Community-based Cost Benefit Analysis (CBCBA) Tool

Part II: Step-by-step Guide to Data Collection

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Report Summary

The present document is Part II of a three-part CBCBA Tool. It is a step-by-step guide to preparing for and collecting data for CBCBA. It provides practical, user-friendly guidance for analysts and practitioners who undertake CBCBA. The text on each step includes both a general discussion and a list of tasks that must be completed by the CBCBA analyst. Many steps also include sample worksheets or template documents to help analysts complete the specified tasks.

SECTION 1

Preparatory phase

Step 1: Review intervention documentation

Available documentation on the intervention being assessed must be reviewed. This desk-based review will inform the CBCBA, providing both relevant background and perhaps also data and analysis on which to build.

Tasks for step 1

- Review available documentation on the intervention being assessed.
- Using Worksheet A, briefly specify key aspects of the intervention, namely its objectives, activities, target population, duration, and any outcome findings.

Worksheet A: Intervention overview

Parameters	Instructions	Findings
Objectives	Describe the intervention's objectives	
Activities	List its activities	
Outcomes	Summarise any outcome findings available	
Duration	Specify the project's start and end dates	

Step 2: Define the study parameters

Before data collection can get underway, the study parameters must be defined to clarify what the CBCBA will examine and how. The following text first describes the key study parameters to define, then lists the tasks that must be completed in order to define these parameters.

Ideally, the following tasks will be completed by the CBCBA analyst sitting together with key staff from the organisation that is implementing (or that implemented) the intervention being examined. One constraint on such discussions is that they must be conducted at least several days before the fieldwork gets underway, in order to leave time for implementing organisations to schedule visits with community leaders and key informants. If it is not possible to hold such advance discussions, an alternative is for the implementing organisation to provide the needed information in writing prior to the field visit. Worksheet C was designed to help the analyst gather the needed information from the implementing organisation, whether in person or via correspondence.

Five distinct parameters must be defined, namely sampling, stratification, sample selection, hazard profile and control. Each parameter is discussed in turn.

Sampling: Data collection for CBCBA is time consuming, which has cost implications. Yet most organisations that would be interested in conducting CBCBA face cost constraints. As such, it is not generally feasible for analysts to gather primary data on the entire target population of an intervention, e.g., in every village in the target area. The alternative is to conduct sampling, whereby a subset of villages is chosen for analysis.

The main benefit of sampling is that it enables analysts to draw rigorous conclusions about a wider target population based on data gathered in a subset of target communities. It therefore reduces the work load of analysts and the costs of conducting CBCBA while nonetheless generating findings that are both reliable and credible.

By ensuring that sample villages are chosen on an objective basis, sampling avoids two potential dangers. One is that analysts may be tempted to favour villages that are more accessible (i.e., less remote), in order to facilitate data collection and minimise costs. Another is that staff from the implementing organisation might seek to get analysts to focus on the most successful villages, in order to ensure the CBCBA paints a favourable picture of their intervention. While understandable, both these temptations must be avoided, since they could result in findings that are not representative of the wider target population, and that may neglect the most vulnerable and deprived communities.

Stratification: One feature of sampling is that it requires that the intervention area be divided into “strata”, or zones that are roughly homogenous in terms of the tangible opportunities or constraints faced by resident communities. Thus, a first question is whether the intervention’s target area is roughly homogenous, or instead has distinct subzones. For instance, is one part of the target area characterised by agro-pastoralism and another by nomadic pastoralism? Or does one part of the target area receive significantly more rainfall than another part? If such major differences exist, then the target population should be divided into distinct strata, each of which is roughly homogenous in terms of the key bases of variation identified. If the CBCBA is resource-constrained, it may be advisable for the analyst to focus on just one of these strata, since each stratum will essentially require a distinct CBCBA procedure.

If the intervention has more than one strata and the analysts need to select one stratum due to cost or time constraints, they should select the stratum of greatest interest. One reason why a stratum may be of particular interest is that its target population resembles a wider population, thus allowing the study to make rough inferences about the wider applicability of its findings. Another possible reason a stratum may be of interest is that the activities or innovations applied there show particular promise, and hence could form the basis of future efforts to scale up and out.

Stratification is used to define the sample frame to be used for the CBCBA. The sample frame is the wider set of villages that could potentially be visited during the data collection phase. If stratification is not needed, the sample frame will include all villages in the target population. If stratification is needed, it will include all villages in the stratum selected for study.

Sample selection: The selection of the villages to examine is made using statistical principles, so as to ensure that findings based on this subset of target villages are representative of the wider target population. One basic question is how many villages should be included in the analysis. For CBCBA, the more villages examined, the stronger the findings. Yet a bare minimum of three villages must be examined, while at least five villages are recommended. These villages can be selected either via random or purposive sampling.

If a large number of villages will be examined, then random sampling will be preferable, since it is 100% objective. Yet under certain circumstances purposive sampling may be preferable as a means to ensure that the chosen sample is as representative as possible of the wider target population. One such circumstance is where the study can only sample a small number of villages, e.g., five or less. Another is where the target stratum is only very imperfectly homogenous, making it important to ensure that villages experiencing a representative range of circumstances are chosen for inclusion in the sample.

Focus hazards: CBCBA could potentially be used to assess the efficacy of interventions to help communities cope with diverse hazards. Flooding, earthquakes and civil strife are possible examples. Yet given the large and growing importance of climatic shocks for small-scale farmers and pastoralists in the developing world, the present tool focuses on the application of CBCBA to interventions that build resilience to climatic shocks, whether they are framed as "adaptation", "DRR" or "development". These shocks include increasingly erratic rainfall and the increased magnitude and frequency of extreme weather events such as droughts, floods and cyclones.

Control: One way or another, the CBCBA must gather data that can be used to represent the "without intervention" scenario, in order to enable analysts to compare the "with" and "without" scenarios. This is done by specifying a control for the study. There are several alternative ways to do this. One is to gather data in a neighbouring community that is broadly similar to the target communities – notably in terms of livelihood focus, socio-economic context, and hazard exposure – but which was not included in the target population of the intervention. Another is to compare the 'before project' and 'after project' scenarios within the target communities.[1] The latter option may be preferable in cases where the organisation undertaking CBCBA is resource-constrained.

Tasks for step 2

- Review the descriptions of key CBCBA parameters provided above.
- Using the worksheets below, specify the parameters of the planned CBCBA.
- Present the proposed parameters to both the organisation implementing the intervention being assessed and the funders of the CBCBA, in order to solicit their feedback and suggestions.
- Submit a revised version of the study parameters to key stakeholder organisations for sign-off.

Worksheet B helps the analyst think through key questions he/she needs to address to determine the study parameters.

Worksheet B: Defining key parameters of the CBCBA

Parameter	Instructions for defining key parameters	Findings
Sampling	Specify whether sampling is needed, then justify. If sampling is not needed, skip Worksheets C and D.	
Stratification	Specify whether the target population needs to be stratified, then justify. See Worksheet C.	
Sample selection	Specify how the villages to be sampled will be selected, then justify. See Worksheet D.	
Hazards	Specify the focus hazard.	
Control	Specify the control to be used.	

