CHAPTER 16

PLANNING OF NUTRITION PROGRAMMES

An Outline

Jacob Setorglo and Matilda Steiner-Asiedu

Outline

- Programme planning models
- Carrying out a needs assessment
- Formulation of a problem statement
- Defining programme goals and objectives
- Choosing an intervention
- Developing a management system
- Implementation of the programme
- Monitoring and evaluation

Objectives

At the completion of this chapter you should be able to:

- Briefly describe models for planning community-based nutrition programmes (CNPs)
- List steps for planning a CNP
- Understand and perform a community needs assessment
- Formulate a problem statement
- Distinguish between programme goals and objectives
- Identify and select community health interventions
- Describe a programme management system
- Describe programme implementation
- Develop a monitoring and evaluation plan
1. THE PROBLEM OF UNDERNUTRITION

Roughly one billion of the world’s people are undernourished. The global problem of food insecurity – its origins and its scope – is discussed in Chapter 2. Although both the immediate and the underlying causes of this phenomenon vary from region to region, improved environmental and health practices that promote the consumption of a nutritionally adequate diet will clearly help to mitigate the problem.

As part of its efforts to improve the livelihood of the world’s people, following its Millennium Summit in September 2000 the United Nations formulated a series of Millennium Development Goals (MDGs). These goals were subsequently adopted by all 189 member countries, with a target date of 2015. One of the goals is to reduce by 50% (from 1990 levels) the proportion of people who suffer from hunger, poverty, or disease (United Nations, 2006). Community-based nutrition programmes (CNPs) offer one means to achieving that goal.

In such programmes, the emphasis falls on direct contact between community-based health and nutrition workers (often volunteers) and local residents, especially mothers and children. Workers may visit residents in their homes, and participants in the programme also make regular visits to a centrally located health facility. As Mason et al. (2006), point out, “The existence, training, support, and supervision of the community worker – based in the community or operating from a nearby health facility – are indispensable features of these programs.” If these programmes are to be successful, however, they must be carefully planned. A well-planned programme has clearly defined objectives, and it involves all the stakeholders in the community in which it will operate.

2. PROGRAMME PLANNING MODELS

The design of health and nutrition programmes is usually guided by one or more psychosocial models of health behaviour, the most common of which is the precede-proceed model. These models draw in turn on a number of more general theories of human motivation and behaviour (see Table 16.1).

Table 16.1: Models and theories used in nutrition programming

<table>
<thead>
<tr>
<th>Models</th>
<th>Theories</th>
</tr>
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<tbody>
<tr>
<td>Health Belief Model (HBM)</td>
<td>Stimulus-Response Theory (SRT)</td>
</tr>
<tr>
<td>Transtheoretical Model (TTM)</td>
<td>Social Cognitive Theory (SCT)</td>
</tr>
<tr>
<td>Precede-Proceed Model</td>
<td>Theory of Reasoned Action (TRA)</td>
</tr>
<tr>
<td></td>
<td>Theory of Planned Behaviour (TPB)</td>
</tr>
<tr>
<td></td>
<td>Theory of Freeing (TF)</td>
</tr>
<tr>
<td></td>
<td>Problem-Behaviour Theory (PBT)</td>
</tr>
</tbody>
</table>

Source: McKenzie et al., 2005; Glanz et al., 2008.

Depending upon the goals of a particular nutrition programme and the cultural context in which it will be applied, more than one of the models may prove helpful, in which case features from each can combined. Conceptual frameworks for nutrition and health must take the following into consideration:

- Who is involved in the programme
- The nutritional needs of the community
- How those needs are met
- Who is most affected by nutrition problems
- Where affected people are located
- What decisions need to be made regarding the programme
- How the success or impact of the programme will be measured

Programmes are always preceded by an assessment of a community’s health needs. The sources of data for a needs assessment may include the mass media and government publications.
3. CARRYING OUT A NEEDS ASSESSMENT

Boyle and Holben (2006) outline six basic steps in programme planning, which are summarized in Table 16.2. These steps will provide the framework for the discussion in this chapter.

Table 16.2: The six steps for programme planning

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Review the results of the community needs assessment and formulate a problem statement.</th>
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<tbody>
<tr>
<td>Step 2</td>
<td>Define the goals and objectives of the programme.</td>
</tr>
<tr>
<td>Step 3</td>
<td>Develop specific interventions, including nutrition education.</td>
</tr>
<tr>
<td>Step 4</td>
<td>Define the management system.</td>
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<tr>
<td>Step 5</td>
<td>Implement the programme.</td>
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<tr>
<td>Step 6</td>
<td>Evaluate the programme.</td>
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</tbody>
</table>

Source: Adapted from material in Boyle & Holben, 2006.

