Monitoring and evaluation for non-professionals

How to ensure quality in data-collection processes

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CONSERVATION through PUBLIC HEALTH

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Acronyms

BINP	Bwindi Impenetrable National Park
CTPH	Conservation Through Public Health
DRC	Democratic Republic of Congo
M&E	Monitoring and evaluation
SMART	Specific, measurable, attainable, relevant and time-bound
VHCTs	Village health and conservation teams

Summary

Using volunteers to collect important data for monitoring and evaluation is a growing phenomenon. Technology has made it easier and cheaper than ever before. But it can have drawbacks. How can mistakes and unintended biases be avoided? How can we ensure that the data are both high quality and useful? Using a case study from Uganda, this guide describes how to ensure data collection by volunteers is done as professionally as possible.

Conservation Through Public Health (CTPH) in Uganda supports a network of volunteers who provide community health services and raise awareness about conservation issues. They also collect data for ongoing programme monitoring and evaluation purposes. A recent review outlined how CTPH could improve its monitoring and evaluation activities. This guide draws on lessons learnt and outlines recommendations on how other organisations can improve M&E, including:

- Identifying specific indicators to measure progress and assess changes in key indicators over time
- Balancing data requirements with an organisation's ability to collect and evaluate data
- Using SMART criteria – specific, measurable, attainable, relevant and time-bound – to lessen the likelihood that volunteers will misinterpret data
- Adopting standardised approaches to data collection to ensure consistency while making procedures easy to follow and repeatable
- Using adaptive management to adjust programmes as circumstances change or if programmes are underperforming
- Adopting robust quality-control procedures to ensure that any issues can be detected and tackled early on
- Ensuring that everyone involved has a working understanding of research ethics and data confidentiality
- Planning analyses in advance to ensure that the correct data are collected from the start while assessing the skills needed to undertake them, and
- Reporting on data analysis to demonstrate to donors and senior management progress towards programme objectives.

This guide will be particularly useful to organisations that use volunteer or non-professional data collectors but have limited experience in developing or implementing plans for effective monitoring and evaluation (M&E).

Introduction

The use of non-professionals, members of the public or volunteers to collect important data (for example in citizen science) is a growing phenomenon. The increasing spread of technology now allows for the easy collection, entry and collation of data. This enables organisations to collect information that would otherwise be time-consuming and expensive to obtain and which their resources may not allow. It is particularly useful when volunteers collect data on their own activities – for instance, recording daily levels of activity or food consumption, or activities performed as part of a wider programme – and avoids the need for external data collectors. However, the use of untrained or inexperienced data collectors is not without drawbacks. It requires careful attention to data quality and eliminating bias if the data are to be useful. Organisations considering the use of volunteer-collected data must be aware of these pitfalls and take necessary steps to avoid them.

Using a case study from Uganda, the aim of this guide is to describe the steps needed to ensure data collection by volunteers is done as professionally as possible. This helps to avoid mistakes and unintended biases and ensures the data are as high quality – and therefore useful – as possible. We anticipate that this guide will be of particular use to organisations that use volunteer or non-professional data collectors but may themselves have limited experience in developing or implementing plans for effective monitoring and evaluation (M&E).

Case-study background

Conservation Through Public Health (CTPH) is a Ugandan non-governmental organisation (NGO). It seeks to improve local community health as a way to reduce conservation threats. CTPH supports a network of volunteers called village health and conservation teams (VHCTs) at several sites of conservation importance in Uganda and the Democratic Republic of Congo (DRC). The role of the VHCTs is to provide community health services and to raise awareness about conservation in villages bordering protected areas. The aim is to reduce pressure on natural resources within those protected areas and minimise the risk of transmission of zoonotic diseases between people, wildlife and livestock.

In each village, the volunteers visit residents in their homes to give advice relating to hygiene and sanitation practices, family planning and conservation. They also give talks to small groups of people on the same topics. The volunteers have also been trained to make referrals to local health centres in the case of household illnesses that require clinical treatment. In addition, some volunteers have been trained to provide injections of Depo-Provera, a contraceptive injection that provides protection against pregnancy for a three-month period.