Worksheet C seeks to establish whether some parts of the intervention area are significantly different from others, to the point that stratification of the target population is advisable. It helps implementing organisations characterise key differences by asking them to complete the table below. These organisations are requested to provide an answer for each row of the table, even if this is just say "no major differences in the target population regarding this factor". This information is needed in order to define the sample frame and then select the villages to be visited during the field work. It should be noted that the categories listed in

[1] The downside of the 'before and after' approach is that it does not allow you to control for all the other things besides the intervention being examined that changed between these two points. The downside of the 'control area' approach is that the two areas being compared may differ in significant ways, beyond the fact that the intervention was implemented in one but not the other. Despite these shortcomings, the suggested comparisons are nonetheless powerful, particularly if they focus strongly on outcomes the community associates with the intervention being examined.

Worksheet C are indicative only, since the factors that might vary across the intervention's target population may differ from place to place. The analyst should therefore feel free to change the listing of factors used to fit the target context.

Worksheet C: Information needed for stratification of the target population

Potential differences	Key question vis-à-vis the project's target population	Comments provided by the implementing organisation
Market access	Do some areas have significantly better market access than others?	
Rainfall	Do some areas receive significantly more rainfall than others?	
Livelihood	Do some areas have a different dominant livelihood from others, e.g., agro-pastoralism vs nomadic pastoralism?	
Water	Do some areas have significantly better access to a source of water (e.g., borehole, natural spring, and river) than others?	
Religion	Do some parts of the area have a significantly different religious profile from others?	
Ethnicity	Do some parts of the area have a significantly different ethnic profile from others?	
Poverty	Are some areas significantly poorer than others? For instance, are some areas beneficiaries of the national safety net scheme, while other areas are not?	
Distance to interviewees	Are any project villages more than 3 hours' drive from the project headquarters? If so, please specify which ones.	
Other factors	Are there any other ways that some parts of the intervention's target area differ from others? If so, please specify.	

Worksheet D helps the analyst to define how the villages to be analysed will be selected.

Worksheet D: Conducting sample selection

Parameter	Instructions	Findings and justification
Stratum selected	Where target population includes more than one strata, select the stratum most representative of the wider population, or of greatest interest for another reason. Justify the choice of this focus stratum. If desired, CBCBA can be conducted for more than one stratum, but each stratum must be treated like a separate study.	
Sample frame used	The sample frame includes all villages in the selected stratum in the intervention's target population (i.e., where it was active), with several possible exceptions. These include areas deemed unsafe to travel and any villages in which only a subset of the intervention's activities was conducted (which would not permit an overview of the intervention's impact).	
Sample size	Determine the number of villages to be sampled. While examining more villages generates better data, it also costs more. Each study must examine at least 3 villages, but 5 or more villages are strongly advised.	
Select sampling approach	If more than 5 villages will be examined, use random sampling, unless the stratum is only very imperfectly homogenous. In all other cases, use purposive sampling.	
Apply sampling to select villages to be visited	Random sampling: Assign each village in the sample frame a number; write each number on a piece of paper; wrinkle up these scraps of paper and place them in a hat; mix up the balls of paper; select the same number of paper balls from the hat as the agreed sample size. Ideally, conduct this process in the presence of key	

Parameter	Instructions	Findings and justification
	individuals such as local officials, and ask one of them to select the required number of paper balls from the hat, since this process clearly shows an objective process.	
	Purposive sampling: Using Worksheet C, identify the key factors that differ across the target population, then use these criteria to select a set of villages that are as representative of the wider sample frame as possible. For instance, if market access is a key criterion, then ensure the sample includes both villages with better and worse access. The goal is to ensure the study captures the main distinct realities faced by subsets of the target population. To avoid bias, ensure the villages selected are not all among the most successful in terms of outcomes, but instead reflect the range of observed outcomes, i.e., both more and less successful villages.	

Step 3: Specify assumptions about the future

Despite focusing on ex-post analysis of interventions – and hence typically being conducted during or shortly after an intervention – the CBCBA procedure nonetheless must make certain assumptions about the future. It seeks to keep these assumptions conservative in order to minimise the danger that it overestimates net benefits, and thus maximises the chances its calculations are reliable.

One assumption is how long any beneficial outcomes observed in the target communities will persist. Such an assumption is needed because interventions targeting small-scale farmers and pastoralists are typically designed to deliver lasting benefits to communities, so the benefits cannot simply be taken as ending when the intervention draws to a close. The expected duration is kept conservative by assuming that benefits will continue (1) only for relatively few years, and (2) only in cases where CBCBA analysts see persistence of benefits over time as likely, based on their observations and discussions with community members and key informants.

One common approach to determining the expected duration of benefits is to take it as the estimated lifetime of a key asset delivered by the intervention. For instance, take the example of an intervention that installed water pumps accompanied by various 'soft resilience' measures such as capacity building and awareness raising. If this pump is expected to last 15 years before it needs to be replaced, then the intervention's lifetime could be taken as 15 years.

Alternatively, the expected duration could be estimated based on relevant observations obtained during the FGD. This could involve dividing the observed benefits into three categories, based on the expected duration of the benefits cited. The first question is whether there are strong reasons to believe the benefit in question will persist after the intervention runs its course and funding for its activities ceases. If the persistence of benefits beyond this point seems unlikely, then the benefits should be calculated purely for the duration of the intervention. If benefits are deemed likely to continue, the next question is for how long. If they are expected to continue for a time yet longer-term persistence seems uncertain, then benefits could be calculated over 5 years. If however benefits are expected to continue for a long time, then they could be calculated over 10 years.

During FGDs, the analyst should ask target communities to comment on the expected duration of the each benefit they describe. During data analysis, the analyst should use the comments of villagers to classify each benefit into one of these three categories. Any

comments about benefits lasting ‘indefinitely’ or ‘forever’ should be interpreted as an expected duration of 10 years, given the importance of ensuring the analysis is conservative.

A second assumption involves how the relevant hazards differ from year to year in the area. When estimating the impact of an intervention over the course of several years, one consideration is that these impacts may differ in different years, based on how the relevant hazards differ from year to year. For small-scale farmers and pastoralists, the critical difference between years involves rainfall patterns. Estimating an intervention’s impact over time therefore requires making an assumption about how rainfall patterns in the area may differ from year to year over the period of the anticipated duration of benefits. Specifically, it involves distinguishing broad types of ‘rainfall year’ in the area.

Even if the CBCBA analyst wishes to simplify climatic patterns, he is likely to need three distinct types of rainfall year. Most simply, impacts of an intervention may differ from ‘normal’ rainfall years (when it may deliver absolute improvements in performance) and climatic shock years (when it may build resilience and hence reduce losses due to shocks). The simplest possible typology would thus involve two distinct types of rainfall year, namely ‘normal’ and ‘shock’. Yet given the very different types of climatic shocks, it may be advisable to further differentiate them, for instance by distinguishing between extreme weather years and erratic rainfall years.

