

202.5

# INTERNATIONAL DRINKING WATER SUPPLY AND SANITATION DECADE

Publication No. 6

## MINIMUM EVALUATION PROCEDURE (MEP)

for water supply and sanitation projects



1981-1990

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May 1985

## FOREWORD

The *Minimum Evaluation Procedure (MEP)* was prepared by WHO in cooperation with the London School of Hygiene and Tropical Medicine. The full document describes a relatively low-cost, simple and quick method of evaluating water supply and sanitation projects. The guidelines are directed primarily towards managers of water supply and sanitation programmes in Member countries.

The purpose of this booklet is to introduce you to MEP. It was prepared by WHO with the assistance of Mr Brian Appleton and based on material prepared by Mr S Cairncross of the London School of Hygiene and Tropical Medicine for the International Reference Centre for Community Water Supply and Sanitation, The Hague. The drawings were prepared by Ms Lois Carter.

The generous cooperation of IRC and the Royal Tropical Institute, Amsterdam, in providing the original material is gratefully acknowledged.

# EVALUATION

OF WATER AND SANITATION PROJECTS



## YOUR QUESTIONS ANSWERED

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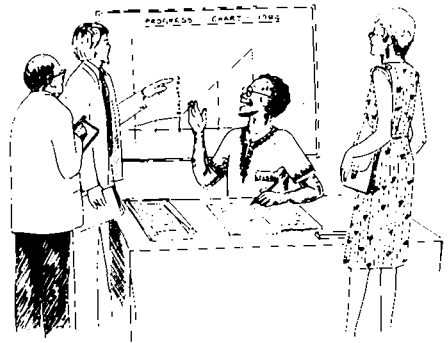


# WHY EVALUATE?

## 1. To get more for our money

With enormous needs and scarce resources, it is vital that money spent on water supply and sanitation schemes should be used in the most effective ways. We need to repeat successful techniques and correct less successful ones quickly, if expected health and social benefits are to be maximized.

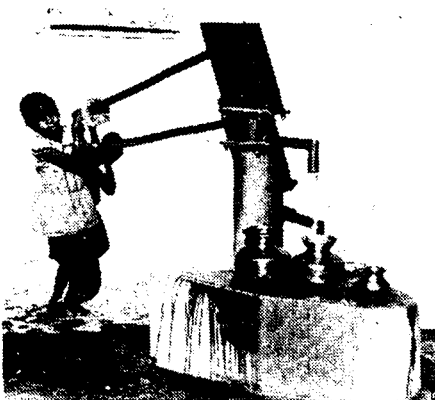
Evaluation means testing our assumptions against actual experiences from completed facilities, so that faults can be rectified, strengths identified, and future plans improved. Only by studying an operating system can we find out how future systems can best be designed.



John Puckford

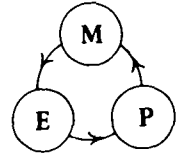
### And it works

Evaluation of a low-cost sanitation project in one African city led to a new, and cheaper design of latrine. Whereas the project had been almost paralyzed for lack of finance, hundreds of latrines are now being built each month and the project is expanding rapidly, paid for by the users.



Sanjay Acharya/Earthscan

The idea of village-level maintenance workers arose independently in several countries from studying the functioning of rural water supplies. In some areas where village-level handpump maintenance has been introduced, breakdown rates have been reduced from a typical 40% to 10% or less.



## 2. Donors like it

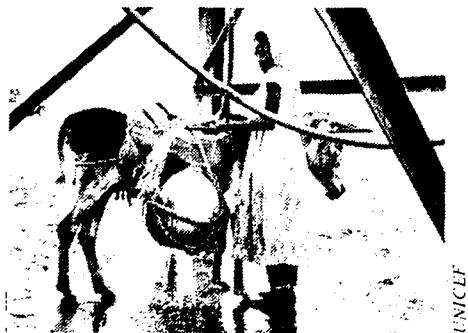
Water supply and sanitation facilities are commonly built with subsidies or loans from governments and external support agencies. They too want value for money. Evaluation is not a head-hunting exercise, to find out who is to blame for mistakes. The ultimate aim is to demonstrate the benefits of water and sanitation projects, to justify expenditure on them, and hence to obtain funds for the sector. At the same time, the backers want to learn from experience, to improve existing and future projects, and to back winners. Local agencies which have cooperated with donors to conduct evaluations have usually found the exercise extremely useful to both parties.