Before a community-based nutrition programme can be planned, a needs assessment must take place. The needs assessment is an exploratory phase, carried out by the programme owners or stakeholders, in which specific health and nutrition problems are identified and the relationship between those problems and the resources available to address them is assessed (Edelstein, 2010). According to Nnakwe (2009), community needs, as perceived and expressed by the people who live in the community, can provide insight into the nature, severity, and causes of a problem, as well as into possible solutions. Once needs have been identified, they must also be prioritized, as it is rarely possible to give all of them immediate attention. The following are some key factors to consider:

- The frequency with which nutritional (or nutrition-related) problems occur in the community
- The history of a particular nutritional problem
- The pervasiveness of the problem
- The severity of the problem
- Perceptions among the community of the causes of the problem
- The root causes of the problem
- The availability of local support and resources for specific interventions, that is, measures designed to address a particular nutritional problem
- Political and financial support for the intervention.

To be effective, a needs assessment must adopt a collaborative approach. This means that the process must invite the active participation of all the identifiable stakeholders in the community, including chiefs, opinion leaders, religious leaders, community-based organizations (CBOs), and relevant government organizations. Ideally, these stakeholders will be involved in decision-making at all levels. Above all, those in the target group – that is, the people at whom the programme will be directed – should not be left out of the needs assessment. Although, in practice, the degree to which community members participate in decision-making can vary (see Table 16.3), active participation leads to an increased sense of self-esteem and a sense of ownership, and it also helps to ensure that the programme will be responsive to the community’s needs. In addition, a participatory approach helps to avoid a duplication of efforts by bringing all those who are attempting to find solutions to the community’s health and nutrition problems into contact with each other (McKenzie et al., 2005; Ismail et al., 2003).
Table 16.3: Levels of community involvement in programme planning

<table>
<thead>
<tr>
<th>Level of participation</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Passive</td>
<td>Community members are merely informed of a planned intervention or provided with information about health and nutrition.</td>
</tr>
<tr>
<td>2. Consultative</td>
<td>The views of community members are sought, but these people have no involvement in the decision-making processes.</td>
</tr>
<tr>
<td>3. Incentive-based</td>
<td>Community members participate because they have been promised incentives by programme managers, but they lose interest when incentives are withdrawn.</td>
</tr>
<tr>
<td>4. Functional</td>
<td>Community members perform certain tasks in order to meet the objectives of the nutrition programme but are not involved in its development. They may play very little role in the selection of activities.</td>
</tr>
<tr>
<td>5. Interactive</td>
<td>The community members are involved in decision-making regarding key stages of the nutrition programme, such as the planning, implementation, and evaluation.</td>
</tr>
<tr>
<td>6. Self-mobilizing</td>
<td>Community members pursue initiatives on their own, without the involvement of project staff, and seek external assistance to support the project technically and financially. However, decisions regarding the nutrition programme are still made by programme managers.</td>
</tr>
</tbody>
</table>

Source: Ismail et al., 2005.

4. FORMULATION OF A PROBLEM STATEMENT

Once a needs assessment has been completed, the first step in developing and implementing a community nutrition programme is to formulate a clear statement of the overall situation and the problem to be addressed. Problem statements are generally the result of a brainstorming session among individuals who have knowledge of the problem to be addressed. This process identifies the causal factors at work in the situation, the magnitude of the problem, seasonal variations in its prevalence or severity, the race or ethnicity of the people affected as well as their sex and age groups, and the consequences of not addressing the problem. The involvement of a range of stakeholders allows for a variety of perspectives, which makes it possible to develop a clearer and more nuanced understanding of causal elements and their interrelationships.

5. DEFINING PROGRAMME GOALS AND OBJECTIVES

The second step in the planning process entails defining the programme’s overall goals and immediate objectives. For the purposes of this step, goals are regarded as something broader than objectives. Goals articulate the fundamental aims of programme; objectives are the smaller steps that are taken to achieve those goals.

5.1 Programme Goals

Programme goals are set after the needs of the community have been identified and prioritized (Bendich & Deckelbaum, 2009). Goals are general in nature and are intended to provide basic direction for a programme (McKenzie et al., 2005). A programme goal identifies a target group within the community and specifies what the programme hopes to achieve in relation to that group, and by what means. For example, a programme that seeks to decrease childhood mortality in a developing country might have the following programme goal:

To reduce under-5 mortality [what the programme wants to achieve] in fishing communities in the village of Abura [target group] through the establishment of women’s support groups [means of achieving the goal].