The resulting simplified typology is as follows:

- Normal year: Rains that are broadly consistent with historic rainfall averages for the area and favourable to the types of crop and livestock production practiced there. Such years were typically more common prior to the increase in climatic shocks linked to climate change.
- Extreme year: A climatic shock that involves a major change in total rainfall volume relative to average historic levels. Examples include drought and flooding.
- Erratic year: A climatic shock involving significant changes in rainfall timing and/or distribution. Examples include late-onset rains, early cessation of rains, and rainy seasons characterised by intense rainfall events interspersed with dry spells.

An alternative possible typology might include ‘normal’, ‘below normal’ and ‘drought’ years. The selection of a typology must be made in consultation with interviewees, so that it characterises the distinct types of rainfall years in ways that resonate with their experience.

Once a typology is selected, the next step is to make an assumption about the frequency of each type of rainfall year over the course of the years being examined.

To summarise, assumptions about the future must include (1) the number of years for which the intervention benefits are anticipated to persist, (2) the main alternative types of ‘hazard year’ (i.e., rainfall year) likely to occur over this period, and (3) the frequency of these different types of rainfall year in the area.

An illustration of one possible set of assumptions is: (1) an observed benefit will persist for at least 5 years, (2) the simplified typology described above, (3) one extreme weather event will occur every five years while one erratic weather event will occur every two years. That is, future benefits of the intervention are assumed to accrue for 1 extreme year, 2 erratic years, and 2 normal years.

These assumptions can be represented in terms of formulas. Formula 1 (F1) shows that for CBCBA, making estimations over differing rainfall years is done by distinguishing broad types of rainfall year, then adding together the impacts of the intervention in each of these

cases. F2 shows the benefits that would be achieved over 5 years if all 5 years were 'normal' rainfall years. F3 shows the example discussed in the previous paragraph, which represents one possible set of assumptions for CBCBA.

F1: Benefit = $(\text{impact/year type})_{\text{Year 1}} + (\text{impact/year type})_{Y2} + \ldots + (\text{impact/year type})_{YN}$
F2: Benefit = $(\text{impact/normal})_{Y1} + (\text{impact/normal})_{Y2} + (\text{impact/normal})_{Y3} + (\text{impact/normal})_{Y4} + (\text{impact/normal})_{Y5}$
F3: Benefit = 2*(normal year impact) + 2*(erratic year impact) + 1*(disaster year impact)

When making assumptions regarding the frequency of specific climatic hazards, ensuring that the CBCBA remains conservative will require that the analysis avoids overestimating the frequency of climatic shocks. This follows because the benefits accruing to communities from the intervention may be especially large in these years, particularly where the intervention is billed as climate adaptation or DRR and hence explicitly sets out to build resilience to climatic shocks. It follows that where existing hazard estimates are expressed as a range, e.g., "extreme weather event every 5-7 years", the most conservative option in this range should be used for the purposes of CBCBA. In this case, that would mean assuming such an event occurs every 7 years rather than every 5 years.

Tasks for step 3

- Complete Worksheet E regarding anticipated duration of the intervention's benefits.
- Complete Worksheet F regarding broad types of 'rainfall year' and their frequency, based on consultations conducted with staff from the implementing organisation as reported in step 8.

Worksheet E: Assumptions re anticipated duration of intervention benefits

Expected duration	Intervention benefits in question	Comments
Implementation period only		
Five years after end of intervention		
Ten years after end of intervention		

Worksheet F: Assumptions re broad types of rainfall year and their frequency

Types of rainfall year	Assumed frequency	Comments

Step 4: Select facilitators

To ensure that the CBCBA gathers high quality data, it will be important to identify facilitators who are trusted by the various communities being consulted via FGDs. Facilitators must be fluent speakers of both the local language and the language of the analysts. They must also be familiar with the local culture and have experience with participatory approaches. Ideally, the facilitation team should include at least one man and one woman. Typically, facilitators will be staff of the implementing organisation or one of their local partner organisations, but they could also be from another local organisation.

Facilitators play a critical role in FGDs, for both cultural and linguistic reasons. In some cases they may also be needed for the meetings with the implementing organisation and key informants, if for instance the CBCBA analyst does not speak the same language as these interviewees.

It is important that communities feel they can speak freely during FGDs, so it is preferable if representatives from government are not present. Government will nonetheless benefit from this approach by obtaining unvarnished findings regarding the situation of vulnerable communities.

Tasks for step 4

- Ask the implementing organisation to identify suitable facilitators to facilitate the FGDs and discussions with community leaders, and potentially also key informants. Ensure that implementing organisations understand the various criteria that should guide this choice.
- If government representatives express interest in attending FGDs, explain to them the reasons why it is preferable to avoid this.

Step 5: Planning field visits

Before undertaking data collection, field visits must be planned. Planning will typically be determined by the organisation implementing the intervention being examined, in consultation with the CBCBA analyst. Specifically, this must include:

- Arranging transport for travelling to selected villages and key informant interviews.
- Booking suitable lodging for the analyst during their stay in the target area.
- Contacting village leaders and priority stakeholders to schedule FGDs and key informant interviews.

Scheduling these different meetings can be tricky, particularly in areas where transportation is problematic, for instance due to problems with roads during rainstorms. Given these potential complications, any minor delays occurring during these field visits due to factors such as travel disruptions need not be seen as a problem, since the analysts can use them to begin processing the field data on their laptops, which is a priority and time-value task for them. When scheduling field visits, analysts should seek to ensure that additional time is built into plans in order to accommodate any such delays and avoid having to sacrifice any key aspects of data collection.

Another task that must be completed before data collection gets underway is that potential barriers to data collection must be discussed with the implementing organisation. Specifically, their input should be solicited on the following questions:

- Is security a potential constraint to successfully collecting the needed data? If so, does it particularly affect certain parts of the target intervention area? How could these risks be minimised?
- Are weather patterns or climatic shocks a potential constraint to successfully collecting the needed data? If so when are they likely to pose less of a constraint to data collection?
- Besides security and weather, are there any other factors that could potentially disrupt data collection? If so, how might any such risks be minimised?

Tasks for step 5

- Request that the implementing organisation arrange logistics for the field visit.
- Solicit input from the implementing organisation regarding potential barriers to data collection and how best to address them.

Step 6: Identify key informants

Key informants are an important source of information for CBCBA. They are typically individuals who work in the area where the intervention being examined is active. They will be staff of government departments or organisations whose work relates to the focus areas of the intervention being examined. Ideally, key informants will be selected from government, civil society and the private sector, but whether or not this is done will depend on which organisations are active in the area and how their work relates to the target intervention. This information is typically obtained via the implementing organisation, who can be asked to respond to the following questions:

- Can you provide us with a list of priority stakeholders in the county or project area? Ideally, this will include government officials from key departments, staff from NGOs or CBOs active in the area, and key players in supply chains for important local markets.
- Please briefly state why each is a priority stakeholder, in your view (1 sentence each)

Tasks for step 6

- Request that the implementing organisation identify priority key informants in its target district(s).

