GUIDELINES FOR

Developing and Evaluating Education Materials in Sanitation and Water Program

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NaSCO

The National Sanitation Co-ordination Office (NaSCO) was established as the executive arm of the National Sanitation Task Team (NSTT). The NSTT consists of six government departments namely the Departments of Health, Water Affairs and Forestry, Constitutional Development, Environmental Affa Tourism, Housing and Education. They were jointly reponsible for the drafting of a National itation Policy. NaSCO is mainly responsible for overseeing, co-ordinating and implementing the Po on national, provincial and local level. As such it is involved in the development of various strate mmissioning of research projects, dissemination of information and co-ordinating all activities.

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Guidelines for Developing and Evaluating Education Materials in Water and Sanitation Programmes

INTRODUCTION

Many people are aware of the need for education to support the provision of sanitation and water. Agencies often produce materials and then look for ways of integrating these materials into their sanitation and water programmes. However, materials should be seen as part of a broader education programme and are only worth the money spent on them if they are well conceived and part of an integrated programme of delivery.

To gain a better understanding of the nature and role of sound educational materials related to sanitation and water programmes, the National Sanitation Coordinating Office (NaSCO) commissioned this guideline document. It can be used to evaluate existing materials and to influence the development of further materials. The guidelines are for anyone who may commission or produce their own educational materials for a sanitation and water programme. Typically this would be Provincial Sanitation Forums, sanitation coordinators, social consultants, training agents or project managers.

Much of the information in this guideline document is drawn from a workshop involving a group of materials developers with extensive experience in the production of health education materials. Members of the group were aware of the very real constraints of time and money faced by those working in the sanitation and water sector. We all felt that the principles we have generated here can be applied in contexts where few resources are available and will help to save costly mistakes and optimise the use of money allocated to health education.

These guidelines should be read in conjunction with the Communication Strategy Guidelines produced by NaSCO. The Communication Strategy Guidelines explain how printed materials could fit into the communication strategy which in turn fits into the whole project implementation programme.

AS PART OF A BROADER PROGRAMME OF INFRASTRUCTURE DELIVERY

The first principle that is important when developing an education programme linked to sanitation and water provision is to consider the overall programme and to recognise that on its own an education programme is unlikely to promote better health in a community.

Education programmes should be seen in a broad health promotion context. The health promotion view holds that lasting health benefits for people do not come through single interventions such as a one-off training course or a single educational publication. Health benefits are felt when people live in environments that enable health. Therefore, a health promotion strategy is a broad one.

In a health promotion approach all factors influencing health are addressed, from infrastructure provision to economic and cultural issues. Within the health promotion view, education and information provision are but one strand of action that will help people to adopt healthy practices.

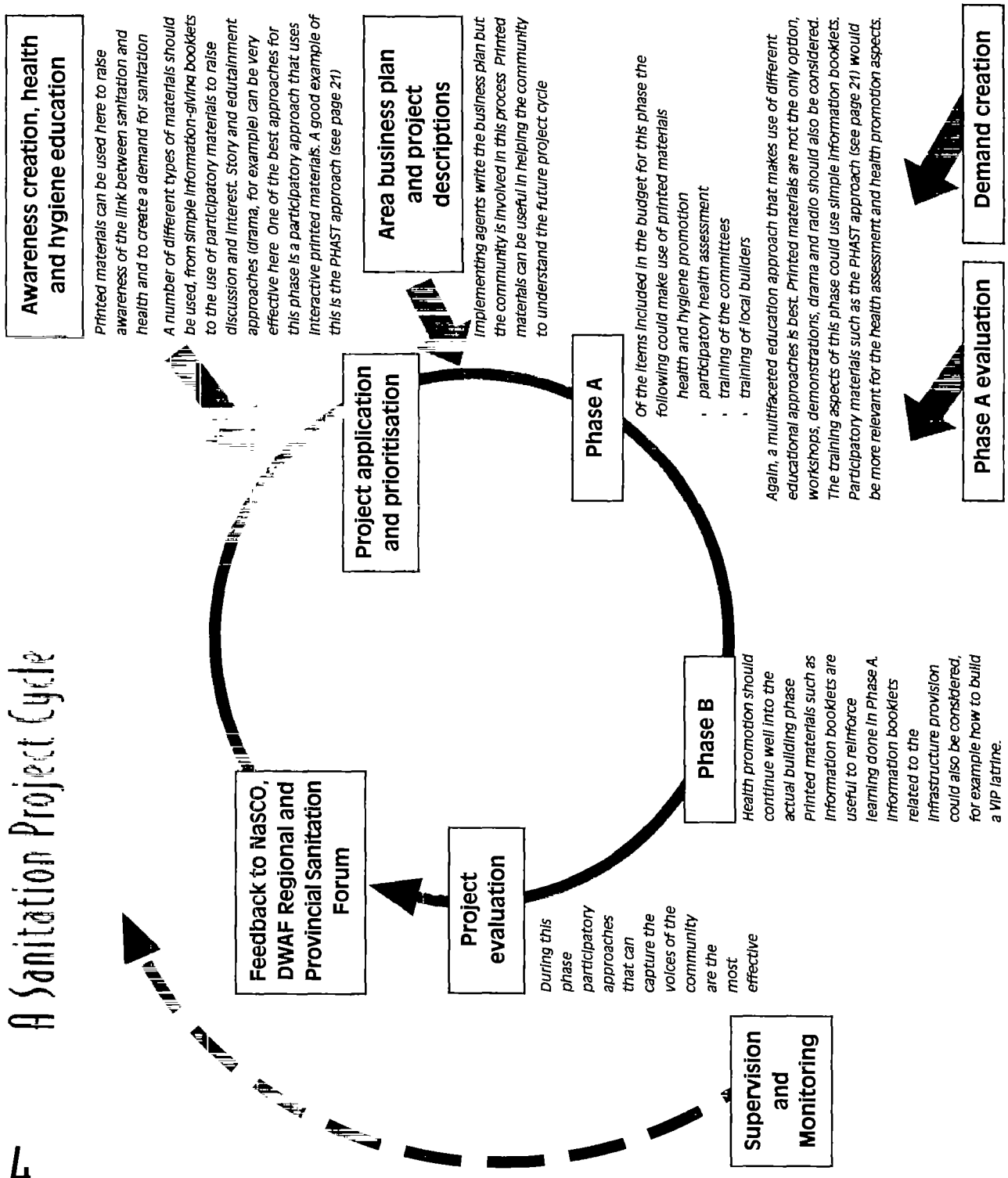
Materials within a supportive environment

An example of a supportive overall programme is the Gauteng Integrated Schools Sanitation Improvement Programme, an intersectoral programme which aims to upgrade water-based sanitation in schools in Gauteng. Initially the education programme consisted of the development of printed education materials for school children on healthy practices around water and sanitation in the schools. In researching the content and nature of these materials it became clear that their impact on health in schools would be minimal if the principals, caretakers and local education authorities were not brought into the programme.

Little health benefit would result if students knew <u>why</u> it was important to keep toilets clean and to wash their hands but the toilets were not cleaned or maintained, principals did not know how to order cleaning equipment or toilet paper, and the education department was not supplying these items. The programme subsequently developed a holistic delivery and education programme that included all the different players. This would make sure the students were operating in an environment that supported health rather than worked against it.

MATERIALS AS PART OF THE PROJECT CYCLE

Printed materials should be commissioned and developed with the infrastructure project cycle in mind. The following diagram outlines the cycle followed by a typical sanitation project. Printed education materials should be used at different points in this cycle. The diagram gives some idea of where materials can fit into the sanitation project cycle promoted by NaSCO and what form these materials can take.



EDUCATION MATERIALS

AS PART OF AN EDUCATION PROGRAMME

Printed materials should not only be seen as part of a broader programme that includes delivery of infrastructure, but also as part of an integrated education strategy that includes a number of different media and a face-to-face implementation strategy.

Education is a long-term process that should involve face-to-face education strategies like participatory workshops, Child-to-Child programmes, visits by community health workers or environmental health officers. Mass media such as radio and television also need to be considered.

Research shows that the more multifaceted an education programme is the more effective it is. It is particularly important to include a face-to-face component in any health education programme so people can relate the information they are given to their own situation. This happens best when they discuss the issues presented in the education programme amongst themselves, for example in workshops or discussion groups. Therefore, a health education programme should include much more than printed materials.

THE ROLE OF PRINTED EDUCATION MATERIALS

Given the fact that one should be looking at a broad education programme that includes different media it is useful to clarify what printed education materials can and cannot do.

Printed materials on their own cannot change behaviour. This is a very important point given the common assumptions about education and the widespread practice of producing materials and then assuming that 'education' has been done.

But materials can ...

- raise awareness and trigger interest
- encourage people to think and talk about a topic
- inform people and encourage them to seek further information.

Printed materials are also useful when one wants to present technical information such as 'how to build a pit latrine' or 'how to maintain a pump'. But the information must be presented in an accessible and non-threatening format and style (see page 28).

On a broader level, printed materials can empower people by building the readers' confidence in their own ability to process information. This obviously is only the case when people find the information readily accessible. If people cannot easily access the information and the publication is confusing, people will be disempowered and lose belief in their ability to access the written word (see page 28).

Emotion and information

Research has shown that materials that touch people at an emotional level as well as an informational level and that are directly relevant and recognisable to the audience get closest to influencing behaviour, or are most successful in raising awareness. In this kind of publication the messages are usually embedded in a story. The story touches people and is then followed up with pages giving information. The example opposite illustrates this The evaluation research done for this particular story backs up this contention

(From Nonceba's Story, Soul City, 1996.)

MATERIALS AS TOOLS, NOT ENDS IN THEMSELVES

A useful way of looking at materials is to see them as tools to be used as part of an education process rather than as an end in themselves. Printed materials can be tools that provoke discussion or raise an issue for debate. They can be tools to mirror a process that one wants to promote or the action steps one wants a group to follow (see examples opposite).

This view of materials is in line with recent education theory that sees education not as giving facts to people but as construction of meaning through social interaction, encounter and dialogue. The essence of learning is that it takes place within the individual's experience, so deep learning happens when people talk, discuss and relate the publication to their own lives. Two good examples of materials that are used as educational tools are shown opposite.

