. The Summing Up at the end of each Activities unit will help to focus the essential points. They can then come to an outline agreement on the concepts and principles which should guide the development of the national curriculum, and draft a policy statement outlining agreed positions on:

1. the concept of health
2. principles of curriculum development
3. appropriate learning approaches.

This can serve as the first chapter of the curriculum planning document.

Review – If the national group is reviewing the Planning Guide for local use, they should indicate to schools, teacher education colleges and local education authorities how far they endorse the principles outlined in Phase A.

## UNIT A1

# HEALTH AND HEALTHY LIFESTYLE



### OBJECTIVES

- to agree on an idea of what constitutes health
- to recognize that lifestyle is a major determinant of health
- to recognize that lifestyle is an important concept for nutrition education
- to identify what influences eating and drinking habits
- to agree on the goals and objectives of nutrition education



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C Goals and objectives of nutrition education – What are we aiming at?

1. *Goals and objectives*
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D Conclusion



### KEY MESSAGES

- Health is physical, mental and social well-being.
- Health depends on a healthy lifestyle.
- Healthy eating is part of a healthy lifestyle.
- Nutrition education is lifestyle learning.
- Lifestyle learning has many sources.
- The objectives of nutrition education are healthy eating and nutrition literacy.

## UNIT A1

**SUMMARY**

Unit A1 establishes the expanded concepts of health and healthy lifestyle, involving psychological and social well-being and behaviour, in addition to physical well-being and behaviour. It suggests that nutrition education, which aims at healthy living, must be seen as “lifestyle learning”. Learning about diet, unlike other school subjects, is built up and maintained by a host of outside influences, with which the school must interact. The goals and objectives of nutrition education are outlined.

**NOTE FOR NATIONAL CURRICULUM DEVELOPERS**

This unit will make it possible to discuss and come to agreement on:

- the expanded concept of health
- healthy lifestyle as essential to health
- healthy eating as part of a healthy lifestyle
- nutrition education as “lifestyle learning”
- the goals and objectives of nutrition education.

These concepts have extensive effects on curriculum design, as will become clear in the rest of the Guide. The exact formulation is therefore something to be discussed and tested, and should not be taken as self-evident and simply “nodded through”. Once agreed, it should form the first section of a policy statement.

For this reason it is worthwhile to look through the activities, which aim at airing existing concepts, reformulating them more explicitly and extending them. The final display material **CONCEPTS AND PRINCIPLES: HEALTH AND HEALTHY LIFESTYLE** can serve for discussion and final agreement on the stance to be adopted by national curriculum developers.

## INTRODUCTION

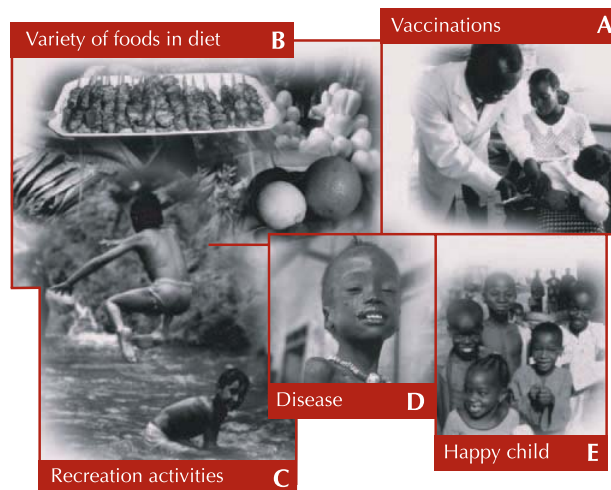
Schools can do more than most institutions to help young people to live healthy lives. But we need to be clear what we are aiming at. What is health? Our idea of health will affect everything we do in education, especially our ideas about what is to be learned, and how. In this unit we will try to agree on ideas of health and healthy lifestyle, and see why these concepts are important in the development of nutrition education programmes.

## A IDEAS OF HEALTH – WHAT IS HEALTH?

### 1. A CONCEPT OF HEALTH

When you think of health, what first comes to mind? Do you think (for example) of a clinic, a good meal, recreation, disease, happiness?

FIGURE 10 What does ‘health’ make us think about?



How do you recognize health? When you think of a healthy or an unhealthy child, what do you see – good teeth? a happy disposition? energy? fatigue? weakness?

#### ■ ACTIVITY 1 *What is health?*

In looking at what health is and how you recognize it, you may think of *prevention* (e.g. inoculation), physical signs (like skin colour or vaccination scars), or simply the absence of disease – “I don’t feel sick, so I must be healthy”. Perhaps the *psychological* aspects of health also come to mind – for example, a bright happy child is healthy, but a listless depressed one is not. Or you may think of a person’s relations with others and the social idea of health. Once we begin to look at ‘health’ we start to move away from a purely medical idea to a wider conception.

The WHO definition of health reflects the wide concept of health, as shown below.

■ **ACTIVITY 2** *A definition of health*

**FIGURE 11** The WHO definition of health

“...health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity”  
WHO Ottawa Charter (1986)

Playing together, choosing healthy food, participating in social and cultural activities, are all signs and causes of health and well-being. Feeling a part of the life of the community is important in maintaining self-esteem, happiness, and a sense of well-being. Conversely, alienation and isolation from the community and its life and customs can lead to physical, mental and social ill health.

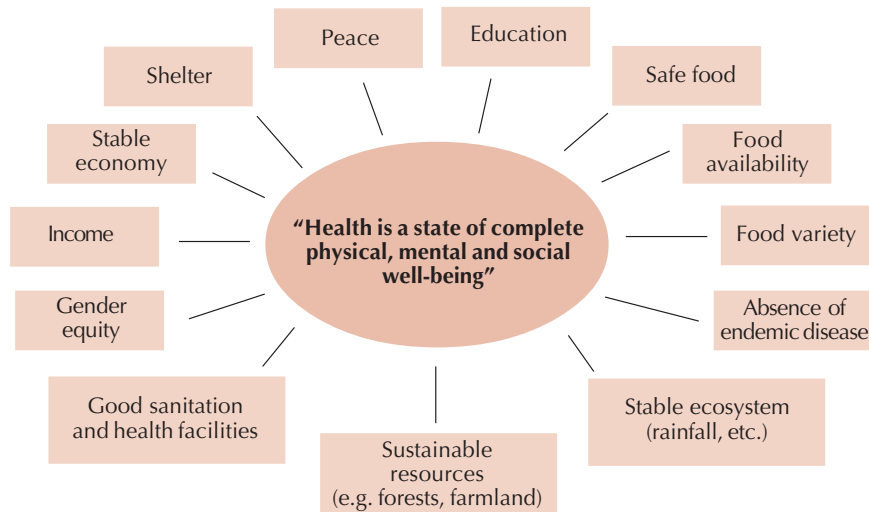
This wider concept of health has many consequences for the principles and practice of nutrition education, and it is important that those involved in education agree on its validity. It means, for example, that we will never think of nutrition only from a scientific and biological point of view – as a matter of calories and vitamins – but rather as a social and personal concept, too.

**3. FUNDAMENTAL CONDITIONS FOR HEALTH**

■ **ACTIVITY 3** *Conditions for health (Optional)*

Of course, health is not always within our control: it depends on many factors. Some of these are fundamental – peace, shelter, education, income, gender equity, a stable ecosystem and sustainable resources (WHO). To these we can add a stable economy, good sanitation and health facilities, an absence of endemic disease and, of course, food variety and safe food. They are set out in Figure 12.

**FIGURE 12** Fundamental conditions for health



In any society, some of these fundamental conditions may be lacking or inadequate, and this will affect the health of individuals and communities – physically, mentally and socially. For example, a civil war can threaten people’s lives, cut off essential supplies, and destroy jobs. It also creates fear and anxiety and threatens mental well-being, in the short term and in the long term. It disrupts infrastructure (for example, hospitals, roads, food supplies) and undermines social relations – trust, cooperation, and shared beliefs are compromised. An economic crisis can do the same. Similarly, in many communities today, HIV/AIDS is disrupting not only individual lives but also the very fabric of society.

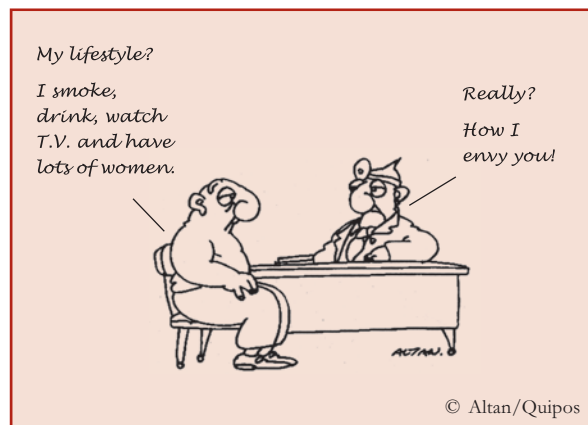
When we think about health and nutrition education in our own regions, we therefore need to start by asking what factors are damaging our children’s prospects for health, and what role education can play in remedying them.

### 3. HEALTH AND LIFESTYLE

#### ■ ACTIVITY 4 *Healthy and unhealthy behaviour*

We have expanded the idea of health to include mental and social factors. We also looked at the preconditions for health and factors. Now we turn to the area that can be influenced by individuals – their own personal behaviour.

In most people’s lives there is a mixture of healthy, unhealthy and potentially unhealthy behaviour, both conscious and unconscious. These behaviours together make up the person’s health lifestyle.



Examples of unhealthy or potentially unhealthy lifestyles are alcohol abuse, smoking and physical inactivity. Sexual behaviour which can result in HIV infection, other sexually transmitted diseases, or unintended pregnancy, is another example of an unhealthy lifestyle. Similarly, disturbed social relationships, feelings of inadequacy and stress also affect health negatively.

On a positive note, keeping your body in shape, eating well and avoiding drug abuse contribute to a healthy lifestyle. So do good personal relationships and feelings of confidence and success, and activities which give a sense of belonging to the community. These behaviours are all part of our expanded definition of ‘good health’.

Health is not the result of any single factor, or indeed of a single medical treatment. The conditions for health are instead manifold, as illustrated in Figure 12. One of the

## UNIT A1

contributing factors is a person's *health lifestyle* – the sum of an individual's health-related behaviour. If we are interested in creating, changing or improving behaviour in both the short- and long-term, as we are in nutrition education, this concept is crucial. We will direct our teaching towards lifestyle, not just knowledge, and judge our success by developments in behaviour and attitude, not just by performance in scholastic tests.

Remembering the WHO's wider definition of health (Figure 11), we can describe a healthy lifestyle as:

- *Physical* - What we can do with our bodies to achieve well-being.
- *Mental* - What we can do with our minds to achieve well-being.
- *Social* - What we can do with others to achieve well-being – for ourselves, for society or for the environment.

■ **ACTIVITY 5** *The Healthy Lifestyle Game (Optional)*



**HEALTH DEPENDS ON A HEALTHY LIFESTYLE.**

## B HEALTHY EATING – WHAT DOES IT MEAN? WHERE DOES IT COME FROM?

Now let's concentrate on nutrition, the subject of this curriculum planning guide.

### 1. HEALTHY EATING IS A PART OF HEALTHY LIFESTYLE

Healthy eating is not just about what you eat. Healthy eating is part of a healthy lifestyle – it is a set of behaviours and attitudes which contribute to health – one's own and that of others. These behaviours and attitudes have to do with eating habits, food production, shopping, preserving food, preparing food and distributing it within the family, food hygiene, and ideas and feelings about food. In this definition of healthy eating, “nutrition education” would deal with, for example:

- getting into the habit of eating a good breakfast;
- knowing where to buy good food cheaply;
- enjoying preparing food;
- learning about food values;
- teaching one's little sister to wash her hands before eating.

This view of healthy eating as part of a healthy lifestyle is essential to effective nutrition education.



In fact, we recognize this every day of our lives. As regards healthy eating, we are all in the business of shaping lifestyles – that is, the business of nutrition education. We constantly give each other messages about food and eating. For example, everyone remembers receiving or giving advice about meals: *Don't skip meals! Eat your food up! Chew your food properly! Sit down and eat with the family!*

- ACTIVITY 6 *Food and health messages*



### HEALTHY EATING IS PART OF HEALTHY LIFESTYLE.

## 2. INFLUENCES ON EATING AND DRINKING

Since nutrition education aims at healthy eating, the crucial questions are:

- Why do people eat and drink the things that they do?
- Where did these behaviours come from – how did they begin?
- What reinforced them? Why did they continue?