SECTION 2

Field-based data collection

Data collection for CBCBA builds on the document review conducted during the preparatory phase. It involves conducting field visits to the districts targeted by the intervention being examined, then completing several activities during these visits.

The first activity of field-based data collection is to hold in-depth consultations with the organisation implementing the intervention being examined. These consultations introduce CBCBA to key staff members and provide them with an opportunity to offer feedback and suggestions. They also provide early answers to key questions that can help frame and inform the analysis. The most important part of CBCBA is conducting focus group discussions with selected target communities, since visiting and conferring with communities is the best way to try to understand the impacts of an intervention's impacts. Finally, transect walks and key informant interviews provide supplementary information and alternative perspectives to help the analyst better understand the local context and the intervention's impacts.

Via these activities, as summarised in Table 1, CBCBA gathers data with a view to establishing and comparing two alternative scenarios for the target population:

- The situation **"with"** the intervention, which covers the economic performance and welfare of the target communities in the areas where the intervention has been implemented; and
- The situation **"without"** the intervention, which covers these same questions in areas not covered by the intervention, i.e., under the business as usual scenario.

Data collection activity	Tasks	Timing	Participants
Consultations with the implementing organisation (CIO)	Meet with staff in organisation's field office; deliver presentation about the study; answer questions and solicit feedback and suggestions	½ day in the office, as well as talking during travel to villages	Analyst and implementing organisation staff
Focus group discussions (FGDs) in selected villages	Meet with village leaders, conduct transect walk, conduct FGD	1 day per village, including travel to and from the village	Analysts and implementing organisation staff
Key informant interviews (KIIs)	Conduct interviews with priority individuals; pay courtesy call to local government officials	1-2 days	Analysts only, except for meetings with government

Table 1 Data collection activities to be completed during field visit

The different types of information needed for CBCBA are summarised in Table 2. A set of default questionnaires to help meet these information needs are then provided in Annex 2. The questionnaires provided are intended to serve as a point of departure, but can be adjusted to better fit the context and intervention in question, so long as each information need listed is addressed.

Category	Brief overview	Sources
Background context	Identify key aspects of the local context that frame evolving livelihood opportunities (besides natural hazards). This could include trends vis-à-vis population growth, environmental degradation, government services, market access, and any other factors deemed significant.	CIO, FGDs, KIIs
Hazard profile	Identify the hazards affecting the target population, including their magnitude and frequency, and how they have changed over time. Include both extreme weather events such as drought and increased climatic variability, given its growing importance to rural communities. Identify key 'types' of rainfall year, then specify one recent year to represent each type of year.	CIO, FGDs, KIIs
Activities	Identify those activities associated with the intervention that were most significant to the community, then specify why they were significant. If the intervention has numerous activities, request that communities specify just three priority activities, based on their experience.	CIO, FGDs
Observed outcomes	Identify the observed outcomes associated with these priority activities, then seek to distinguish them from the likely outcomes in the "without" intervention scenario. This will typically involve comparing the pre- and post-intervention cases for each community being examined. (The focus is on beneficial outcomes, with adverse impacts examined below.)	FGDs
Expected duration	Determine the expected minimum duration of the observed benefits based on consultations with the target communities.	CIO, FGDs
Adverse impacts	Identify any adverse impacts of the intervention on either the target communities or neighbouring communities, then describe these impacts.	CIO, FGDs
Prices	Determine key prices observed in the target communities, since these price data are needed to generate monetary estimates of benefits observed. Observed changes in price data for crops and livestock must also be noted, specifically how such prices vary between different times of year and/or different types of 'rainfall year'.	CIO, FGDs
Socio-economic groups	Identify key socio-economic groups within the target population, including their key defining features and approximate proportions.	CIO
Other contributing interventions	Identify any other interventions implemented over the past five years that have contributed to the outcomes cited by FGDs. Specify their activities and reported outputs and outcomes.	CIO, FGDs, KIIs
Costs incurred	Determine the costs of the intervention being examined, including in-kind costs incurred by communities. Also determine any costs incurred by other interventions that contributed to the outcomes cited. Total up these costs.	Source documents, CIO, FGDs

Table 2 Types of information needed

The steps to be conducted during the data collection phase of CBCBA could be framed in either of two ways. One option would be to elaborate on the different data collection activities listed in Table 1, while another would be to elaborate on how to gather the different types of data listed in Table 2. The CBCBA Tool focusses on the latter option, since these elaborations are needed. Nonetheless, a short version of the former option is also provided below.

2.1 Data collection steps framed in terms of needed information

Step 7: Gather data on perceived challenges facing the target population

One facet of the analysis is to capture the perceived challenges facing the target communities as seen by these communities themselves. This process helps establish rapport with communities by ensuring that they feel heard, while also providing invaluable perspective on the current situation in the communities consulted. Comments of community members can be useful due to both the insights they can bring to the analysis and to any potential knowledge gaps or oversights conveyed by their comments.

Tasks for step 7

- Gather these data in both the CIO and the FGDs. See Worksheet G.

Worksheet G: Key challenges facing the community

Key factors	Significance to peoples' welfare and prospects
Challenge 1	
Challenge 2	
Challenge 3	
Challenge 4	
Challenge 5	
Challenge 6	

Step 8: Gather data on the background context

A second facet involves learning about key aspects of the background context such as population growth trends, environmental degradation or rehabilitation, and market access. These discussions further flesh out the tangible opportunities and constraints facing the target population.

Tasks for step 8

- Gather these data in both the CIO and the FGDs. See Worksheet H.

Worksheet H: Background context

Key factors	Changes in past 20 yrs.	Status 20 years ago	Status 10 years ago	Status now	Significance to peoples' welfare and prospects
Population growth / loss					
Government services					
Market access					
Land degradation / rehabilitation					
Deforestation / reforestation					
Other:					

Step 9: Gather data on the hazard profile

The present tool focuses on the application of CBCBA to interventions that build resilience to hazards. As such, this analysis must include developing a profile of the hazards affecting the target population.

This hazard profile focuses on hazards associated with climatic shocks, as opposed to hazards such as conflicts. One reason for this focus is the status of climatic shocks as a large and growing threat to small-scale farmers and pastoralists in the developing world, where they often constitute an existential threat. Another is the fact that interventions to build resilience can greatly reduce the impacts of such hazards on these communities, often while also delivering core development benefits.

The hazard profile identifies the climatic hazards affecting the target communities, then characterises their consequences for these communities. Based on experience from other CBCBA studies, these shocks often include increasingly erratic rainfall and the increased magnitude and frequency of extreme weather events such as droughts, floods and cyclones. This profile sets the stage for understanding the impacts of interventions that seek to build community resilience to these shocks. The hazard profile can include both qualitative and quantitative data on hazards, but seeks to paint a rough picture rather than conducting a formal hazard assessment.