Comic as an educational tool

The story told through this comic (The Mystery of the Dangerous Drums) is set in Alexandra where students are fighting against the dumping of dangerous hazardous waste close to where they live. This comic story was used as part of an environmental education programme in Sebokeng. The story served as a tool to raise awareness and discussion. The Sebokeng students read the comic story and immediately said. "Oh, but we don't have a problem with hazardous waste. Our biggest problem is sewage pipes that are burst, what can we do about that?" The educator then referred the students to the places in the story where a process of environmental action is modelled.

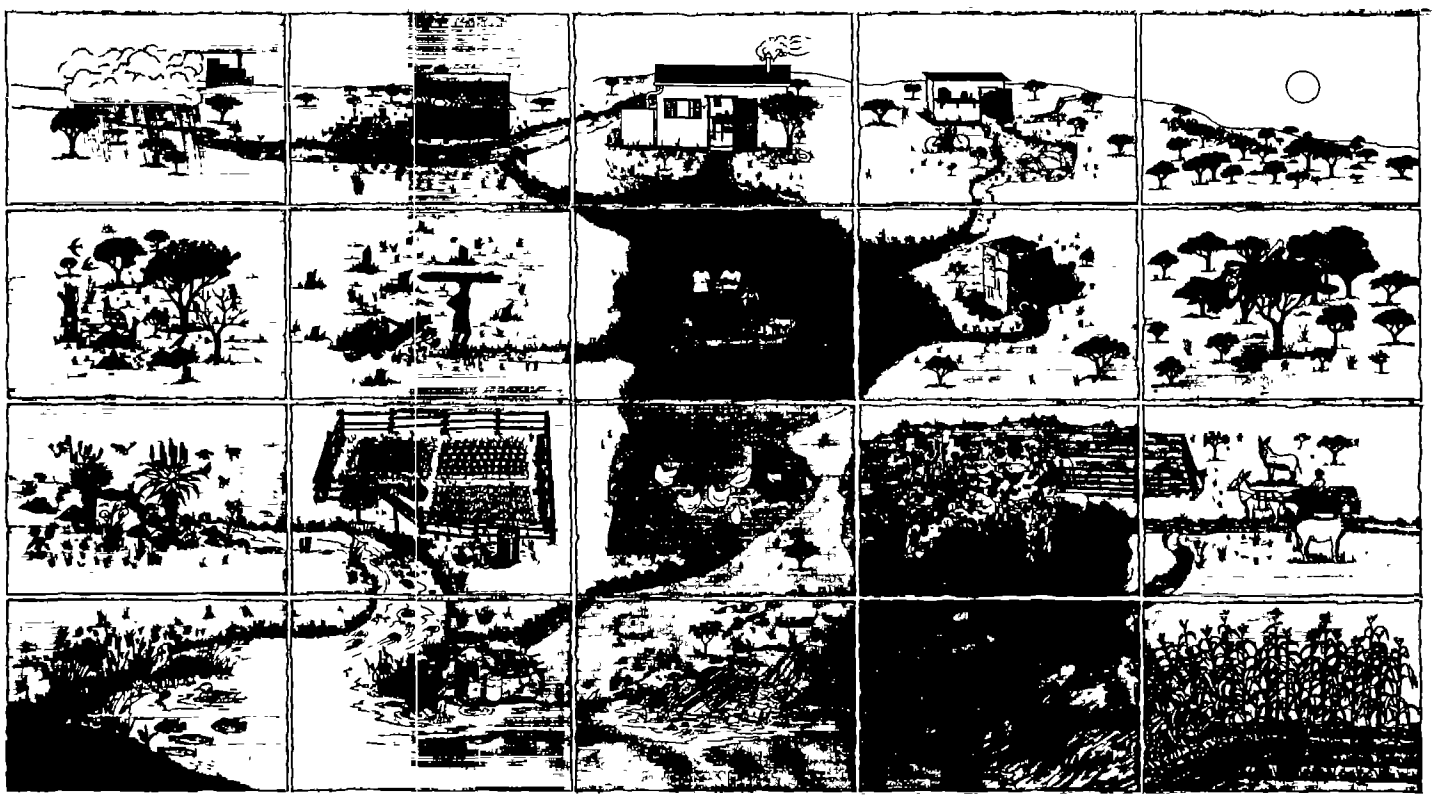
The Sebokeng students went on to plan an action project around the leaking sewage pipes in their area, basing their action on the process modelled in the comic story. The printed comic story was a powerful tool that raised awareness and presented a model that they could follow. It is important to note that the comic was also part of an education programme that included support for the action group the students would form.

A card game as an educational tool

In this Enviro Picture Building Game, the game board shows a number of environmental problems often experienced in rural areas. The players of the game identify and talk about the problems on the board, discuss if they have these problems in their area and then make their own replacement cards to show how the problems can be solved. A number of solution cards can be introduced by the facilitator to help the process along. This game has been used extensively in the environmental education field by both adult and youth groups. In many cases it has led to the players taking some kind of physical action in their local area based on the solutions they have discussed in the group. The game served as a tool to promote discussion and action.

(From *The Mystery of the Dangerous Drums*, Earth Shaker series, The Storyteller Group, 1994)

(From *Madlusuthe's Farm*, Enviro Picture Building Game, Share-Net.)



THE PROCESS OF MATERIALS DEVELOPMENT

The development of quality educational materials is a process that involves a number of steps. A summary of these steps is given on this page and some are described in more detail in the rest of this section. This will help you to include all the items in your budget (including translations and distribution) and to develop materials that are affordable within your programme.

1. Research

This can range from detailed participatory research to simple focus group discussions with potential audiences. Research can take from one week to two months depending on how detailed it is. Some projects have as much as a six month research phase. Before continuing with the materials development it is important to have gathered enough information from the research to be able to answer at least the main questions in the checklist given on pages 12 to 13. Also think about how the publications will be distributed. (See page 14).

2. Developing your message

You need to have a clear idea of the messages or information you want in the publication before you begin writing or even selecting a format. (See page 17.)

3. Planning the distribution

It is important to work out how your material will be distributed before you begin to develop the materials. Think about what parts of the printed package will be distributed together. Distribution issues often influence the size and format of a printed publication. For example, if a game is to be distributed with an information booklet: Can they be packaged together to make sure they arrive together? Will they need to be of a similar size and shape so they can be packaged together?

4. Choosing an appropriate format

Your research should have given you some idea of the format most suited to your audience and your broader programme. You can choose a number of different formats that will complement each other. (See page 18.)

5. Writing and editing

This step will differ according to the format of your materials. Remember to give the writer information about the intended audience and their environment. At the very least you will need to brief the writer on the main outcomes of the research and the messages you want to convey. An editor often works on a book once the writer has finished. You can bring in an editor experienced in English as a second language. The importance of readable, accessible writing is discussed on page 28, and the issue of translating the text into another language is discussed on page 29.

6. Artwork, design and typesetting

Once the text has been drafted, an artist can be commissioned to draft the illustrations or a photographer to take photographs. A designer can then begin to plan the pages and work out a style for the publication. The pages can then be typeset and roughly laid out - using photocopies of the pencil artwork or photographs. It is usually best if the artist waits until after the testing stage

before making final colour illustrations - any changes can be made more easily at pencil stage. (See page 30.)

7. Testing draft materials

Most publications should be tested for both content and readability at draft stage. It is best to test pages that have been typeset and roughly laid out with any pencil artwork in place as all these features affect the readability of the text.

8. Typesetting, scanning and film

Once the rough design and pencil artwork has been tested and amended as necessary, final typesetting is done. The photographs or final artwork will need to be scanned and positioned by the typesetter. The final page proofs will need to be checked. The typesetter's disk will need to be sent to an appropriate repro house which will produce the film that the printer will use in the printing process. The film should be checked before it is sent to the printer. (If only a small number of copies of the publication are needed it may be cheaper to photocopy it rather than print, in which case you will not need to produce film - just a very clear master copy.)

9. Printing

During the research phase you should have identified the number of copies you want to print and distribute. The number of copies you need will depend not only on the size of your audience but also on how you intend to distribute the publication. The unit price of a publication will go down as the print run increases - so think about this economy of scale but do not print more than you can afford to distribute. (See page 32.)

10. Distribution

It is no good producing materials that never get distributed and used. Distribution must be considered when you are planning the education programme and thinking about how the materials are going to be used and by whom. Make sure that the appropriate materials are distributed at the right time - to complement the other activities of the education programme, for example, workshops or mass media campaigns. It is best to avoid mass, untargetted distribution methods. Think about existing health services or non-governmental organisations that could help to distribute materials through their work. For example, posters could be displayed in health clinics, pamphlets could be given out by community health workers or field workers.

11. Evaluation

The evaluation process can help to tell you how successful your materials and the education programme were. It can provide useful feedback about things you need to change in the materials if they are reprinted and ideas for making more effective materials in the future. (See page 32.)

CHECKLIST OF QUESTIONS. TO ASK BEFORE DEVELOPING EDUCATION MATERIALS

This checklist is for anyone wanting to develop printed education materials. It is useful to have worked through these issues before you employ a materials developer to write the materials as some of these issues may need research.

- What is my overall strategy? Where does education fit in this? What is my education programme? Where will printed materials fit in with this?
- Are printed materials really necessary - given that materials on their own *may* be a waste of time and money (especially regarding issues of behaviour change)? What can I do to optimise the benefits of using printed materials?
- Who do I want to communicate with - exactly who is my audience? Is it older people, youth, women, men, children, breadwinners or a mixture of these people?
- What do I know about the audience? (This is perhaps one of the most important questions in terms of effectiveness of educational materials. The section on research on page 14 looks at this topic in more detail.)
- What do I want to communicate? It is important to develop a set of clear, simple messages in logical order before writing materials.
- Why do I want to communicate these messages with this particular group of people - what is the problem I am seeking to address?
- Is there an enabling environment to support these messages in this community? For example, if you are promoting the building of VIP latrines: Are there agencies to support people in this task in the area?
- Are printed materials the best tool to achieve the above? The kind of questions you need to ask here are: Could I use the money I have set aside for printed materials to pay a person to facilitate participatory learning workshops and maybe reach fewer people but have a greater impact on those few people? Would this message be better passed on by a community health worker? Should I rather spend the money on training community health workers in my area?

  If you have no resources such as these to mediate materials but still feel you want to reach people, then you need to select a format that works best unmediated.

Can I reach the people I want to? How can I get the publication to people - what distribution network should I use?

