

Monitoring and Evaluation for NGOs in Health and AIDS programmes

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1 Preamble

This reader provides information on the backgrounds for increased attention for planning monitoring and evaluation, gives some background theory on planning methodology and provides practical information, which NGOs can use in setting up a monitoring system for health and AIDS programmes

2 Increased attention for effect monitoring

There is an increasing pressure on governmental and non-governmental organisations in development co-operation to improve monitoring and evaluation of activities, with an emphasis on measuring the effects they have on the beneficiaries.

Three main reasons for improving monitoring and evaluation of effects are given:

- a. **Accountability** towards the stakeholders: On the one hand, the beneficiaries (communities) demand an explanation on the benefits or effects of work done, especially when they are formally organised in one way or another. On the other hand, the funding agencies demand an explanation on financial aspects, especially on the efficiency of the work done.
- b. **Learning** from experiences: There is a need to increase the learning effects and improve the effectiveness and efficiency within the implementing organisations and within the sector.
- c. **Sustainability** of activities: In the view of limited resources and limited time span of projects, there is a need to understand when activities can be handed over to local organisations and can be sustained at local level.

Most evaluations of NGO projects in the last years^{1 2} have concluded that monitoring and evaluation are still very weak. In many NGOs, the attention for monitoring and evaluation is not consistent throughout the project cycle. In the planning phase, in general a good number of indicators are formulated (often linked to a planning methodology like the logical framework approach). In the project implementation some information is collected, though often concentrating on production, while the initially formulated indicators are often not followed. Finally, the monitoring concentrates on financial and organisational aspects and the formulated indicators are no longer used at all.

Furthermore, the information collected does not play a role in management decisions. In the end in the evaluation of projects and programmes, it is often concluded that effects cannot be measured.

Though in internal and external evaluations of the PHC and AIDS programmes the weakness of effect monitoring is mentioned from time to time and though donor organisations have given instructions on improvement of monitoring, little has

¹ DAC expert group on AID Evaluation, *Searching for Impact and Methods: NGO evaluation synthesis study*, OECD/DAC 1997

² Bavinck M., *Balansstudie Programma-Evaluaties 1980-1999*, Stuurgroep Effectrapportage-Programma-Evaluaties, September 1999

improved. This is not only a matter of limited capacity of the programme implementers, but also a matter of lack of methodological clarity on effect monitoring.

In order to make monitoring and evaluation integrated and fruitful parts of programme or project management, there should be sufficient attention for it throughout the project cycle. Three steps are needed:

- during the planning process, the production of indicators that are relevant for the programme
- during the project implementation, the production of information that is relevant for monitoring the formulated indicators
- during the project implementation, the existence of feedback mechanisms where information is analysed and used for decision making.

3 Planning, Monitoring and Evaluation

Monitoring and evaluation is closely related to the planning of programmes and activities. In this phase relevant indicators are selected and monitoring mechanisms are formulated. In the different non-governmental organisations a variety of planning methodologies are used. In this document some of these methodologies are discussed and their similarities are explained.

3.1 Terminology

Before going into details of planning models, some frequently used terms are defined below.

Implementing organisation	The organisation that is executing a project or a programme.
(Health) Programme	The total of interrelated activities undertaken by the organisation over a certain period of time e.g. a five-year AIDS awareness programme in region X; a four-year PHC programme in diocese Y.
Project	The total of inter-related activities, which have been agreed upon for a very specific time period on the basis of a project agreement, often with specific targets and end terms.
Beneficiaries	The group within the population that is meant to benefit from the interventions
Target group	The group that an intervention is directed to. This group can either consist of the beneficiaries or a group that may contribute to improvement of the situation of the end beneficiaries, such as intermediate organisations, or service providers
Policy environment, context	This consists of NGO's, government, politics, cultural aspects, public opinion and in effect the general discourse in a society that co-determines the space that an organisation has for its interventions in a

	specific field (i.c. health, aids programmes). The relation between the interventions of an organisation and the policy environment is interactive, since the interventions are themselves part of the policy environment. Changes take place in a 'policy sub system' composed of "all those who play a part in the generation, dissemination and evaluation of policy ideas" ³ .
Monitoring	The function of following the implementation of an intervention along the lines of pre-set procedures and indicators in such a way that the results of these interventions can be analysed and used to validate the process and results of the intervention over time. This valuation can lead to changes in the project and /or influence future policies and actions in the field of the interventions.
Evaluation	Assessment of the process and effects of a project or programme in retrospect (ex-post)
Intervention	An activity that is undertaken within a project or programme with a view to addressing or solving one of the causes of a problem that has been identified, and that helps to achieve the project purpose.
Objective	Future improved situation to which the project or programme contributes (together with others)
Purpose	Future improved situation characterised by sustainable benefits for the project's target group, benefits which start to appear during the project
Input	The means that an organisation uses to implement its interventions (human resources, finance, material).
Output	The production of a project or programme in terms of deliverables: clinics built, people trained, services rendered or clients served
Outcome	The immediate effects of an intervention in terms of changes in the beneficiaries or target group, addressing (part of) the original problem that the intervention was designed to tackle
Impact	The lasting long-term effects of projects and/or programmes with respect to the root causes of the problems of the beneficiaries
Effect/result	The change resulting from an intervention, activity or programme. Effects may be intentional/foreseen (pre-set) or unintentional/ unforeseen. Effects can take place at different levels: the beneficiaries, the policy

³ See Sabatier and Jenkins' ideas on advocacy coalition frameworks for exmaple in Parsons « Public Policy » Edward Elgar 1995 p. 195- 202.

	environment, the programme, the implementing organisation.
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3.2 Logical framework

The logical framework is a widely applied planning methodology that is used in for example projects supported by the European Union⁴ and several Netherlands Co-financing organisations. It is also applied in some of the projects evaluated.