- ACTIVITY 7 *What do you drink and why?*

If we look at an individual nutritional behaviour in our daily lives we will find a variety of causes for it. For example, why do people drink what they drink? Is it because they like it? Is it because they think it's good for them? Is it out of habit? Is it because they have no choice? If we know the answers to these questions, we can begin to see how that behaviour can be influenced – by the individual, by society or by an education programme.

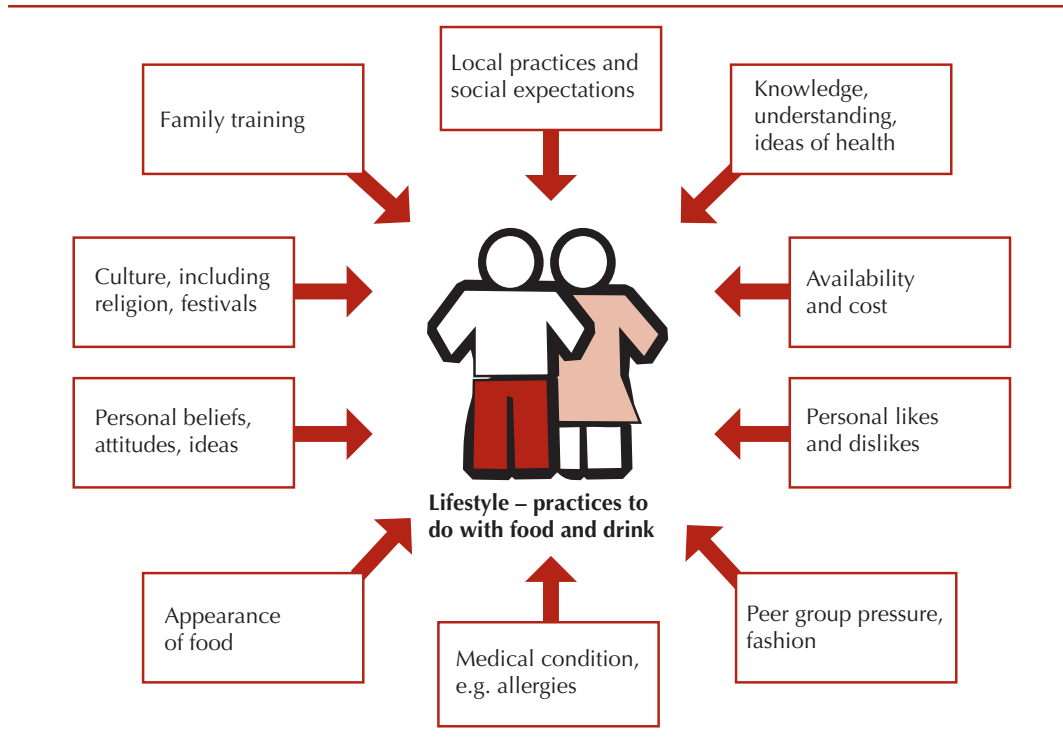
Take another piece of behaviour – washing your hands before eating. Where does this behaviour come from? What keeps it going? It may start because your parents tell you to do it; society reinforces the behaviour by making handwashing facilities available and by repeating the message “Do you want to wash your hands?” It is also reinforced by *understanding* why it is done. So here we have three influences:

- family training
- local practices and social expectations
- knowledge/understanding.

In Figure 13 we can see the individuals in the centre of the picture, with a whole range of influences on them that create and maintain their behaviour.

- ACTIVITY 8 *What creates food behaviour? (Optional)*

FIGURE 13 Influences on food behaviour



What we have to realize is that *just as many* influences are needed, from just as many sources – and over just as much time – to change behaviours as are needed to create them. This is one big difference between nutrition education and other subjects which are learned at school.



**NUTRITION EDUCATION IS LIFESTYLE LEARNING.  
LIFESTYLE LEARNING HAS MANY SOURCES.**

## C THE GOALS AND OBJECTIVES OF NUTRITION EDUCATION – WHAT ARE WE AIMING AT?

### 1. GOALS AND OBJECTIVES

The *goals* of nutrition education are of course health and nutritional well-being, which in their turn contribute to the long-term goals of social and economic development. *Individual* well-being is the main target – physical, mental and social. But we are also interested in achieving a *social* environment which understands and encourages well-being, and a *natural* environment that promotes it.

■ ACTIVITY 9 *Goals and objectives*

The *objectives* of nutrition education should lead us to these goals of health and nutritional well-being for all in a healthy environment. They are:

- *Healthy eating* - Of course, we cannot control all the circumstances which produce healthy people. The best we can do is end up with people who have a healthy lifestyle, in so far as they are able. This will include many health variables such as exercise, sleep, personal hygiene, medical treatment, and of course healthy eating and healthy dietary practices. *Healthy eating* is the behavioural objective of nutrition education. Like the goal of personal health, it has three aspects. Physically, it means good food, safe water, regular meals, good hygiene and so on. Psychologically, it means enjoying and appreciating all aspects of food and diet and building up good attitudes towards them in relation to oneself and others. Socially, it means handling all the social and community aspects well – eating with others, sharing food, recognizing others’ needs, and so on.
- *Nutritional literacy* - Our objective is not only to change schoolchildren’s behaviour. Our aim is also to instil in schoolchildren the cognitive capacity for shaping their own behaviour. Our second objective is making children health-seeking, so that they want a healthy lifestyle and know how to achieve it. They will be able to *apply nutrition principles to their own situations* and make informed and critical decisions about food and eating habits. They will also be able to *influence others*, in particular their friends, their younger brothers/sisters and their own children – by example, persuasion, information, advice and training. As they get older they will also be able to see the implications of their eating habits for the environment and will act to *protect and change the environment*. A person who can do all these things is “nutrition-literate”.

The goals and objectives are set out in Figure 14.

**FIGURE 14** The goals and objectives of nutrition education



## 2. KNOWLEDGE AND BEHAVIOUR

You will see that nutrition education involves behaviour and practice, as well as knowledge and understanding. If learned separately rather than in an integrated manner, they may lead to quite different actions. They may both be right, but they may also both be inadequate.

For example, suppose we want children to learn to *cover up leftover food*:

- We can teach them to do this by asking, telling, persuading, rewarding, even punishing. If they learn to do this, they will have a healthier lifestyle, but they may never know why! Learned behaviour doesn't necessarily lead to understanding.
- Alternatively, we could *explain why* the food needs to be covered. We could do this many times without children ever learning to do it, since (as you surely know) understanding doesn't necessarily lead to behaviour.
- Finally, we could do both. Then children will not only learn to do the right thing, but will also understand why they need to do it. They will then be able to adapt their behaviour to different circumstances, and help others too.

■ **ACTIVITY 10** *Knowledge and behaviour*

As we can see, in one case action comes first, in the other knowledge. Nutrition education must combine the two and produce *action backed by understanding*.



**THE OBJECTIVES OF NUTRITION EDUCATION ARE  
HEALTHY EATING AND NUTRITION LITERACY.**

## D CONCLUSION

You may remember the famous proverb about education and sustainable development:

*Give a man a fish and you feed him for a day.  
Teach a man to fish and you feed him for life.*

This message needs some modifying these days. First, if you don't give the man the fish in the first place, he may die and then he will never learn to fish. Second, fish are sometimes now a scarce resource and may not feed anyone for life. Third, the man may be a woman.

Nevertheless, you may still be able to extract a key message from this proverb – about the role of education in health and nutrition!

## UNIT A2

# A GOOD NUTRITION EDUCATION CURRICULUM (1): THE TRIPARTITE APPROACH



### OBJECTIVES

- To recognize the three main contexts of the nutrition education curriculum: the family and community, the school environment and the classroom
- To agree on objectives for linking with the family and community and the school environment



### CONTENTS

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- A The tripartite approach – Where is nutrition learnt?
- B Links with families and local communities – Why are they so important?
  1. *Links with families – objectives and benefits*
  2. *Links with local communities – objectives and benefits*
- C The school environment – Why is it important for nutrition education?
- D Conclusion



### KEY MESSAGES

Nutrition education should involve:

- The whole school
- The physical environment
- The family
- The community
- The classroom



### SUMMARY

This unit introduces the idea of a “tripartite” nutrition education curriculum. Such a curriculum calls on the resources and support of the family, the community and the whole school, not just the classroom. The unit therefore explores the need for pushing learning about nutrition beyond the classroom.



### NOTE FOR NATIONAL CURRICULUM DEVELOPERS

This unit and the next establish the principles of holistic nutrition education regarding:

- the need for a tripartite approach involving families, communities and the school environment, as well as the classroom;
- the range of topics to be covered by the classroom curriculum;
- spiral development of subtopics and their adaptation to age;
- local relevance and response to need;
- the place of nutrition education in the overall curriculum framework;
- principles for selection of curriculum content.

All of these factors will affect the structure, content and setting of any curriculum. National curriculum developers should therefore consider how far they approve these principles, and should also begin to think about how they might work in practice.

Even schools' local concerns – such as approaches to family and community and their own school environments, and the idea of local content in the learning objectives – should be discussed. A national policy on these concerns may affect (among other things) learning objectives, teaching materials, school policy guidelines, teacher education policies and actions on school meals. Such a policy may involve dialogue and collaboration with other national bodies, for example the national PTA, community services and school feeding programmes. Annex 1, “*Guidelines for schools ...*” summarizes what actions can be taken at school in order to widen the nutrition education curriculum; examples of actions involving the whole school (environment), families and the community are given.

The positions adopted on the points mentioned above should form a further section of an initial policy statement (see Annex 2 for a sample “*School Policy on Nutrition and Nutrition Education*”).

The activities are designed to elicit opinion on the above questions, in order to focus discussion.

## INTRODUCTION

### ■ ACTIVITY 1 *Ideas about nutrition education*

In this unit we look at what a good nutrition curriculum consists of and where it comes from. We will raise questions about nutrition education in the classroom – in what subjects it should be learned and at what age. We will also raise questions about why nutrition education – so much more than other subjects – needs to be involved with the world *outside* the classroom.

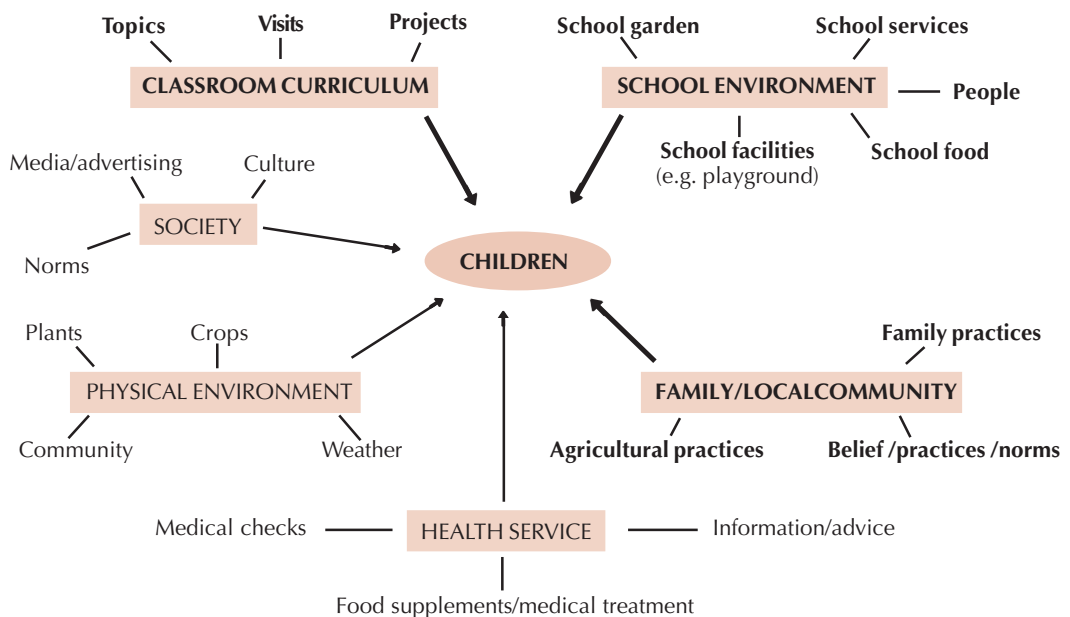
We will be examining the objectives and benefits of a wide-ranging curriculum for nutrition education, and aiming to arrive at agreement on its scope – who should be involved, where it should take place, how it should be organized and how to select its essential content.

## A THE TRIPARTITE APPROACH – WHERE IS NUTRITION LEARNT?

If we think about where children’s behaviour, knowledge and ideas about food and eating come from, we realize how many influences shape their “nutrition education”. Some of these are represented in Figure 15 below.