Will the materials just be handed out or will they be mediated by a facilitator or educator? This is an important question to ask as the nature of the materials will differ. For an example see page 18 about mediated and unmediated posters.

What is the most useful format for my purposes? For example, a poster or booklet. This question is related to the messages you want to put across and the distribution strategy you adopt. For example, a booklet is a good format for technical information, a story with more emotional weight would be better for promoting behaviour change or raising awareness. If you are going to distribute through workshops you can choose a format like a mediated poster.

Is there existing material that I can adapt? (See the Contacts section.)

How much money do I have? How can I make my money spread as far as possible? Do I have money for research, writing, artwork, typesetting and printing?

Can I phase this project? Rather than distributing large numbers of publications over a large area at one time, look at the possibility of employing a facilitator to mediate the materials in a number of small areas and so spread the project over time.

RESEARCH

The research phase is often ignored in materials development processes but it is probably the most important in terms of effectiveness of health education materials. Careful research means your printed materials are more likely to be accessible and relevant to the audience you want to reach.

This section highlights the main areas for research and lists key questions that need to be answered before proceeding with the materials development. It may sound like a long and expensive research process and it does present the ideal, but it is possible to get answers to many of the questions without spending a lot of money. The research can often be undertaken by people already in the field such as trainers or community liaison and development workers.

Research your audience

The following are questions you should ask about your audience:

Are the problems that you think exist the real problems? What are the additional dynamics around the topic that you need to consider before deciding what the problems really are?

What are people's perceptions of the issue and to what extent should your education strategy address these perceptions?

What knowledge do people have about the issue? What experience do they have?

Are your assumptions around the issue the same as those of your target audience?

What are people's needs? You may find you have assumed their needs and discover that your material is not really needed at all.

What language do most people speak at home? Do they read better in their home language than in English? (See page 28.)

What are the reading levels within your audience?

What are their reading habits? Are they likely to read a booklet? How many people would share one publication? In many families a group reading of a publication is possible.

What other education programmes operate in the area? What are they saying? Will your messages conflict with theirs?

Research into context

If we are looking at promoting a certain action or behaviour it is important to look at what stops people acting in the way we want to promote. Often it is the context not bad materials or 'bad people' that prevents people adopting healthier practices. For example, research with women in Zimbabwe showed that they knew about HIV\AIDS and knew how to protect themselves but the balance of power in their relationships with men was such that they could not act on the information they had. Their social context worked against them. This information led to a change in the education strategy.

Research for context is best done through small, focused discussions and interviews.

Research for authenticity

The more authentic the printed materials are in terms of setting, language, metaphor and practices the more effective they will be. It is obviously more important to do research into language and local metaphor if you are going to develop materials like comic stories than for simple information booklets. But even in information booklets people are less intimidated if they see people like themselves who talk like them. It is also important to show local technology, for example, hand pumps or stand pipes, typical water containers.

To develop materials that people will identify with you will need to consider these kinds of questions:

- How could you include local authentic language and metaphor in the text?
- What examples of local architecture and technology could you illustrate or refer to in the publication?
- What do people in this area value?
- What is their natural environment like? This is important to make sure the background in pictures looks realistic. For example, the groundwater poster on page 19 is appropriate for a dry area but would not work in KwaZulu-Natal or Mpumalanga.

Research for authenticity is best done through small, focused discussions and interviews.

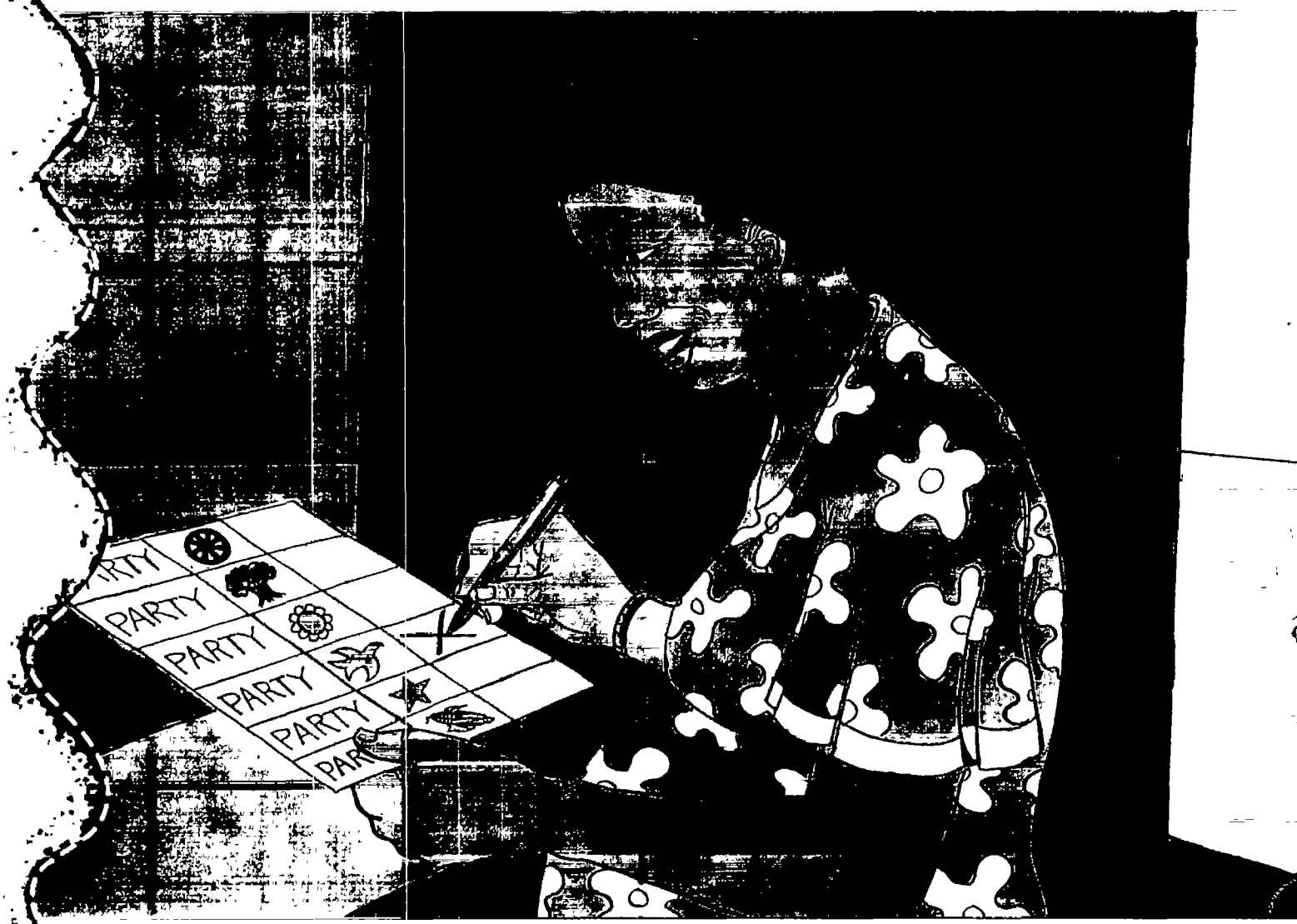
The difference between research, testing and evaluation

The background research described above should be carried out before you develop the concept for a publication and begin writing. Testing should take place as the material is developed. You can test at a pencil artwork and draft layout stage as this will allow you to make changes cheaply. If you are intending to distribute widely it is a good idea to run a pilot programme, i.e. use the material in a small sample area before printing thousands of copies. Evaluation research is discussed on page 32.

Research into local metaphor

Taking time to find out what local metaphors exist can result in some powerful educational materials. This is illustrated by the successful voter education poster campaign that was developed and used nationally by IDASA in the 1994 elections. The research was carried out in a contained and cost effective way. A group of rural women from different areas were brought together for two days. Together they discussed pictures that would communicate the messages the materials developers wanted to convey. For example, the women were asked to find an image for the idea that your vote is secret. They suggested a picture of a pregnant woman. No one knows that baby until it is born - it is secret just like your vote.

The evaluation showed that rural women all over the country related to this metaphor. These posters are another example of mediated posters. They were mediated in voter education workshops. To a certain extent, however, they do communicate on their own.



(Poster produced by IDASA, reproduced with permission.)

DEVELOPING YOUR MESSAGE

It is important to be clear about what you want your publication to achieve, i.e. what your objectives are. Some educationalists are critical of the idea of targeting messages *at* people. The point they make is a valid one. We need to be aware that people's behaviour is motivated by their own sense, reason and context. We need to be aware of what this context is and take it into account. People will not 'hear' a message if they have not had the opportunity to grapple with it and relate it to their own circumstances. Here are some key points that apply when thinking about what you want a publication to say.

Have a clear set of key ideas

Many publications do not have a clear set of ideas in a logical order. Before writing begins you should list, in a logical order, the key ideas that you want to communicate. Use this as a checklist and refer to it throughout the production of the publication. Ask yourself: Are my key ideas still clear?

Understand your audience

Publications sometimes put across the wrong messages because the materials developers do not understand the field well enough. It is important to do careful research with experts to develop the correct messages. In the water, sanitation and health field issues are often far more complex than is generally realised. To give what may seem to be a 'correct' message, without taking into account the context within which people live, can create more problems than it solves. An example of this is to promote the oral rehydration solution (ORS) without being aware of some of the problems surrounding ORS. For example, people having difficulty making up the recipe, people seeing it as 'medicine' and assuming that one dose will cure the child, people not understanding dehydration or the need to continue feeding the child. The alternative remedy of using the water remaining after vegetables or mealies have been boiled may be overlooked.

Beware of unintentional messages

It is very easy to promote unintended messages which can sometimes cause offence or defeat the whole purpose of your education programme. For example, in a major campaign to promote awareness of groundwater pollution, a narrow focus on groundwater led to an unintended message that VIP toilets were bad. This could have done major harm to another campaign to promote the VIP as a safer type of pit latrine. If you are aware of such problems you can take steps to avoid them.

Avoid making simplistic assumptions

By making simplistic assumptions one can sometimes imply that people are to blame for their problems. For example, if one doesn't present the socio-political context in which people live it could be easy to imply that children die from diarrhoea because the mother does not care or was ignorant.

Undertaking careful research before you begin developing the publications and testing the materials before they are finalised can help to pick up, and correct, unintended messages, false assumptions and misrepresentations.