When goals are initially set, those formulating them must be careful to take into account established policies and available resources (McKenzie et al., 2005; Levinson et al., 1999).
5.2 Programme Objectives

Objectives consist of clear, concise statements that show how the programme goals will be achieved. Objectives are always “SMART”: Specific, Measurable, Achievable, Realistic, and Time-bound. They explicitly state specific actions, the results of which can be measured, and indicate how the degree of success will be assessed within a specified time frame (Boyle & Holben, 2006).

According to Owen and Frankle (1986) there are two basic ways in which SMART programme objectives can be phrased:

   For example:
   a. To increase school enrolment among girls less than 10 years old by 8% by the end of 2020
   b. To recover 80% of individuals buried alive by the earthquake within seven days

2. “By [date] / [desired result] will have been accomplished.”
   For example:
   a. By the end of 2020, the school enrolment of girls aged less than 10 years will be increased by 10%.
   b. By the end of seven days, 80% of individuals buried alive by the earthquake will be recovered alive.

In addition, four distinct types of objectives can be identified: those that pertain to a specific outcome, to the programme processes, to a change in the surrounding environment, or to a growth in learning (Napoles & Gericke, 2008):

1. **Outcome**: An outcome-based objective focuses on a desired change in the health or nutritional status of a particular group.
   Example: “By the end of 2020, the prevalence of stunting in pre-school children in the village of Abura will be reduced by 2.5%.”

2. **Programme processes**: An objective can also concern the daily activities and tasks to be carried out during the implementation of the programme.
   Example: “By the end of 2020, at least ten community-based clinics will have been established in Abura.”

3. **Environment**: An objective can seek to assess changes in the physical or social environment.
   Example: “By the end of 2020, there will be an increase of 40% in the number of local clinics in the city of Xville.”

4. **Learning**: An objective can aim to evaluate changes in knowledge, skills development, and behaviour of a particular group.
   Example: “By the end of the training programme on exclusive breast-feeding, 75% of community health volunteers will be able to communicate information about the need for exclusive breast-feeding to mothers correctly.”

6. CHOOSING AN INTERVENTION

The third step in programme planning is the selection of an appropriate intervention. Five broad categories of community health interventions can be identified: health communication, health education, health policy, health engineering, and health-related community service (McKenzie et al., 2005). These interventions can be used in a variety of health-care contexts, including nutrition programming. The five interventions tend to complement one another, and programmes generally employ some combination of them. For example, in a campaign designed to encourage people to eat more fruit, the main intervention may take the form of health education, but one will need to include some health communication strategies in order to promote the campaign within the community.

6.1 Community Health Interventions: Five Basic Types

6.1.1 Health Communication Intervention

A health community intervention aims to heighten people’s awareness of a problem, improve their
understanding of it, and encourage them to behave responsibly. An example of a successful health communication intervention is the malaria prevention and control programme in Ghana. In this programme, government health officials go into a community and use a public address system to inform the population about how to prevent mosquito bites and stop mosquitoes from breeding, as well as explaining what to do when someone falls ill with malaria. Such interventions have also been used in HIV/AIDS control and management in Ghana.

In Gambia, the health ministry runs a programme for the integrated management of childhood illnesses. The programme has successfully used drama to convey information about how to prevent childhood malnutrition and diseases.

Health communication interventions have also been used as a means to combat iodine deficiency disorders, which constitute a significant public health problem in Ghana. Information vans with loudspeakers move through communities broadcasting messages on the use of iodized salt, and the message is reinforced by the distribution of printed material. If vans are not available, billboards can be used instead, or they can simply complement the printed material. This intervention has been employed in both rural and urban communities to encourage the use of iodized salt. It has also been used to convey information about exclusive breast-feeding, complementary feeding, and the prevention and treatment of preventable childhood infections and infestations.

6.1.2 Health Education Intervention

The health education intervention is a top-down approach to health communication and usually involves seminars and training workshops for those on the frontline of nutrition and health issues in the community. The intention is to transfer knowledge to community members so that they can improve their nutrition status and behaviour. Community health education can serve to inform the participants in a programme or the community at large about the availability of nutrition services as well as to provide appropriate nutrition messages.