### ■ ACTIVITY 2 *The tripartite approach*

FIGURE 15 Sources of learning about nutrition



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Of course, the school cannot control all these influences. Powerful influences such as the media and advertising are beyond the influence of the school – although they can and should be interpreted by the school. A different kind of influence comes from the health services, which can affect schoolchildren directly and indirectly. But again, the school does not generally decide what medical information and advice are made available to children and their parents, although it can often make use of the health services educationally.

Nevertheless, there are three areas where the school can particularly help children to learn about food, nutrition and healthy eating (shown in bold type in Figure 12):

- The family and local community
- The school environment
- The classroom

A really effective “tripartite” nutrition education curriculum operates in all three areas, not only because they are all (independently) sources of learning about nutrition, but also because they can reinforce each other. The school can particularly make use of the family, the community and the physical and social environment to reinforce and extend the messages of the classroom. A great range of activities becomes available when we open up the curriculum in this way. For example:

- involving parents in homework;
- describing the family diet;
- interviewing local shopkeepers;
- making rules about litter in the playground;
- tracing sources of water supply;
- observing the harvest;
- comparing food prices in markets.

This wider idea of curriculum may be innovative in some education contexts, and schools and education authorities will have to decide how far they can move toward it. In this Planning Guide we will be looking at all three areas to identify current practices, needs and possible improvements. In this unit and the next, we will simply introduce the three areas, working from outside in – first the family and community and the school environment in Unit A2, and finally (in Unit A3) the classroom curriculum.



**NUTRITION EDUCATION SHOULD INVOLVE NOT ONLY THE CLASSROOM BUT ALSO THE WHOLE SCHOOL, THE PHYSICAL ENVIRONMENT, THE FAMILY AND THE COMMUNITY.**



## B LINKS WITH FAMILIES AND COMMUNITIES – WHY ARE THEY SO IMPORTANT?

### 1. LINKS WITH FAMILIES: OBJECTIVES AND BENEFITS

Families are already involved in “nutrition education”, if only through what they eat together. The school can involve them further in many ways, for example by:

- inviting them to information evenings;
- involving them in school trips;
- getting their cooperation in children’s homework;
- discussing their ideas of diet and healthy eating;
- consulting them about food cultivation, preservation and preparation.

Such dialogue and collaboration engages parents’ interest and creates a sense of common purpose. Joint activities such as Open Days, demonstrations, trips and meetings can consolidate this relationship. The school’s chances of making an impact on children are greatly increased if it has the support of their families.

Parents need to become aware of their own role in “nutrition education” in the home, and to feel that dialogue with the school is interesting and useful. The children, of course, are the natural channel for such dialogue, and can carry home important messages which will benefit the whole family. In this light, homework takes on a new significance!

It is essential to realize that the exchange is *two-way*. Schools and teachers have almost as much to learn from children and parents as children and their parents have to learn from the school. For one thing, families may have a great deal of knowledge, expertise and experience that the school lacks – for example in farming, fishing, food processing and preparation, shopping, local knowledge and so on. Many will be involved in some way in the local commercial food system, i.e. the various stages in which food is locally produced, traded, processed, prepared, sold.

Moreover, the school needs to learn about what families know, do, think and feel, so that education can start from where the children are at knowledge-wise, and not from what the teachers know. This is educationally vital, but it may also be a diplomatic necessity. Diet is a sensitive area, and it is easy for schools to arouse negative responses if they appear to be interfering, prescribing, or exposing deficiencies in the way people live. An attitude of polite enquiry, an evident willingness to learn, an interest in local practices and a readiness to value what is valuable, are the best ways to start and to continue.

These aims are summed up in Table 9. Curriculum developers at all levels need to consider what these objectives mean in practical terms and how important they are. They will form the basis of the situation analysis in Phase B.

- **ACTIVITY 3** *Links with the family*

**TABLE 9** Objectives for links with the family

- 1 Generally, to provide dynamic, positive and productive school/family links.
- 2 To support an active PTA or similar structure.
- 3 To ensure that parents/families are aware of the school's nutrition education goals, policy and curriculum.
- 4 To raise parents'/families'/teachers' awareness of the family's role in nutrition education.
- 5 To encourage pupils to discuss and disseminate what they learn at school.
- 6 To involve parents/families directly in school nutrition education activities.
- 7 To ensure that parents/families' relevant knowledge, skills, practices and beliefs are explored.
- 8 To ensure that parents/families' relevant knowledge and skills are used.
- 9 To ensure that teachers and school staff are aware of the importance of parents/families in nutrition education.



**NUTRITION EDUCATION SHOULD INVOLVE THE FAMILY.**

## 2. LINKS WITH LOCAL COMMUNITIES – OBJECTIVES AND BENEFITS

Although families are obviously part of the community, we are referring here to the wider community beyond the family – for example, public services and local government, private companies, organizations and churches, producers and retailers, bars and eating places, the local media, the clinic, youth clubs, and so on. Activities involving the community might include getting speakers to visit schools, planning shopping, making a trip to a local farm or factory, asking children to study advertising posters for homework, reporting on food consumed at a festival, and so on. They will also involve finding out generally about food and food practices in the area.

Good links with communities are highly desirable for nutrition education. One reason is that eating is a social phenomenon and needs to be understood in its social context. It is also a source of beliefs and values which are shared and reiterated by the community – hence the community is a major source of messages about nutrition, especially for older children. Children may benefit simply by seeing that public members of the community have the same concern and interest in healthy eating as the school. Another reason is that a great deal of the knowledge involved in nutrition education can be directly observed in the community – for example, food production, food processing, food marketing, are all on display and can provide object lessons to reinforce the lessons of the classroom. Community organizations can help with visits, guided tours, sponsorship, interviews and sometimes with food and funds. Finally, older children, when they become “nutritionally literate”, will begin to take an interest in making their own individual contribution to the health of the community.

These objectives are summed up in Table 10. The objectives in this table will be used to evaluate the local situation in Phase B. At this time, it is important to decide if these aims are worth pursuing in principle and what they might mean in practice.

- **ACTIVITY 4** *Links with the community*

**TABLE 10** Objectives for links with the community

- 1 Generally, to develop and establish dynamic, positive and productive school/community links.
- 2 To utilize the potential of community health services related to nutrition education (information, advice, materials, talks).
- 3 To make good use of government/local government services related to nutrition education (information, advice, materials and so on).
- 4 To involve non-governmental organizations in the school's nutrition education programme.
- 5 To involve traders, retail suppliers and other commercial organizations in practical nutrition education activities.
- 6 To use community media to promote school nutrition and health activities.
- 7 To ensure that teachers and school staff are aware of the importance of the community in nutrition education.
- 8 To enable the whole school to become well informed about local food and food practices.



**NUTRITION EDUCATION SHOULD INVOLVE THE COMMUNITY.**

## **C THE SCHOOL ENVIRONMENT – WHY IS IT IMPORTANT FOR NUTRITION EDUCATION?**

Classroom lessons may well not be enough to bring about lasting changes in children's nutritional behaviour, understanding and attitudes. The influence of the school in matters of health and nutrition goes beyond the classroom and should be reflected also in the immediate school environment. "School environment" refers to the school's physical surroundings, but also to its non-teaching staff (see Figure 15). Aspects of the school environment which affect children's learning include:

- places for eating (and the people who clean them);
- school meals (and the people who prepare them);
- snacks (and those who sell them);
- the playground (and those who look after it);
- school clubs (and those who participate in and run them);
- the water supply (and those who maintain it);
- the school garden (and the things that grow in it);
- overall, the school's conscious policy on all these things.

Suggested objectives for schools are set out in Table 11. They are grouped under six headings: policy objectives, physical environment, eating in the school setting, whole-school activities, role models, involvement. They involve developing and promoting a school philosophy and policy on nutrition education; obtaining training for staff; creating healthy surroundings; improving the quality of food eaten in school; organizing whole-school activities; involving school staff; above all, *raising awareness* of what it means to have a healthy environment. This is part of the concept of the "health-

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promoting school” – or in this case, the “nutrition-promoting school” – the foundation of effective nutrition education.

■ **ACTIVITY 5** *Objectives for the school environment*

Why is it important to harness these elements for nutrition education? Some of the benefits for children are simply physical (better nutrition and hygiene) while some are cognitive (reinforced messages about nutrition and generally increased awareness). Note that these benefits are not limited to the children: the whole school community can benefit in the same ways. Common policies and activities involving all staff and children increase internal cohesion and make schools more able to spread these principles outside.



**NUTRITION EDUCATION SHOULD INVOLVE THE WHOLE SCHOOL.**

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## **D CONCLUSION**

From the educational point of view, what counts in developing nutrition education is understanding – indeed, any action to improve the school environment or involve the family and community is fully educational if it raises awareness. It is relatively easy and economical to add this educational value. However, it is generally neglected unless there is a culture of health awareness in the school and a well-established interaction between the classroom and what is outside it. Schools and education authorities need to make a conscious decision about strategies for promoting and maintaining such a culture.

See Annex 1 for “*Guidelines for schools on extending nutrition education into the school environment and involving family and community*” and Annex 2 for a “*Sample school policy on nutrition and nutrition education*”.

**TABLE 11** Objectives for the school environment

<p><b>Policy</b></p> <ul style="list-style-type: none"> <li>• To formulate a school philosophy or concept of health and well-being.</li> <li>• To develop a school nutrition policy with aims, norms and rules, covering sanitation, personal hygiene, school meals and snacks (content, preparation, conduct, sales), school garden, litter and so on.</li> <li>• To promote in-service training in health and nutrition issues for all school staff, including non-teaching staff.</li> <li>• To ensure that the link between school philosophy, school policy and the classroom nutrition education curriculum is clear to all concerned, and that nutrition aspects of the school environment have a place in the education programme.</li> </ul>			
<p><b>Physical environment</b></p> <ul style="list-style-type: none"> <li>• To create a pleasant and hygienic physical environment that carries healthy messages to the whole school.</li> </ul>			
<p><b>Eating in the school setting</b></p> <ul style="list-style-type: none"> <li>• To ensure that food provided by the school makes a valuable contribution to the children’s diet.</li> <li>• To make sure that other food on the premises is in line with the school’s nutrition policy.</li> <li>• To ensure that all aspects of eating in the school setting have a place in the education programme.</li> </ul>			
<p><b>Whole-school activities</b></p> <ul style="list-style-type: none"> <li>• To promote whole-school activities on nutrition themes (e.g. projects, campaigns, Open Days, exhibitions, extra-curricular activities such as clubs, sports and so on).</li> </ul>			
<p><b>Role-models</b></p> <ul style="list-style-type: none"> <li>• To provide positive adult role-models as regards healthy eating and healthy lifestyle.</li> </ul>			
<p><b>Involvement</b></p> <ul style="list-style-type: none"> <li>• To involve as many parties as possible, as actively as possible, in promoting the school not only as a healthy environment but also as an environment which carries healthy messages to children. Parties to be considered are:</li> </ul>			
<p>food vendors secretaries head teachers</p>	<p>cooks teachers governors</p>	<p>cleaners PTA pupils</p>	<p>school administrators janitors/caretakers school boards</p>



UNIT A3

## A GOOD NUTRITION EDUCATION CURRICULUM (2): THE CLASSROOM CURRICULUM



### OBJECTIVES

- to agree on general objectives for the classroom curriculum
- to appreciate the range of topics involved in effective nutrition education
- to understand the value of the spiral curriculum and adaptation to age
- to recognize the several kinds of local relevance and their importance
- to discuss ways of accommodating nutrition education in the overall curriculum
- to establish principles for selection



### CONTENTS

Introduction

A Content of the classroom curriculum – What’s needed and why

1. *The topics*

2. *Development of topics*

B The local dimension – Questions of relevance

C Framework – How does it fit in?

D Selecting and focusing – How do we choose?



### KEY MESSAGES

The classroom curriculum should:

- cover the ground
- fit the age of the children
- develop from year to year

Nutrition education should deal with:

- local problems
- local interventions
- local foods and food practices

**SUMMARY**

For the regular scholastic programme, a Curriculum Chart is presented which outlines a range of topics and subtopics developed as a spiral curriculum across four broad age groups. These topics' learning objectives are in line with children's developing capacities. The place of nutrition education in the primary school timetable and the possibilities of cross-curricular treatment are discussed. The need for a strong local dimension and local knowledge are also stressed. Finally, principles for selection are presented, together with two sample selections.

**NOTE FOR NATIONAL CURRICULUM DEVELOPERS**

Activities 1 and 2 are useful for all. Activities 3 and 4 (on the spiral curriculum and Piaget) will be useful for members of the group who are not professional curriculum developers. Activities 5, 6, 7 and 8 (curriculum framework, the scope of local application and principles of selection) are all particularly useful for focusing on essential questions of curriculum design.