CHOOSING THE BEST FORMAT FOR YOUR PURPOSES

Once you have developed an education programme and decided how the education materials are going to work within it, you need to decide what kind of materials would be best suited to the programme. The following section will help you to decide. It looks at different kinds of educational materials, the circumstances in which each works best and highlights key things to keep in mind if you select a certain format.

Posters

SINGLE-MESSAGE POSTER

This kind of poster usually relies on one powerful visual image. It should have one simple message.

Do not overestimate what this kind of poster can do. It is useful for raising awareness of, popularising or reaffirming a single message. It is most useful when it encourages people to seek more information. Posters of this sort are generally not an effective way of putting across more complex information. For example, they should not be used for explaining the steps involved in a process such as building a VIP latrine (a booklet is a better format for this as it can be taken home and referred to again and again).

Single-message posters work best as *part of* a broader education programme in which they are used at the mass media level to raise an issue in people's minds. The issue should then be dealt with in follow-up face-to-face education and/or in media such as community radio.

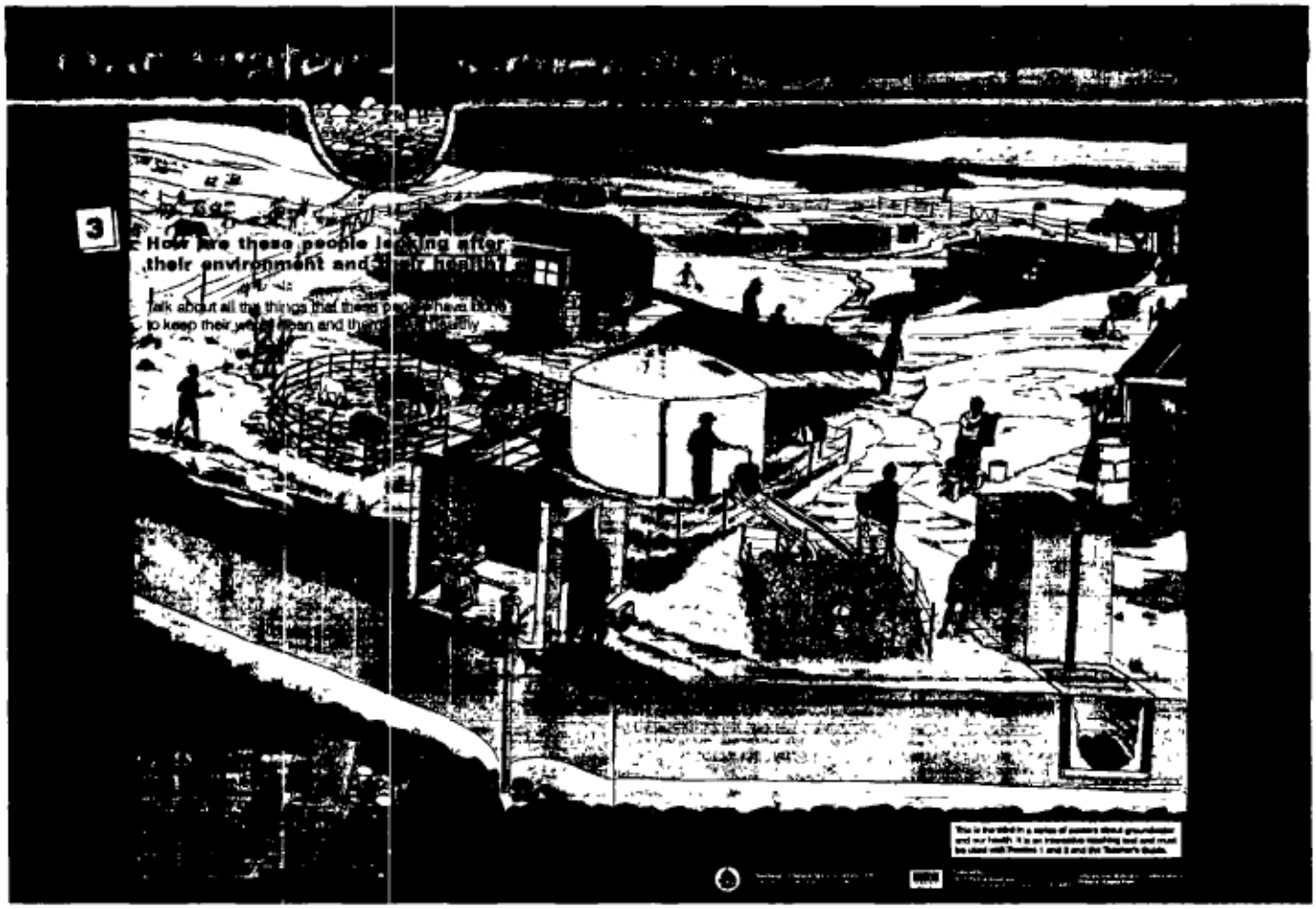
If you decide to produce a poster of this sort, one crucial question you need to ask is: Do I have somewhere to display the poster so it will raise the issue in peoples' minds and get them talking about it?

INTERACTIVE POSTER

This type of poster is designed to be a participatory education tool. It would form part of a broader education process and would need to be used in small groups or workshops. An interactive poster needs to be mediated and so you will need to either train mediators or produce a teacher's or facilitator's guide to show people how to use the poster as a participatory tool.

Discussion posters

On the opposite page you will see two posters designed for use in small groups to promote discussion. The groundwater poster has a detailed picture and one discussion question. It is designed to be used by teachers with small groups of children in a classroom The second poster shows the different ways in which diarrhoeal disease can be spread It is designed to encourage the group to talk about possible interventions that stop the spread of disease. More details about the disease cycle and the place in the cycle where the interventions would be most effective are given on the back of the poster for the facilitator's reference



(One of a series of three posters about groundwater and our health, Department of Water Affairs and Forestry, The Mvula Trust and Clacherty & Associates, 1998.)

(Poster produced by Soul City)

Comics

More and more people are using comic nowadays as they think if words are in comic form they are easier to read. This is not necessarily the case. Many comics are just information given in talking-head form. The information in this type of comic could be communicated more accessibly in simple, illustrated text.

Comic is most useful when it is used to its full potential. Comic can provide a strong visual point of communication. It can show context and environment and in this way create a link to the reader. The reader will be able to say: "The people in this publication live in a place like me, perhaps they also experience the problems I have."

Comic is most useful when it employs story. Story is a powerful educational tool. Realistic stories can carry a great deal of emotional weight and can impact on people (see page 6). In stories you can present multiple voices, i.e. you can put across the complexities of an issue. This is useful if you want the publication to reflect the real situation and problems people face. The story allows people to hear their voice in a publication, recognise their lives and to grapple with issues that are real to them in a way that is not didactic.

Comic, like other interactive learning materials, can be used as a tool to encourage people to raise issues for debate and promote change at a fundamentally deeper level than if the facts were presented to them (see page 8). Evaluations of comic publications have shown that they can be effective with all ages but comic for older audiences needs careful framing. You need to understand your audience well before choosing this medium.

Other participatory materials

Many participatory education approaches use printed materials as part of their education programme. Posters and comic stories can be used as interactive, participatory materials, as discussed in the previous section, but there are other materials that can be used. Usually these are localised, simple drawings that are used in interactive activities that encourage talk and group decision-making.

These participatory approaches stimulate participation of women, men and children in the development process. They usually use trained fieldworkers who work with small groups in an intensive discussion and decision-making process. Such an approach can form part of a wider strategy to encourage community involvement and participation in sanitation and water projects.

The following tools have been extensively tested and are worth exploring as part of a health education programme around sanitation and water.

P H A S T

There are many participatory tools developed especially for sanitation and water programmes. Some very good resource materials have been developed through Participatory Hygiene Awareness Sanitation Transformation (PHAST). A kit is available that includes picture cards and other tools for a variety of activities that can be adapted for use in sanitation and water projects (see contacts page). Some agencies in South Africa are exploring the PHAST approach. If you have fieldworkers at your disposal and have time for a small group, intensive process it would be worth exploring this approach as it has proved to be particularly successful in promoting discussion and action around sanitation (contact the Mvula Trust for more information).

ome of the water quality monitoring
ols available from Umgeni Water.)

The environmental education sector has led the field for a number of years in the production of simple scientific tools that can be used to raise awareness around water, sanitation and health. The materials are sound educationally as they are tools that raise awareness and promote discussion. The *E. coli* test kit is particularly powerful as it demonstrates the presence of the 'invisible' germs in water polluted by human waste. It has been used successfully with community members in a number of rural water education programmes.

GAMES

Games can be a useful learning tool for children and adults. They can make learning fun and promote discussion. Games can take many forms, for example a board game or a list of rules for a game that can be played with objects from the learners' own environment.

If a game is to be effective it needs to be developed by a materials developer skilled in this format. It also needs to be followed up by discussion and other educational input. The Choice Game, developed for youth to encourage discussion around significant life choices, is a good example of an interactive board game that is designed to raise discussion (see opposite).

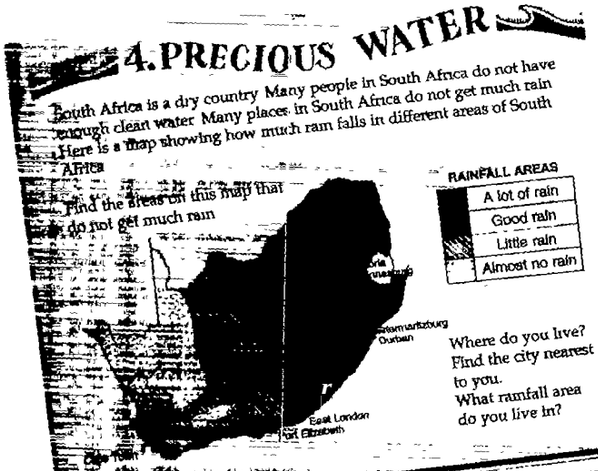
A good game should invite meaningful participation and be relevant to the personal interests of the participants. It needs to have clearly defined rules. A game that promotes development should give people the opportunity and the vocabulary for speaking about the problems they face. It should also provide an opportunity to experiment and practise real situations, without having to risk real consequences. A good game should reflect reality but in a way that is not too threatening. For example, the Choice Game (see opposite) which was developed as part of a sexuality education programme exaggerates certain real-life situations, creating caricatures so that it is not embarrassingly personal.

Like the interactive poster, games work best as part of an education package. They need to be backed up with supplementary information and additional learning experiences.

