DIRECT MEASUREMENT

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Some changes brought about through development interventions are tangible and can be measured directly. In sectors of work such as health and agricultural development change can often be measured accurately through industry-standard tools and indicators. However, this may require expertise and additional resources. Where feasible, direct measurement is usually the strongest form of evidence.

In many cases, changes brought about through development interventions cannot be measured directly. In these cases organisations, programmes and projects need to capture change through a combination of tools and methods such as interviews, observation and use of secondary data sources. But some changes can be measured directly. Where feasible, direct measurement of change is usually the best method.

Measuring change at different levels

Change at input and output level is the easiest to measure directly. Organisations can usually record their inputs (such as finance and human resources) with some degree of accuracy. In many cases it may also be relatively straightforward to measure and record outputs (deliverables) such as training sessions conducted, schools built, resources published or children immunised.

At outcome and impact level the ease with which change can be measured directly depends on the type of work being conducted. For example, in service delivery work in sectors such as health, agriculture or water and sanitation (WATSAN) standard measurements can often be used (see table below). These may be based around industry standard tools and indicators.

Area of Change	Measurement
Health	• Upper arm circumference of children under 5 years old • Weight and height of children • Presence of infectious disease
Agriculture	• Crop yields • Numbers of livestock owned
Education	• Examination results (e.g. children passing national exams) • Enrolment in schools
Water and Sanitation	• Water quality (using water quality testing kits) • Number of water pumps servicing an area

In other sectors of work it can be more difficult to measure change directly. However, even in areas of work such as governance or empowerment there may be ways to directly measure change. For example, some changes resulting from empowerment work could be measured by recording the number of women supported who go on to work for local government, or the ratio of girls to boys in secondary education in supported areas.

In some types of work, such as advocacy or policy influencing, a desired change may be easy to measure. For example, a new law could be passed or an issue debated in parliament. These changes would be a matter of record and could therefore be measured directly. However, it might not be so simple to measure the role an organisation played in bringing that change about. So even where organisations are able to measure desired changes directly they often need to assess their contribution to change through alternative methods.

Strengths and weaknesses of direct measurement

Direct measurement, if carried out accurately and properly, is usually the strongest form of evidence. Its biggest strength is that it is replicable, which means that anyone using the same tools and methods should come up with the same measurements. Information gathered through direct measurement is considered objective, which means it is not open to interpretation.

However, there are many things to consider when attempting to measure change directly. Some of these are described below.

- Direct measurement may only tell part of a story. For example, the number of workshops carried out may be measured directly, but the quality of those workshops would have to be assessed through different methods.
- It is normally easier to identify direct measurements at input and output level than at outcome and impact level. If organisations are not careful this can lead to a bias towards concentrating on what is delivered rather than what is changing as a result. Often the most important changes are those that are hardest to measure directly.

- Direct measurement may take time and expertise to do well. For example, examination of urine samples may accurately diagnose how many people have a particular form of parasite. But the method may involve complex or expensive laboratory work. Similarly, water testing kits might be used to measure the quality of water, but skill and experience are required to use the kits properly.
- If direct measurement is used to generate statistical data then proper sampling methodologies need to be applied. Even if change can accurately be measured in a small number of individuals it will not necessarily be representative of change across wider communities.
- In straightforward cases the change being measured (such as better health or improved literacy levels) may be uncontested. In other areas change may be measured directly, but the value of that change may still be contested. For example, the number of children leaving home to take up jobs in urban areas could be viewed by some as a positive trend and by others as a negative trend.

In summary, direct measurement is often the best way to assess change. However, it might only tell part of the story. Other factors – such as the degree of an organisation's contribution to change, the quality of products delivered, different views of the change being measured, and the extent of other changes which may be harder to measure – also need to be considered

Further reading and resources

There is a short section on biophysical measurements in the IFAD guide to M&E in Annex D, with some practical suggestions. This guide was produced by the International Fund for Agricultural Development, and is available freely from the internet at various locations.

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INTRAC is a not-for-profit organisation that builds the skills and knowledge of civil society organisations to be more effective in addressing poverty and inequality. Since 1992 INTRAC has provided specialist support in monitoring and evaluation, working with people to develop their own M&E approaches and tools, based on their needs. We encourage appropriate and practical M&E, based on understanding what works in different contexts.