6.1.3 Nutrition Policy Intervention

A policy is a set of principles or rules formulated by an authoritative body that is intended to guide decision-making. Nutrition policies are designed to improve nutritional status and/or to reduce malnutrition. For example, in order to counter the problem of iodine deficiency disorders, the government of Ghana mandated the iodization of salt, which led to a fall in the prevalence of the disorder. The school feeding programme in Ghana (and in many other countries), which provides schoolchildren with one hot meal per day, is another such policy intervention. It is intended not only to help alleviate malnutrition but also to encourage school attendance and improve performance, as good nutrition has been shown to increase a child’s attention span in class and to improve cognition. The WHO code that governs the marketing of breast-milk substitutes is yet another example of a policy intervention.

6.1.4 Health Engineering Intervention

The health engineering intervention is a type of intervention that involves the modification of existing methods of food processing and preparation. The goal is to improve the nutritional value of local foodstuffs, using methods that are simple enough to be adopted by those living in the community. Diverse technologies can be employed. One example of a health engineering intervention is the enrichment of gari – a kind of flour or meal made from cassava – with palm oil, which is rich in pro-vitamin A, so as to reduce vitamin A deficiency. Another example is the fortification of maize flour with cowpeas in order to improve protein quality. These low-cost interventions have helped to address the nutritional needs of many populations in developing countries.

6.1.5 Health-Related Community Service Intervention

Finally, there are interventions undertaken on the part of private organizations in order to bring health services to a community. For example, Anglo-Gold Ashanti, an international gold mining company that operates in Ghana, supports the national fight against malaria, tuberculosis, and AIDS as a matter of corporate social
responsibility. In most communities, churches also provide health-related services to community members. For example, a church might offer free screening for malnutrition or counselling about various chronic diseases, such as diabetes, high blood pressure, or hepatitis.

### 6.2 Ranking and Selection of Interventions

The relative value of specific interventions can be assessed by awarding points based on certain criteria, such as relevance and the availability of funds. This ranking enables stakeholders to decide which interventions should be given the highest priority, as well as how best to allocate existing resources. In the example shown in Table 16.4, education on maternal nutrition was the intervention selected since it received the most points (26).

#### Table 16.4: Decision matrix for the selection of an intervention

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Measures to increase yam production</th>
<th>Provision of fertilizer</th>
<th>Availability of land for farming</th>
<th>Nutrition promotion for children under 5</th>
<th>Growth monitoring for children under 5</th>
<th>Advocacy for hygiene practices</th>
<th>Education on maternal nutrition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relevance</td>
<td>10</td>
<td>1</td>
<td>3</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Availability of funds</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Sustainability</td>
<td>8</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>7</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td><strong>Subtotal</strong>*</td>
<td><strong>20 (3)</strong></td>
<td><strong>6 (7)</strong></td>
<td><strong>13 (5)</strong></td>
<td><strong>22 (2)</strong></td>
<td><strong>18 (4)</strong></td>
<td><strong>7 (6)</strong></td>
<td><strong>26 (1)</strong></td>
</tr>
<tr>
<td>Feasibility</td>
<td>5</td>
<td>2</td>
<td>2</td>
<td>8</td>
<td>7</td>
<td>10</td>
<td>6</td>
</tr>
<tr>
<td>Participation of stakeholders</td>
<td>10</td>
<td>6</td>
<td>2</td>
<td>9</td>
<td>8</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>Availability of technical input</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>10</td>
<td>8</td>
<td>7</td>
<td>9</td>
</tr>
<tr>
<td>Community acceptability</td>
<td>10</td>
<td>9</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td><strong>TOTAL</strong>*</td>
<td><strong>49 (3)</strong></td>
<td><strong>24 (6)</strong></td>
<td><strong>23 (7)</strong></td>
<td><strong>54 (2)</strong></td>
<td><strong>46 (4)</strong></td>
<td><strong>28 (5)</strong></td>
<td><strong>56 (1)</strong></td>
</tr>
</tbody>
</table>

* The ranking is shown in parentheses.

Note: The scoring for this matrix was carried out by students in the School of Medical Sciences at the University of Cape Coast as part of a community health intervention in Okwampa, Ghana.

### 7. Creating a Management System

Creating a management system is the fourth step in programme planning. A well-planned management system takes into consideration the objectives of the programme, the activities that will be carried out under each objective, the resources available for each activity, and the indicators that will be used to monitor and evaluate the programme (Boyle & Holben, 2006).