(The board for the Choice Game, developed by The Storyteller Group.)

Activity sheets and resource books

Activity sheets, such as those shown below, are another form of printed education material that is often used in the sanitation and water sector. These are especially useful in the school context. The activity sheets encourage interactive learning by presenting learners with activities they can do to learn about the topic and space for them to record their observations and findings. This methodology is particularly suited to the new school curriculum which encourages independent learning.



4. PRECIOUS WATER

South Africa is a dry country Many people in South Africa do not have enough clean water Many places in South Africa do not get much rain Here is a map showing how much rain falls in different areas of South Africa

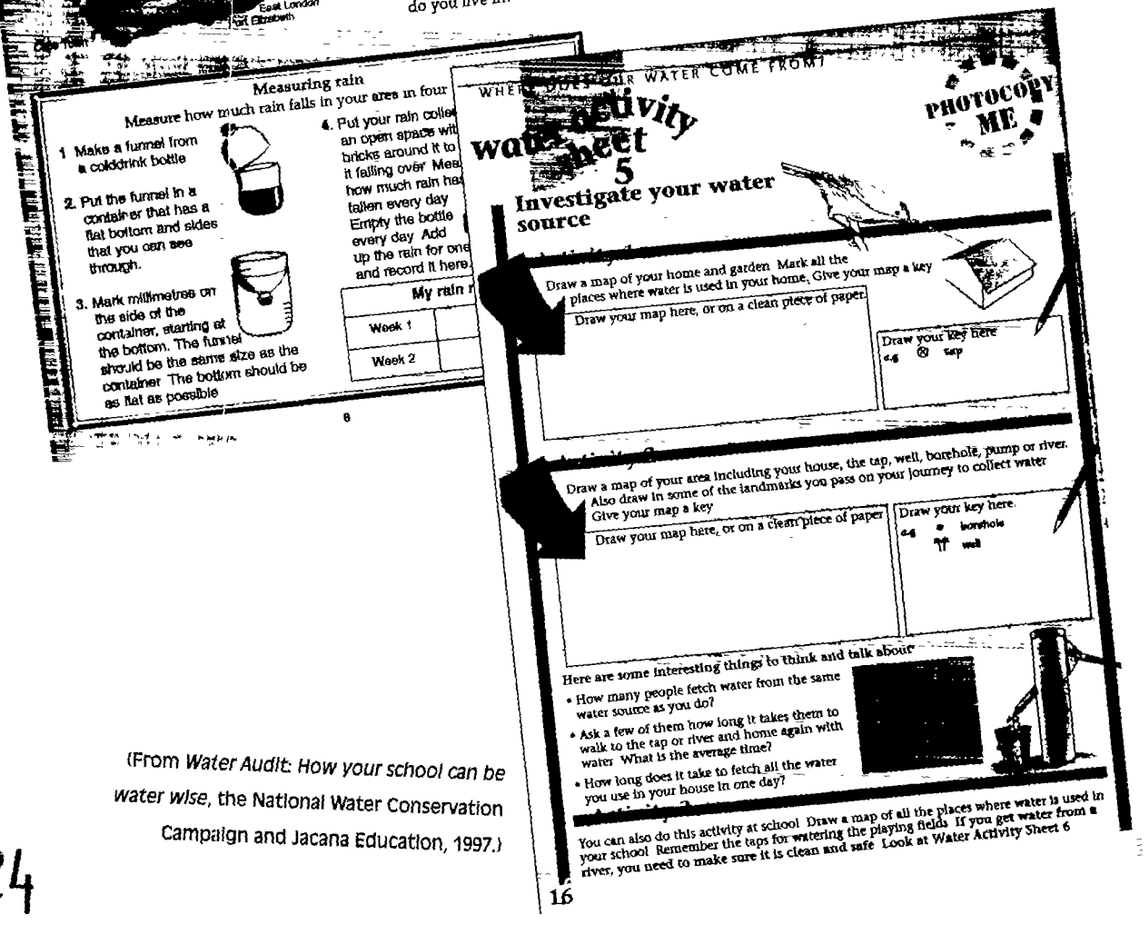
Find the areas on this map that do not get much rain

RAINFALL AREAS

A lot of rain
Good rain
Little rain
Almost no rain

Where do you live? Find the city nearest to you. What rainfall area do you live in?

(From *Spider's Place: The Secret Pool*, The Handspring Trust.)



Measuring rain

Measure how much rain falls in your area in four

1. Make a funnel from a colddrink bottle
2. Put the funnel in a container that has a flat bottom and sides that you can see through.
3. Mark millimetres on the side of the container, starting at the bottom. The funnel should be the same size as the container The bottom should be as flat as possible
4. Put your rain colle an open space wit bricks around it to it falling over Mea how much rain ha fallen every day Empty the bottle every day Add up the rain for one and record it here.

My rain

Week 1	
Week 2	

6

WHERE DOES OUR WATER COME FROM?

PHOTOCOPY ME

Activity sheet 5

Investigate your water source

Draw a map of your home and garden Mark all the places where water is used in your home, Give your map a key

Draw your map here, or on a clean piece of paper

Draw your key here

Draw a map of your area including your house, the tap, well, borehole, pump or river. Also draw in some of the landmarks you pass on your journey to collect water Give your map a key

Draw your map here, or on a clean piece of paper

Draw your key here

borehole

well

Here are some interesting things to think and talk about

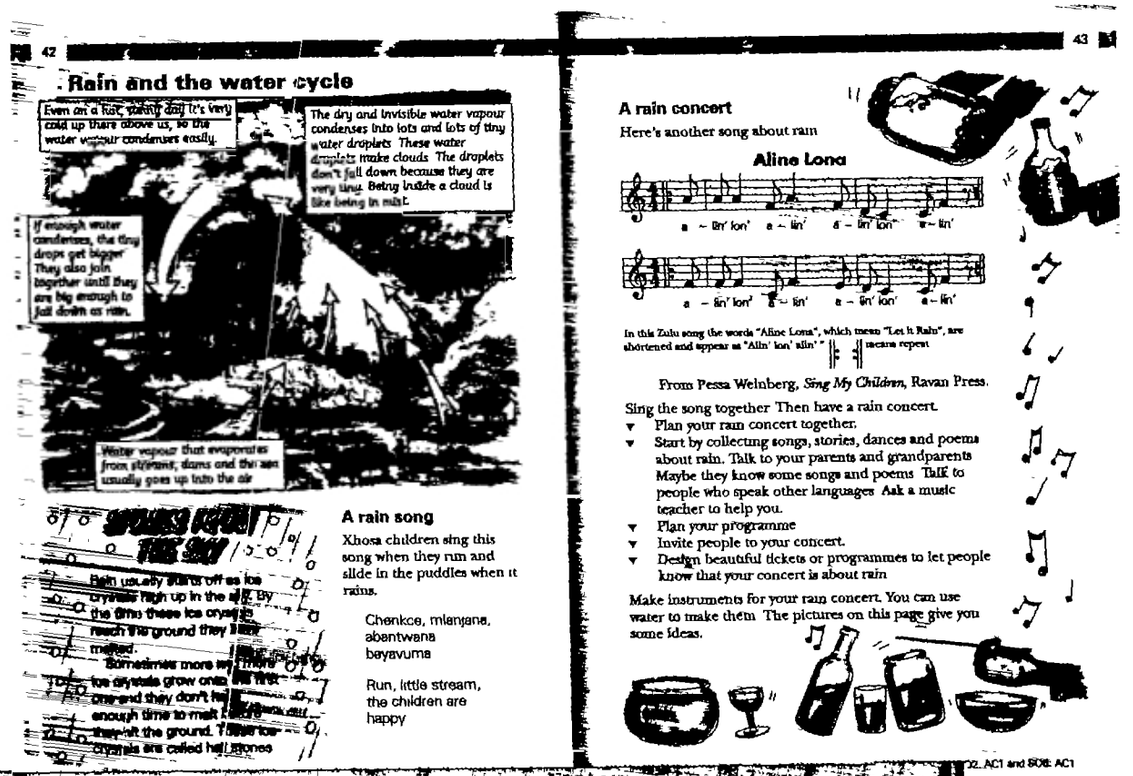
- How many people fetch water from the same water source as you do?
- Ask a few of them how long it takes them to walk to the tap or river and home again with water What is the average time?
- How long does it take to fetch all the water you use in your house in one day?

You can also do this activity at school Draw a map of all the places where water is used in your school Remember the taps for watering the playing fields If you get water from a river, you need to make sure it is clean and safe Look at Water Activity Sheet 6

16

(From *Water Audit: How your school can be water wise*, the National Water Conservation Campaign and Jacana Education, 1997.)

The student resource book is another form of information booklet that is suited to the school situation. It presents information in an exciting mixed media format and gives activities for the students to explore the topic on their own.



42

Rain and the water cycle

Even on a hot, sunny day it's very cold up there above us, so the water vapour condenses easily.

The dry and invisible water vapour condenses into lots and lots of tiny water droplets. These water droplets make clouds. The droplets don't fall down because they are very tiny. Being inside a cloud is like being in mist.

If enough water condenses, the tiny drops get bigger. They also join together until they are big enough to fall down as rain.

Water vapour that evaporates from streams, dams and the sea usually goes up into the air.

A rain song

Xhosa children sing this song when they run and slide in the puddles when it rains.

Chenkce, mlanjana,
abantwana
bayavuma

Run, little stream,
the children are
happy

43

A rain concert

Here's another song about rain

Aline Lona

a – lin' lon' a – lin' a – lin' lon' a – lin'

a – lin' lon' a – lin' a – lin' lon' a – lin'

In this Zulu song the words "Aline Lona", which mean "Let it Rain", are shortened and appear as "Alin' lon' alin' " 𝄇 means repeat

From Pessa Weinberg, *Sing My Children*, Ravan Press.

Sing the song together. Then have a rain concert.

- Plan your rain concert together.
- Start by collecting songs, stories, dances and poems about rain. Talk to your parents and grandparents. Maybe they know some songs and poems. Talk to people who speak other languages. Ask a music teacher to help you.
- Plan your programme.
- Invite people to your concert.
- Design beautiful tickets or programmes to let people know that your concert is about rain.

Make instruments for your rain concert. You can use water to make them. The pictures on this page give you some ideas.