Climatic hazards are typically expressed in terms of their frequency of occurrence. For instance, drought might be predicted to occur once every 10 years in a given area. However, predicting future climatic hazards is difficult given climate change, since hazard occurrence has been changing in recent years, and is expected to continue to do so. As such, predicting future hazards is difficult even where analysts have access to downscaled climate modelling based on good historic weather data. If these predictions are approximate at best, it is important to be conservative. One way to do this is by extrapolating forward current climatic patterns, despite the fact that these are anticipated to intensify over time under climate change.

Defining a hazard profile involves characterising the main alternative types of local climatic shocks, their frequency, and any trends over time. It is important that the profile not just look at aggregate rainfall data but also its distribution, since poor distribution can harm crop and livestock production even in years when total rainfall is good. It is also useful to identify 2-4 alternative types of “rainfall year” in the area in consultation with the implementing partner. As discussed in step 3, a default typology with 3 categories – normal rainfall, erratic rainfall, and extreme weather event – offers a point of departure, but if this typology doesn’t fit the local context then the analyst should suggest an alternative. Asking target communities to cite one year that exemplifies each type of ‘rainfall year” can help them think about and covey how benefits change under different types of climatic shocks.

Tasks for step 9

- Obtain data on climatic patterns from a combination of documents from the national meteorology service and interviews with the CIO and FGDs.

Worksheet I: Hazard profile

Type of hazard	Hazard recurrence (in years)	Impact on communities

Step 10: Gather data on activities deemed most significant to the community

Before examining the outcomes observed in the target communities, whether these are benefits or adverse impacts, it is important to consider the activities conducted by the intervention. Activities are tangible and easily recognisable, while outcomes can be more difficult to discern or grasp, so it is important to begin by thinking in terms of activities.

Each activity of the intervention can potentially lead to diverse outcomes. For instance, an activity that improves farm or pasture management could deliver benefits such as higher income, avoided losses of assets, increased school attendance, and better health status. Similarly, an activity that improves access to water could improve health status and reduce health expenditures, while also reducing the labour burden on women associated with gathering water for the household.

Tasks for step 10

- Ask the FGD participants to list the three intervention activities that are most important to the community, encouraging them to debate this question and come up with an agreed list of three.
- Once 3 have been chosen, ask if any villagers disagree with these choices and if so why.

Worksheet J: Three most significant intervention activities

Activities most significant to communities	Comments on the degree to which villagers agree about this
1.	
2.	
3.	

Step 11: Gather data on observed outcomes

The essence of CBCBA involves an impact assessment of the intervention being examined. The background context and hazard profile form the backdrop for this impact assessment. They describe the baseline reality within which the efficacy of different livelihood and resource management strategies can be compared, notably those found “with” and “without” the intervention. The impact assessment highlights how the population’s welfare, vulnerabilities and capacities change under these two scenarios.

Interventions targeting small-scale farmers and pastoralists often deliver diverse benefits to these communities. In light of this fact, CBCBA seeks to capture various impacts of the intervention being examined, notably those perceived by its target communities to be the most significant. The focus is on beneficial outcomes, which can include reduced hazard losses and/or enhanced baseline welfare and productivity. Yet CBCBA also seeks to capture any adverse impacts of the intervention.

CBCBA requires quantifying at least some benefits of the intervention being examined, since otherwise it would not be possible to generate quantitative estimates of net benefits. Examples of benefits that may lend themselves to quantification include any assets gained or not lost due to shocks, any income either gained or not lost, and any injuries or illnesses avoided. Yet various potential benefits of interventions targeting these communities do not lend themselves to quantification, even when they are central to the intervention’s importance and impact. Examples include beneficial changes to community planning capacity, gender dynamics or governance.

To fit with this reality, CBCBA seeks to identify the subset of benefits which are readily quantifiable, then focuses its quantification efforts on these benefits. All other benefits of the intervention are treated as qualitative, and described in qualitative terms. That is, CBCBA quantifies those impacts which lend themselves to quantification while conveying other impacts in qualitative terms. This approach is consistent with ensuring that CBCBA is conservative, since it is likely to substantially underestimate the intervention’s benefits. This follows because treating benefits as qualitative means that they are assumed to have a quantitative value of zero, and hence are not accounted for in the quantitative summary statistics generated by CBCBA.

While quantitative findings are potentially influential, they are also incomplete, and could be misleading unless they are couched in their broader context. This explains why CBCBA also collects qualitative data on outcomes to enrich and contextualise its quantitative findings, such as narrative testimony from target villagers or local development practitioners. This approach of combining quantitative measures with qualitative findings delivers a rich, holistic assessment of the intervention's impact. If properly conducted, CBCBA can generate powerful quantitative evidence that is compelling to institutions which prioritise such measures, while simultaneously presenting a nuanced and textured picture of impacts on communities.

This tool seeks to keep the process of estimating impacts as simple as possible, in order to maximise its accessibility to those interested in conducting CBCBA. One way it does this is by providing user-friendly guidance and templates. Another is by positing a set of indicators that could be used to assess outcomes of interventions targeting small-scale farmers and pastoralists across a range of countries and contexts. The indicators posited cover economic, social and environmental outcomes, so using them ensures that the impact assessment applies a 'triple bottom line'. A checklist is provided to help analysts apply this 'triple bottom line' (Table 3). It can be used as a reference during FGDs, as a complement to asking open-ended questions.

To avoid any possible misunderstanding, the CBCBA analyst is NOT required to gather data on all the indicators listed in Table 3. Analysts are only asked to find out which of these outcomes apply in the target communities, then to gather data on this subset of outcomes.

Evidence on quantifiable benefits can be either monetary or non-monetary, since many of the costs and benefits faced by small-scale farmers and pastoralists are non-monetary. Examples of monetary measures are sales of milk, livestock or fuelwood, while examples of non-monetary measures are increased production of crops for home consumption or reduced time spent collecting fuel or water for household use. In all cases where quantitative measures are physical (i.e., non-monetary), they must be transformed into monetary values using relevant price data so that they can be incorporated into the quantitative analysis. This is necessary because all benefit measures must be expressed in terms of a common metric in order to be aggregated, then weighed against the intervention's costs.

While conceptually clear, in practice comparisons between outcomes in the "with" and "without" intervention scenarios are nuanced. One reason is that climatic patterns vary from year to year. A second is that interventions that aim to build climate or disaster resilience often deliver significant benefits to target communities even in years when there are no hazard shocks. It follows that comparing the "with" and "without" intervention cases should ideally compare the performance of target communities under several broad types of climatic year, including 'normal' years. Data collection for CBCBA will ideally take account of these dynamics by gathering data for different types of climatic years both "with" and "without" the intervention. Yet in practice doing this is difficult, given the limited time available for conducting FGDs, so this aspect of CBCBA is optional.