The essence of the model is the linkage of the problem analysis to objectives and purposes and to indicators.

The model also links the monitoring system to the planning of objectives, purposes and results.

In a diagram the model looks like this:

Fig.1 Logical framework

	Intervention Logic	Objectively Verifiable Indicators	Source of Verification	Assumptions
Overall Objectives				
Project Purpose				
Results				
Activities				
		Means	Costs	Preconditions

- The *overall objectives* reflect the impact the project wants to make on the long run, together with other projects and activities, e.g. improvement of food security, improvement of the health situation.
- The *project purpose* describes the improvement the project wants to achieve, even within the project period.
- The *results* are the products of the project, the combination of which will achieve the purpose of the project.
- The *activities* are the things that will be done during the project.

These are all listed in the first column (intervention logic).

In the second column indicators for the different levels are formulated and in the third column the sources of information.

The fourth column reflects the assumptions, the external factors, which play an important role.

In various documents⁵, the monitoring based on the logical framework is criticised, because it puts a lot of emphasis on the output (results in the log frame terminology) and

⁴ MDF, *Manual project Cycle Management, integrated approach and Logical framework*, Commission of the European Communities, February 1993

little emphasis on effects. Projects and programmes formulate in the planning phase many output indicators and some – often vaguely formulated – indicators measuring the project purpose. As a result the measuring of effects is weak (though it is found that in many instances the log frame indicators on expected results are not even monitored properly). Strikingly, the evaluated projects that applied the log frame methodology had the same problems applying it for monitoring purposes.

For monitoring purposes it is necessary to refine the log frame concepts, by defining a stage between project purpose and results. The models discussed below try to provide such intermediate steps.

3.3 Relation between Planning and Effects

The figure⁶ below is a reflection of the project cycle, giving details of the process and especially the relation between different elements.

In the preparation phase – after an assessment – goals and objectives are formulated and a plan of activities is made. The implementation is a process where inputs are transformed into outputs.

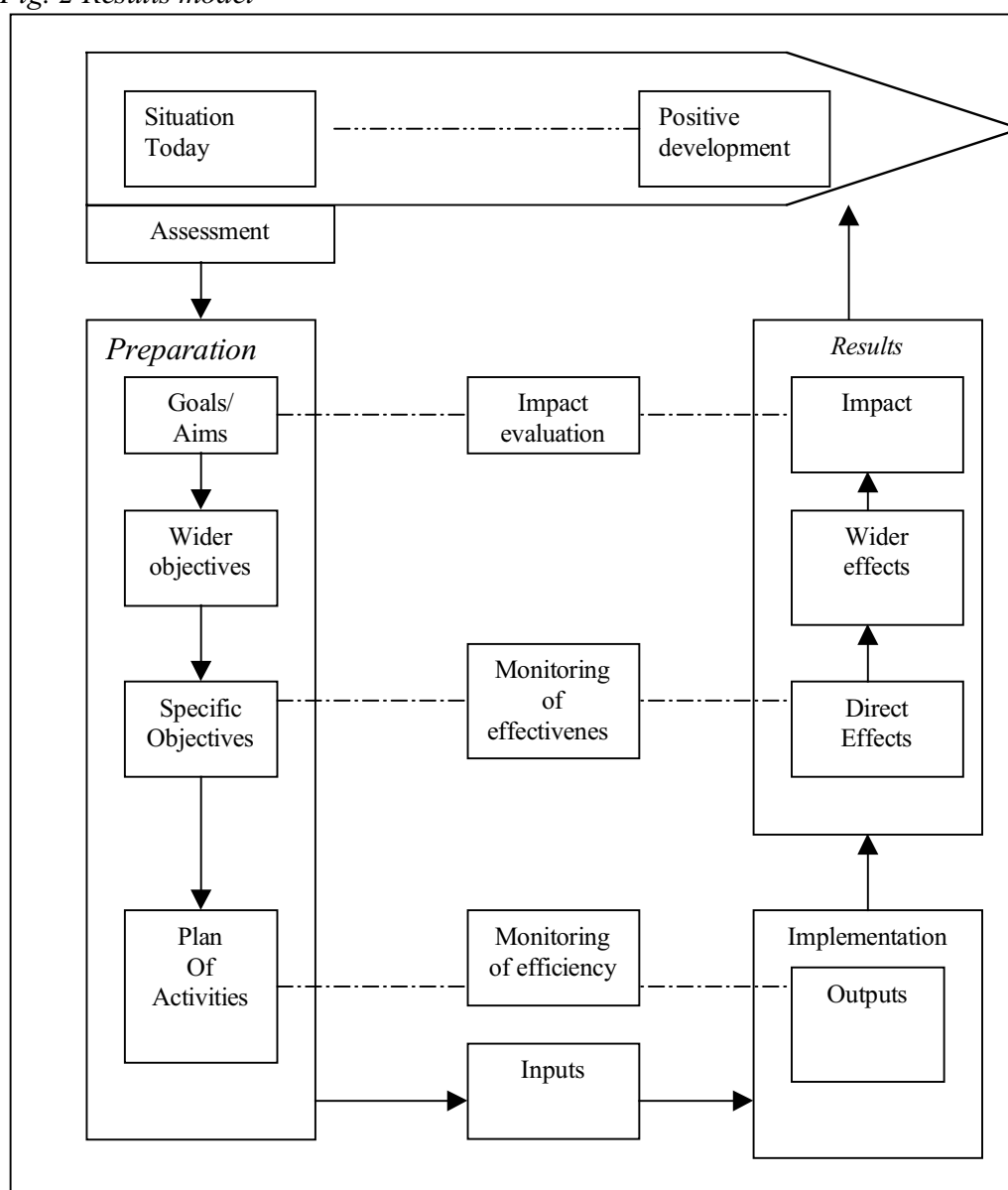
The implementation produces results. Here defined as direct effects and wider effects, finally resulting in an impact.