Sanjay Acharya/Earthscan

## 3. To detect invalid concepts

Breakdowns have technical causes which are usually easy enough to diagnose, but there is often a social or organizational reason when they occur frequently and are not dealt with.



UNICEF

Evaluation may show that other technology, while appearing less efficient, is in fact more appropriate.

# WHAT TO EXPECT

## Improvements and better understanding

The aim of evaluation is to learn and to improve. By studying what we have done to see how far we are achieving our goals, we want to gain from experience and produce better work.

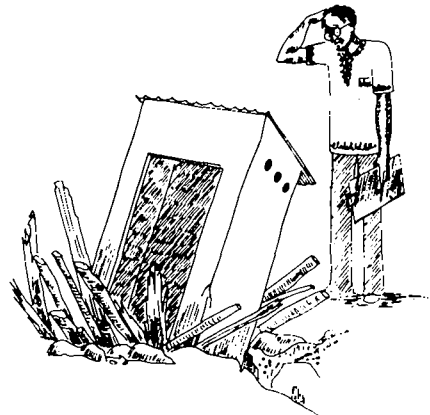


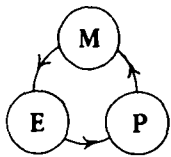
## New alternatives

Many shanty towns, such as this one in Latin America, are subject to flooding. An evaluation of a latrine programme in a town like this showed that raising the ground above flood level cost little more per plot than a new latrine. With the landfill giving security from flooding, householders then built new houses *and* new latrines with their own money.

## Better functioning

It is easy to see when facilities are not functioning properly. If they do not function, they can hardly be expected to be used. To diagnose the reason and prescribe a remedy may not be just a technical problem. A field visit of a day or two will usually throw up plenty of ideas for improvements.

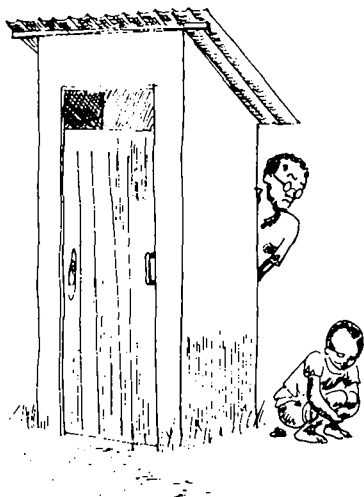




An evaluation of functioning will show how many taps are dry, or only run for a few hours a day, like this one. Ways may then be found of improving the situation and of planning future projects better.