## INTRODUCTION

The last “leg” of the nutrition education curriculum is the traditional one – the classroom. As with other classroom subjects, we need to identify what is to be learned (the *content*) and the structure in which it will be learned (the *framework* – who will teach it, how often, in what subjects).

Nutrition is a very wide concept. We have seen that eating and drinking relate to all aspects of the self, and also to society and the natural environment. To encompass all these concepts, a comprehensive nutrition education curriculum should be *extensive* (covering all relevant topics) and *adaptive* (fitting in with the psychological development of children). It should also, above all, be *relevant* – to existing dietary needs, to local foods and nutritional practices, and to children’s perceptions.

The objectives for the classroom curriculum are shown in Table 12.

**TABLE 12** Objectives for the classroom curriculum

- 1 *Content* – To select curriculum content that will contribute to the objectives of nutrition education – healthy eating, and nutrition literacy.
- 2 *Development* – To structure learning so that it is appropriate to the age group and develops systematically through the school years.
- 3 *Relevance* – To ensure that learning is relevant to local concerns, practices, beliefs and attitudes, and makes direct connections with children’s daily lives.
- 4 *Framework* – To spread nutrition education through the primary school curriculum as widely as possible, while at the same time maintaining its coherence and impact.

This unit examines how we can construct a classroom curriculum for nutrition education which meets these objectives. We will look at each aspect in turn, giving extra attention to the selection of content.

- **ACTIVITY 1** *Classroom curriculum objectives*

## A CONTENT OF THE CLASSROOM CURRICULUM - WHAT’S NEEDED AND WHY

### 1. THE TOPICS

- **ACTIVITY 2** *Classroom curriculum topics*

A classroom curriculum has been developed to meet the first two objectives above. It is shown in the *Classroom Curriculum Chart*.

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The main topics – You will see from the chart that there are eight main topics:

- A Food and Emotional Development
- B Eating Habits and Cultural and Social Influences
- C Food, Nutrition and Personal Health
- D Food Supply, Production, Processing and Distribution
- E Consumer Aspects of Foods
- F Food Preservation and Storage
- G Food Preparation
- H Hygiene / Sanitation

These are laid out on the horizontal axis of the Chart, and are repeated in each age group.

In each topic there are also subtopics – for example, *Food supply* is a subtopic of the main topic *Food Supply, Production, Processing and Distribution*. The subtopics are listed at the top under each main topic and most of them are also repeated in each age group. (Occasionally, one or two of the subtopics are not represented at all age levels, mainly in order to allow a more age-appropriate focus of the teaching.)

In most subtopics, for each age group, there are a number of *learning objectives*. For example, *Understand the importance of soil* is a learning objective in the subtopic *Food supply* for the age group 8–10. These learning objectives form the basis of what is specified in the curriculum, presented in schoolbooks and taught in the classroom.

The age groups are on the vertical axis so that the whole chart forms a grid of age and topic. The primary school age range has been divided into four bands: 6–7, 8–10, 11–13 and 14–16. Primary schools in most countries usually go up to grade 8 at most. However, classroom curriculum suggestions are also provided for the higher age level of 14–16 years, in order to accommodate school systems which have extended primary schooling into grades 9 and 10.

*The choice of content* – Several of the topics and subtopics on the chart will be immediately recognized as traditional learning areas, which can be found distributed among a number of subjects in most primary schools. Others (e.g. A, B, C, and E) may have some new content. The topics have been selected to respond to the objectives of nutrition education formulated in Unit A1, i.e. healthy eating and nutrition literacy. These objectives aim at behaviour, attitudes, life skills, understanding and knowledge. With these aims it becomes clear that there is a need to explore, for example: children's feelings and attitudes (A); social patterns and cultural influences (B); personal dietary decisions (C); commercial influences and consumer behaviour (E) – see also *Focusing and selecting*, below.



**THE CLASSROOM CURRICULUM SHOULD COVER THE GROUND.**

## 2. DEVELOPMENT OF TOPICS

### ■ ACTIVITY 3 *The spiral curriculum*

*Recycling* – How are the topics distributed through the age groups?



In many school subjects a topic is dealt with, reviewed, tested and then replaced by the next topic. To take a simple example, in a geography lesson one might study populations and then move on to climates.

The classroom curriculum proposed in the Chart does not work in this linear way. As you can see, it deals with the same topics and subtopics at every age, “recycling” and building on what has gone before. For example, children learn about aspects of food supply in every age group. At age 6–7, they learn that *all food originates from plants and animals and water*, at age 8–10 they learn more specifically to *identify the origin of certain plant and animal foods*, at age 11–13 they are expected to understand the wider concept that *plants are the basis of the food chain*. In this way, each phase of the curriculum lays a foundation for the following phase.

This systematic recycling is known as a *spiral curriculum*. Figure 16 illustrates some of the objectives for one subtopic (Food supply) as an upward spiral. The arrows show how many subtopics depend on concepts that have gone before.

This development and linkage through the age groups means that selecting a subtopic to be included in the curriculum also means selecting what comes before and after it.

FIGURE 16 The spiral curriculum

Topics and learning objectives				Age
Understand the influence of climate on food production	Identify food production techniques in own country	Understand that plants are the basis of the food chain	Understand ecological principles of food production	11-13
↑	↑	↑	↑	
Describe which foods are obtained through farming, fishing, hunting or produced in factories	Identify the origins of certain plant and animal foods	Understand the importance of soil	Understand the importance of soil	
↑	↑	↑	↑	
Identify locally available foods	Understand that all food originates from plants, animals and water	Understand that all food originates from plants, animals and water	Understand that all food originates from plants, animals and water	

*Adapting* – In a spiral curriculum, learning objectives are adapted to the child’s developing understanding. In nutrition education, the intention of which is to make a long-term impact on behaviour, this adaptation is particularly important.

According to theories of child development such as Piaget’s, children’s understanding develops in stages. At each stage there are things that they are able to understand and do, as well as things they are unable to understand and do. These stages of development tend to determine what children learn best in a particular subject area at a particular age.

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How do these cognitive stages fit with learning about nutrition? Some suggestions are made in Table 13.

■ **ACTIVITY 4** *Nutrition education and Piaget*

**TABLE 13** Piaget's stages of development related to nutrition

At age 6–7 (the “pre-operational stage”) children cannot understand that substances can be transformed. So the digestion of food would be a difficult concept. But ritual actions, like the washing of hands, and games and play that involve concrete objects and physical action are activities that can be done at this stage.

At ages 7–11 (the “concrete operations” stage) children can learn how to make connections between their actions and what others do to keep themselves healthy. This can be broadened to learning about other people's lifestyles and how these differ from theirs. The child is able to look beyond itself and can identify what other people like and eat, but is not yet able to apply these thought processes to an abstract notion like nutrients. They can put foods into categories according to shape, taste or other physical properties, or whether they ate the food as meals or snacks, but their capacity for description is still wider than their analytic ability. At this stage motivation begins to play a role in the child's food choices.

From age 11 upwards (the “formal operations” stage), terms such as “nutrients” are understood. Food choices and their consequences are linked to beliefs and values, not only to taste. Children can learn more about their own eating habits, what influences their choices and how to evaluate their own eating habits. Eventually they can consciously adopt healthy eating habits as part of a lifestyle. They will be able to recognise what it is within themselves (internal pressures) and in the outside world (external pressures) that makes it difficult to follow a lifestyle. At this age they will also be able to understand the effects of their choices on their health as well as that of their family, their community and the environment.

Source: Contento, I. 1981. Children's thinking about food and eating: a Piagetian-based study. *J. Nutr. Educ.*, 13(1): 586–589

The Classroom Curriculum Chart has been constructed in accordance with these principles, taking account of what children can and cannot understand or do at particular ages. We can see in Figure 16, for example, how the learning objectives expand gradually to a complex understanding of the relationship between food and the environment, moving from:

- particular to general
- concrete to abstract
- present facts to origins and implications.

Understanding and adopting these principles will enable curriculum developers to adapt the Chart to their needs. The choice of topics must be seen to contribute to the aims of nutrition education – healthy eating and nutrition literacy. Subtopics generally need to be adopted or rejected for the whole age-range rather than just for one school year since they are part of a learning chain. Learning objectives cannot easily be transferred from one age group to another where they are unsuitable for the child's level of development. If new subtopics or learning objectives are introduced, thought must be given to how they can be distributed through the age groups.



**THE CLASSROOM CURRICULUM SHOULD FIT THE AGE OF  
 THE CHILDREN AND DEVELOP FROM YEAR TO YEAR.**

## B THE LOCAL DIMENSION – QUESTIONS OF RELEVANCE

*Relevance* is the key word in nutrition education. It means, among other things, taking account of the *local dimension*. “Local” may refer to the district, the region or the country as a whole – depending on how widely the curriculum is to be applied and how diverse the region is. A local dimension will mean:

- tackling urgent local problems and suggesting local solutions;
- giving educational support to nutrition and health interventions in the school;
- incorporating local foods and food practices into classroom learning.

All these imply considerable local knowledge and understanding, which need to be available to teachers and curriculum developers.

The particular nutritional needs of the region must be known so that they can be given special attention in lessons, materials, projects and campaigns. These needs may be associated with wider health and sanitation problems in the area, involving local practices and attitudes. The identification of these problems will be the focus of Unit B1.

Any health and nutrition interventions in the school or the school environment should have educational backing so as to make them meaningful to children, parents and the whole school. Where interventions come from outside (e.g. from the health services, aid agencies, the school feeding programme, the Water Board), schools will need briefing so as to be able to prepare lessons. We will be looking at this question in Unit B2.

There are many *general* facts and ideas to learn about nutrition (e.g. food categories and their specific nutritional value, human growth, bacterial activity), but much of the content of the curriculum will be *local*. The textbook and laboratory are the home, the field, the local shop, the neighbours, the playground, the local factory. Learning objectives will need local illustration or a local content specification. For example, “to identify ‘extra food’ (snacks and sweets) their nutritional and social function” (Topic C, subtopic “Food classifications”, age group 8–10 years) may mean talking about a rice cake, roast maize, or a chocolate bar, depending on the country; “to identify water sources” (Topic H, subtopic “Water”) will involve locating, describing and evaluating local water sources. Teachers will need to be familiar with the food aspects of the physical and social environment. Unit B2 will look at ideas for building up the local information base.

- ACTIVITY 5 *The local dimension*



**NUTRITION EDUCATION SHOULD DEAL WITH:**

**LOCAL PROBLEMS**

**LOCAL INTERVENTIONS**

**LOCAL FOODS AND FOOD PRACTICES**

## C FRAMEWORK – HOW DOES IT FIT IN?

The question of where nutrition should be learned is not only about whether this should be inside or outside the classroom, but also *whose classroom* it takes place in. Food and eating can be dealt with in many subject areas – indeed, it is possible to distribute nutrition education through all school subjects so that it becomes “cross-curricular”.

### ■ ACTIVITY 6 *Cross-curricular approaches*

Decisions about the place of nutrition in the overall school curriculum will depend on many factors, such as:

- how much “nutrition” is already taught;
- what subjects are already taught and how they are grouped;
- which subjects are examinable;
- how much time is available (usually very little);
- how much competition there is for this time (usually fierce);
- whether the system favours cross-cutting subjects;
- whether schools are used to project work, team teaching and so on.

Such decisions are likely to result from negotiations over territory as much as from first principles. In any case, curriculum developers need to know from the outset what solutions they would prefer and hence what compromises to be prepared for. They will be looking for school situations which:

- allow for coherent development of the subject;
- give sufficient exposure to the subject – it is estimated that 50 to 60 classroom hours per year are needed to make a significant difference to children’s nutritional understanding and behaviour;
- give nutrition education importance in the eyes of the school and the families;
- help children to connect with their own lives, actions, beliefs and feelings;
- raise awareness of nutrition in the whole school.

Some of the possibilities for integrating nutrition education into the curriculum are:

- *Nutrition education is placed in the timetable in its own right* – This is ideal for giving the subject coherence, raising the profile of nutrition education, and developing a suitable teaching approach. But it doesn’t necessarily make for interaction with other teachers and subjects.
- *Nutrition education is concentrated in one or two existing subjects* – For example, Home Economics or Health Education might be good candidates for such an approach. Within these subjects, coherent development and a life-based teaching

approach are possible. However, the syllabuses for these subjects sometimes give little space to nutrition and may not leave much room for manoeuvre.

