

# Monitoring & Evaluation (M&E) in Drinking Water Supply and Sanitation Projects

Report on the 5th Workshop by AGUASAN held  
at Gersau, Switzerland (3.7. - 7.7. 1989)

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## Summary

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Zurich, September 1989

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This paper summarizes the original report which was published in German as a result of the 5th AGUASAN<sup>1</sup> Workshop, under the following title:

*Monitoring & Evaluation in Trinkwasser- und Sanitationsprojekten; Bericht über den 5. Gersau-Workshop der AGUASAN; von U. Geiser, Geographisches Institut der Universität Zürich; für AGUASAN c/o SKAT, Varnbühlstr. 14, CH-9000 St. Gallen, Zürich September 1989.*

The report can be obtained from AGUASAN at the above address.

## 1. An Overview of the Workshop

22 Swiss and German experts working in the field, or as head office staff and consultants in the field of drinking water and sanitation met from 3.7. to 7.7.89 in Gersau, Switzerland and shared their experiences on Monitoring & Evaluation (M&E). Based on a case study, the methodical structure actually used by the Swiss Directorate for Development Cooperation and Humanitarian Aid (SDC) was presented and subsequently critically examined and developed further by the different working groups. The report (in German) of the workshop has been elaborated in such a way that it can also be of use to non-participants of the workshop.

The issues related to M&E are treated in this summary in a rather theoretical way; in the report proper, they are dealt with in detail and illustrated with concrete examples.

## 2. Definition of Monitoring & Evaluation (M&E)

The definitions pertaining to "Monitoring & Evaluation (M&E)" were given in the workshop as follows:

"Monitoring can be defined as a process of measuring, recording, collecting, processing and communicating information to assist project management decision making..."

"On-going evaluation is the analysis, by project management, of monitored information on a continuous basis, with a view to enabling it where necessary to adjust or redefine policies, objectives, institutional arrangements and resources affecting the project during implementation..."

"... in some cases, the difference between monitoring and on-going evaluation is blurred. For example, formal reporting especially at regular meetings can involve both activities..."

Thus, Monitoring and Evaluation is generally understood as a process involving observation, data recording, discussion, assessment and action within a project, whereby "*monitoring*" refers to the "observation" and the "data recording", and "*evaluation*" refers to "discussion", "assessment" and "action".

Development assistance in its present form has been practiced for about forty years. Whereas initially aspects concerning implementation of projects had major prominence, issues related to the planning of projects and the monitoring of their effects on the regions concerned have gradually become more important over the last few years. Thus the development and the practical application of the respective concepts of M&E can be regarded as a relatively new

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<sup>1</sup> AGUASAN was created in 1983, as a coordination group for the Swiss organizations involved in the field of water and sanitation. Since 1985, workshops lasting normally one week have been organized in Gersau and have served as an important opportunity for sharing experiences and learning processes. The themes were: The International Water Decade (1985), Animation and Participation (1986), Sanitation (1987), and Maintenance Problems (1988).

endeavour. This may explain why discussions on the applicability of M&E have been so intensive: How can we, for example, avoid a project supported by an M&E concept being forced into a narrow and rigid scheme?

Establishing a clear project structure using appropriate planning and M&E methods should contribute to making its intentions as well as its activities more transparent to everyone. It is obvious that tensions may arise while a project is trying to find an even balance between integrating 'too much' or 'too little' of the above. On the one hand, planning and M&E should not become a tight corset attempting to force every dimension of a project into a rigid grid. On the other hand, it should not be forgotten that development projects may represent a massive intervention in the way of living of the population concerned and all activities must therefore be planned with (more) care. Everyone concerned in a project should participate in order to find the right balance between "laissez-faire" and "over-rigid structuring".

The operational implementation of M&E should take into account that:

- M&E requires a willingness to learn from the people involved, as well as an open mind and motivation;
- evaluative measures cannot be imposed (they must be a concern of all people involved);
- difficulties in the application of M&E often result from problems related to (self-) criticism and differing perceptions of values. They frequently have their origin in an inadequate belief that anything can be achieved.

### 3. Different Kinds of Monitoring & Evaluation

The following types of Monitoring & Evaluation (amongst others) may be distinguished:

**Project Preparation:** the process during which a project is prepared may also be seen as an evaluation attempt, since it aims at analyzing, i.e. at evaluating the existing situation (from an organizational, institutional, economical, technical viewpoint, etc.).