Obtaining monetary estimates of a given quantifiable impact often requires gathering both physical measures of the phenomenon and relevant price data. The types of data needed to generate quantitative findings for different indicators are listed in Table 5. Data collection for indicators marked with an asterisk should ideally differentiate between types of rainfall year for both physical measures and price, given the likelihood that these measures will vary between different types of rainfall year. Yet given the practical difficulties of gathering physical measures for different types of rainfall year, CBCBA only requires that price data be differentiated. Moreover, these price changes can be gauged in either of two ways in order to facilitate this task, as discussed in step 14.

Tasks for step 11

- Ask participants in the FGD to explain the different reasons why they say that the three intervention activities selected in step 10 were significant for the community. Ask this as an open-ended question, but request that different villagers offer answers from their perspective, including providing testimony regarding how their own household benefited. This household testimony should include numeric estimates of gains, where numeric measures fit naturally.
- Use the checklist in Table 3 as a complement to these open-ended questions to ensure the analysis applies a 'triple bottom line', whereby benefits across the economic, social and environmental domains are considered for each activity. Specifically, if any of the outcomes cited in Table 3 were not already cited spontaneously by villagers, then ask them about these remaining benefits, and whether or not they were also observed.
- Use Table 4 as a reference to ensure the FGD gathers all needed data for each benefit cited. Notably, wherever numeric measures fit naturally with the benefits perceived by villagers, ensure that at least three villagers give personal testimony of these quantitative impacts. Ideally this testimony should include comments from different types of villagers – e.g., women and men, young and old, rich and poor – to ensure the study obtains a rounded picture of these impacts.
- Enter villagers' comments about why the intervention activities deemed most significant were selected into Worksheet K. These comments will follow on from asking villagers to explain their selection, coupled with prompting from the analyst based on the checklist in Table 3.

Worksheet K: Beneficial impacts of the selected activities (i.e., reasons for selecting them)

Most significant activities	Beneficial impacts, use a new cell for each distinct villager comment

Family of outcomes	Outcomes	Indicators examined	Question to ask, if this outcome was not mentioned by villagers
Economic	Crop productivity	Change in productivity of key crops	Any significant changes in crop productivity [if they grow crops]?
	Livestock assets	Change in livestock head count and or herd composition (i.e., animal types)	Any significant changes in livestock assets [if they have livestock]?
	Livestock income	Change in income from selling animals and livestock products	Any significant changes in livestock income [if they have livestock]?

Family of outcomes	Outcomes	Indicators examined	Question to ask, if this outcome was not mentioned by villagers
	Other income or assets	Change in specified income source or asset, e.g., housing, solar panels, water pumps	If they have another income source, any significant change in it?
Social	Schooling	Change in school attendance of children	Any changes in school attendance of by children [if attend school]?
	Health	Avoided malnutrition, illness or injury	Any changes in health status, e.g., avoided malnutrition, illness or injury?
	Gender	Change in gender-based tasks, or influence on household decision making	Any changes in women's status, e.g., time spent gathering fuel or water, influence on household decisions?
Environmental	Local soils	Rehabilitation of degraded agricultural land	Any changes in local soil quality [if practice cropping]?
	Local pastures	Rehabilitation of degraded pastures	Any changes in local pasture quality [if keep livestock]?
	Local tree stocks	Reforestation, agroforestry and avoided deforestation	Any changes in local tree stocks or in tree or forest management practices?

Table 3 Checklist of potential impact indicators, to prompt FGDs re significant outcomes observed

Family of outcomes	Outcomes	Qualitative data, i.e., specify direction of travel AND provide narrative comments	Quantitative data, where relevant, i.e., physical measures AND price data
Economic	Crop productivity*	Higher crop productivity under normal conditions and/or given hazard shocks	Physical: Yield/ha for key crops Price: Local price of key crops
	Livestock assets*	Higher head count, whether due to changes in reproduction rates or in mortality	Physical: Numbers reproducing, or numbers dying Prices: Local prices of livestock types
	Livestock income*	Higher income from selling animals and livestock products	Income from 1 or 2 key products, with relevant prices
	Other income or assets	Higher other income or assets, as specified	Level of other income or assets, with relevant prices
Social	Schooling	More children attend school, or children continue attending school for longer	Physical: Reduction in days of school missed due to hazard shocks, or avoided withdrawal of kids from school Price: Local wage w/ or w/o schooling
	Health	Reduced malnutrition, illness or injury	Physical: Reduction in days of work missed, or avoided costs of treatment Price: Local day wage
	Gender	More influence on household decision making, or less time in gender-based labour	Physical: Numeric change in time spent gathering fuel or water Price: Local day wage
Environmental	Local soils	Local agricultural land improving generally, or local	Gains measured by increases in crop productivity

Family of outcomes	Outcomes	Qualitative data, i.e., specify direction of travel AND provide narrative comments	Quantitative data, where relevant, i.e., physical measures AND price data
		soils improving on certain farms	
	Local pastures	Local pastures improving generally, or local pastures improving in some areas	Gains measured by increases in livestock assets and/or income
	Local tree stocks	Local tree stocks rising, or tree management practice improving	Physical: Numbers or hectares of trees planted or protected from cutting Price: Local price of relevant tree products

Table 4 Types of data needed to analyse outcomes

Step 12: Gather data on expected duration

As discussed in step 3 above, one key piece of data needed for quantitative analysis is how long any beneficial outcomes observed in the target communities will persist. This information is needed because interventions targeting small-scale farmers and pastoralists are typically designed to deliver lasting benefits to communities, making it important to consider this aspect of their impact.

Tasks for step 12

- Gather these data in the FGDs using the questionnaire (Annex 2), then enter into Worksheet E.

Step 13: Gather data on adverse impacts

The goal of CBCBA is to gauge the net benefits of the intervention, while taking into account the intervention costs and any adverse impacts. As such, an effort must be made to identify and capture any adverse impacts of the intervention. One type of adverse impact is those observed within the community, such as a new technology that displaces labourers. Another type is adverse impacts on neighbouring communities, such as embankments to protect one community from floodwaters that simply displace these waters to other communities that weren't formerly affected.

Capturing adverse impacts falling within the community should be possible via the testimony of community members. Yet adverse impacts on neighbouring communities are problematic, since it would be difficult for CBCBA to assess impacts on other communities due to resourcing and cost constraints. Potentially, however, such impacts can be assessed qualitatively via testimony from the implementing organisation or key informants. If off-site adverse impacts are deemed significant, this could be taken as a spur to examining how the intervention could be redesigned to minimise these off-site impacts or how an additional activity could be added to offset them.

Tasks for step 13

- Gather these data in the FGDs, then enter into Worksheet M.

Worksheet L: Adverse impacts of the intervention

List adverse impacts of the intervention	Cite testimony characterising these adverse impacts

Step 14: Gather relevant cost information

Quantifying costs and benefits associated with an intervention depends on identifying relevant price measures observed in the target communities. Determination of which prices are 'relevant' will depend on the benefit quantified. One key price is the local daily wage rate, which is needed to estimate any benefits that involve reducing the labour burden on households. The daily wage is also needed to estimate any in-kind costs associated with the intervention. Other price data that could be relevant to quantification are the prices of key types of production or assets, such as the cost of crop outputs or livestock. In agricultural or pastoral communities, such prices may vary greatly both over the course of the year and between different types of 'rainfall year', so capturing such differences is important.