The model for the VHCT programme was first developed in two parishes bordering Bwindi Impenetrable National Park (BINP) in Uganda, where CTPH has been working since 2007. CTPH has subsequently expanded the programme to other parishes around BINP and to other sites in Uganda and DRC. Since 2007, the duties of the VHCTs have included monthly reporting on a series of indicators that summarise their activities in relation to community health, family planning, hygiene and sanitation practices, and conservation. These indicators were designed by CTPH as the basis for evaluating the performance of the VHCT programme.

As part of a Darwin Initiative-funded project[1] to investigate the impact of the VHCT model, a review was undertaken to examine data collected by the VHCTs between 2009–2018. This review identified a number of issues affecting the reliability and veracity of the VHCT data and compromising CTPH's ability to evaluate the effectiveness of the programme. As a result, a series of recommendations have been adopted by CTPH to improve future monitoring and evaluation – both internal and external.

Monitoring and evaluation objectives

One of the first steps in developing any M&E plan is to identify the main ways in which the data collected will be used. This can help avoid the situation where monitoring is done just for the sake of monitoring. It is particularly important if the data are being collected by volunteers,

[1] Can improving health reduce threats to nature conservation? IIED, https://www.iied.org/can-improving-health-reduce-threats-nature-conservation

as it is unfair to burden them with unnecessary tasks. A robust long-term M&E plan can provide an organisation with the data necessary to assess their activities against long-term or intermediate performance indicators, adapt to changing circumstances, identify areas where improvement or special attention is required and provide accurate reporting to donors or other stakeholders (for CTPH's objectives, see Box 1).

Inevitably, in designing an effective M&E plan, there are trade-offs to be made between the resources available for monitoring, staff capacity to implement the plan, and the level of data required for the plan to meet its objectives. A good M&E plan therefore balances the requirements for data with the ability of the organisation to collect and evaluate that data.

Box 1. M&E objectives for the VHCT programme

The M&E plan developed for the VHCT programme identified two main objectives:

- Assess the performance of CTPH's activities over time
- Implement adaptive management of the VHCT programme.

Assessing performance over time

Within any long-term intervention it can be helpful to identify specific indicators against which to measure progress towards achieving longer-term objectives. This is particularly true for those aimed at affecting behavioural change. Take for instance an intervention aiming to raise awareness of, and increase access to, family planning. A sensible long-term objective might be to achieve contraception usage rates to match demand (at whatever the level – local, regional, national – that the intervention is planned). Progress towards this objective could then be measured by comparing usage of contraception to estimated demand at the start of the intervention and monitoring changes over time. Achieving some intervention objectives might be expected to take a long time. In cases such as these, it is often sensible to identify indicators that can be achieved within an interim period or that may be key to achieving the long-term objective. So, in the family planning example, a suitable interim objective could be the increased use of long-term contraceptive methods, which provide greater protection than single-use condoms.

This process of identifying and setting objectives, and then monitoring progress towards those objectives, is different from evaluating the overall impact of the intervention. There is no need to establish a causal link between the intervention and the effect monitored. It is possible to measure progress towards objectives without isolating the contribution of one specific intervention. This is particularly useful in cases where multiple organisations with multiple interventions might all be striving towards the same overarching long-term objectives. This is the case at BINP, where CTPH operates. Several other organisations also support similar interventions with similar objectives there (see Box 2).

Monitoring against defined indicators is also important to help an organisation know when it would be better to direct its efforts elsewhere because its objective has been reached, regardless of why this has happened.

Sometimes it is necessary to estimate an organisation's or intervention's specific impact. In these situations, different types of data and greater levels of technical capacity to analyse that data and draw causal links will be necessary. For small, volunteer-dependent organisations,

this may be beyond available resources and capacity. However, by ensuring that any data that have been collected are appropriate and collected correctly, the opportunity to use volunteer datasets for more rigorous impact evaluation is not lost.