**In-Built Evaluation:** during the implementation of a project, one should make sure that the necessary means are available, the expected results achieved, and the objectives aimed for reached. To this end, the team in charge of project implementation should utilize the various M&E means available (regular meetings, structured communication, specific observation in the field, etc.). These tasks become an integral part of the project and are, so to say, "built in to" the project. Continuous "In-built evaluation" thus makes it possible to influence the implementation of the ongoing project. The donor's headquarters (e.g. SDC) is usually not directly involved; it is however regularly informed on the results of the in-built evaluation. The donor normally deals with several projects at a time, and is therefore ideally more concerned with questions relating to the effectiveness of the project.<sup>2</sup>

**External Evaluation:** this term refers to an evaluation of the project through "external" independent specialists. Traditionally, this type of evaluation is often called for when important events are taking place within the project, e.g. an important change within the partner institutions involved, the preparation of a new phase or when there is a felt need for a fundamental reflection on the project.

**Ex-Post-Evaluation:** This takes place after completion of a project, in order to analyze the experiences made, so that these can, for example, be integrated into the formulation of a new project.

**Cross-Analysis** are called for, when results from external evaluations of different projects but concerning the same sector (e.g. drinking water, cattle breeding) need to be compared.

The relationship between external and in-built evaluation was intensively discussed during the

<sup>2</sup> An M/E done by the population itself is defined in the french terminology as "auto-évaluation". SDC uses the term "self-evaluation" as a general term that includes "in-built evaluation" and "auto-évaluation".

workshop. It was suggested that whenever possible the experts in charge of an external evaluation should not (as is still often the case) be "flown in" as "controllers" but that they should rather act as "evaluation advisers". This form should particularly be applied when the project has already established a M&E system. Here it can be anticipated that the staff is well informed on the development of the project and would therefore be able to propose and decide on further measures based on the experience made. They would only call for support by external advisers (evaluators) when important issues and questions need to be solved.

#### 4. The Participants in the Monitoring & Evaluation Process

M&E should be regarded as part and parcel of a project and therefore be fully integrated in the decision-making process within the project. It is of primordial importance that the decision-making structures are clearly defined. In brief, the following three main groups are involved in decision-making:

- the population concerned
- the local institutions, together with their foreign advisers
- the donor.

Who is, then, involved in M&E and how? As a guiding principle, we can postulate that usually the decision makers within a project should predominantly be involved in M&E. During the workshop, it was often noted that the target population has not contributed and participated in the decision-making process up to now, and that this should be changed.

#### 5. Monitoring & Evaluation during the Project

M&E should become an integral part of a project and should be integrated in its execution in a meaningful manner. Over the last few years a large vocabulary of planning and M&E terminology has been elaborated, which aims at describing this situation. The conceptual framework applied by SDC was presented at the workshop (see Figure 1). A more complete description and a relevant example are presented in the report.

##### 5.1 The Execution of the Project

Project-Identification: the graph presented in Figure 1 reads starting from the top left corner: A given situation exists in the project region (or in an economic sector). The key issues (problems or potentials) are then identified on the basis of a felt need. Solving these issues may contribute to an improvement of the existing situation.

Project-Planning: the planning of the project includes various important aspects:

- The objective of the project indicates and describes what the project actually wants to achieve: the problems it is attempting to resolve, and the potentials it intends to give concrete support to.
- The overall aim of the project indicates the contributions towards the global development of the region to be induced by the project through achieving its objectives.
- Different paths may lead to the objective; a strategy must thus be selected.
- What will be the expected outputs (results) of the project, i.e. what should be "produced" concretely? These outputs will lead to the achievement of the project objective.
- Activities for producing the results aimed at must be planned.
- Finally, the inputs of the project must be planned.

Project Implementation: the project implementation may begin when the planning has been

completed and accepted by the authorities or institutions concerned:

- Inputs are mobilized and prepared,
- activities are carried out,
- the first results gradually become visible.

Effects of the project: The results of the project should have effects in the region concerned and thus contribute to an improvement of the situation:

- Direct effects: Do the various results of the project contribute to achieving the expected objectives? Do they directly influence their concretization? The direct effects should thus correspond to the objectives defined during the planning phase.
- Impact: The degree to which the objectives has been achieved also influences the general impact of the project, i.e. the contribution of the project to the general development of the region. During the planning phase, the expected impact of the project had been formulated as its aim.

## **5.2 The Various Monitoring & Evaluation Fields**

### **a) Project Preparation and Project Planning**

The preparation and the planning of a project may greatly influence its further implementation. During this phase, important decisions are made and facts established which the project will have to live with later. The integrated M&E concept must check and ensure that the plan and framework formulated are being applied and adhered to. Once project implementation has started, willingness, openness, and flexibility are required from all the participants so that even the initial project planning may be questioned and adjusted in an iterative process.