SO2: AC1 and SO8: AC1

40

Coming down: water vapour condenses

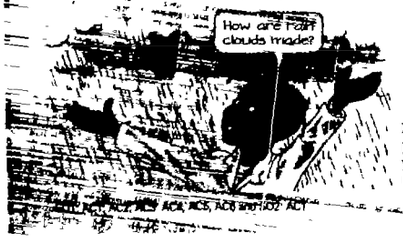
Discuss with a partner why the boy's glasses are misty.

Make your own mist!

1. Get a glass bottle or use a window. Blow on the glass bottle or window with your mouth wide open.
2. What happens? Talk about this in groups.

Now make some water droplets

1. Get something that is cold from the fridge or freezer.
2. Dry it carefully and put it down. Are you sure it's dry?
3. Watch the cold object for a while. What happens?
4. Where did the droplets of water come from?



Read the next page to see if you can answer this question.

SO2: AC1, AC2, AC3, AC4, AC5, AC6, AC7, AC8 and SO3: AC1

41

Where did the droplets of water come from? They condensed from the air around the cold object.

Condensation

We have learned that water is in the air all around us. It is a gas called **water vapour**. When a cold object like a milk bottle causes the air next to it to get cold, the water vapour particles in the air start joining together to make small droplets of water on the cold bottle. The droplets get big enough for us to see. When you breathed onto a piece of glass you saw some water droplets. The water vapour in your breath changed into liquid water. This change from a gas state to a liquid state is called **condensation**.

Condensation takes place when water droplets form on cold objects or when warm air blows onto a colder object.

Condensation can even happen when you blow warm air from your mouth into cold air. You can see this on a cold day. What you see is a mist of very small water droplets in front of your face.

DID YOU KNOW?

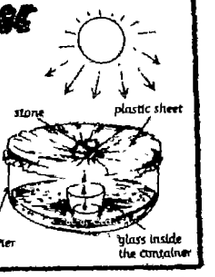
Dew (the wetness that you find on the grass in the mornings) isn't rain that fell during the night. It's water vapour that has condensed onto the grass. Can you explain how this happens?

CHALLENGE

You are very thirsty and the only water you can get is in a muddy puddle.

Your task is to make the dirty water clean enough to drink. Use the ideas in this picture to get clean water from your muddy water.

In your classwork book draw a picture of what you made to clean your water. On your picture, label where evaporation is happening. Label where condensation is happening.



SO2: AC1 and SO3: AC1, AC2, AC3, AC4, AC5, AC6, AC7, AC8

(From *Science Spectrum*, Grade 5, Maskew Miller Longman Ltd, 1998.)

Pamphlets

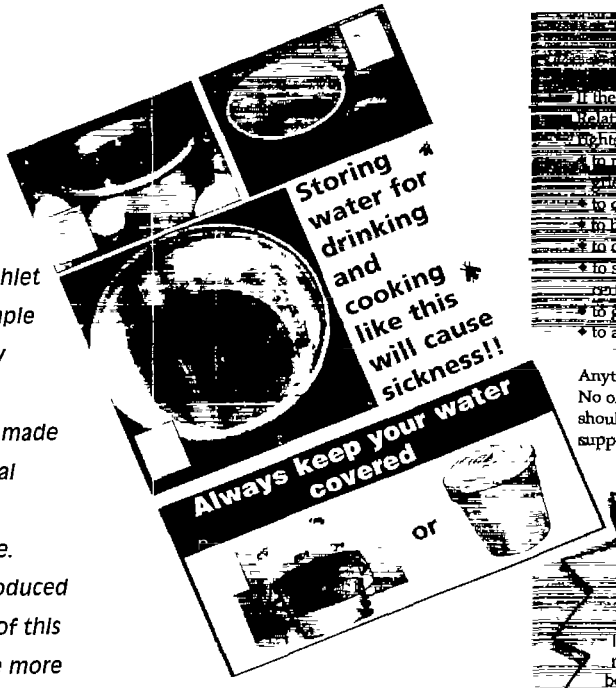
A pamphlet is used here to refer to a short, printed handout that is usually not more than four pages long.

The advantage of a pamphlet is that it can be produced cheaply. The disadvantage is that they may not hold real value for people, especially if they are handed out freely and so seem to be like junk mail. Like a single-message poster, pamphlets are most useful when used to raise an issue in people's minds.

Pamphlets need to create immediate interest. They are most effective if the message is clear and if the illustrations and text work together in a clear, eye-catching design. There should not be too much text on a pamphlet. They must follow the principles of readability mentioned on page 28.

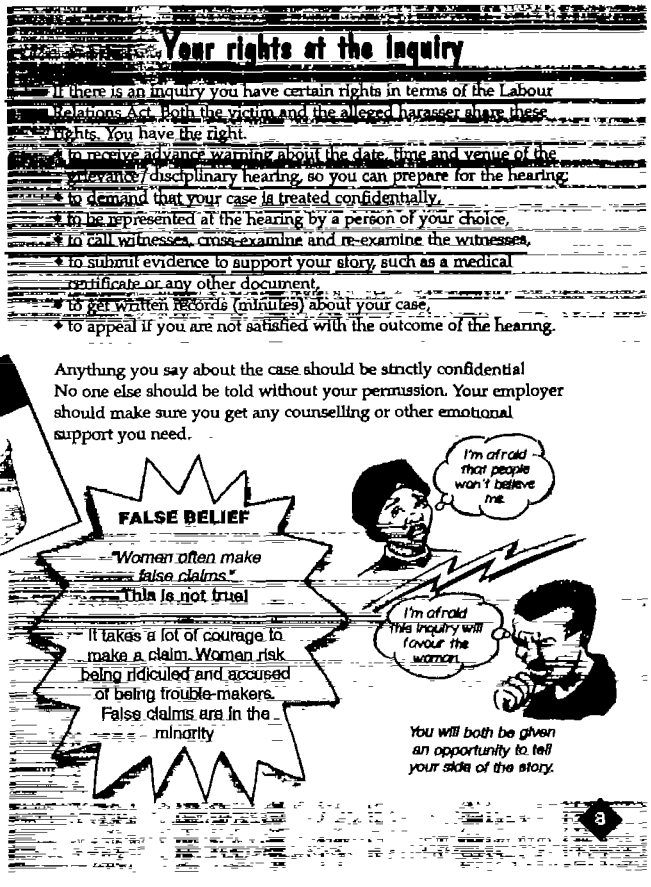
As with a poster it is important to think about where the pamphlet will be handed out. Pamphlets work best when people's interest has been aroused and they want to know more. A pamphlet that gives further information after an event such as a workshop or a drama presentation, is a useful tool as it gives people something to refer to and to share with other people after they have gone home.

The following are examples of simple, readable pamphlets.



This pamphlet is an example of a locally specific pamphlet made by the local health committee. Locally produced materials of this nature are more likely to be read than those produced for a mass audience.

(From the Mfuleni Community Environmental Health Programme, run by the Environmental Unit, Peninsula Technikon, Cape Town, in partnership with the Nceduluntu Environmental Development Project (NEDEP))



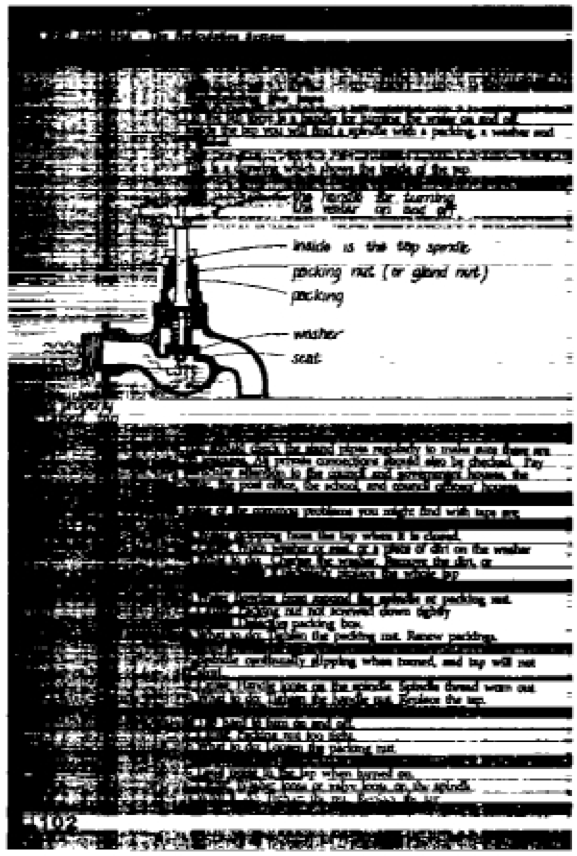
(From *Sexual Harassment in the Workplace*, Sexual Harassment Education Project (SHEP) and Clacherty and Associates)