Box 2. Assessing change over time for the VHCT programme

Many areas where the VHCT programme is active (or expanding into) have, to a greater or lesser extent, other organisations working towards similar objectives. It may be difficult to disentangle CTPH's specific impact on an issue without using further resources and getting specialist external input. A sensible approach is to design regular VHCT monitoring activities. This would track changes in key indicators over time against specific performance indicators. Coupled with periodic impact evaluations (such as surveying both control and implementation areas) this could help to measure the success of CTPH's activities in achieving specific outcomes.

Adaptive management

The process of adaptive management allows organisations to adjust their programmes as circumstances change or to focus on areas where programmes may be underperforming relative to expectations. For instance, monitoring might show that the original assumptions underlying particular activities turn out to be incorrect. An organisation might want to adapt its activities to better reflect their new understanding of the system. For this process to be effective, it is important that an organisation's M&E plan provides the data required. This can come from different sources, including both the quantitative data (such as data provided by regular volunteer monitoring) and qualitative data (such as informal feedback from volunteers).

When this information enables an organisation to identify areas where improvement is required, adaptive actions can be taken, and the effect of these actions tested. This process of adaptively managing a programme can be greatly supported by identifying key performance indicators, such that deviations from expected trends can be identified early on (see Box 3).

Box 3. An example of adaptive management for the VHCT programme

How might an adaptive management process work for the VHCT programme? One example might be how VHCTs are monitoring handwashing practices. Analysing data collected by the VHCTs might find that a fewer households than expected are actively maintaining handwashing facilities next to their latrine – and that this number is not improving over time.

What might be a reasonable approach to use? When the VHCTs visit households, they could focus on raising awareness about the importance of handwashing after using the latrine. The expectation would be that more households would then maintain their handwashing facilities. But if this does not happen over time, further investigation is needed. Why are more people not maintaining their handwashing facilities?

In this way, how VHCTs promote handwashing could be adapted to become more effective, based on a regular analysis of their monitoring data. And providing VHCTs with feedback about how their datasets are being used would enhance their commitment to collecting accurate information. It would also enhance their pride in their work when they see how CTPH is valuing and using their information.

Indicator selection

Selecting indicators is a key part of any M&E plan. In general, indicators should directly relate to steps along pre-identified causal paths: the chain of events by which an intervention is expected to achieve the desired change.

It is important to balance the need for information to support the plan's objectives with the burden that each additional indicator brings in terms of data collection, processing and analysis. Redundant indicators are rarely useful if they do not directly relate to expected changes as a result of programme activities. Similarly, indicators should normally only be selected to aid triangulation (the process of using data from more than one indicator to validate a particular finding). Triangulation is useful when a particular variable is expected to be difficult to measure, and therefore have reduced accuracy. For example, it may be challenging to know whether people are actually washing their hands after using the latrine. An indicator for reported handwashing could be supplemented with an indicator for the presence of a functional handwashing facility beside the latrine.

As a general rule, it is a good idea for all indicators to be assessed against SMART criteria prior to any data being collected:

- **Specific**: indicators should be clearly described and not include multiple measurements
- **Measurable**: indicators should be quantifiable
- **Attainable**: data collection should be straightforward and within the resources of the organisation
- **Relevant**: indicators should directly relate to steps along causal pathways
- **Time-bound**: indicators should be timeframe specific

An example of a non-SMART indicator might be 'Increase the proportion of households boiling their drinking water to 90 per cent'. In contrast, the SMART indicator equivalent would be more specific – for example: 'By 2020, the proportion of households in Parish X that boil their drinking water will be 90 per cent, compared to the 2015 baseline of 50 per cent'.

Ensuring that indicators meet the SMART criteria is a good rule for all M&E programmes. But it is particularly important when data are being collected by volunteers. They are unlikely to be experienced in data management. One of the main potential challenges with volunteer data collection relates to data accuracy. It can be badly affected if people collecting the data interpret what is required differently. The more clearly specified an indicator is, as it will be if it meets the SMART criteria, the less likely the volunteers are to misinterpret the data required.