The population concerned by a drinking water supply project must actively participate in the M&E process. It must have the necessary authority to take part in decision-making and have the right to express an opinion. These aspects must be included already during the phase of project preparation, as they will heavily influence the formulation of a project strategy and, thus, the whole design of the project. It will e.g. be very difficult to subsequently introduce community participation in the decision-making processes in M&E, if the project was initially established on an inflexible and hierarchical basis.

Ideally, the planning of a project includes an iterative process in which problems, needs, potentials and possible solutions are discussed by everybody involved. The result of this process will then be the establishment of a "project plan", which is supported by everyone. A detailed operational plan can then be elaborated including the formulation of a first project phase. Usually the preparation phase of a project does not develop in such a straight forward manner. Already existing basic conditions must be taken into account, individual interests respected, time limits kept, etc.

### **b) The Monitoring & Evaluation of the Project Implementation and of the Project Results (M&E of the Efficiency)**

Observation and evaluation of the project implementation (i.e. of the operational organization and execution) form the most developed part of M&E. This is easy to understand, as operational aspects represent the biggest work load for the participants during the implementation phase of a project. They include the organization of work, management of personnel, attribution of responsibilities, availability of the necessary inputs, bookkeeping, etc. The monitoring & evaluation of the project implementation is named as the M&E of the

efficiency. It includes two (interdependent) domains:

M&E of the Efficiency: Project Results: Certain results which the project should reach or produce have been defined during the project planning phase and are often specified in a "Plan of Operation": e.g. the implementation of a certain number of water supply systems, the training of x caretakers, etc. Some project participants (who usually occupy high administrative positions) wish to be informed once or twice a year about the results, i.e. whether the projected "targets" have been achieved.

M&E of the Efficiency: Taking into Consideration the Actual Activities and the Utilization of Inputs: Monitoring the results only, certainly facilitates the understanding of the project. This is, however, insufficient as far as the people directly involved in the implementation are concerned. They are more interested to know about the procedure of the project work, such as why (and how) certain results were or were not achieved. They want feedback on the process of implementation; they need to be a) informed continually about the progress of the work, so that b) they can utilize this information in order to correct the process whenever needed. Special checklists can be used for this purpose (see report for details).

The decision on who will collect what information, and on who will record, discuss and take the necessary decisions depends on the objective of the project; on how development policies are perceived by the donor and the local organization, on the type of project, etc. The overall responsibility must be defined within the context of the "in-built evaluation".

### c) The Monitoring & Evaluation of the Project Effectiveness

With the help of the M&E of the Efficiency the project implementation is observed and adapted in such way as to ensure that the expected results are being achieved. However, the following questions should also be addressed. Does the project achieve the objective defined? Do the various outputs of the project contribute in achieving and/or triggering the objective? Does the project (by "efficiently" producing results) have an "effect"? Such questions are defined as the M&E of Effectiveness.

The outputs or results of the project are usually directly visible because they are the actual products of the project. The effects however include the phenomena which have been triggered by the project and thus are often not directly visible.

The most important pre-requisite for the M&E of the effectiveness is a clear formulation of the project objective by all of the people involved.

In order to monitor the effects of a project, observable facts to be looked for are needed. These observable facts are called indicators<sup>3</sup>. Indicators may be quantitative, i.e. they are measurable and can be expressed in numbers. During the workshop it was stressed that qualitative indicators are equally important, although it is often difficult to apply the same concept, since the word "indicator" has implied for so long a quantitative dimension only. Approaches involving observation, experience, narratives, "subjective perception" can serve for qualitative measurements.

Figure 2 shows an example of indicators relating to project effectiveness. It is based on the WHO publication "Minimum Evaluation Procedure" (1983). It indicates how project planning and the M&E may be schematized within a logical framework, a so-called "logframe".

<sup>3</sup> Indicators may be used in very varied fields, i.e. in every field submitted to observation. If, for example, the results of the project must be monitored within the M&E of efficiency, "indicators of result-achievement" may be formulated. Indicators are thus not only applicable at the level of the project effectiveness; they may be used in every M&E domain.

The workshop discussions showed that the in-built evaluation should not deal with operational questions relevant to project efficiency only. Increasingly project effects (i.e. its effectiveness) should be included and not be regarded as a task for external evaluators only. Thus, external evaluators can more and more assume the role of advisers who support the project in its M&E-activities.