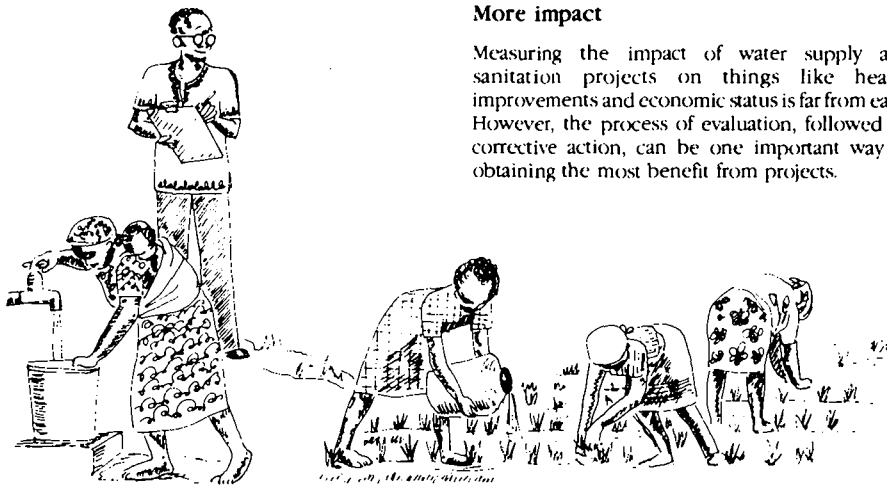


Felix Titenev/Earthscan



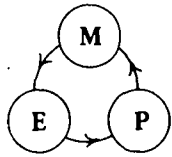
### Better utilization

If the facilities are not being used properly, they cannot produce their full potential impact. A mixture of observation and questioning of users will bring out difficulties and ways of promoting and improving utilization.



### More impact

Measuring the impact of water supply and sanitation projects on things like health improvements and economic status is far from easy. However, the process of evaluation, followed by corrective action, can be one important way of obtaining the most benefit from projects.



## FUNCTIONING



### Step-by-step

There are three parts to evaluation:

1. Are the facilities **functioning** properly?

If the answer is NO, ways of improving the functioning should be sought before a full evaluation can be made of the next part;

2. Are the facilities being **utilized** properly?

Some information on utilization will have been collected during the first stage, more will come when functioning defects have been remedied. Again, proper use of facilities should be assured before proceeding to —

3. Are the optimum health, social and economic **impacts** being achieved?

This last step is not always needed. Basically a system which functions and is used properly can be expected to produce impact. The idea behind the procedure is that experience from the real world helps in two ways: it shows how to get the most out of an operating system by making improvements where necessary, and it provides knowledge for application elsewhere. The focus is not just on engineering; functioning and utilization depend equally on many social factors, which are reflected in the MEP.

### What to measure

Collecting too little information during evaluation may put the whole exercise in jeopardy, while collecting too much is both time-consuming and expensive. In MEP, WHO identifies the key parameters which should be measured when evaluating, for example, the quantity of water provided from a water supply facility. Comparison of theoretical and actual values for demand and production is one of the ways to judge the functioning of the facility (along with water quality, reliability, and convenience).

In the second step, the evaluator will want to know the proportion of households using the facilities and the way that different amounts of water are being used.

# MINIMUM EVALUATION PROCEDURE

## What is MEP?

The letters stand for Minimum Evaluation Procedure — a relatively inexpensive and simple method of evaluating water supply and sanitation projects, developed and tested by the World Health Organization.