- *Cross-curricular “infusion”* – This means that nutrition education is taught within existing subjects, wherever appropriate. There are areas in science, health education, geography, environmental science, home economics, physical education, civics, social sciences and agriculture, where nutrition education can fit in. Room can even be found for nutrition education in subjects like history, literature and maths. In this way nutrition education borrows the status of established school subjects. It can raise awareness in teachers of other subjects, and reinforce the message that nutrition is everywhere. It also makes a less visible dent in the timetable. On the other hand, this approach needs strong coordination – it is difficult to achieve a coherent teaching sequence, to make connections between nutrition topics, and to ensure that topics are not taught in a purely scholastic way, as abstract information. There is also a danger of losing sight of learning objectives: arithmetic with oranges and bananas is still arithmetic, not nutrition.
- *Collaboration in “life defence”* – Other urgent health topics may be jostling for a place in the timetable, such as HIV/AIDS, smoking and drinking, physical fitness, life skills, and sometimes even health education itself. It is worth considering making common cause with these topics to ensure that each has its place in the curriculum.
- *Themes and projects* – Nutrition issues can be “added on” in many subjects for a particular purpose. For example, “fruit” could become the “theme of the month”, or a cross-curricular project on “drinking water” could be adopted for a term, with lessons in each subject coordinated by a special task force. This is excellent for raising nutrition awareness in the whole school, is good for teacher development, and doesn’t affect regular teaching programmes. It does however require time, enthusiasm and a capacity for collaboration and coordination.
- *A mix of solutions* – There is of course the possibility for mixed solutions, for example: a small regular timetable slot for nutrition together with a major cross-curricular project; a base in Home Economics with some cross-curricular infusion; a range of extra-curricular activities and defined modules within established subjects.

■ **ACTIVITY 7** *Curriculum framework possibilities*

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## D SELECTING AND FOCUSING – HOW DO WE CHOOSE?

The Classroom Curriculum Chart has a wide scope but even this comprehensive Chart may not be considered complete! It will seldom be possible to cover everything that should be learned. Curriculum developers will generally need to decide how to divide the possible or ideal curriculum content into *essential*, *highly desirable* and *desirable but negotiable content*.

When doing this, what matters most is to establish and agree on the *principles of selection*. Let us go back to our agreed objectives from Unit A1:

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- healthy eating, and
- “nutrition literacy”, that is to say:
  - the ability to apply nutrition principles to oneself;
  - the ability to influence others;
  - the ability to act to protect the environment.

“Ability” means having the necessary knowledge, understanding, attitudes and skills which lead to actual practice. A person who understands but does not act cannot really be said to be able! Even at the outset, we may want to prioritise these abilities into *essential*, *highly desirable* and *desirable but negotiable*.

■ ACTIVITY 8 *Principles of selection*

Having done this, we must choose whatever topics and subtopics we think will lead to the fulfilment of these objectives most effectively. The results will be varied because people have different ideas about how such targets are achieved. Some will feel that the most important thing is basic nutritional knowledge; others would put routine behaviour first (perhaps for particular age groups); others will think that knowledge can only lead to good eating practice if we tackle the social and psychological aspects of food behaviour.

Each of these ways of thinking will lead to different ideas of what is essential, highly desirable or just desirable.

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## E CONCLUSION

■ ACTIVITY 9 *Summing up*

The features proposed for a good nutrition education curriculum in Units A2 and A3 derive from the general objectives of nutrition education and the particular objectives proposed for a tripartite approach. To take them in the order they have been presented, they are:

- An approach which takes nutrition education outside the classroom and calls on the support of the family and the community.
- An approach which extends to the school environment in all its aspects, and involves the whole school staff as far as possible.
- A selection of curriculum content which can be seen to contribute to the objectives of nutrition education – a healthy lifestyle, and nutrition literacy.
- A classroom curriculum which covers a wide range of topics, takes in the psychological and social aspects of food and food practices, recycles learning from year to year, and is adapted to the understanding and interests of each age group.
- A classroom curriculum which is relevant to local concerns, practices, beliefs and attitudes and which connects with children’s daily lives.



- A curriculum framework which spreads nutrition education as widely as possible, without impairing its coherence and impact.

The importance attached to each of these components will depend largely on the situation prevailing on the ground. This will be investigated in greater detail in Phase B.



# LEARNING APPROACHES TO NUTRITION EDUCATION



## OBJECTIVES

- to recognize that successful nutrition education involves not only knowledge but also attitudes, habits and routines, practical skills and life skills
- to be aware of the roles of knowledge and attitudes in lifestyle learning
- to recognize the kinds of learning involved in a given nutrition education objective
- to recognize that successful nutrition education needs:
  1. active, experiential, participatory learning
  2. activities appropriate to the learning objectives
  3. activation of a range of faculties
  4. an outreach approach, to apply learning to life.



## CONTENTS

- Introduction – Nutrition education is different
- A What are they learning? – Knowledge is not enough
1. *Five types of learning*
  2. *The mix of learning types*
  3. *The role of knowledge and understanding*
  4. *The role of attitude*
- B How do children learn about healthy eating? – Telling is not enough
1. *Ways of learning*
  2. *Active, experiential, participatory learning*
  3. *Making them interesting to all: individual learning styles*
  4. *Learning and life: An outreach approach*
  5. *Classroom culture*
- C Conclusion



## KEY MESSAGES:

- Effective nutrition education involves many kinds of learning – knowledge, attitudes, behaviour, practical skills and life skills.
- Knowledge is essential – but never enough.
- Children learn about healthy eating through action, experience and participation.
- The more ways they learn, the better.
- Nutrition education needs to link with life outside the classroom.

**SUMMARY**

“Lifestyle learning” – which establishes behaviour – involves learning attitudes, skills, routines and life skills, as well as scholastic knowledge. This range of learning targets must be reflected in the learning approaches adopted in schools. Each kind of objective will require a different methodology. But in general, nutrition education has the best chance of making a real impact if it:

- involves action, direct experience and participation by the children;
- stimulates all their faculties;
- takes learning outside the classroom into real-life situations.

**NOTE FOR NATIONAL CURRICULUM DEVELOPERS**

The teaching approach suggested in this unit is a necessary part of the overall philosophy of nutrition education, as discussed in the previous units. National curriculum developers should use Unit A4 to arrive at agreement on the general need for an active, experiential, participatory approach for classroom nutrition education, and the desirability of an element of outreach. These decisions will affect the design of teaching materials; they may also have implications for teacher training (pre-service and in-service), and should have the active endorsement of the teacher training department. A statement on the desired teaching approach should be included in a policy statement.

Most educationists will recognize the ideas exercised in the activities. For those who are not involved in education (e.g. health workers, nutritionists, representatives of school feeding programmes) all the activities will be useful.

## INTRODUCTION – NUTRITION EDUCATION IS DIFFERENT

Individual eating practices come from many sources. Above all, they depend on what people can produce locally or what they can buy. This depends on the productivity of the region, the general economic situation and the family's own economic position. There may not be much room for choice. But, as we have seen, eating is an aspect of lifestyle, rooted in social practices and values, in personal behaviour and attitudes. It involves cultural identity, social relations and every aspect of the person – knowledge, ideas, feelings, attitudes, behaviour. This means that there is almost always some room for developing behaviour, but that the routes to it are not always simple.

### ■ ACTIVITY 1 *Learning about food*

This makes nutrition education significantly different from other school subjects. Influencing eating practices and ideas about food is more complex than just teaching a practical skill or a body of knowledge. Other subjects – for example, maths, chemistry, history – do not have such personal and social relevance, are not so rooted in everyday life, and do not lay their foundations so early in life.

Nutrition education needs to be much more penetrating: it must reach feelings as well as deliver facts, influence social behaviour as well as individual behaviour, encompass the spiritual aspects of the person as well as the physical. In short, it must take account of all aspects of the person. Since it aims at the development of long-term behaviour, it has to achieve what most formal education does not – a permanent penetration of the schoolchild's psyche. It is not something a child should forget after it has passed its exams or left school!

In this unit we will look at the educational approaches needed to achieve this “high penetration”. We will see that nutrition education involves learning of many kinds – not just knowledge, but also behaviour, attitudes, practical skills and life skills. These reinforce one another but are all learned in different ways. The most effective routes to *lifestyle learning* are action, experience and participation. Variety of approach is also essential to activate all the faculties and cater for different individual learning styles. Bridges also have to be built with real life through outreach into the physical and social environment.

## A WHAT ARE THEY LEARNING? – KNOWLEDGE IS NOT ENOUGH

### 1. FIVE TYPES OF LEARNING

Let us recall the objectives of nutrition education which were formulated in Unit A1. In the first place, we simply want children to have a healthy lifestyle, in particular as regards *healthy eating and eating practices*. Secondly we want them *to be able to help themselves to be healthy*, using all the knowledge and skills they have acquired, and to help their families, friends and future children as well. Finally, we hope they will be able *to influence their own society and environment* in the same direction. This is the ideal of the “nutritionally literate” person.

To achieve these objectives we need several kinds of learning:

- *Knowledge and understanding* – for example, of how diet contributes to health.
- *Attitudes* – for example, the desire to be healthy, an appreciation of healthy food.
- *Routines and habits* – for example, eating habits, hygiene routines, washing vegetables.
- *Practical skills* – for example, cooking, conserving food, shopping, techniques needing practice.
- *Life skills* – for example, the ability to decide for oneself, and to convince others.

*Life skills* in this context do not mean the practical skills necessary for earning a living. It refers to confidence in your own convictions, the ability to recognize what’s good for you personally, the strength to stick to your decisions, the capacity to influence others. These talents are also learned – indeed, they can also be practised.

What people learn about nutrition, in and out of school, divides naturally into these five kinds of learning. Frequently they mix and converge. A child stops her little brother from putting dirty fingers in his mouth, and tells him why he shouldn’t: this is knowledge and understanding converted into active behaviour on behalf of others – a highly successful piece of lifestyle learning.

#### ■ ACTIVITY 2 *Five kinds of learning*



**EFFECTIVE NUTRITION EDUCATION INVOLVES  
MANY KINDS OF LEARNING – KNOWLEDGE,  
ATTITUDES, BEHAVIOUR, PRACTICAL  
SKILLS AND LIFE SKILLS.**

## 2. THE MIX OF LEARNING TYPES

It should be emphasized that nutrition education demands all kinds of learning. In general, purely scholastic learning will *not* have a lasting effect on behaviour: it needs to be reinforced by behaviour- and skills-training, and attention to attitudes. Knowing that fruit is good for you does not normally persuade children to eat fruit. On the other hand, pure behaviour training or skills teaching do not necessarily lead to good understanding and may be rigid and inflexible. A fruit-eating habit established at home may not continue when children leave home and start to look after themselves. Both knowledge and training, if not reinforced by positive attitudes and good life skills, may be swept away by peer pressure or other social forces.

Specific nutrition education objectives require specific kinds of learning. For example, making a habit of covering food, knowing what food to offer to guests, recognizing a balanced meal, appreciating a traditional dish, selecting good-quality fruit – all these are different sorts of behaviour which are learned in different ways. The only thing they all have in common, perhaps, is that all of them require practice and (at some point) direct experience.

But most nutrition education objectives also involve *more than one* kind of learning. Take the objective from the Classroom Curriculum Chart, *recognize states of decay of various foods*. To achieve this, the learner needs to know a great deal about meat, fruit, cooked food, cereals, tinned foods and so on, and also to be able to use the correct words to describe their different states of decay. But theoretical knowledge alone is almost useless without the practical skill needed to recognize the sight, smell and texture of different kinds of decay. This is only built up through experience and observation.

## 3. THE ROLE OF KNOWLEDGE AND UNDERSTANDING

### ■ ACTIVITY 3 *The role of knowledge*

Traditional school education gives great importance to knowledge. So does nutrition education. Knowledge and understanding are essential to most learning. But *knowledge is not enough*. It doesn't necessarily (or even usually) lead to good practices, appropriate attitudes or skilled behaviour. For example, *knowing* which snacks are healthy may have no effect at all on children choosing healthy snacks. It is necessary to have more than knowledge.

Conversely, a great deal can be learned without understanding: many practical habits, behaviours and skills – such as cleaning teeth or recognizing decayed food – can be present in a child without understanding. Behaving in a certain way and understanding why you behave in that way, are separate processes. However, learning is much more powerful, flexible and adaptable if behaviour and understanding reinforce one another.

There is a story about a schoolmaster who told his students they should not smoke. “But *you* smoke!” cried the students. “Ah, yes,” said the schoolmaster, “but don't do

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what I *do*, do what I *say*". This is a good example of knowledge which does not lead to action, and a good example, too, of a negative role-model. The schoolmaster was wrong twice over, of course. Not only did he not act on his own knowledge, he also thought that merely conveying knowledge to his students would produce changes in *their* behaviour. There are a lot of lessons he hadn't learned!