(For people used to the log frame terminology, it is maybe confusing that in this model the word goal/aim is used where the log frame uses the word overall objective. In this model the word objective stands for project purpose in the log frame terminology. Outputs stand for results.)

⁵ Edwards M. and David Hulme *Non Governmental Organisations, performance and accountability*, Save the Children and Earthscan, London, 1996

⁶ Idem

Fig. 2 Results model



Key concept in this model is the differentiation between monitoring efficiency, effectiveness and impact.

The monitoring of efficiency concentrates on the direct project activities i.e. input process and output. It asks questions like “has the plan of action been implemented”, “have the inputs been used in the right way”, “what are the concrete outputs of the project”.

The monitoring of effectiveness concentrates on the measuring of effects. Effect is defined here as more immediate tangible and observable change, in relation to the initial situation and established objectives, which is felt has been brought about as a direct result of project activities. This effect will need to be verifiable and “measurable” in one form or other and it will have both qualitative as well as quantitative dimensions.

The monitoring of impact concentrates on long-term sustainable changes brought about.

In comparison to the log frame monitoring model which only reflects to project purpose, this model puts direct changes as result of the outputs as intermediate step to be monitored.

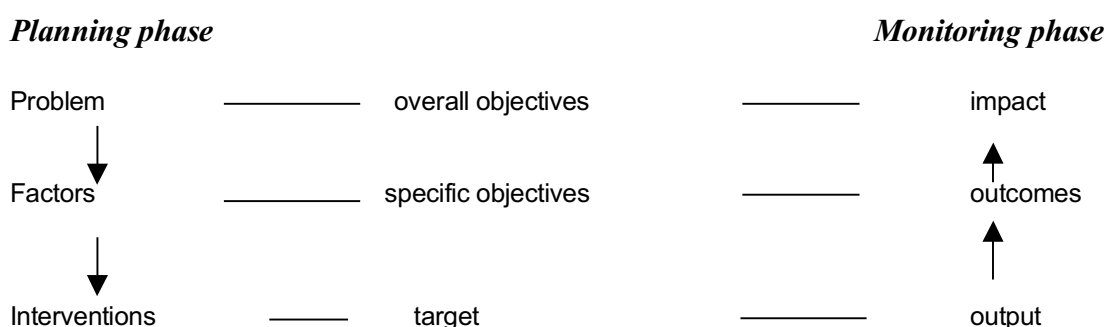
3.4 Outcome model

The outcome model explained below also differentiates between output, outcome and impact. It also tries to link the planning phase to the monitoring.

In comparison to the previous two models, the methodology puts a lot of emphasis on the systematic step by step problem analysis in order to analyse causal factors that can be tackled by the project or programme and causal factors that cannot be tackled. Factors contributing to the problem are linked to specific objectives and outcomes, whereby a hierarchical relation between the elements is respected.

The methodology can be seen as a refinement of the logical framework approach.

Fig. 3. Outcome model



Crucial steps are:

- A problem analysis takes place, whereby causal factors are analysed (using causal trees, bubble charts, “but why” questions, etc.). This process provides an insight in which factors can reasonably be tackled by health programmes and which not.
 - Interventions are identified tackling one or more problem factors. Thereby the expected effect (outcome) is recorded. At the same time the limitations of the intervention are recorded. In other words, in the process of planning it is identified, which problem factors cannot be tackled by the intervention.
 - The output is defined as a product of the intervention only where no (or hardly any) interference from outside is involved (mostly service production figures).
 - Outcome is defined as an effect on the beneficiary (organisation, population or individual), where other factors (not controlled by the implementing organisation) have an influence as well. (Coverages are examples of an outcome.)
- The expected outcome is hierarchically related to one causal factor identified during the problem analysis. When measuring the outcome confounding factors already identified during the problem analysis can be measured. Unexpected and unforeseen outcomes are related to the quality of the problem analysis.
- Crucial here is that indicators are formulated for the output and outcome.

In comparison to the log framework monitoring system, here the external factors (“assumptions” in the log frame terminology) are clearly related to problem analysis and the expected outcome.