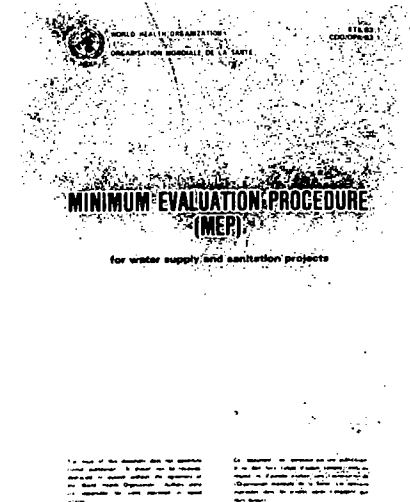
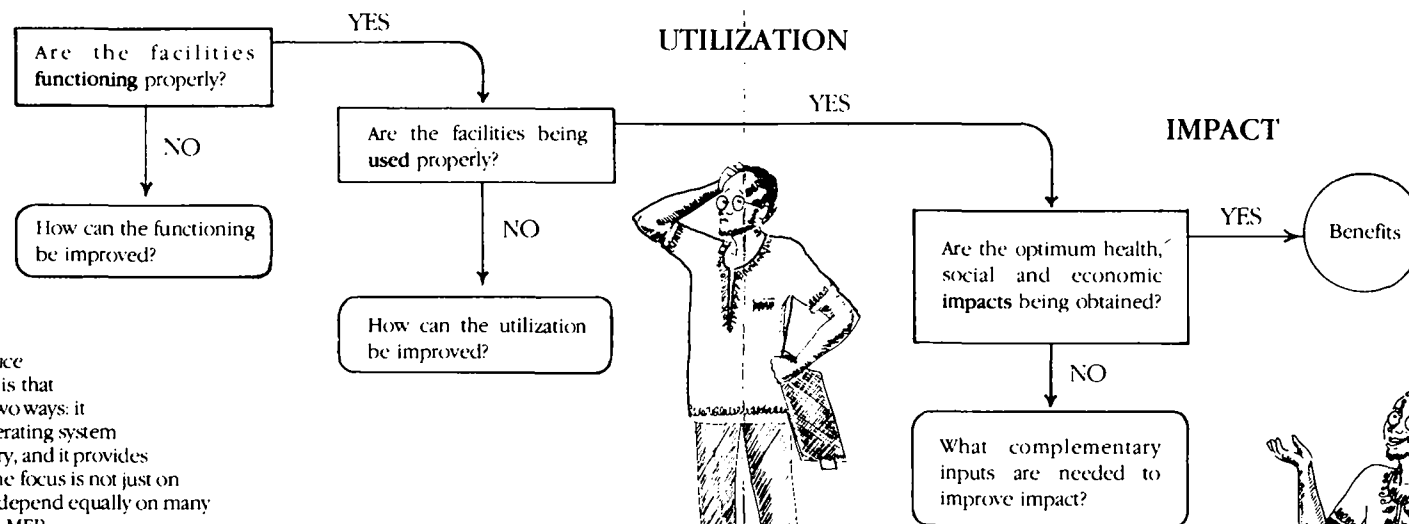
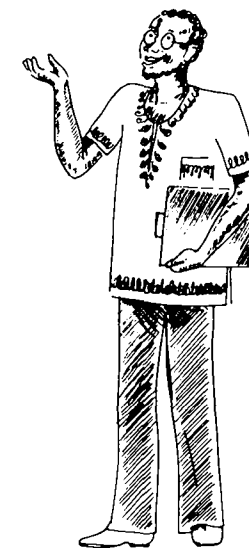
The technique is quick, allowing judgements to be made in a matter of weeks rather than months, with few resources in terms of money or manpower.

MEP follows the three-step system, but to keep the method simple, description of data collection and analysis is limited to the first two steps: evaluation of **functioning** and of **utilization**. Evaluation of impacts will be dealt with in a later document.

## UTILIZATION



## IMPACT



### Going by the book

MEP is described step-by-step and with progressively increasing detail in a 52-page booklet\* issued by WHO. Starting with the initial decision to evaluate, the booklet takes its reader through the planning stages, collection and assessment of data, preparation of recommendations, and follow-up actions.

It suggests indicators to be looked for under the separate headings of Community Water Supply, Sanitation, and Hygiene Education, and suggests data-gathering techniques, including sample questionnaires.

\*The booklet - Reference ETS/83.1 is available in English, French, or Spanish, free of charge, from WHO, 1211 Geneva 27, Switzerland.



# WHICH EVALUATOR?

## Practical lessons

Useful studies have been conducted by donor agencies, by consultants, and by academic researchers. If the results are to be put into practice though it is very important to involve staff of the water or sanitation agency who will be involved in future projects, and representatives of the consumers, who will see ways that operations can be improved in future. Staff chosen must not be so closely linked with the project that results may be seen as biased.

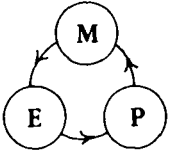


## Field experience

Local staff, like this health worker in Iran, have a better knowledge of the programme and the people it serves than outsiders can ever have. Programme staff make excellent evaluators. At the same time, an evaluation can be a training exercise for them, and they will then be more likely to put its findings into practice.



The best information of all comes from consumers. Villagers are using the services every day; who better to tell you what you want to know? Handpump "doctors" seen here on a training course, have a wealth of experience which an evaluation seeks to collect.