Box 4. Applying SMART criteria to the VHCT programme indicators

The review of the M&E plan for the VHCT programme, included revising the existing set of indicators used by CTPH to meet SMART criteria.

One key revision made during the M&E plan review was to clarify the indicators for 'new' and 'repeat' households. Previously, several indicators (such as the number of visited households that boil their drinking water) were measured for both 'new' and 'repeat' households. However, there was confusion as to how these terms should be interpreted. Visiting 'new' households had been emphasised at the beginning of the programme. This was so that all homes in the volunteer's village received the services provided. However, some volunteers interpreted a 'new' household to mean one which had previously not boiled water rather than a household that had not previously been visited.

Applying SMART criteria to the list of indicators helped to avoid such confusion.

CTPH also adopted the same indicators used by the Ministry of Health to measure family planning as well as sanitation and hygiene and then added conservation indicators.

Indicators used to monitor a programme should also be are standardised (where appropriate) across the different sites in which the programme is being implemented. This is to ensure comparability between sites. Inevitably, if sites differ significantly, it may be necessary to include some indicators that are site-specific. But there should always be a core set of indicators that span across sites.

In normal circumstances, it is also advisable to ensure consistency in indicators over time. One of the main objectives of any M&E programme is to assess change over time. But changes in how data are recorded can make it difficult or impossible to credibly do this. Inconsistency also increases the chances that volunteers will become confused about the data they are supposed to be collecting. However, in some instances, it may be necessary to adopt new indicators to adapt to changing circumstances or new programme activities. If this is the case, it may be sensible to continue to use the old indicator alongside the new one for a while, so that the timeseries can be maintained (because the relationship between the two indicators can be analysed for the period in which both are being collected).

Data collection

Many volunteers will lack expertise in data collection. They may be unfamiliar with the need for objectivity or techniques to minimise bias. In some contexts, volunteers may also have limited numeracy skills.

It is important that the procedures used for data collection are easy to follow and repeatable, so that the same procedures can be used each time a volunteer collects data. Also, ensure that the means of recording data are straightforward to use. Printed logbooks or digitised forms on tablets or smartphones are likely to produce more reliable data than paper forms or notebooks. It is also important that data should be collected at the most suitable level to meet the objectives of the M&E plan. For example, if a programme is aiming to track how many women of reproductive age are using family planning, data should be collected at the level of individual women, not household level. This is true for all M&E programmes but it is important that the volunteers understand the distinction between individuals and households, and the importance of sticking to a proforma rather than making their own individual notes.

Making data-collection procedures easy to follow and ensuring data are collected at the correct level can be helped by using digitised data forms on mobile devices. These forms can be designed to help guide inexperienced data collectors using on-screen instructions, the instant validation of input data, and easy navigation between relevant sections of the form. For example, data validation rules can be used to limit the options that can be recorded for particular questions. Or they can check that an input answer is in the correct format or falls within a sensible range of values. This helps to avoid simple data entry errors. These are more likely to occur where data collectors are not used to questioning whether the answers they have been given are realistic. Easy navigation can be used so that any sections that might not be relevant to particular households can be skipped or that certain questions are asked at the correct level (eg data collectors are prompted to ask all women in a household about their family planning methods). In this way, data collection can be made significantly easier and common errors avoided.

However, logistical constraints may mean that the use of such forms is not always practical (Table 1). If an organisation decides to change from using paper forms to digitalised ones, it may be wise to use both at once for a while, if volunteers are prepared to double-enter data for a short time. This will allow time for them to become familiar with the electronic forms and help to overcome any teething problems.