Examining the case of local wage rates illustrates the significance of price data. A key impact of interventions is that they may reduce the labour burden of target households, though they may also increase this burden, particularly in the near term. In order to convert any such increases or reductions in labour demand into monetary values, the local daily wage rate is needed. This wage rate provides a useful measure of welfare gains or losses to households from changes in household labour demand. This follows whether or not the time in question was paid as day labour. Even if a villager simply loses time working on their farm, this loss will tend to reduce the farm's production by approximately the value of the labour that was not applied to farming. Where an intervention reduces labour demands on a household, it frees them up to do something else, e.g., engaging in a cottage industry, playing with their children. By contrast, where an intervention increases labour demands, this reduces time they could be doing something else. The best way to gauge the local wage rate is to look at what community members actually earn in existing activities, for instance fall-back options to supplement their income like producing and selling charcoal.

One peculiarity of prices in small-scale farming and pastoral communities is that prices for crops and livestock tend to vary sharply. These variations occur both (1) over the course of the year, and (2) between different types of rainfall year. Simply put, when times are good then livestock prices tend to be high while crop prices tend to be low. Conversely, when times are bad then livestock prices tend to be low while crop prices tend to be high. In short, many communities tend to sell crops when they are abundant, while they tend to sell livestock only when they are desperate. Both good times and bad times often change over the course of the year as well as between different types of 'rainfall year'. Given these often dramatic local price changes, it is essential that any price data on either crops or livestock gathered by the CBCBA analyst reflect such distinctions. Ideally, actual price differences observed at different times would be used in the analysis, e.g., during drought vs during the rainy season in a 'normal rainfall' year. Yet gathering data on such fine gradations could be complicated. The CBCBA analyst could therefore facilitate the task of gathering these price data by simply obtaining one price for 'good times' and another for 'bad times' for each relevant price, based on observed seasonal prices.

Worksheet M: Price data for use in quantification

Entity priced*	How obtained	Price value ('good times')	Price value ('bad times')

*Examples of 'entities priced' might include the local daily wage, maize price, or goat price.

Step 15: Identify socio-economic groups within the target population

One topic specific to the consultations with the implementing organisation is socio-economic diversity within the target population. Given the large differences between the vulnerability statuses of different subsets of villagers, CBCBA must take at least rough account of these differences. Information on socio-economic status is delicate, however. As such, discussing such differences openly in the FGD could embarrass some villagers, and hence is not recommended. Instead, this question can be addressed in consultations with the implementing organisation. These discussions should seek to identify distinct vulnerability categories within the target communities by pinpointing 2-4 broad socio-economic strata within these communities.

As noted in Part I of the CBCBA Tool, it is important to recognise the limitations of the quantitative findings obtained via CBCBA. A key limitation is that these findings are solid but approximate. As such, they are best suited to characterising impacts of an intervention as a whole rather than providing disaggregated findings, such as distinguishing between sub-groups within target communities. CBCBA can nonetheless shed light on such questions based on its qualitative findings.

Tasks for step 15

- Identify the key socio-economic groups within the target population and their approximate proportions, ideally keeping these types to a maximum of 4. Ask the implementing organisation to characterise these groups using factors such as household assets, sources of disposable income, or particular skills or knowledge.
- Seek to discern impacts on distinct socio-economic groups insofar as possible from the data gathered.

Worksheet N: Socio-economic categories

Socio-economic group	Distinguishing characteristics	Comments on its vulnerability to climatic shocks and available resilience building options

Step 16: Identify any other contributing interventions

In order to assess an intervention's impact, CBCBA analysts must consider whether or not other interventions have directly contributed to the outcomes observed in its target communities. This follows because CBCBA compares the "with intervention" case with the control case, specifically the situation of the target communities before the intervention was launched. Yet this comparison may not be sufficient to assess the intervention's impact in cases where other interventions have also targeted the population in question in recent years.

In such cases, the analysis may need to incorporate these other interventions into the analysis, if they are deemed to have directly contributed to the outcomes observed. On the 'benefits' side of the ledger the effects of different interventions may be difficult to disentangle, since each activity may have multifaceted impacts within a community. The

question of costs is usually more clear-cut. Here, any expenditures that are deemed to have helped deliver the observed outcomes must be added to the costs side of the ledger. Yet any such costs must only be included for that proportion of the other intervention that overlaps with the population targeted by the focus intervention.

If the analysis ignored such interventions, it would be misleading and could lead to the analysis overstating the impact of the intervention being examined. Given the importance of ensuring that CBCBA remains conservative, this would be problematic. Information about whether other interventions contributed to the observed outcomes can be obtained via the organisation implementing the intervention being examined, while details about the costs borne can be obtained by contacting these other organisations directly.

Clearly, other interventions could contribute to any observed outcomes in the target communities. Yet it is also possible that any observed benefits are not due to an intervention, but rather to exogenous factors such as the opening of a new road or decreased incidence of a major pest. While such factors cannot be ruled out, CBCBA seeks to minimise such potential complicating factors by asking FGDs to focus specifically on the local impacts of the intervention being examined.

Tasks for step 16

- Obtain information about other relevant interventions from the organisation implementing the intervention being examined by CBCBA and FGDs. Ask them to reply to the following questions:
  - What other interventions have been active in the project area in the past 5 years?
  - Might any of these interventions have contributed to the outcomes observed by the CBCBA? If so, did they have a major or a minor impact?
- Where other interventions are believed to have contributed to these outcomes, request that the implementing organisation provide the name and telephone number of a contact person
- Contact these other organisations to request (a) information on how well the target population for this other intervention maps with the target population of the focus intervention, and (b) information on the intervention's approximate costs.

Step 17: Gather data on the intervention's costs

Cost-benefit analysis involves comparing costs and benefits associated with an intervention, so gathering data on these costs is a key component of CBCBA. One question is which costs to include, while a second is how to do so.

CBCBA must incorporate all costs into its analysis. This includes both the formal costs of implementing the intervention and any in-kind costs contributed by communities.

Formal costs of an intervention targeting vulnerable communities are those incurred by the implementing institution, such as for staffing, transport or materials. These costs typically make up the lion's share of an intervention's total costs.

Obtaining formal cost data is done by requesting these from the implementing institution, then reviewing the documentation provided. These institutional costs will fall mostly during the period of the intervention's implementation, yet may also continue beyond this point on a limited basis. This will occur in cases where some continued support is anticipated, for instance to maintain capital investments such as water pumps, deliver ongoing trainings, or conduct M&E. Estimating such costs may require making certain assumptions about the

future, e.g., regarding needed pump maintenance. Any ongoing costs should be tabulated for the full duration over which the intervention's benefits are anticipated to accrue.