### You the expert

If you organize an evaluation, you rapidly become something of a multi-disciplinary expert yourself. So don't rush to call in the specialists until you are sure that you need them. Remember too that books and manuals carry lots of information you will need.



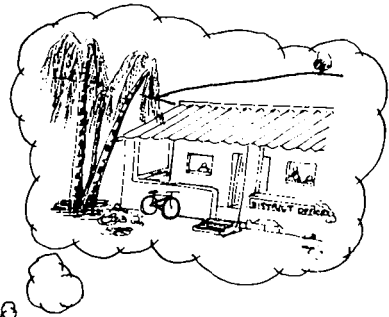
Kaitiri Burri/Earthscan

It doesn't always need an expert to spot when something is wrong. Anyone can see that this African handpump has not been used for a long time. Important facts that an evaluation can bring to light are often as obvious as this — once one gets out into the field.

### Level advice

Evaluation will usually yield lessons at all levels. Data collected at the field level may identify problems, but the solutions can sometimes mean changes in organization or procedures higher up. Once the information is in, a study at regional or national level is easy — and often revealing!

Really, an evaluation can be made at any level where there is a will to carry it out. Ideally, of course, it is conducted by a team of national, regional and local staff.



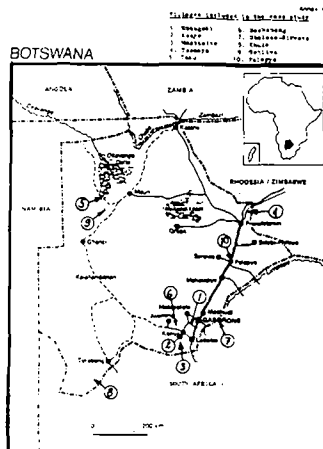
# MEP AT WORK

## Building on success

Botswana's village water supply programme is successful. In the first six years, supplies reached exactly the number of people planned, utilization was very high, and the beneficiaries were happy.

So, when Botswana's Department of Water Affairs (DWA) and the Swedish International Development Authority (SIDA) decided to evaluate the programme, the idea was to look ahead.

What factors had contributed to the success of the programme? How could those lessons be spread to other programmes? Could these positive experiences influence programmes supported by SIDA in other countries?



## Collaborative efforts

Results of the evaluation were important to SIDA, to the DWA, and to the Ministry of Finance and Planning. Lessons identified at field level might (and indeed did) have implications higher in the command structure. So everyone participated.

From a randomly selected sample of 10 projects, field data were collected by a locally recruited consultant. MEP was used to make sure that the data collected would be both relevant and consistent.

## Positive results

Tables gave a good indication of how things were working, and helped to identify problems. From the results, it was clear that Botswana's programme owes its success to: good participation; small-scale activity; standardization; and good administration. That is good news for the future.

Not surprisingly, there were some shortcomings identified. Future water sector agreements between the Botswana Government and SIDA will pick up these lessons, like: better provision for recurrent funds (particularly for transport); better DWA/MLGL cooperation for rehabilitation needs, including tools and training.

SUMMARY OF FINDINGS FROM THE CASE STUDY

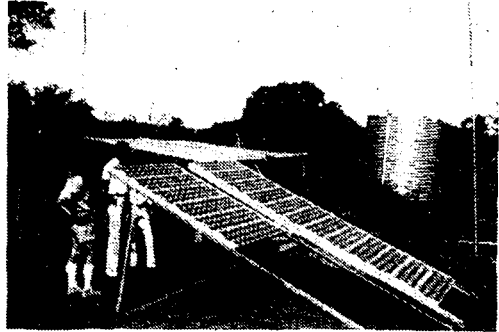
VILLAGE	No	INDICATORS				POPULATION		POPULATION DENSITY	NO OF HH	NO OF STANDPOSTS	NO OF CONN. PIPES	NO OF Meters
		FUNCTIONING				UTILIZATION						
		N1	N2	N3	N4	N5	N6					
MAMGODI	1	○	○	○	○	○	○	18	31	1433	413	15
KANYE	2	○	○	○	○	○	○	18	27	2448	323	63
MATHETHA	3	○	○	○	○	○	○	30	23	1390	373	6
TSAMAYA	4	○	○	○	○	○	○	32	23	1390	373	12
TSIU	5	○	○	○	○	○	○	18	33	107	5	1
MESHAMBE	6	○	○	○	○	○	○	18	116	3	2	
MORANE	7	○	○	○	○	○	○	38	171	179	9	3
KARUS	8	○	○	○	○	○	○	1	200	1	1	
SENTWA	9	○	○	○	○	○	○	36	1452	283	8	
PALATIE	10	○	○	○	○	○	○	33	3453	1207	22	337