3.5 Conclusions planning and formulation of indicators

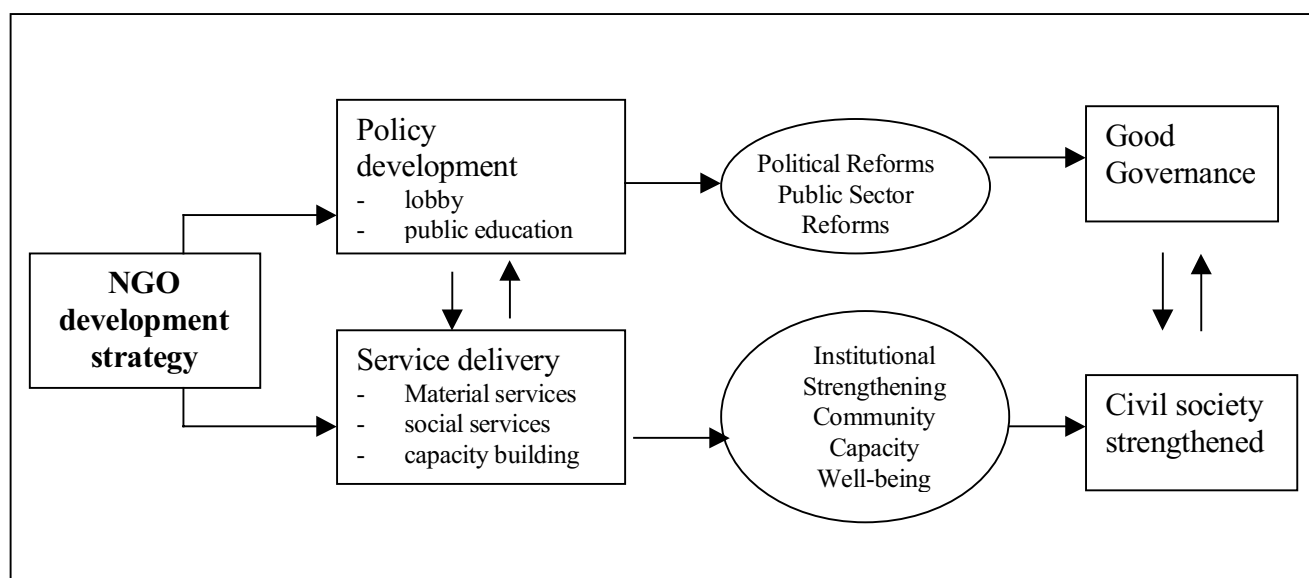
The logical framework methodology in the way it is generally applied, does not take sufficiently the external factors influencing the project implementation into account when it comes to the monitoring of effects. In log frame terminology the monitoring of the “assumptions” and their relation to project implementation is not adequately tackled. Neither does it differentiate sufficiently between direct effects and wider effects. As a result of this methodological flaw, the log frame planning does not constitute the right platform for effect monitoring.

In order to get a better insight into these aspects it is necessary to refine the log frame methodology and bring into the planning process elements from the above mentioned effect model and outcome model.

4 The non-governmental organisations and their environment

4.1 The focus of the NGO and indicators

David Korten distinguishes generation one, relief and welfare, generation two, self-reliant local development and generation three, sustainable systems development.⁷ The diagram below⁸ provides insight into the main focus of development organisations (generation one and two as service delivery and generation three as policy development) and the final impact of their actions.



⁷ Korten D.C., *Getting to the 21st century, Voluntary Action and the Global Agenda*, Kumarian press 1990

⁸ Fowler A., *Striking a Balance*, Earthscan, London, UK, 1997

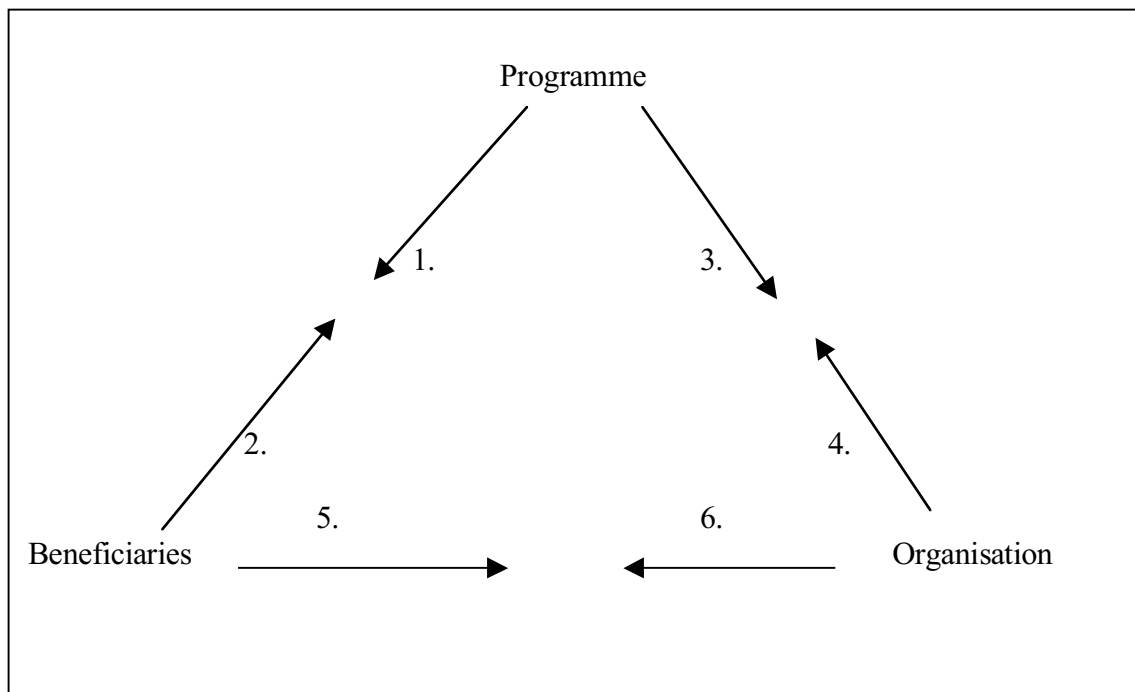
From NGO evaluations⁹ it became clear that many NGOs have not well articulated their indicators in line with their focus of operation. Many NGOs formulate their project purpose (or objectives) both in terms of policy development and service delivery. Especially organisations in the field of AIDS see it as their main task to do lobbying and organise public mobilisation. However, in terms of indicators defined, organisations tend to concentrate on service delivery indicators, which in general are more easily quantifiable and easier to monitor. In the field of policy development more qualitative approaches should be followed which are described in the paragraphs below.