Table 1. Pros and cons of collecting digitised data using mobile devices

Advantages	Disadvantages
Accidental errors limited by data-validation rules	Volunteers may require extra training on the use of smart phones
Significant time savings for programme staff	Organisations may require external assistance setting up the data-collection system
Reduced expenditure on printing and scanning datasheets	Significant initial expenditure on devices and for replacement of lost, broken or stolen devices
More direct analysis of key indicators	
Added incentive for volunteers to participate in a programme	Phones would require regular charging
	Potential for jealousy if devices are only issued to some volunteers

Time stamps make falsification of data easier to detect	Some volunteers may be unable to use smart phones
Easier to track outcomes of activities over time	Potential for data loss during data entry, upload and/or processing

Quality control

One of the greatest challenges associated with the use of volunteer-collected data is controlling data quality. As a result, it is important that robust quality-control procedures are put into place. This will ensure that issues with the data can be detected and addressed at the earliest opportunity.

Such issues can arise for a number of reasons. These include confusion about the meaning of particular indicators, a lack of objectivity, or wanting the programme to look like it is performing better than it is in reality. In more extreme cases, data may be falsified to show that a volunteer is doing more work than is actually the case. These problems can be exacerbated when programme staff also lack experience interrogating datasets for potential data quality issues. But problems can also be easily avoided with the right controls in place.

When checking for data quality, it is often easy to detect three common issues:

- Inconsistent data
- Data in the incorrect format or outside realistic values, and
- Unrealistic trends.

The ease with which these issues can be detected is dependent on the design of the database or spreadsheet into which the data are entered. As with digitised data-collection forms, both databases and spreadsheets can be set up to automatically detect data-quality issues during data entry. For example, if volunteers are asked to record the number of women using family planning within a particular household, the value recorded must be less than or equal to the total number of women in that household. Using conditional formatting or more advanced data validation rules means that the person entering the data can be automatically alerted when this is not the case. The same applies in cases where the value recorded falls outside an expected range.

Box 5. Simplifying data collection for the VHCT programme

Prior to the review, data were collected by individual VHCTs in the course of their duties and recorded in black books. At the end of each month, the collected data were then summarised into monthly datasheets. These were then collated by CTPH for data entry.

Once entered, physical copies of the datasheets were stored but not filed electronically.

The practice of summarising monthly data into a single sheet for each volunteer had the advantage of reducing the amount of data that needed to be entered by CTPH, thereby saving on resources. However, it also contributed to volunteer confusion regarding the interpretation of particular indicators (see also Box 3). This limited CTPH's ability to monitor certain key indicators, such as the number of new homes visited and repeat home visits for a particular indicator. There was also an issue with the way in which data for certain indicators were collected. Some data were collected at the household level (eg the hygiene and sanitation indicators), whereas others were primarily collected at the individual level during visits to the VHCTs' homes (eg the family planning indicators). This made it harder to analyse the data and produce composite indicators.

As a result of the review, CTPH decided to collect data at the household level using standardised logbooks with unique identities for each individual or household depending on the indicator. Although not as versatile as digitised forms, this approach has aided volunteer understanding of data-collection procedures.

For inexperienced data analysts, detecting unrealistic trends is more difficult to achieve automatically. It often requires an assessment of data changes over time for each volunteer. This is most easily done graphically but can also be done with tabulated data. In either case, the person reviewing the data must be able to see the sequence of values for a particular indicator over time. In this way, unrealistic trends can be identified and followed up (such as indicators having the same value when they should vary over time or indicators showing unexpected improvements or declines). More advanced statistical approaches are available to identify falsified data but require greater technical capacity (such as checking whether data follow the Benford distribution).

Box 6. Introducing data-quality controls for the VHCT programme

Many of the issues uncovered by the review of volunteer data from the VHCT programme arose because of the way in which data were entered and collated. Each month, the data collected by the VHCTs were entered into a separate Microsoft Excel file. Over the course of the year, the monthly aggregate data for all volunteers were copied into a further Excel file to produce annual values for each indicator. This meant that the data from individual volunteers for consecutive months were never recorded in the same file. This made it impossible to track trends at the level at which the data were collected. As a result, highly repetitive but unrealistic data patterns went undetected. The review also found a large number of inconsistencies in the volunteer data that could have been identified earlier had appropriate data controls been in place.