#### 4. THE ROLE OF ATTITUDE

Traditionally, those concerned with health and nutrition education have accepted the need for some behaviour training (especially in small children) and for some skills training (especially in home economics). They have tended to neglect the role of attitude, often taking for granted that people are motivated towards healthy eating. Yet we must recognize that diet and eating practices are often tied to deeply irrational attitudes, conditioned by feelings, habits, social norms and, sometimes, the emotional pressures of adolescence. Children may reject food, however healthy, because it is strange, unfamiliar, "poor" or because they want to be thin. They may accept it, however unhealthy, because it has status, is eaten by admired peers or role-models, or above all, is what they regard as normal. These food decisions can rapidly become part of a lifestyle, and are hard to eradicate. Looking at attitudes and where they come from must be part and parcel of nutrition education.

- ACTIVITY 4 *The role of attitude*



**KNOWLEDGE IS ESSENTIAL – BUT NEVER ENOUGH.**

## B HOW DO CHILDREN LEARN ABOUT HEALTHY EATING? – TELLING IS NOT ENOUGH

We must remember that nutrition education is *different*. It is "lifestyle learning": it has to penetrate where other subjects can't reach. It must engage the whole learner and it must affect all learners. It must move out of the classroom and apply to real life. How can we help this happen? What are the appropriate methodologies?

### 1. WAYS OF LEARNING

- ACTIVITY 5 *Lifestyle learning*

If we cast our minds back to our childhood we can recall how we formed our ideas of what food was good to eat, where to obtain it, whether to believe advertising, what routines were necessary for eating and cleaning up, and so on. Most of our lifestyle learning has come through:



<i>various kinds of action</i>	for example, writing things down, thinking, acting, practice, finding out, experimenting
<i>various kinds of experience</i>	for example, being told, being shown, feeling and seeing, self-expression, hands-on contact
<i>participation or interaction</i>	for example, seeing examples, hearing others' experience, talking about one's own experience, discussion

For most people, *action*, *experience* and *participation* are the main routes to lifestyle learning. *Hearing* is not enough; *knowing* is not enough; even *believing* is not enough. Lifestyle learning is about seeing, feeling, doing, playing, practising, sharing and talking, as well as knowing and understanding.

In nutrition education the need is for a teaching approach which gives full scope to all these activities. If lessons do not involve pupils actively, do not expose them to relevant experience, and do not engage them in interaction, children are unlikely to learn. Here, for example, is a lesson that is passive, non-participatory and non-experiential:

- the teacher tells the children that they should wash their hands before eating;
- the teacher describes how they should wash their hands;
- the teacher explains why they should wash their hands;
- the teacher “checks learning” by asking children to explain how and why they should wash their hands.

This lesson truly lacks “penetration” and is unlikely to result in any real educational change (it could possibly have been given by the smoking schoolteacher!). Too many school lessons are like this one.

## **2. ACTIVE, EXPERIENTIAL, PARTICIPATORY LEARNING**

What is active, experiential, participatory learning?

Active learning means:

- direct action, whenever possible;
- plenty of physical action;
- as much practice as is necessary to learn;
- opportunities to express individual knowledge, attitudes, ideas;
- as much choice and initiative as possible;
- students acting as informants and not only as learners.

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Experiential learning means:

- direct experience whenever possible;
- personal experience aired and interpreted in class;
- individual experience treated with respect;
- teachers' own experience shared with learners;
- time given for reflecting and evaluating experience, action and interaction.

Interactive/participatory learning means:

- exchanging information and ideas in pairs or groups in class;
- tapping the information and ideas of the family and community;
- teachers finding out what children think, do, feel, and know;
- real and simulated interactions with peers and community;
- collaborating on classwork and projects.

This approach gives a lot of initiative to the children, pays attention to how they think and feel, and takes account of what they do in class and outside. Establishing class interaction and calling on the responses of families and the community make the learning a social business, reinforcing the messages. In this approach, teachers are important not just as sources of knowledge, but also as facilitators – they open up the children's knowledge and experience, share their own experience and values, and organize class activities.

■ **ACTIVITY 6** *Action, experience, participation*

**Appropriate activities**

“Action, experience, participation” is a good general recipe for penetrative activities, but doesn't automatically produce effective learning. The “song and dance” fallacy assumes that any kind of learning is improved by any kind of enjoyable activity. However, painting a picture of carrots for example, or inventing a song about them, may lead to a good picture or a good song, but may do nothing at all for nutrition education.

Classroom activities must also be appropriate to the objective. Take, for example, an objective such as washing fruit and vegetables before eating them. This is mainly a question of routine *practice*, reinforced by *understanding*, but it can also be extended to *life skills*. The activities must reflect these needs.

For example, a teacher might start by finding out what children *already* think, feel and do, so that the lesson can start from where the children are. For *practice*, routines can be mimed, or practised with samples; they can be reiterated in stories, games and descriptions of processes; they can be reinforced by homework involving observation and questioning adults. As regards *understanding*, teachers can explain why it is

important to wash vegetables (or ask children to do so), and set up role-plays in which children take the roles of vegetables, sticking play “bacteria” and “insecticides” on their clothes and then scrubbing them off. Teachers should also ask children how *they* would explain the importance of washing fruit and vegetables to others – for example, role-play what they would say to younger brothers and sisters. This would reinforce understanding but also rehearse important *life skills*. These would be activities *appropriate to the objective*.

- ACTIVITY 7 *Appropriate activities (Optional)*



**CHILDREN LEARN ABOUT HEALTHY EATING THROUGH ACTION, EXPERIENCE AND PARTICIPATION.**

### 3. MAKING THEM INTERESTING TO ALL: INDIVIDUAL LEARNING STYLES

Appropriate methods of learning depend not only on what is being learned, but also on who is doing the learning. Individuals respond well to some kinds of learning but respond negatively to others.

There is ample research into individual learning styles which shows how and why particular individuals respond better to some stimuli than to others. One popular theory<sup>6</sup> suggests that there are seven different kinds of “intelligence” or *faculty*:

- visual/spatial
- linguistic
- musical
- physical
- logical/mathematical
- intrapersonal (understanding oneself)
- interpersonal (understanding relations with others).

We all possess these faculties, but in any one individual some are more powerful than others. We should add to the list *imagination*, which can operate in any of the above fields. It is abundant in children of primary school age and is one of their most important channels of learning.

- ACTIVITY 8 *Seven intelligences*

Whether or not this theory is valid, it is undoubtedly true that individuals respond differently to different teaching stimuli, and that many classroom approaches simply lack the variety necessary to reach all the pupils.

There are two simple recipes for success. First, since almost everyone responds to visual and action stimulus, one answer is to increase the presence of these elements. Pictures,

<sup>6</sup> Gardner, H. 1993. *Frames of mind: the theory of multiple intelligences*. London, Fontana Press

## UNIT A4

posters, maps and charts are one way of doing this – especially if the children draw them – but moving around, manipulating objects, mimes and demonstrations can be just as effective. Second, appealing to the imagination is also effective – using things like drama, stories, poems, pictures, imagined situations, and invented characters.

It is possible to approach the same theme through all the different faculties listed above. The more this is done, the more chance there is of triggering the learning potential of all children. Until we know more about how individuals learn, the message is *the more routes we use to deliver the message, the better.*

- **ACTIVITY 9** *Harnessing the intelligences (Optional)*



#### THE MORE WAYS CHILDREN LEARN, THE BETTER.

#### 4. LEARNING AND LIFE: AN OUTREACH APPROACH

Most learning about nutrition comes from real life. Equally, learning about nutrition is useless if it is not ultimately applied to real life. Once again, nutrition education is different from traditional education. It must make bridges between the classroom on the one hand, and the environment, the family and the community on the other. What is needed is an “outreach approach”.

- **ACTIVITY 10** *An outreach approach*

An outreach approach means that:

- children call on their outside experience in their classroom learning;
- children go outside the classroom – to their homes, their environment, the community, the media – to observe, find out, experience, experiment, gather resources, talk to people;
- experts come into the school from outside, to give talks and demonstrations, describe experiences, bring objects, work on the school environment.

For example, suppose children are learning about breastfeeding. A useful mathematics lesson could be devoted to finding out the cost of commercial baby foods in the shops. Children could read the feeding instructions on the foods to see how, and how often, the foods should be given to babies. Then, they could work out the required quantities of food required for a baby for a month, calculating the cost per month of feeding babies of different ages using the foods in question. This activity will rapidly demonstrate that the costs of using commercial foods generally exceed many families’ financial means, and that breastfeeding is a better alternative economically (as well as nutritionally). The lesson will be memorable because it is linked to real life.



#### NUTRITION EDUCATION NEEDS TO LINK WITH LIFE OUTSIDE THE CLASSROOM.

## 5. CLASSROOM CULTURE

We have demonstrated that nutrition education benefits from a teaching approach which:

- is active, experiential, participatory;
- stimulates a range of faculties, including the imagination;
- adopts an outreach approach wherever possible.

Obviously, the teaching methods eventually adopted depend very much on the “classroom culture” in individual schools – the organization of the classroom, the roles of the people in it, and the kinds of interaction and activity that are expected to take place.

In the traditional classroom, the teacher is an authority figure and the main source of information – only he or she has the automatic right to speak. Children sit in rows facing the teacher and reply to questions, or repeat the teacher’s words, or copy down what s/he writes – all the pupils do the same work at the same time. In a more “progressive” classroom, however, the teacher is a guide or facilitator. Children speak more freely, move around, work together and help each other – there is a variety of activity and sources of information; children have choices and can work at their own pace.

There is something to be said in favour of both of these classroom approaches. However, nutrition education is clearly most likely to benefit from the “progressive” kind.

Classroom culture also frequently reflects a society’s idea of what education should be. Parents often feel that if their children are not getting the same kind of education they themselves had, they are not receiving a “proper education”. Such an education is often perceived to be one based on knowledge, which comes from books, and is (often) not meant to be directly useful or used in the outside world.

These beliefs and attitudes have characterised traditional education all around the globe for a very long time – they may be deep-rooted and should not be taken lightly. We will be looking at the prevailing classroom culture in Unit B6: we will consider how far it can adapt to the kind of outward-looking, active, stimulating approach that nutrition education demands.

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## C CONCLUSION

### ■ ACTIVITY 11 *Summing up*

Nutrition education is different from traditional education: it has to foster long-term attitudes and behaviour, as well as knowledge and understanding. To do this, knowledge and telling are not enough. Only action, participation and experience lead to the entrenchment of nutrition education for life.

We remember:

- 10% of what we read
- 20% of what we hear
- 30% of what we see
- 50% of what we see and hear
- 80% of what we say ourselves
- 90% of what we say and do

*Source:* UNICEF. 1993. Visualisation in participatory programmes. Dhaka, Bangladesh.

## PHASE B: SITUATION ANALYSIS

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In Phase B of the workshop we move from agreeing on concepts and principles to looking at the actual situation in the areas and schools concerned. This situation analysis covers both “what we’ve got” and “what we need”. We revisit each area established in Phase A – the children’s health and diet (A1), the nature of the curriculum (A2 and A3) and the educational approach (A4). To carry out the analysis, Phase B calls on information from a variety of sources:

- The questionnaires and data sheets
- Inputs from expert speakers
- Documents (e.g. curricula, coursebooks, surveys of the region).

The basic questions for each unit are:

- B1** How healthy are the children? How good is their diet?
- B2** What health and nutrition interventions are there and how should they be supported educationally? What local information do we need?
- B3** What links are there with the family and community and how can they be used for nutrition education?
- B4** How is the whole school involved in healthy nutrition?
- B5** What does the classroom curriculum consist of?
- B6** What kind of teaching approach is there? How good are our teaching resources, both teachers and materials?

*The Reader* in Phase B outlines what needs to be done.

*The Activities* in Phase B discuss and answer the questions above, calling on information from participants, invited speakers and the findings of the questionnaires. The results of this analysis become outlines of priority needs and desirable approaches. These are exhibited in the main document display and are used as the basis for the action plans developed in Phase C.



## NOTE FOR NATIONAL CURRICULUM DEVELOPERS

For a national curriculum development team, Phase B involves calling on data from many sources. If possible, it should also involve collaborating with other bodies such as:

- the health services;
- the Ministry of Agriculture;
- community services;
- the national PTA;
- national NGOs and international organizations concerned with health and nutrition;
- teachers' unions;
- the Teacher Education Department and the Inspectorate.

It is important that the working group does not go ahead solely on the basis of impressions. Rather, it should attempt to collect hard data and consult the various stakeholders.

The questionnaires suggest the kind of information that is needed and there are notes with the questionnaires on how and where national curriculum developers might gather such information.

The investigation should result in a “Situation Analysis Report” which responds to the questions above in national terms, and establishes the outline content and approaches of the new national curriculum. Indications of the content of such a report are given in the preamble to each unit.