4.2 The relations organisation and beneficiaries

As mentioned before the effects of health care interventions of NGOs are not limited to improvements of people's health status or social status alone. Many interventions have a broader aim, such as empowerment of beneficiaries to get more control over health determinants and to find their own solutions for health problems and the solidarity with vulnerable segments of the population. Capacity building of the beneficiaries is another goal of many development organisations.

In the analysis the interaction between the implementing organisation, the programme and the beneficiaries should be taken into account. The model of fit, developed by David Korten¹⁰ is very appropriate for answering such questions.

fig. 4 Korten's model of fit



⁹ e.g. Oakley P., *The Danish NGO Impact Study, Synthesis report*, Intract, Oxford, UK, September 1999

¹⁰ Korten David C, Alfonso Felipe B. *Bureaucracy and the Poor, closing the gap*, Kumarian Press USA (1985)

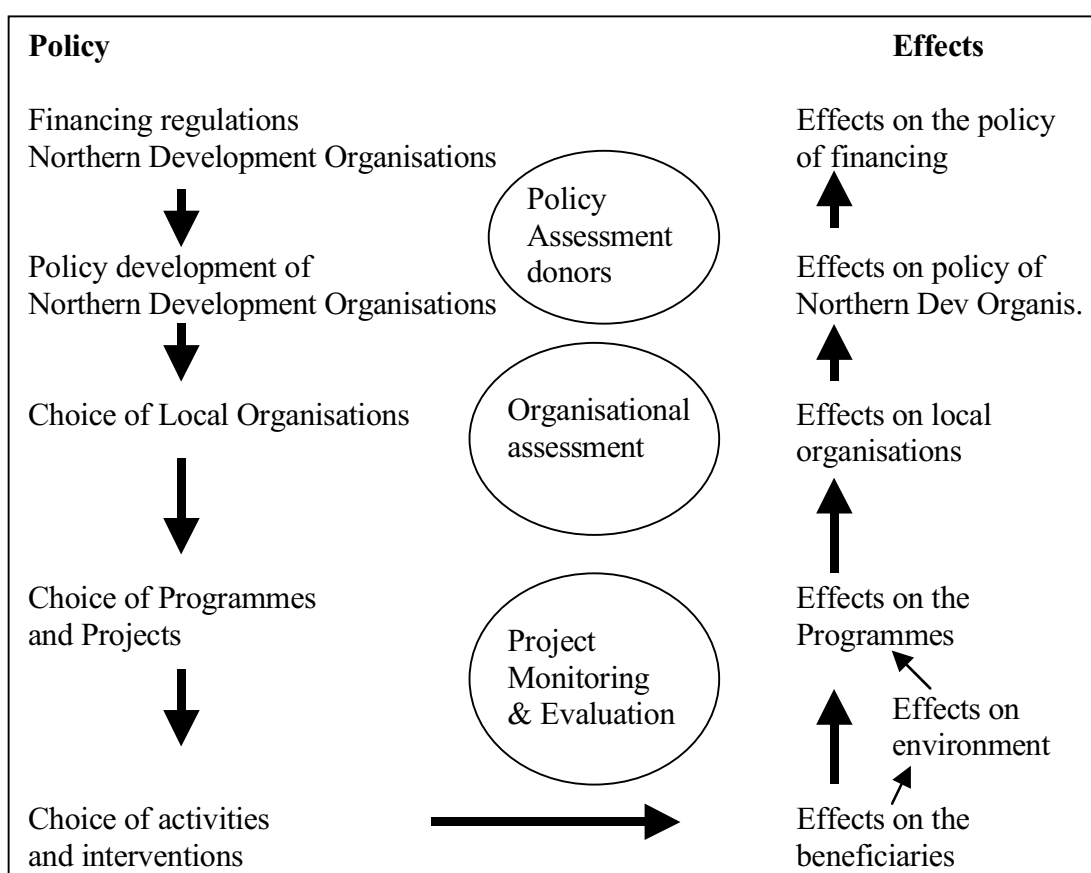
This model studies the fit between implementing organisation, programme and beneficiaries. It looks at organisational capacity, openness and flexibility of the programme, capacity of the beneficiaries to influence the programme and the implementing organisation.