#### **d) Monitoring & Evaluation of the Impact**

If a project achieves the targeted objective, it is expected that it will contribute also to the overall development of the region. The project will thus have a (positive) impact. This contribution to the overall development expected from a project is described during project planning as the overall project aim. Within the drinking water supply and sanitation sector these aims may be formulated as:

- Contribution to the improvement of health (mainly of the poorer population groups)
- Contribution to an alleviation of the work load involved (time savings for fetching water, for the women in particular) resulting in additional spare time and/or energy which can be used productively elsewhere
- Fostering the self-help concept: The participation in planning and construction of a drinking water supply system provides the population with a possibility to experience the potential of communal work. The consciousness acquired through this experience may lead to other initiatives and the realisation of other development projects.

It is generally accepted that it is very difficult to monitor the actual impact of a project as it is usually not the only source of change in the region. It is often difficult to establish a causal relation between observed changes and the project. The impact includes long-term phenomena which may be seen only in a later project phase or even after its completion. The question remains as to whether an in-built evaluation should necessarily deal with questions of impact, or whether this level should be approached differently.

#### **6. Miscellaneous**

The detailed report also informs on the current results of a study initiated by SDC aiming at a cross-analysis of external project evaluations focussing on the water sector. It gives first indications as to the methods used to collect the data required for M&E, and it includes a bibliography with indications as to where the relevant publications may be obtained.