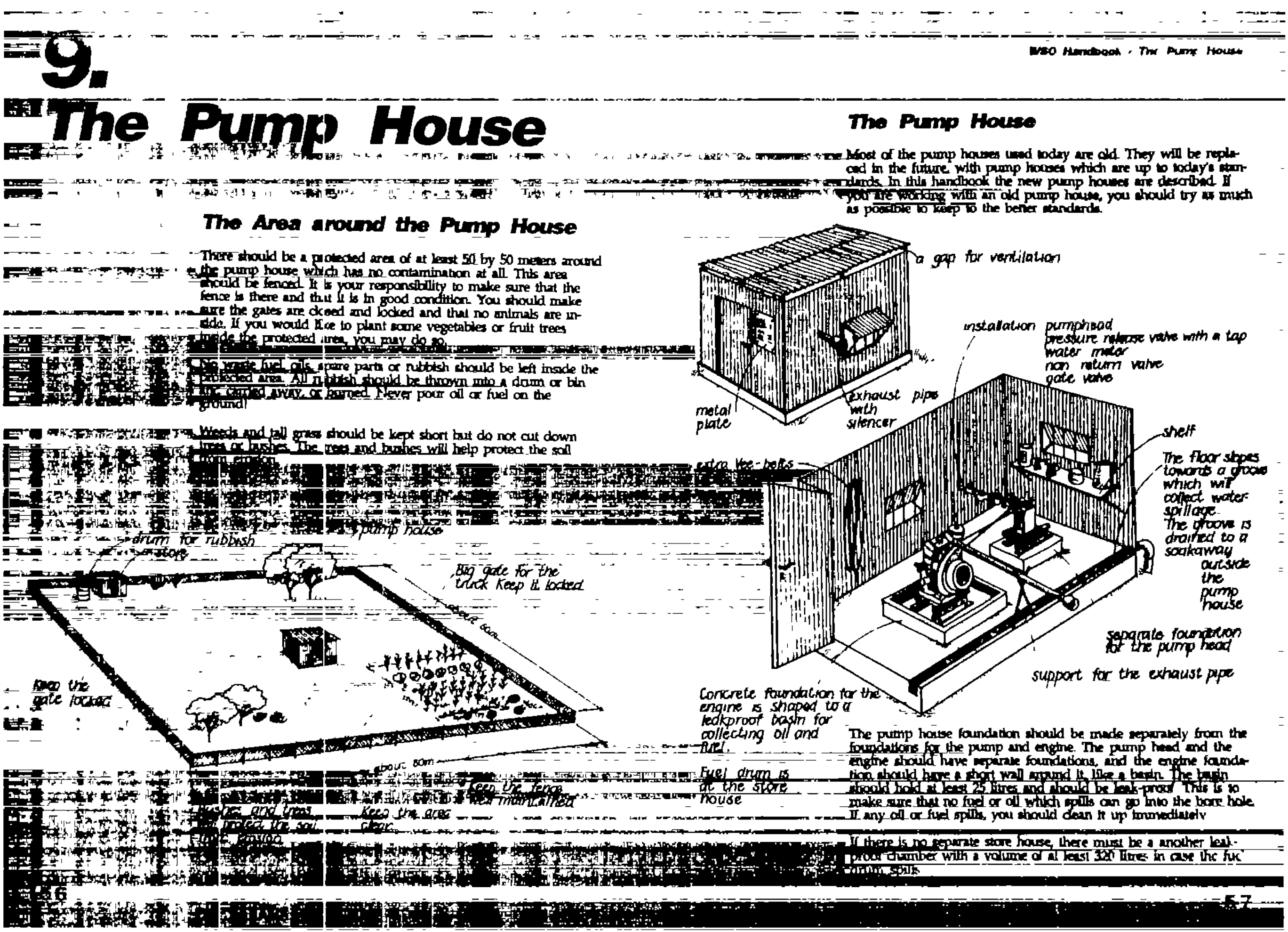
Technical information booklets

Printed materials can be very useful when you want to communicate a set of technical instructions or steps in a process. Like any other publication, an information booklet must be accessible and readable. Extra care needs to be taken to ensure this in a booklet that provides technical information.

It is always important to test the publication before you print it, particularly any technical drawings such as cut-aways, exploded views, or isometric views. It is also helpful to employ an adult literacy expert when developing a technical booklet.

A good example of a clear, illustrated information text is given below.





WSO Handbook · The Pump House

9.

The Pump House

The Area around the Pump House

There should be a protected area of at least 50 by 50 meters around the pump house which has no contamination at all. This area should be fenced. It is your responsibility to make sure that the fence is there and that it is in good condition. You should make sure the gates are closed and locked and that no animals are inside. If you would like to plant some vegetables or fruit trees inside the protected area, you may do so.

No waste fuel, oils, spare parts or rubbish should be left inside the protected area. All rubbish should be thrown into a drum or bin and carried away or burned. Never pour oil or fuel on the ground!

Weeds and tall grass should be kept short but do not cut down trees or bushes. The trees and bushes will help protect the soil from erosion.

The Pump House

Most of the pump houses used today are old. They will be replaced in the future with pump houses which are up to today's standards. In this handbook the new pump houses are described. If you are working with an old pump house, you should try as much as possible to keep to the better standards.

The pump house foundation should be made separately from the foundations for the pump and engine. The pump head and the engine should have separate foundations, and the engine foundation should have a short wall around it, like a basin. The basin should hold at least 25 litres and should be leak-proof. This is to make sure that no fuel or oil which spills can go into the bore hole. If any oil or fuel spills, you should clean it up immediately

If there is no separate store house, there must be a another leak-proof chamber with a volume of at least 320 litres in case the fuel drum spills.

56 57

(From *Handbook for Village Water Supply Operators*, Unified Local Government Service Botswana)

WRITING AND EDITING

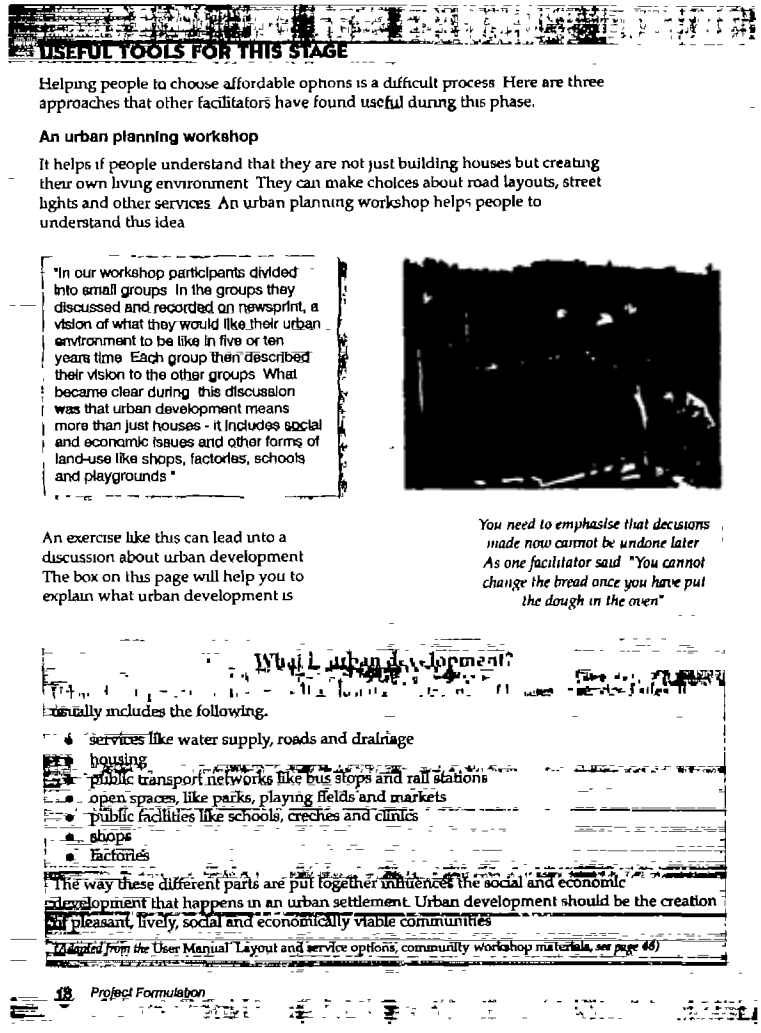
Any publication for readers who use English as a second language should take into account the following principles:

- Be aware of the language level of your audience and write for this.
- Make every word count. There should not be any superfluous words.
- Work from the known to the unknown, i.e. start by referring to things people know and only add your new information after this.
- Give concrete examples related to people's experiences.
- Include questions and answers. These give people time to stop and think about the information, prepare them for what is coming next, and can prompt them to consider alternative solutions suited to their own situation.
- Use short sentences.
- Use direct speech (use of the passive voice should be avoided).
- Avoid sentences with parentheses.
- Make sure the style and presentation of the book is not intimidating - make the book look attractive and inviting to a reader.

Accessibility is not just a question of simple English. It is about making the whole page readable. It involves integrating the illustrations with the text. Illustrations should not just be pretty pictures but should help readers understand the text. The design of the page is also critical - it should be unobtrusive and aid readability. It should be very clear what text on the page should be read first. An example of a clear, accessible page layout is shown opposite.

The Legal Education Action Project (LEAP) has an excellent book called *How to Use Plain Language*. It is available from LEAP, PO Box 13204, Mowbray 7705. Tel (021) 448-5524 Fax (021) 448-5648.

(From *Community Based Housing. A facilitator's guide*, CUSSP/USAID, 1997).



USEFUL TOOLS FOR THIS STAGE

Helping people to choose affordable options is a difficult process. Here are three approaches that other facilitators have found useful during this phase.

An urban planning workshop

It helps if people understand that they are not just building houses but creating their own living environment. They can make choices about road layouts, street lights and other services. An urban planning workshop helps people to understand this idea.

"In our workshop participants divided into small groups. In the groups they discussed and recorded on newsprint, a vision of what they would like their urban environment to be like in five or ten years time. Each group then described their vision to the other groups. What became clear during this discussion was that urban development means more than just houses - it includes social and economic issues and other forms of land-use like shops, factories, schools and playgrounds."

An exercise like this can lead into a discussion about urban development. The box on this page will help you to explain what urban development is.

You need to emphasise that decisions made now cannot be undone later. As one facilitator said "You cannot change the bread once you have put the dough in the oven"

What is urban development?

It usually includes the following:

- services like water supply, roads and drainage
- housing
- public transport networks like bus stops and rail stations
- open spaces, like parks, playing fields and markets
- public facilities like schools, creches and clinics
- shops
- factories

The way these different parts are put together influences the social and economic development that happens in an urban settlement. Urban development should be the creation of pleasant, lively, social and economically viable communities.

(Adapted from the User Manual 'Layout and service options, community workshop materials, see page 46)

18 Project Formulation

TRANSLATIONS

With so many languages in South Africa it can be difficult to decide whether or not to make translations. Here are some ideas to keep in mind. Simple English is often more easily understood than other languages. In urban areas especially, people are often more able to read English than their mother tongue or their reading of English is just as good as their reading of their mother tongue. Readers often prefer to read in English (because this is a 'good' thing) even when this is not the most accessible language for them. In rural areas, however, the situation may be different.

Sometimes it is necessary to translate. If you do, be very careful that you get the correct local translation. For example, Zulu speakers in Soweto do not speak the same Zulu as people in deep rural KwaZulu-Natal. It is important to be very clear about your audience and which language is appropriate. It is often necessary to ask a professional translator to do the initial translation and then get this checked by local experts.

If you are going to translate you need to make the decision early on as your production process will need to take this into account. For example, it is possible to make overlays for speech bubbles in a comic so the artwork can stay the same and the language can change. Keep in mind that most languages take up more space than English so leave space in your artwork and design if you are going to translate.