The arrows stand for the following questions:

1. Does the programme address the needs and health problems of the beneficiaries? Are the activities implemented under the programme the most relevant ones given the local health problems? Is the programme efficient in its implementation?
2. Do the beneficiaries have the capability (competence and possibility) to express their felt needs and adjust the programme to make it more responsive to their needs?
3. What does the programme require from the implementing organisation? What kind of human, financial and material resources are required to implement the activities as planned?
4. What is the capacity of the implementing organisation to carry out the programme activities given the demands the programme poses? Is the organisation a learning organisation embracing change? Is the organisation capable of developing alternative interventions that are more efficient and appropriate?
5. Do the beneficiaries have the capability (competence and possibility) to influence the implementing organisation? Is there a formal representation and are the available channels used to give direction to the organisation?
6. Is the implementing organisation open to influence by the beneficiaries through formal or informal ways? Is the organisation transparent and is it accountable for its performance? Is there a community representation, giving people - especially women - a voice?

4.3 The context in the chain policy development effects

In the previous chapter the differentiation between direct effects and wider effects was explained. The following gives a clarification on the wider effects in the “policy chain”. The development organisations operate in close relation with funding agencies, that in turn operate under financing regulations, etc. The effects of projects and programmes can be felt in the environment (other organisations in the same area) and further up in the policy chain. The relations can be visualised as in the following diagram:



According to this model it is necessary to analyse effects at different levels and therefore look into the following issues:

- What effects do the project or programme interventions have on the beneficiaries in the communities, if they are targeted, or the implementing partner organisations, if they are targeted?
- What does the project change in the work of the implementing organisations or the environment, e.g. the government authorities?
- Higher in the chain questions will be asked with regard to effects on the Northern development organisations and even on the Northern government's development co-operation.

In the monitoring it is also important to observe the “horizontal linkages”, i.e. how the achieved effects lead to policy changes or policy development at the different levels, represented by the loops of project monitoring, organisational assessment and donor policy assessment. Have the projects or programmes had any learning effect?

- At the level of the programmes: does the monitoring of effects lead to changes in the choice of interventions or activities?
- At the level of implementing organisations: does the monitoring of effects lead to changes in the organisational set-up, in priority setting or in strategies?
- At the level of the environment (other governmental and non-governmental organisations in the country): does the monitoring of effects lead to changes in policies of government or of other NGOs?
- At the level of Northern development organisations: does the monitoring of effects lead to changes in relations with the local development organisations or in changes with regard to choices of local development organisations?

4.4 Conclusions with regard to the context analysis

It is necessary to broaden the view of effects not only to the effects directly related to the contents of project or programme activities, but also to the effects on the organisational relationships and the relations between organisations and beneficiaries.

A monitoring system should look into such aspects and define indicators for them.

5 Principles of Monitoring and Evaluation

5.1 Terminology

Before going into detail, it is important to define terms of monitoring and evaluation, information system

A Monitoring and Evaluation System comprises all activities that contribute to increased knowledge of inputs, processes, outputs, outcomes, and impacts of project or programme activities. Routine reporting, sentinel reporting, rapid appraisals, organisational assessments, surveys, research, and external evaluations are methods used to collect the information. The primary objective of the MES is to provide information to develop a policy and to monitor the programme or project effects.

A Management Information System includes routine activities that increase knowledge of inputs, processes, outputs, outcomes, and impacts of project or programme activities. The primary objective of the MIS is to provide operational information on policy implementation.

In this definition the Monitoring and Evaluation System is much broader than the Management Information System. It applies other methods of data collection and analysis. The crucial difference is that for monitoring effects, it is necessary to go outside

the organisation or the project. In general management information systems tend to concentrate on information generated within the organisation.

5.2 Involvement in data collection and analysis

The classical approach in M&E design is that all information is collected at peripheral level and reported to the central level of the organisation, where it is consolidated and analysed. The experiences with such centralised systems are not good. The data quality in general is poor.

Each level in the system should perform some analysis of the data it collects, geared to its own specific needs. Therefore adequate analytic tools to assist each level should be introduced. Self-assessment is an important activity in a decentralised system, as it provides the rationale for adjustment of action plans.

In the development of a Monitoring and Information System, clear differentiation is crucial between the decisions taken at each level and the information relevant to those decisions.

- The implementing level requires operational information, especially for day-to-day management of inputs and processes, and for assessment of direct outcomes.
- The policy level requires information for strategic management and support functions: this information is primarily related to processes, outputs, outcomes, and impact.
- The external organisations (e.g. government, financing organisations) have their own specific information needs which most of the time concentrate on accountability.

In the planning phase it is important to establish 'who needs to know what', and differentiate per level the indicators, data sets and analysis to be performed.

Timing is another important aspect to be looked into. Sometimes routine systems are put in place, which require a frequent reporting on routine activities (mostly output figures). On measuring the effects little is formulated, often leaving such aspects to external evaluation.

Here again the differentiation between direct effects and wider effects can help to define a timeframe for monitoring. When planning it is important to formulate in which period of time changes are expected to take place.

6 Indicators

6.1 What are Indicators?

The essence of indicators is that they compare between an actual situation and a standard. Broadly there are two types of standards:

- the target group where the intervention is mentioned for; the indicator will be expressed as a coverage.
- the baseline situation that existed when the project started; the indicator will be expressed as a change (increase or decrease)

Indicators are markers of a given situation. When the situation changes, the indicator changes. For example, a patient's temperature measures the degree of fever; as the fever changes, so does the temperature.

Two types of indicators are frequently used in monitoring:

- **Tracer.** These indicators show performance of a project or programme, where one or more indicators are used to reflect a larger range of activities, like immunisation and antenatal coverage.
- **Proxy.** These indicators are an indirect measurement to approximate an 'ideal' but infeasible indicator. For example, we would like to be able to measure the incidence of HIV infection. Instead we can monitor the incidence of STDs that present at a health facility. We assume that an increase in sexually transmitted disease in general signals an increase in HIV transmission. A change in STD incidence is a proxy for a change in the incidence of HIV infection.