Review – If the national group is reviewing the Planning Guide for local use, it should be able to help by:

- indicating information sources;
- suggesting guidelines for local action;
- making recommendations for in-service training;
- possibly discussing with organizations such as the ministries of health and agriculture, and community services, what intersectoral collaboration is possible at local level.



## UNIT B1

# LOCAL HEALTH, DIET AND FOOD



### OBJECTIVES

- to identify general factors affecting health in the area
- to estimate the extent of malnutrition in the local school population
- to identify specific factors contributing to malnutrition in the area
- to describe and evaluate the local diet and formulate useful dietary messages



### CONTENTS

#### Introduction

#### A The region – Where are we?

1. *The health of the region*
2. *The nutrition situation in the region*

#### B The local diet – What and why?

1. *Local foods*
2. *The local diet and the needs of children*
3. *Evaluating the diet*
4. *Dietary messages for education*

#### C Conclusion



### SUMMARY

Units B1 and B2 aim to ensure that the curriculum takes account of local nutritional needs and circumstances. This unit starts by looking at the health factors in the region and the overall nutrition deficits, seen from a medical point of view. It then moves on to the dietary outlook, looking at the nutritional value of local foods and describing the local diet in terms of its variety, nutritional value, meal frequency and consistency through the year. This leads to drawing up dietary messages for schoolchildren on the lines of national dietary guidelines, which can be incorporated into the curriculum as part of the local dimension.

**NOTE FOR NATIONAL CURRICULUM DEVELOPERS**

The analysis of the local nutrition situation in this unit is an attempt to respond to real nutritional needs in educational terms. The analysis itself is rough and ready, but the process itself has great value in that it puts participants in touch with expert sources and raises their awareness of nutritional issues.

The process that should be carried out at national level is essentially the same – the identification of the main nutritional problems, the gathering of nutritional data and food values, the evaluation of diet and the conversion of all this information into usable educational messages.

Collaboration with the health service will be essential, and the agricultural sector and community services will also be able to make valuable contributions. In some countries, much of the technical data sought may already exist. In other countries there may be little information on the dietary status of schoolchildren. In either case, additional surveys may need to be commissioned.

If the Planning Guide is already in use at local level, national curriculum planners may also make use of it as a means of gathering regional data. The information gathered will then enable curriculum planners to shape the national curriculum to meet real needs.

It is therefore suggested that the planning group should work through the whole unit as a rough preliminary situation analysis, with, as an outcome, a provisional list of high-priority curriculum elements modelled on the document **THE LOCAL DIMENSION** (see Unit B1 in the Activities Volume). This should form the first section of a “Situation Analysis Report”.

If the national group is reviewing the Guide for local use, a useful output would be a list of information sources that schools can make use of in developing their own curriculum inputs – as outlined in *Information* on the B1 Activities title page. If possible, the list could contain the names of helpful advisers, their addresses and telephone numbers, and so on.

## INTRODUCTION

Unit B1 looks at the nutrition situation in the region. It explores the local diet and the nutritional status of the children. From this, it helps decide what educational messages about nutrition can be carried forward into the educational programme.

### A THE REGION – WHERE ARE WE?

#### 1. THE HEALTH OF THE REGION

Health and nutrition are not isolated phenomena. They are conditioned by many factors – geographical, economic, social and physical – as we saw in Unit A1 (Figure 12). Here are some of them again:

peace	a stable economy	absence of endemic disease
education	shelter	food availability
income	gender equity	food variety and safe food
sustainable resources	a stable ecosystem	sanitation and health facilities

In areas where there are real health and nutrition problems it is likely that several factors interact to aggravate the situation. For example, endemic malaria (apart from killing children) affects earning power, increases poverty and hence affects nutrition. Similarly, poor health facilities and education may mean that dietary deficiencies go unnoticed and that potential food resources are neglected.

There will also be regional differences. For example, a mountain region with limited agriculture, a sparse population, abundant water and fierce winters is likely to have different health and nutrition problems from an overcrowded urban slum, in a tropical climate, with poor sanitation facilities.

Before discussing what people eat in a region we should therefore briefly look at the region itself, in order to identify some of the factors which influence local health.

#### ■ ACTIVITY 1 *Local factors affecting health*

#### 2. THE NUTRITION SITUATION IN THE REGION

Describing the region in this way will give us the background information we need to be able to focus on the nutrition situation from the medical and social points of view:

- malnutrition – prevalence and types;
- causes of malnutrition;

## UNIT B1

- vulnerable groups;
- schoolchildren's special needs.

For this we will need the opinions of health experts and nutritionists, and if possible members of community services, who will have an overall social perspective. The information they provide will enable us to appreciate both immediate high-priority problems (for example, a significant lack of Vitamin A) as well as more long-term contributory factors (such as inadequate safe drinking water). As a result of this analysis we will be able to make sure that solutions to these issues are built into the curriculum and the schools' action plans.

*Whose problem?* We are interested in the *general* nutrition problems of the area partly because these will be shared by school-age children, but also because they represent a general educational challenge in the region. We are also interested in who is especially affected, because children have to learn to recognize the special needs of infants and young children, pregnant and nursing women, sick people and old people. Finally, we are interested in the special needs of the schoolchildren themselves. Local experts should be able to give us information about all these groups.

■ ACTIVITY 2 *The nutrition situation*

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## B THE LOCAL DIET – WHAT AND WHY?

We can look at nutrition in the region not only from the point of view of *disease* but also from the point of view of *diet*. One of the basic causes of malnutrition, as we know, is an inadequate diet. This is also the area where schools can have most impact, both now and in the future, when children become parents.

### 1. LOCAL FOODS

To stay healthy, everybody needs a balanced diet consisting of a variety of foods, providing the best basis for obtaining all the nutrients we need. But exactly what this good diet consists of will differ from region to region. Some regions, for example, depend on rice, some on maize, some on wheat. Different countries have different food plants and animals, and also different food issues. We need to look at what the region offers if we want to see what can be used to make up a good diet for children in a region. What are the foods normally eaten? What is their nutritional value?

This analysis cannot be done by intuition, so again it is necessary to call on expert sources – for example, a food composition table of local foods, or a nutritionist who is expert in this area.

The expertise needed is not only technical. For example, we need to ask what value is given to local foods by local people. Many valuable foods are underused and undervalued because their nutritional content is not recognized, or the local culture considers them a “poor man’s diet” which people only eat when “good” food is scarce. For example, most areas of the world have a wide range of leafy vegetables (good sources of vitamins and minerals) whose value is often not appreciated. Fish livers (rich in Vitamins A and D) are often thrown away when the fish is gutted. In some places only big fish (eaten without the liver) are valued, while small fish (eaten whole with the liver included, and much cheaper) have much lower status. In general, food taboos do not have a big effect on the quality of diet, but some may be significant – for example, a taboo on eggs for women, in a region where protein is already scarce in the daily diet.

Often the importance of these attitudes is not recognized. They should not be dismissed as trivial if they have a significant effect on dietary practice. Information about them may be available from experts, but can also be gathered from local inhabitants who know the area and the culture.

Knowledge of the nutritional content of local foods, and of how people value the foods they eat, are important starting points for nutrition education.

- **ACTIVITY 3** *Local foods and their nutritional value*

## **2. THE LOCAL DIET AND THE NEEDS OF CHILDREN**

How do we describe the local diet? You will remember from the Family Mixed Meal Guide in Preparatory Unit 1 that most diets consist mainly of:

- some starchy staple food, e.g. maize, rice, millet, bread, pasta, cassava, potatoes;
- some protein-rich food, e.g. beans, nuts, meat, eggs, fish, cheese;
- some selection of fruit and vegetables;
- some flavouring and seasoning.

Individuals and particular groups will have their own particular diets depending on how much choice is available. The important thing is the *variety* of accompaniments, which enable us to get all the nutrients we need. Growing children in particular need *all* the important nutrients in sufficient quantities if they are to develop properly.

If we have an idea of the nutritional content of local foods, then describing the local diet according to this plan of *staple-plus-accompaniments* will give us a good idea of whether people are generally getting enough variety, and enough of each kind of nutrient.

It is also important to look at how the diet is distributed through the day. For example, in some areas people typically eat three meals, in others only one. Some have a heavy breakfast while some do not have breakfast at all. Some expect to work for several

## UNIT B1

hours before eating their first meal. Some diets are extended with drinks and snacks through the day.

Schoolchildren, who are very active and have small stomachs, need to eat quite frequently to maintain their supplies of energy. Three meals a day, with snacks in between and a good breakfast, is a standard recommendation for school-age children.

The diet may also change according to the season, and this may mean that in some periods of the year the availability of some kinds of nutrients is low. Again, this may be critical for children who are growing and developing.

These three dimensions – the mix of foods, the distribution through the day, and the variation according to the season – make up the picture of a typical local diet.

■ ACTIVITY 4 *The children's diet*

### 3. EVALUATING THE DIET

Once we have a picture of the children's diet, we can evaluate it in terms of quality and quantity. Are the children getting what they need, when they need it, and in the quantities that they need?

*What they need* – We need to ask whether children are getting a variety of different foods: that is, whether in addition to their staple food there are also enough foods at every meal which are rich in protein, fruit and vegetables (especially good sources of Vitamins A and C). We should also add that any diet should be as tasty as possible, and that it should be safe and hygienically prepared.

*When they need it* – Schoolchildren need to eat food several times a day. They should eat a good meal before the school day begins, so that they are capable of study, and they should have snacks mid-morning and mid-afternoon to keep them going. They also need continuity – i.e. a diet that is “sufficient” all the year round.

*As much as they need* – The amount of food needed depends on the age of the child and its level of activity. Table 6 in Preparatory Unit 1 is an example of the quantities recommended for each food group. The table represents the recommendations from a European country. It is used here to give a general idea of what are recommended amounts.

The root causes of any inadequacies in diet will ultimately be the same as the causes of specific nutritional deficiencies, and just as complex – for example, poverty, ignorance, lack of household food security, lack of time to care for children, social practices. But in looking at the roots of poor diet we may also find more specific effects from specific causes, such as a lack of Vitamin A fruit and vegetables in the dry season, low status

given to vegetable protein, few traditional dishes made with beans. These can make a useful educational focus.

- **ACTIVITY 5** *Evaluating the diet*

#### **4. DIETARY MESSAGES FOR EDUCATION**

This evaluation of the local diet will certainly be oversimplified, but it can give us a rough idea of the local nutrition issues that deserve attention in education. The evaluation then needs to be converted into messages or guidelines – for example, *Eat a good breakfast every day*, *Have lots of fruit snacks*. These give schools and education authorities priorities that can be developed educationally into lessons, demonstrations, projects or campaigns.

We can also call on national dietary guidelines (if they exist), or even on the guidelines of other countries, such as those we looked at in Preparatory Unit 1 (A GOOD DIET). These guidelines may contain some of the messages we want to promote. But even if they do not, they show us how to express real nutritional needs in simple messages about daily food behaviour.

- **ACTIVITY 6** *Dietary guidelines*

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## **C CONCLUSION**

The health of the region, its special nutritional problems and their causes, the local children's dietary needs, and the need for knowledge of local foods and food practices – all of these will enable us to highlight certain areas of the nutrition education curriculum for special focus. How exactly this focus should be put into practice will be discussed further in Phase C.

- **ACTIVITY 7** *Summing up*





## UNIT B2

# HEALTH AND NUTRITION INTERVENTIONS – AND LOCAL KNOWLEDGE



### OBJECTIVES

- to describe existing health and nutrition interventions
- to identify the main needs for health and nutrition interventions
- to identify interventions needing educational support
- to discuss the school's role in monitoring and referral
- to appreciate the need for information on local food and food practices, and assess its availability



### CONTENTS

- Introduction
- A Local health and nutrition interventions – What is being done?
1. *Direct interventions*
  2. *The health monitoring and referral system*
- B Local food and food practices – How much do we know?
- C Conclusion



### SUMMARY

This unit is concerned with other local factors that should influence schools' actions. Local health and nutrition interventions should find some support in classroom teaching. Discussion of the school's role in health monitoring and referral may suggest organizational changes and a need for teacher education so that danger signs can be recognized. Finally, the unit considers the need for information about local food and food practices as an element of the curriculum, and as a source of illustrative material and outreach activities. These investigations result in further additions to the "local dimension" of the curriculum, and the identification of other needs (e.g. monitoring systems, teacher education) that are not directly related to curriculum content.



### NOTE FOR NATIONAL CURRICULUM DEVELOPERS

As with Unit B1, the concerns of this unit need to be addressed at national level.