N1 = WATER QUANTITY  
 N2 = WATER QUALITY  
 N3 = RELIABILITY  
 N4 = CONVENIENCE  
 N5 = PROVISION OF MAINT. FACILITIES  
 N6 = WATER USE L/A/G  
 ○ = ACCEPTABLE  
 ⊙ = PROBLEM  
 ⊛ = SERIOUS PROBLEM

### For the future

Of course evaluation is not the end of the story. Above all, MEP is a planning tool. In Botswana, as well as encouraging SIDA and the DWA in future activities the evaluation has prompted research to anticipate future problems.

Handpumps and animal-powered pumps will be studied for small settlements, where diesel power may be unsuitable, and research has been recommended into solar technology, to anticipate changing economics.



### Satisfied customer

SIDA was pleased with the Botswana study. The Authority's Policy Development and Evaluation Division commented:

"Our experiences of using MEP concepts are encouraging . . . . MEP was able both to supply relevant information and to pinpoint important issues in the programme."

### Some other reactions

" . . . invaluable for all field staff who have to design a formal programme for evaluation . . . . users can tailor the guidelines to suit their needs . . . . most impressed with the simple and clear way in which the guidelines are given."

UNICEF — Bangladesh

" . . . it is simple, to the point, comprehensive and informative. . . . recommend teaching this report to undergraduate and postgraduate Sanitary Engineering candidates in developing countries."

Head, Sanitary Engineering  
Section, University of Khartoum,  
Sudan

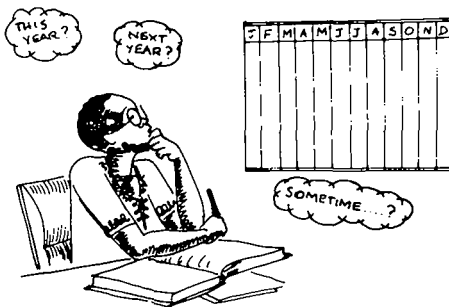
"All in all the MEP serves a real need to combine indicators, assessment and action. Congratulations."

Mary Elmendorf, Consulting  
Anthropologist

# DECISION TIME

## How long does it take?

It depends what you do. A functioning study may produce useful results in only a few days; a detailed evaluation of health impacts may be a major research undertaking and last a year or more. So in general, the MEP will be applied to functioning and utilization only.



## How long have you got?

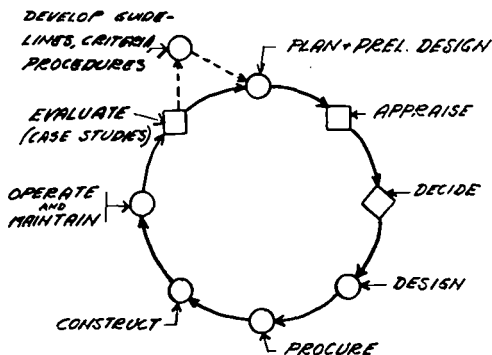
Any evaluation is better than none. Functioning is the easiest of all to study and, as it usually will result in some actions to improve performance of facilities, it is best to plan each element on an individual basis anyway. Clearly, the time needed depends on the scale of the project under review.