Indicators are often used as alarms, to let you know that a situation may have a problem. For example, an electronic thermometer sets off an alarm each time the temperature goes above 37 C. Further investigation is required to learn why the temperature is increasing. Most of the HMIS indicators are alarms like this. And further investigation is required to learn why the alarm has gone off.

Indicators direct us to where the problem lies so that we can put interventions in place. For example, when the temperature is above normal, the alarm alerts us; we can respond by monitoring the temperature every four hours and correct it by applying tepid sponging until the temperature falls to a certain level.

An indicator can also show us the outcome of performance. For example, a lowered temperature shows us the success of the intervention.

Technical requirements for indicators are:

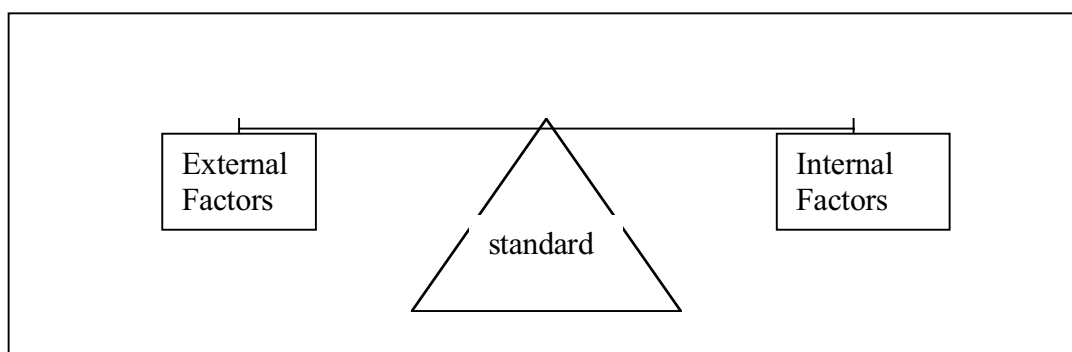
- **Sensitivity:** the indicator should change as the situation itself changes
- **Specificity:** the indicator should change only when the factors that we can influence change
- **Validity:** the indicator should use current data to be valid. Only current data should trigger the alarm bells.

6.2 Analytic Framework

Interpreting the indicator means comparing its value with a standard. The standard may be a value established by policy, a “target” value; or the standard may be a value at another point in time, or at other facilities, an “expected” value. Some indicators have a “threshold” value, which warns of potential problems in achieving a target.

In order to interpret the indicators, one could think of a framework distinguishing two major categories of causal factors. On one hand there are contextual (external) factors, which influence the demand for activities. And on the other hand there are the internal factors within the programme or project, which influence the provision of services or implementation of activities. In the analysis it is important to assess the influence of internal and external factors in the change in the indicator.

Fig. 5 Balance internal and external factors



When an indicator warns that performance may be outside standard, it triggers a problem solving process of assessment, analysis, and action. If a problem is detected, the indicators, usually in combination with other indicators specific to the problem at hand, may suggest lines of inquiry into the root cause of the problem. The indicators may also be used to confirm or rule out a hypothetical cause; or to suggest a potential solution. They may also reflect a situation’s baseline and become the measurement of improvement.

Expected ranges of values are often associated with disease patterns. If the indicator varies unexpectedly outside the expected range of values, it may warn of a change in disease patterns. Target and threshold values are often associated with delivery of preventive services; if the indicator varies unexpectedly from the target and passes the threshold, it may warn that the delivery of the service is in danger of being compromised. The indicators’ “threshold” values or “expected” ranges of values are warning signals. If an indicator passes the threshold value, or moves outside the expected range, it warns that there may be a problem in service delivery or disease patterns. Using the indicators for action planning relies on interpreting their warnings.

Target and threshold values, need to be established for some indicators. The threshold values can be set locally by observing the variations in the indicator. In situations where the local value is significantly lower than the national target, districts may set intermediate targets, which are the standard to be achieved, given the circumstances and

action proposed. These intermediate targets may be raised in subsequent assessment cycles until the desired performance level is reached.

6.3 Response

The response is highly dependent on the causes found to explain the change in indicator value. Much of the time, a group of factors contributes to a change. If there are clear indications from the analysis that internal factors have deteriorated the appropriate actions are obvious: improve programme or project performance. Sometimes a single internal factor may appear to cause the problem, like low immunisation coverage associated with lack of vaccine. If there is an obvious response, implementing this action may be the extent of the problem solving cycle.

If internal factors are stable, or even improving, and indicator values are still deteriorating, there is need for further study of external factors. What is going on in the community to cause a change in the indicator? Often it will be necessary to discuss the problems with representatives of communities and other stakeholders, in order to plan for a joint response to the problem.

7 Examples of monitoring tools

Several options for data collection and analysis besides the routine reporting are available for monitoring effects. The list of options in this section is not intended to cover all possible analytic techniques, but it does represent the range of analytic tools that should be available in a comprehensive MES. Establishing criteria for selecting which one to use in a given situation, as well as the training requirements to build the capacity to employ them successfully, remain tasks for the development of a more complete MES.