As part of the development of a management system, responsibilities are assigned to particular people or groups, with clear timelines for the accomplishment of individual tasks (McKenzie et al., 2005). The programme’s leadership is charged with the efficient and effective management of the available resources so as to achieve maximum benefit from them. Finally, a management system must also serve to gather relevant, accurate, and timely data that can be used to improve the programme and can also aid in staff supervision.
8. IMPLEMENTATION OF THE PROGRAMME

Implementation is step 5 in programme planning. A programme can be launched as soon as all the logistics have been mapped out and a management system is in place. However, it is best to phase in a programme, rather than rolling it out on a large scale at the very outset. The phase-in process begins with a pilot stage, during which relatively few individuals are involved (see Figure 16.1). This stage provides the managers of the programme with an opportunity to test the basic programme tools. The subsequent phasing in of the programme helps to ensure that the most effective use will be made of limited resources, and it also allows scope for early evaluations of the programme. Feedback at this stage can suggest needed modifications, which are more easily carried out before the programme is fully launched.

As a programme is phased in, problems that arise, strategies that are tried out, and successes that are achieved can and should be continuously documented, so as to create an evolving record on which programme managers can draw. Phasing in of a programme also gives programme managers more effective control over the process of implementation. The number of participants in the programme can be gradually increased, in accordance with an implementation timetable, and if the programme is to be run at several locations, it can be started at a single site so that managers can learn from their experiences before moving on to additional sites. An excellent example of this strategy is the school feeding programme in Ghana. It was not launched simultaneously in all the selected schools. Rather, it started at a few schools in the larger towns and was then gradually expanded (McKenzie et al., 2005).

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Even the most carefully planned and implemented nutrition programme will be of little value, however, if community members are unaware that it exists. Especially once a programme has been fully launched, it must also be promoted. As in almost any marketing campaign, nutrition programmes typically rely on a logo and a tag line that sums up the programme’s central message – something short and catchy that will remind people about the programme. In addition, partnerships can be formed with government agencies and/or with non-governmental organizations in order to help to promote a programme, and faith-based organizations can be asked to inform or remind people about local nutrition programmes in the course of conducting their standard activities. In addition, community members themselves can be recruited to spread the word.

9. MONITORING AND EVALUATION

Although evaluation is listed as step 6 in programme planning, monitoring and evaluation procedures are selected at the outset of the programme, and evaluation should be an integral part of the entire programme.
process. Programme evaluation is discussed in detail in Chapter 18. Here, we provide only a brief summary of the process.

Evaluation rests on the answers to certain questions. Typical questions include:

- What are the programme activities, and how often are they carried out?
- Is the programme reaching those it is intended to help, and how many have benefitted?
- What is the level of satisfaction among participants in the programme?
- What resources are available, and how effectively are they being used?
- Is the programme staff able to handle problems and concerns?
- Is the project following the planned schedule?

Programme evaluations are generally framed in terms of inputs, processes, outputs, outcomes, and impacts. These key terms can be defined as follows:

**Inputs:** These are the goods and services available through programme activities. For example, the input could be a nutritional supplement.

**Processes:** Processes are all the activities carried out by everyone who is involved in the planning and execution of a programme.

**Outputs:** Outputs are a function of inputs: they reflect the consumption of the available goods and services. For example, the number of nutritional supplements distributed is an output, as is the number of mothers who attended education centres.

**Outcomes:** These are the immediate effects of the programme. For example, when the intake of a nutritional supplement produces an improvement in the status of the children participating in the programme, this is an outcome. The focus of an outcome is the ultimate goal or end result that the programme set out to achieve.

**Impacts:** These are determined when the programme has been completed. An impact evaluation measures the extent to which the programme’s objectives have been met and can also include an assessment of the programme’s overall value and sustainability.

It is important to bear in mind that certain assumptions or expectations are implicit in both the inputs and the outputs. For example, when the programme input is supplements containing iron, it is assumed that when the participants take the supplements, the nutrients will be absorbed. In the case of the corresponding output, the assumption is that when an iron-deficient person takes a supplement containing iron, that it causes the expected effect.

Valuable lessons can be learned from failures as well as from successes. Thoughtful, thorough, and objective evaluation is essential not only to the improvement of existing programmes but also to programme planning more generally. It provides the evidence on which future programmes can be built and positive outcomes achieved.

**DISCUSSION QUESTIONS AND EXERCISES**

1. You are the nutritionist for a child-centred organization in Abura. Briefly describe the six key strategies you will adopt in the community for the successful implementation of an exclusive breast-feeding programme. What key elements were factored into the monitoring and evaluation plan?

2. Develop a problem statement from a nutrition situation in your community and formulate the goals and objectives of a programme designed to tackle the problem.

**REFERENCES**


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**ADDITIONAL RESOURCES**


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