(From *Sharp, Sharp, bangane bakaGugu!*, a comic produced as part of the Project for Health And Sanitation Education (PHASE), by the English Language Educational Trust, 1998)

ILLUSTRATIONS

Illustrations are an important part of any publication. They can play a motivational role and so encourage the reader to keep reading. They break the text and can reinforce the meaning or explain it. They also allow people to identify with the publication, particularly if they present authentic visual situations.

You will need to decide whether you are going to use photographs or drawings or a mixture of both. There is no clear answer about which is better. Photographs give a sense of reality but they cannot be easily manipulated. You can show anything you want in a piece of artwork and manipulate your drawing to get across a particular point.

Make sure the illustrations adequately reflect all the different people you want the publication to speak to, for example include women, youth and old people if you want them to learn from the publication.

Always be gender and race sensitive and be aware of stereotypes. Be aware that pictures carry their own messages. You can exploit this fact if you are aware of it but if you are not aware of this your illustrations could contradict your message and pass on wrong messages.

Illustrations should not be too complex and cluttered unless they form part of a game where children find and identify things in a big, complex picture.

In your testing of the materials test for visual literacy. Ask people what they see in the picture. This is particularly important if you have technical drawings.

Make sure the technical details in your illustrations are correct. For example, your illustrations should reflect best practice in terms of design of taps, stands and latrine design.

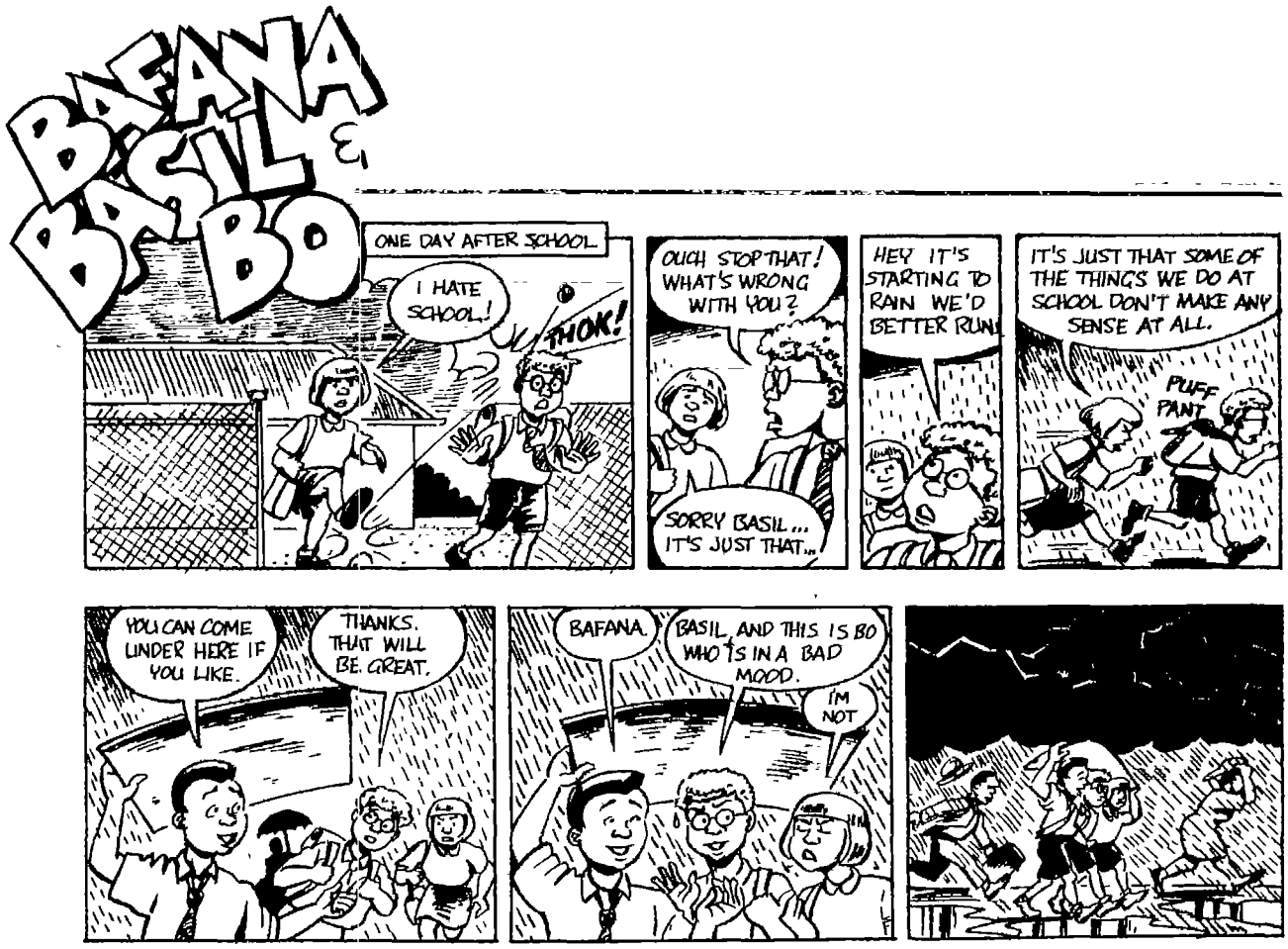
You will need to make decisions about the style of illustration you use, for example, do you want a realistic style or a caricatured style? Your decision should be based on your message and your audience. Examples of two very different styles, each suited to the audience the publication is for, are shown opposite.

Comic illustrations

These characters are part of a water education programme for primary school children They encourage children to have fun and explore the way water is used around them. They are caricatured and funny.

Posters

This illustration is taken from a water education programme for rural women. A realistic and sympathetic style was chosen in order to help the women relate closely to the drawings



(Produced by Peter Esterhuysen, Alastair Findlay and Clacherty & Associates.)

(One of a set of posters produced for a Rural Advice Centre programme.)

PRINTING

Be aware of economies of scale. The unit cost of printing decreases as the print run (number of copies printed) increases. Print runs of less than 500 are not usually very cost effective, but once the print run gets into the thousands the unit cost comes down considerably. Of course it is not a good idea to print 10 000 copies if you cannot distribute all of them! For very small print runs consider the option of photocopying.

The following factors influence the printing cost of a publication:

Colour: The reproduction and printing costs will be higher for a four colour publication than a one or two colour publication. Effective designs can be achieved with one or two colours. For example, this booklet uses a two colour design. The use of tints and coloured paper can help to make a one colour publication more interesting.

Paper: A major cost in any print job is paper. When getting quotations from a printer ask for prices on two or three different types of paper and ask them to send you samples of the paper they quoted on.

Format and number of pages: Cost effective publication lengths are usually in multiples of eight pages. If in doubt, ask your printer for advice on the most cost effective format (page size) and page number for your publication.

Do not skimp on the research and testing phase. Produce a one or two colour book rather than a full colour book and use the money you have saved on research and trialing your material.

EVALUATION

Educational evaluation is a field in its own right and is best left to specialists. Nevertheless it is important to make sure that some evaluation of your education programme takes place. This section gives you some idea of what needs to be considered.

Generally an evaluation will go back to the original objectives of a project and test how well these objectives have been met. This means your objectives should have been clearly spelt out before you started. Keep records of relevant information as the project progresses to help you answer questions such as:

- Were the materials distributed as you had planned?
- Who used the materials?
- How and when were the materials used?
- Are there any observable signs that action is being taken to address issues dealt with in the materials (for example placing water and soap for handwashing outside toilets)?

Measuring actual improvements in health is a complex task and one that may only become apparent in the long term. What is more easily looked at are physical improvements in sanitation infrastructure or clinic records and qualitative responses from participants.

CONTACTS

Some of the educational materials illustrated in these guidelines are available from the organisations listed belo
They are just some of the organisations that produce educational materials suitable for use in sanitation and wa
programmes. For a more comprehensive list of resources contact NaSCO, The Mvula Trust or Clacherty & Associa
for a copy of the *Water and Sanitation Related Health and Hygiene Education Resource List* (first e
produced by the Health Education and Awareness Task Team (HEATT). NaSCO also has various pub
information available on sanitation.

6th Floor, 74 Aliwal Street
Durban 4001
Tel: (031) 332-0501
Fax: (031) 337-0002
The English Language Educational Trust (ELET) is a non-governmental organisation which offers training, publishing and resourcing services in the formal and non-formal education sector.

PO Box 41, Newtown 2113
Tel: (011) 838-3563
Fax: (011) 838-5380
Produce a range of interactive educational materials, including er's Place: The Secret Pool *deals with water-related es .The package consists of a eo, comic and student's kbook.*
the end of February 1999 the blications will be available from the Primary Science Programme, PO Box 32198, Braamfontein 2017. Tel: (011) 838-3563, Fax: (011) 838-5330.)

PO Box 1290, Houghton 2041
Tel: (011) 728-7440
Produce the comic Nonceba's Story *(based on the Soul City TV series). The comic forms part of an educational package including a user guide, video and the Mother and Child Care Handbook and posters.*

External Education Services
PO Box 9, Pietermaritzburg 3200
Tel: (0331) 341-1111
Fax: (0331) 341-1084
Distribute a wide variety of educational resources related to water. Ask them for their mail order catalogue.

PO Box 32351, Braamfontein 2017
Tel: (011) 403-3425
Fax: (011) 403-1260
Can provide information about the use of the PHAST approach in South Africa.

Tel: (021) 462-14
Can supply water audit kit the book Water Audit - Hc school can be water-wise.

Tel: (0332) 30-3931
Produce low-cost water qua testing kits and booklets water life. They are also developing a guide to th water laws and a wa booklet.

PO Box 617 , Melville
Tel: 082-900-3459
Fax: (011) 726-1632
Produce the Mystery of the River *and a variety of other educational comic story bo*

Department of Water Affairs
Forestry
Private Bag X313
Pretoria 0001
Fax: (012) 338-8275
l:
e@dwaf.pwv.gov.za
nieya@dwaf.pwv.gov.za
CO can supply information on national communication egy for sanitation.

PO Box 613, Auckland Park 2006
Tel: (011) 482-4083
Fax: (011) 726-3633
Develop educational materials and specialise in research with children, and training programmes.

21 Dundalk Avenue, Parkview 2193
Tel: (011) 486-4685
Research, educational materials design and development (comics, games, courses, manuals and group activities), (conflict resolution, co ownership of projects, c culture change, train the

Harriet Pe
119 Dundalk Avenue, Parkvie
2193
Tel/Fax: (011) 646-0872
Educational consulting and materials development.