Performance Audit

Assessment of institutional and provider performance has been identified as a crucial factor in development programmes, both to assure quality of care and to make the system more responsive to the needs and expectations of communities and clients. These audits rely on information from the routine reporting system to suggest areas where performance can be improved and on qualitative information obtained through interviews. It is important that the managers and providers undergoing audit be involved in the process so they may learn better practices from the audit, rather than simply being given an appraisal as an end product.

Survey

Surveys may be used to assess a variety of factors in a health care system: health status; disease prevalence; service delivery outputs, outcomes, and impact; and client satisfaction. Surveys indicate the status under investigation at a single point in time; time trends and the status before and after and intervention may be assessed by successive surveys. Examples of the use of survey techniques are the Demographic and Health Surveys (DHS), which is currently conducted every four years to give a reading of a variety of indicators; and the immunisation coverage survey, which provides an

estimate of the coverage attained during the previous year and can be advantageous in situations where census counts or the routine reporting system are questionable. Accuracy of survey results depends on a methodological selection of a sampling frame and a survey design that eliminates factors that confound the results.

Rapid Assessment Method

The central purpose of Rapid Participatory Appraisal is to define a community's perspective on priority needs in order to influence policy making. Three elements can be distinguished:

- epidemiological data: including patterns of disease and disability and use of resources
- cultural perspective of needs: individual and group views and their context
- consensus that respects both medical and cultural viewpoints.

A community profile is created with information on:

- community composition: demographic data
- community organisation: traditional, religious and political
- community capacity: available resources
- physical environment: geography
- socio-economic environment: poverty and vulnerable groups
- disease and disability: epidemiology
- health services: community and formal services
- social services
- education, housing, environmental services, including water and sanitation
- health policies: existing policies that target community health problems

A number of priorities emerge from the appraisal from the side of the community as well as from the side of the professionals. Finally a methodology for reaching consensus in setting priorities is used.

Lot Quality Assurance Sampling

Lot Quality Assurance Sampling (LQAS) is an example of a rapid assessment method for assessing coverage, service adequacy, and health workers' techniques. It is a method derived from industrial quality control, and adapted for health services in Middle America under the supervision of the Pan American Health Organisation. LQAS can be introduced in decentralised health services as a regular monitoring tool for community based programmes. Small sample sizes can provide reliable information. Health Staff can be trained in the methodology, which does not require high levels of knowledge of statistics.

Sentinel Surveillance

Sentinel surveillance may be used to monitor health status and the factors affecting its change over time. Because of the expense of individual surveys, sentinel surveillance is a preferred methodology when the indicators in question must be observed many times or to establish seasonal fluctuations. In addition sentinel surveillance can be used to avoid overburdening peripheral health workers with information requirements that are not action-oriented.

Focus Groups

Focus groups provide a technique of probing for information on open-ended questions. They are often used to assess cultural and personal preference factors that influence health behaviours such as the adoption of family planning methods.

Delphi Panels

The Delphi Method was developed for consensus building in industrial management, and adapted in Kenya for use in health services. The essence of the method is that peer pressure or domination by individuals in the process of reaching consensus is eliminated. It is a valuable addition to focus group discussions, since it allows everyone (including representatives from minority groups) to express an opinion. In Kenya the method was used to obtain communities' views on socio-economic factors of ill-health and various intervention strategies.

Medical Records Review

Systematic review of a sample of medical records may be used to assess an institution's or practitioner's adherence to standards of care. Coupled with outcome information, they can help establish preferred practice standards. Review of cases of treatment failure can reveal systemic weaknesses in care, as well as inappropriate care.

Verbal Autopsy

The verbal autopsy methodology collects information regarding specific types of deaths using a questionnaire administered by a field worker and later reviewed by a team for analysis and intervention. For example, a questionnaire designed specifically to capture information about the circumstances of a maternal death could be administered by a CHW or tTBA shortly after the death. The responses can then be assessed by a team from the health centre and district office to determine causes and take action.

8 Coverage analysis

In the discussion about quality of care, accessibility and utilisation the old – but still very valid – analytical model of Tanahashi¹¹ could be utilised.

Tanahashi's model for effective coverage expresses the extent of interaction between the service and the people for whom it is intended. A good effective coverage of services can be used as an indirect or proxy indicator of improved health e.g. a high coverage of antenatal care (ANC) is supposed to relate positively to maternal health or a high under five vaccination coverage to child health.

For the measurement of the effective coverage, several key stages are identified – availability, accessibility, acceptability, utilisation and effective care, each involving the realisation of an important condition for providing the service. Each key stage is influenced by different factors e.g. acceptability by socio-cultural values, religion, costs of the services etc.

Such a model for coverage evaluation also provides a very useful tool for detecting and analysing bottlenecks in the operation of the services. It allows for specific coverages by limiting the target population according to certain criteria e.g. vulnerable groups like women or orphans, age groups such as adolescents or under-fives etc.

Another strong point of this model is that it distinguishes between potential coverage (availability, accessibility and acceptability) and actual coverage focusing on the people who really use the services and on the quality of care provided by the services. A beautiful health centre is no guarantee for utilisation or quality of care and a single health centre of high quality and high attendance rate no guarantee for a good coverage in a wider district.

Such a coverage evaluation requires the description of the service in observable or measurable terms including information on the aim of the service, the relevant target population and service target and the actual performance of the service.

¹¹ Tanahashi T. *Health Service Coverage and its evaluation*, Bulletin of the WHO 56(2): 295-303 (1978)