To resolve this, a new system was designed in Microsoft Excel into which the VHCT data can be entered. This enables trends to be assessed at the level of individual volunteers. It also makes use of conditional formatting rules to automatically detect when inconsistent data have been entered. It is now possible to follow up on inconsistencies in the data as they occur. This formatting is designed to help CTPH staff to check the quality of the data being received from the VHCTs, but does not remove the need to critically assess data quality.

In addition to the conditional formatting, the new system makes use of pivot tables and charts that are updated as new data are entered. These paired tables and charts can be used by CTPH staff to graphically check trends for particular indicators over time. This allows them to compare the values provided by the VHCTs for each month over consecutive years. This will help to identify many of the repeated data patterns that have affected the VHCT dataset in the past.

Data analysis

When developing an M&E plan, it is important to include how the data will be analysed. This avoids the situation of monitoring for monitoring's sake and the unfair burden that this places on volunteers. But it also ensures that the correct data are collected for an analysis to be possible. For example, the intention may seek to compare different areas where a programme is being implemented and others where it is not (a common way of assessing a programme's impact). To do this, control data must be collected over time from areas where the volunteers are not working. Planning analyses in advance ensures that the correct data are collected from the start – and that unnecessary data are not. It also ensures that hypotheses about how a programme may perform are stated in advance (*a priori)*. This can protect against an organisation opportunistically reframing expected impacts to show its activities in a better light.

The complexity of analysis required will depend on the objectives of the M&E plan. It can range from tabulating and plotting data, constructing composite variables (such as combining single indicators together) or calculating simple descriptive statistics, through to more complex multivariate statistical analyses. For example, the objective might be to make a rigorous evaluation of a programme's impact. This will require a more complex analysis than if the objective is to simply measure how key indicators are changing over time.

The complexity will also depend on the capacity of the person analysing the data. It may be necessary for different people to undertake different analyses, depending on the complexity required. A monitoring plan should include an assessment of the skills needed to undertake planned analyses. Personnel with the right skills can then be appointed or extra training given to existing staff.

Box 7. Analysing the VHCT data

Prior to the VHCT data review, very little analysis had been conducted. Aggregate data were largely shared with the volunteers, partners and donors in tabular form. This meant that inconsistencies were not identified. It also limited CTPH's ability to assess progress over time in key areas.

For example, each family-planning method was monitored through separate indicators. But this meant it was difficult to easily understand the total level of protection being provided to women using VHCT services. To measure this more simply, a composite indicator was needed, constructed from different indicators.

Similarly, the number of households visited by the VHCTs during any particular month varies significantly. Therefore, reporting indicators as absolute numbers makes it difficult to track trends over time. Presenting indicators as a percentage of the number of households visited provides a much more useful metric for understanding trends.

To help CTPH monitor trends over time, the new Microsoft Excel workbook developed for the VHCT data includes a set of composite indicators as calculated fields within a paired pivot table and chart. This enables CTPH staff to monitor indicator trends over time at the level of individual volunteers, villages, parishes or sites, thereby greatly improving the utility of the VHCT data.

Reporting and using the data

A good M&E plan will help to measure performance and identify areas in need of improvement. But it will also provide the information required to report to donors and feed back to the volunteers collecting the data. Donors increasingly want to see evidence that the activities they support are contributing to changed outcomes. Having data that demonstrate progress towards programme objectives is important. An organisation will need to present accurate figures on programme performance. But this step is made easy if the previous stages of the M&E plan have been designed and implemented properly. Once again, this demonstrates the importance of ensuring that the data being collected are accurate and relevant.

Equally important is using the data to inform decision making and aid adaptive management, for example by sharing with volunteers how the information they have collected is contributing to the programme's objectives and discussing what changes might be needed to improve progress. Provide the volunteers with feedback by presenting the data they have collected back to them in an understandable form and discuss how changes might be made. However, this should be done sensitively. If a volunteer needs to change how they collect data, this approach might encourage them instead to record data inaccurately in order to fulfil an organisation's expectations rather than embracing the changes required.