Oct. 89 UG

Figure 1

# Planning, Monitoring and Evaluation Framework (preliminary version)

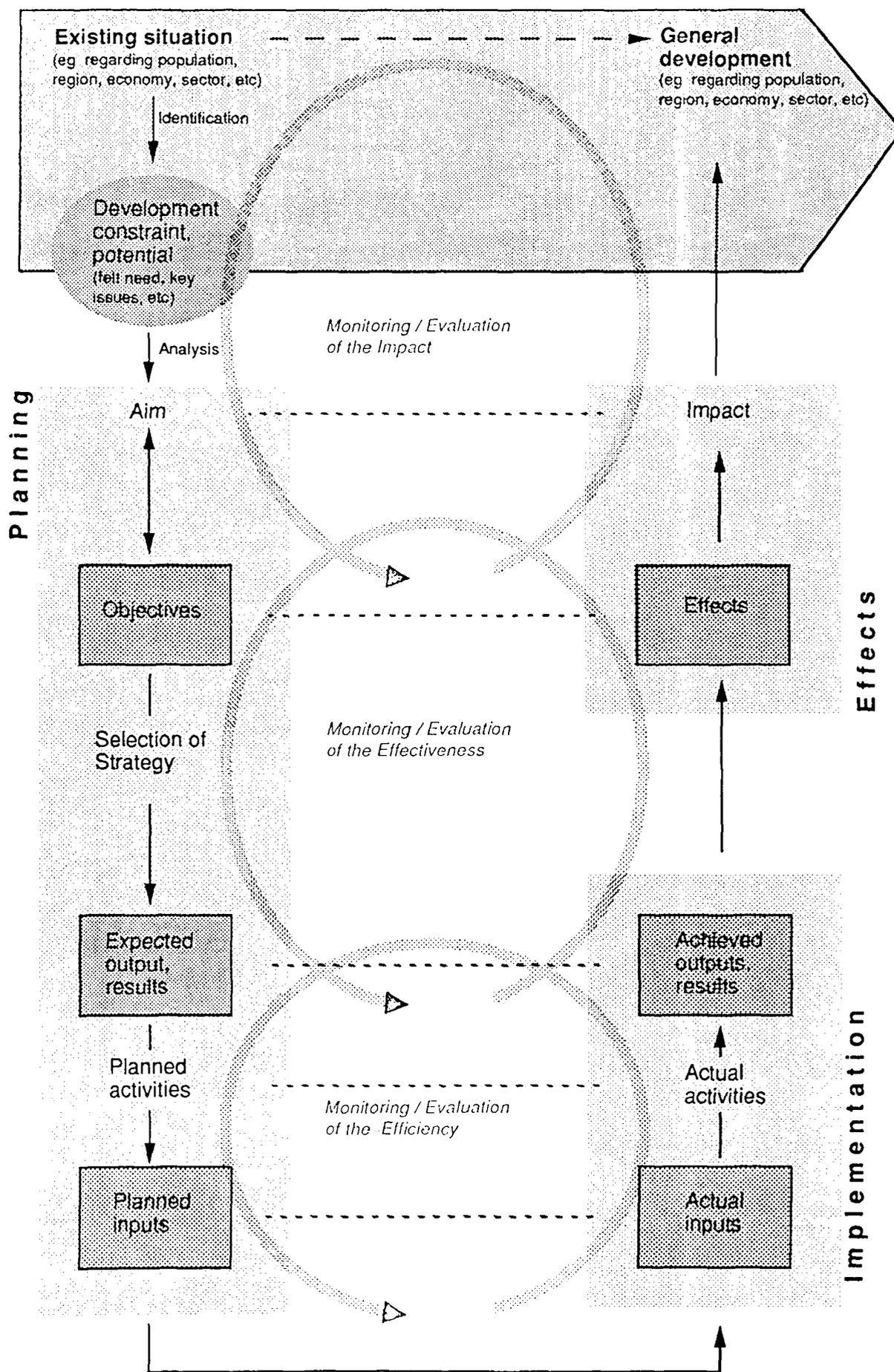
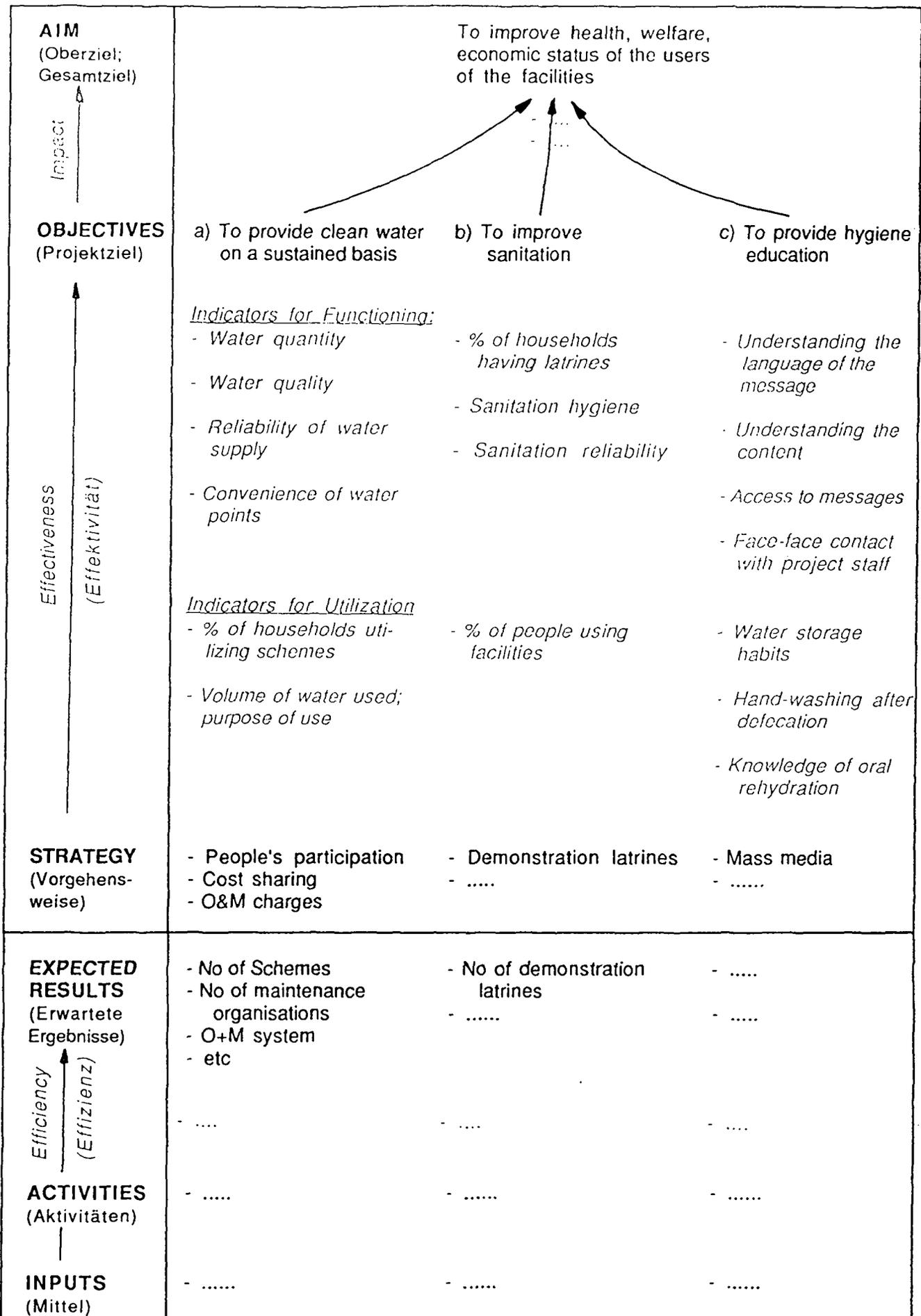


Figure 2



This graph shows the WHO publication "Minimum Evaluation Procedure" (1983) translated into a logical framework (by U.Geiser)

black: project planning  
red: monitoring & evaluation (incl. indicators)