- The *Survey of health and nutrition interventions* (Reader section A1, Activity 1) should become, at national level, a review of national interventions – for example, inoculation drives, food-for-work programmes, agricultural development projects and urban renewal schemes, major sanitation schemes, campaigns by national nutrition institutes, school feeding programmes. The working group needs to consider briefly at this point (Activity 2) how the national curriculum might respond to these initiatives – for example, with special lesson series or sample lessons, briefing materials to accompany interventions, general guidelines to schools.
- In the same way, the general role of schools in health monitoring (Reader sections A2–A3, Activities 3, 4 and 5) needs to be reviewed at national level in collaboration with health and community services. The most desirable and practical forms of collaboration can be noted for further discussion and related needs can be identified – for example, for teacher education or briefing materials. The question of local food and food practices (Reader Section B, Activity 6) will affect any teaching materials that are to be produced nationally. These will have to make room for regional illustrative material but also (more importantly) will need to ensure that many lessons include some enquiry into what is done in the area. These considerations may also affect the teacher education curriculum. The national group should establish what information sources are available and discuss how local information is to be incorporated into the national curriculum.

The needs identified in this investigation can be incorporated in the report on THE LOCAL DIMENSION initiated in B1. Further needs not directly related to curriculum development – for example, for teacher education, changes in the monitoring system, newsletters on health developments – can be described in a supplementary chapter on OTHER NEEDS, as suggested in Activity 7.

If the national group is reviewing the Guide for local use, outputs that could help schools would include a list of available briefing materials for supporting health and nutrition interventions, and a list of sources of information on regional diet and food practices. The latter would contain, if possible, names, telephone numbers and addresses of helpful advisers. There might also be suggestions about how to tailor Activity 4 more closely to the local situation.

## INTRODUCTION

There is a lot to learn about healthy eating, and the classroom curriculum is very wide, as we have seen. At the same time, we have to be concerned about pressing needs and local relevance. In Unit B1 our analysis showed what nutritional concerns should be prioritised in the curriculum because of their urgency and immediate importance to people's lives. Here in B2 we look at three other questions of local importance:

- the role of education in existing health and nutrition interventions;
- the role of the school in health monitoring and referral;
- the role of knowledge of local food and food practices.

These will have implications both for the curriculum and for other educational action programmes.

## A LOCAL HEALTH AND NUTRITION INTERVENTIONS – WHAT IS BEING DONE?

We have seen some of the problems and their causes. What is being done about them?

### 1. DIRECT INTERVENTIONS

Direct health and nutrition interventions aimed at specific problems may come from several sources – health services, NGOs and charities, aid agencies, water authorities, environmental agencies. They may be primarily medical, nutritional, environmental or educational. Examples are given in Table 14.

TABLE 14 Checklist of health interventions

Type	Intervention	Example
<b>Educational</b>	In-service training General advice Media campaigns	Course for teachers National guidelines Safe water campaign
<b>Nutritional</b>	Dietary supplements Feeding programmes	Iodized salt School lunch
<b>Medical</b>	First aid Inoculations Drug treatments Dental inspections Screening and diagnosis	First aid box, trained teacher Vaccinations against polio De-worming School dentist Medical examinations, blood tests
<b>Environmental</b>	School safety inspections Sanitation Safe water supply Environmental controls	Checks on hygiene and sanitation Ventilated pit latrines Water treatment Checks of malarial ponds

## UNIT B2

Some of them may be directed at the schools themselves – for example, dietary supplements for schoolchildren, first aid kits, training for teachers, immunization and vaccination for school-age children, drug treatments such as de-worming, dental inspections, screening of children, and school feeding programmes. Others may be aimed at other social groups, for example expectant mothers or pre-school children. Still others will be taking place in the general environment – for example, water treatment and malaria prevention programmes. Schools should first of all be aware of what is going on.

■ ACTIVITY 1 *Health and nutrition interventions*

Secondly, schools should also recognize these interventions as *educational events*. Often the interventions and the educational spheres hardly interact. Children may learn about vitamins in class, be given vitamin pills at the clinic, and eat fruit at home, but never really appreciate the connection between the three. Or, when health interventions in schools are planned – for example, a new water supply, injections, dental inspections – it is rare that planners or educators exploit the educational potential of these events by building lessons around them. School feeding programmes may be providing immaculately healthy balanced meals, yet their clients – parents, children, schools – may know nothing about it. After all, how many school feeding programmes have an education officer?

Yet events in and around the school are a cost-free resource, and educationally powerful because they are real and visible. All school events relating to health or nutrition should support education, and be supported by education. This applies equally to mishaps and deteriorations, which are just as educational as improvements – when the borehole stops working, everyone feels the value of water!

In terms of action, this means two things. On the one hand, schools should approach providers to see if they can provide educational backing for their interventions – for example, handouts, talks, posters, briefing material, sample lessons. On the other hand schools should add health and nutrition interventions to their educational calendar and regard them as contributing to the classroom curriculum. They can then prepare children beforehand so that they will understand the events, and follow up the events to make sure that reactions are aired and questions are answered. There is a clear role here for district education authorities and teacher educators, in coordinating work among a number of schools who benefit from the same health and nutrition interventions.

■ ACTIVITY 2 *Educational support*

Finally, what interventions are *not* there but should be? If we look through the checklist of health and nutrition interventions in Table 14 we may well find that several important interventions or services are lacking or inadequate – for example, teacher training and expert information on nutrition issues, school feeding programmes, dental checks. The school may not be able to take independent action on these questions, but it

would do well to be aware of them. They can be raised at meetings with parents or education authorities, or become discussion items on the agenda for a School Health and Nutrition Committee.

## 2. THE HEALTH MONITORING AND REFERRAL SYSTEM

The system of health monitoring and referral is meant to bring to attention individuals at risk. It should also identify more general problems so that action can be taken to prevent disease and malnutrition. An effective safety net depends on many inputs, conditions and good coordination, so it is not surprising that it often breaks down.

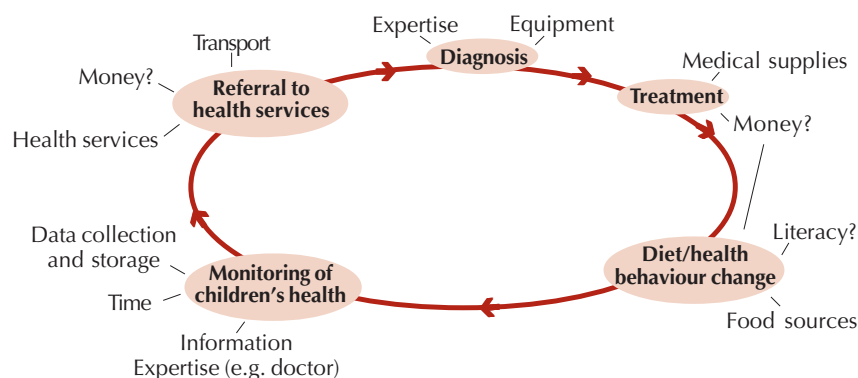
Figure 17 shows the monitoring-referral cycle in a very simple form. Some of the important inputs and conditions are shown around the outside of the figure.

Health affects study, so there will always be a role for schools in monitoring children's health. But that role may be large or small, formal or informal. Ideally, well-resourced health services provide regular screening, so the school's only role will be to make sure that the school itself is informed about the results. At the other extreme, a school will do most of the work in weaving the safety net. This might involve:

- checking children's height and weight;
- keeping records of sickness and absences;
- handing out pills;
- following up problem cases;
- consulting parents;
- referring children to clinics.

In both cases, schools and health services need to interact effectively. In the worst case, nobody does the job, or the data are gathered but not used (See Figure 17 again).

FIGURE 17 Health monitoring and referral



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Extending or changing their role is not something that schools can usually do unilaterally. It can only be done in consultation with the education and the health authorities. Among other things, any increase in the school's workload would have to be compensated in some way, and any necessary training would have to be organized. But the school should certainly have a broad policy on health monitoring and referral and a clear idea of the role it wants to play, so that it can be discussed with health and education authorities.

- ACTIVITY 3 *Monitoring and referral*

Schools should also consider what capacity-building is needed. Is there a need for training, for example in collecting data? Who can give the kind of practical training that will enable teachers to distinguish between simple laziness and signs of malnutrition? Who will ensure teachers do not go too far in their assumptions? Who will suggest how teachers can approach parents without offending them?

- ACTIVITY 4 *Epilogue to E's case (optional)*
- ACTIVITY 5 *MandR: the school's role*

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## B LOCAL FOOD AND FOOD PRACTICES – WHAT DO WE KNOW?

The “local dimension” is not only nutrition problems, interventions and preventive measures. It is, as we saw in Unit A2, a way of life that should pervade the nutrition education curriculum. Of course, children must study general nutrition principles – such as the idea of variety in diet, food categories, the nature of diet-related diseases, food processing – but most of these will need local illustration. For example, if we are looking at food preservation it makes sense to illustrate this concept by the canning, smoking or drying that we can observe around us. If we are studying safe water we should start with local water sources. This “local dimension” includes attitudes, beliefs and values, as well as skills, practices and knowledge, even more so when more than one ethnic group or culture is represented in the area.

For this reason it is important that educators are well informed about the local picture, and that it becomes part of the children's learning programme, built into the curriculum in some way. Curriculum planners can make sure of this by producing special teaching materials or by training teachers. A more thoroughly educational approach is for teachers and pupils to find out for themselves. In the long term, if we plan to take nutrition education seriously, our outcome will be a good information base, regularly used by teachers and pupils, that deals with the area's food and food practices.

What should this information base cover? Who will use it and how? How big a job is it? What form should it take?

**Coverage** – Table 15 is a means of collecting information about any particular food consumed locally. The nutritional content and the perceived social value and uses of the food are recorded across the top. Below this there is a grid. The horizontal dimension represents the “food path” – from acquiring food to consuming it and disposing of what is left. The vertical dimension asks questions about the social practices relating to the food.

**TABLE 15** Our food

<b>Food</b> (e.g. banana, chicken):.....						
<b>Nutritional value</b> ( <i>what is it rich in?</i> ).....						
<b>Social value</b> ( <i>is it valued? what is its social role?</i> ).....						
	<b>Acquiring</b>	<b>Storing and preserving</b>	<b>Marketing</b>	<b>Preparing and serving</b>	<b>Consuming</b>	<b>Waste disposal</b>
<i>Who does it?</i>						
<i>When?</i>						
<i>Where?</i>						
<i>How?</i>						
<i>How often?</i>						
<i>How much?</i>						
<i>Cost?</i>						
<i>Problems?</i>						

Notes:1. “Food” includes food hunted, grown, raised (animals), gathered, bought, and water supply.  
2. “Acquiring” means hunting, growing, raising, gathering, collecting or purchasing.  
3. “How” includes processes and also precautions, in particular hygiene precautions (e.g. handwashing, covering food).  
4. “Cost” means cost in terms of time or money.

■ **ACTIVITY 6** *Local foods and food practices*

The table can be completed for any food item consumed in the area. However, for any given food only some questions are relevant. As an example, take iodized salt. We need to know its nutritional value, who sells it locally and why it is needed. We are interested in the cost, in how to keep it dry and in how much we should use. We are also interested in whether people recognize its value – do they perceive it as an expensive luxury? There may be problems acquiring it, as ordinary salt is sometimes fraudulently labelled as iodized. These questions can represent the “local research programme” for iodized salt.

**Who will use the information and how?** – Such information can be used by:

- teachers to illustrate lessons;
- parents to find out what their children are learning;
- children researching projects;

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- writers who want to create lessons and activities;
- examiners preparing tests and exams;
- others who want to establish the same kind of information base.

**How big a job is it?** – The job can be as big or as small as interest and resources permit. At one end of the scale, the activity can be limited to an occasional classroom project: children select a food item, discuss what questions need to be asked and how to find out the answers, do the research and display the information gathered. At the more ambitious end of the scale a more complete information base involves dividing up the work, establishing a timeframe, encouraging contributors and ensuring that findings are shared and disseminated. Coordination can be undertaken by school inspectors, a group of schools working together, or a single school.

**What form should it take?** – The best form for an accessible and expanding database is a Web site, but this may not be possible. Alternatives are booklets or fact sheets. These can be supplemented by reports, leaflets and materials produced by children or teachers, for example, wall posters, videos, anecdotes, stories, drawings, maps, tape-recorded interviews.

■ **ACTIVITY 7** *Summing up*

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## C CONCLUSION

In these discussions, what becomes increasingly clear is the frontline role of education. It can have a primary influence on lifestyle and be a major weapon against malnutrition. Most important is that where other health resources are lacking, the only realistic and effective long-term compensation is through education – preferably an education that works through the family, the community and the school environment as well as through the classroom. We will now look at these areas of learning and will see how education can begin to fulfil these expectations.