The success of any volunteer programme relies on the continued motivation of the volunteers to give up their time to participate. Providing feedback to volunteers and using this feedback as a means of engaging them in the process of adaptive management can be an important source of continued motivation. This gives volunteers the opportunity to express their opinions about the reasons behind particular trends and provide solutions to aspects of a programme that may be underperforming. How frequently to schedule such feedback will depend on the M&E objectives and the indicators being measured, but should be sufficiently often to continue to engage the volunteers. Similarly, for the long-term sustainability of a programme, it is important that volunteers are motivated to continue in their role. This can be encouraged by providing feedback at regular meetings, particularly focusing on areas where there have been improvements in indicators and developing a plan of action for any indicators which are not progressing as expected.

Box 8. Reporting the VHCT data

Given the number of households each VHCT is intended to cover within their catchment areas and the rate at which most VHCTs report visiting households, CTPH decided that annual performance reviews of most indicators would be a useful step. If greater coverage of each village is achieved in the future, performance could be reviewed more frequently. However, some indicators (such as the total number of households visited each month) can be reviewed more frequently.

One recommendation was that CTPH holds annual planning meetings with the VHCTs. This is to review performance of key indicators over the year against previous years and against programme objectives or intermediate benchmarks. These meetings would also provide an opportunity to identify underperforming indicators and plan remedial action. The progress of these activities could then be monitored over the course of the year, with feedback provided by the volunteers at quarterly meetings.

Ethics and confidentiality

When developing and implementing an M&E plan that makes use of volunteer and non-professional data collectors, ensure that everyone involved has a working understanding of research ethics and data confidentiality. This is particularly important in cases where the indicators being measured include sensitive or personal information, such as whether people are using family planning. The essential principles are that people should consent to having data collected about them, that their consent was informed, and that any data collected are kept securely and confidentially.

The principle of informed consent ensures that anyone having data collected about them is aware of how the data will be used, who will have access to the data (this includes both individuals and organisations), and what potential benefits or risks might arise from its collection. People must be given sufficient information about all of these factors and enough time in which to reach a considered decision. They must also understand that their consent can be withdrawn at any time – and without consequence.

Ensuring data confidentiality is key when collecting personal or sensitive information about people. This means that anyone having data collected about them can be assured that their data will be protected. The default option in such situations should be to collect data anonymously. This makes it impossible to identify the individuals or households about which

data are being collected. It is especially important that volunteer data collectors understand the principles of data confidentiality, particularly in cases where they are part of the same community as this they are collecting the data from. Any physical records, such as datasheets, logbooks or mobile devices, should be stored securely. But volunteers must also treat the information they have received as private and not pass this on to other people. At an organisational level, it is also important that records are stored securely and treated confidentially.

Final thoughts

Monitoring and evaluation is often thought of as a chore – or an afterthought – by conservation organisations. It may appear to distract them from their core mission of conservation action. Often donors do not prioritise funding of M&E and conservation implementers do not see the value of investing in the staff capacity and resources needed to do high-quality M&E.

There may be little need for small organisations to invest routinely in large-scale impact evaluation for attribution. But M&E does need to be seen as an integral part of an organisation's mission. This is particularly true when data collection by volunteers is fundamental to the organisation's theory of change (as is the case for CTPH). It supports organisational effectiveness, value for money, better donor and participant relations and informs strategic direction.

One way to think about M&E is to emphasise its core role in the prior design of interventions, and not just in the post-hoc monitoring of progress. Key to this is emphasising this interrelated importance – of design, monitoring and evaluation – to donors and senior management and raising its profile within the structure and operation of an organisation.

Using volunteers to collect important data for monitoring and evaluation is a growing phenomenon. Technology has made it easier and cheaper than ever before. But it can have drawbacks. How can mistakes and unintended biases be avoided? How can we ensure that the data are both high quality and useful? Using a case study from Uganda, this guide describes how to ensure data collection by volunteers is done as professionally as possible. It will be particularly useful to organisations that use volunteer or non-professional data collectors but have limited experience in developing or implementing plans for effective monitoring and evaluation (M&E).

Project Report

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