A village scheme may be evaluated for functioning in just a few days. On the other hand, evaluating the functioning of a country-wide programme of thousands of handpumps may require substantial time and resources.

Utilization too can sometimes be evaluated in a relatively short time -- particularly with the benefit of information collected during the functioning study. The hardest element to programme is impact evaluation. Again, some aspects are simple and quick. The saving of women's time spent in collecting water, for example, can be assessed easily in a study lasting a week or two.

The rule should be: if you do not have the time and money for a big evaluation: do a smaller one. And do only what you really need to do.

## PROJECT CYCLE

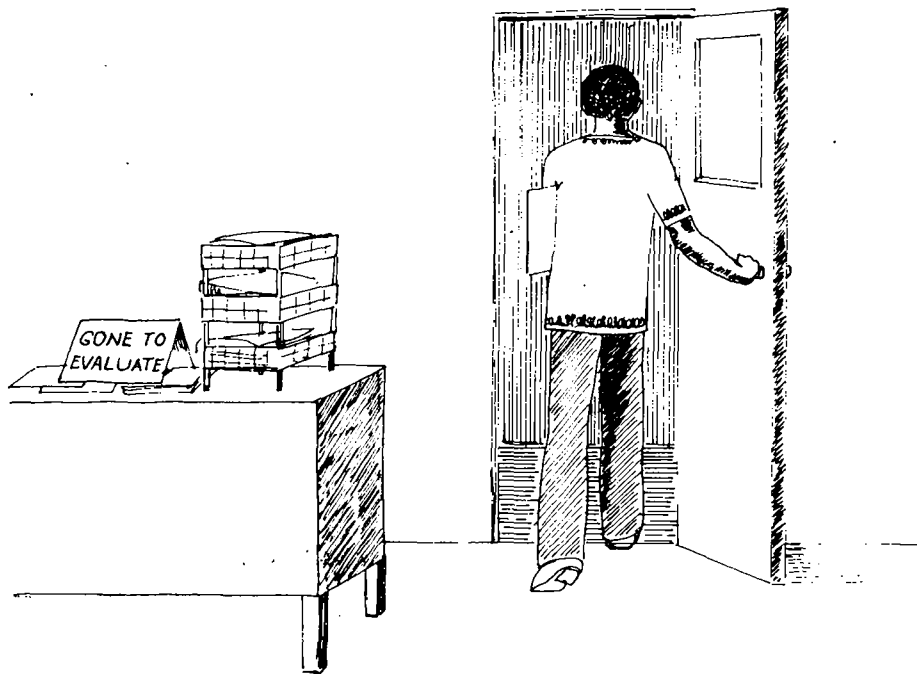


## When to start

Information from evaluation studies is especially useful when planning major new investments. Having said that, one can almost always find some new investments in the planning stage in the water supply and sanitation sector. Similarly, there will usually be existing systems to be evaluated.

In practice, evaluation is commonly carried out at the end of a major investment phase, but mid-term information is just as valuable, so there is no fixed rule.

**IF IN DOUBT,  
DO IT  
NOW!**



## References

Other WHO publications:

### **Maximizing Benefits to Health (ETS/83.7)**

An appraisal methodology for water supply and sanitation projects to assist in the selection of projects with the greatest potential for success.

### **Community Participation (ETS/83.8)**

A guideline for planning water supply and sanitation projects which identifies opportunities for popular participation throughout the project cycle.

### **Operation and Maintenance (ETS/83.9)**

A checklist of items to be considered in rural water supply development to ensure at the planning stage that operation and maintenance will work.

IRC Publications (available from IRC, PO Box 93190, 2509 AD The Hague, Netherlands)

**Evaluation for Village Water Supply Planning (Technical Paper Series No 15)**

### **Evaluation for Better Planning**

A set of modules for use in workshops on evaluation.



For further information write to:  
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and Support  
Division of Environmental Health  
World Health Organization  
1211 Geneva 27, Switzerland