Although this is not necessary, ideally costs to the implementing institution will be broken into two broad categories, namely one-off fixed costs (such as purchasing needed materials) and variable costs that accrue over time (such as staffing costs, providing refresher training, or repairing wells). Variable costs may occur every year or once every several years. In the latter case, these costs should be converted to an average annual cost, for the purposes of integrating them into the tabulation of the intervention's costs. For instance, if pump maintenance activities cost £50 every four years, then this could be framed as a variable cost of £12.50 per year.

Many interventions require in-kind contributions from target communities, in addition to formal organisational expenditures. These might include labour inputs into activities such as constructing terraces, planting trees or maintaining roads. These contributions need to be incorporated into the analysis as in-kind costs, since they can increase labour demands on target households, at least in the short-term. Conversely, interventions targeting vulnerable communities can also reduce labour demands, for instance by reducing the time needed to gather wood fuel.

Reductions in labour demands can be a key benefit of interventions targeting vulnerable communities, so any increases in labour inputs must likewise be incorporated into the analysis on the 'costs' side of the benefit-cost equation. The exception to this rule is if the communities insist that the activities involved are not a burden, but rather a welcome diversion and enjoyable social engagement.

Even in cases where an intervention results in higher labour demands on target households, the net effect could nonetheless be positive for them, provided these labour inputs deliver clear benefits to them, such as needed income. After all, any increased labour demands that also increase income could also be called "job creation". In any cases where CBCBA leads to increases in labour demands on target households, the analyst should make a qualitative assessment of whether or not this increase is accompanied by a corresponding increase in income or other concrete benefits, in order to gauge whether the net effect on household welfare is positive.

Any changes in total labour demands on households are relatively straightforward to quantify, once the impact assessment data have been gathered. On the costs side of the equation, the implementing organisation may have good data on labour inputs from communities. Alternatively, FGDs can be used to generate estimates of in-kind costs borne by target communities. On the benefits side, any quantifiable reductions in labour demand can be drawn directly from the data gathered under Step 11. To obtain net impacts on household labour demand, any in-kind costs are simply subtracted from any reductions in labour demands estimated in Step 11.

Worksheets O, P and Q provide a structure for recording cost data.
Worksheet O: Costs from the intervention being examined

Cost categories	Cost sub-categories	Description of costs	Monetary value of these costs
Implementing organisation	Fixed costs		
	Variable (recurring) costs		
In-kind contributions of communities	During intervention's lifetime		
	Following intervention's lifetime		
TOTAL COSTS OF INTERVENTION BEING EXAMINED			

Worksheet P: Relevant costs of other interventions

Other relevant intervention(s), if applicable	Description of intervention	Relevance to the observed outcomes of the CBCBA	Proportion of its target population that overlaps w/ that of the focus intervention (%)	Total cost of the intervention	Monetary value of these costs: (total cost)*(%)
Intervention A					
Intervention B					
Intervention C					
TOTAL COSTS, from other interventions					

Worksheet Q: Total costs

Cost components	Portion of costs included in CBCBA	Monetary value of these costs
Target intervention	All	
Intervention A	Proportion of costs relevant to the CBCBA	
Intervention B	Proportion of costs relevant to the CBCBA	
Intervention C	Proportion of costs relevant to the CBCBA	
TOTAL COSTS		

Tasks for step 17

- Use consultations with the implementing organisation and intervention documents to determine the total costs to the organisation of delivering its activities to the target population.
- In cases where the assessment focuses on just one stratum of the target population, determine the fraction of the intervention's costs devoted to delivering activities in this stratum only.
- Where other interventions directly contributed to the observed outcomes, include all costs of the intervention that were directed towards the target population being examined by CBCBA. For instance, if another intervention was deemed to have made a major contribution to the observed outcomes where it overlapped with the intervention being examined yet only overlapped with 25% of its target population, then only 25% of its costs would be integrated into the CBCBA.
- Complete Worksheets O, P and Q, which together constitute the "costs" side of the benefit-cost ledger.

2.2 Alternative framing of data collection in terms of 'activities'

The following is an alternative framing of required data collection tasks for CBCBA. It frames these tasks in terms of the 'activities' listed in Table 1. This contrasts with how they were framed above, namely in terms of the 'needed information' listed in Table 2.

Activity A: Hold consultations with implementing organisation

Before conducting FGDs or key informant interviews, the CBCBA analyst should hold in-depth consultations with the organisation implementing the intervention being examined. Staff consulted should include those directly involved with implementing the intervention.

Tasks for activity A

- Present the CBCBA methodology to the staff of the implementing organisation, then answer any questions that arise.
- Request feedback from staff, including suggestions of possible adjustments in approach to better fit the target context.
- Ask staff to share any issues that could undermine the quality of the data generated by the FGDs (e.g., cultural factors, power dynamics). For instance, might villagers try

to paint the intervention in an excessively rosy light, based on a hope that this will secure a continuation of support? If such concerns exist, ask staff to suggest ways to address them.
- Gather detailed data on the various themes listed in Table 2, using the questionnaire provided in Annex 2.

Activity B: Conduct transect walk

Once the analyst arrives in a selected FGD village, their first action should be to alert village leaders of their arrival and to conduct a transect walk. The time needed for the transect walk can be used by the village leaders to assemble the villagers who will be participating in the FGD.

Tasks activity B
- Upon arrival in the village, find village leaders to inform them of the analyst team's arrival.
- Ask village leaders to convene villagers for the FGD, specifying that all interested villagers are welcome but that all key subgroups must be represented, i.e., rich/poor, men/women, old/young, any different ethnicities or religions.
- While awaiting the villagers, conduct a transect walk of the village accompanied by the CBCBA facilitator and at least one village leader.
- During the walk, ask the village leader about notable observations and take photographs.

Activity C: Conduct FGDs

The analyst should bear in mind certain rules of thumb when conducting the FGD. One is to use open-ended questions to encourage villagers to share their experiences and observations, while trying to avoid 'hinting' at desired responses. Another is to ensure each question is addressed by diverse villagers (e.g., women & men, young & old, any different ethnicities). A third is the importance of making villagers feel as comfortable as possible so that they feel disposed to speak freely.

Tasks for activity C
- Introduce CBCBA concept to the FGD participants
  a. Introduce CBCBA to the community as a way to assess the efficacy of a past intervention in order to guide future spending in ways that maximise benefits to target communities.
  b. Highlight the importance of the role they are playing, i.e., guiding future programming. Impress upon villagers the importance of providing frank and accurate results, since only this will contribute to future interventions that are well designed and effective.
  c. Seek to avoid raising false expectations regarding future interventions in the area by clarifying that the village discussions are about learning from their experience, but that decisions of where, when and how to spend funds are made by others at a higher level.
  d. Explain that given the importance of gender roles, the FGD will be soliciting information from both men and women for each question, and that sometimes we will be asking for men to speak first while at other times we will request that women speak first.
- Gather detailed data on the various themes listed in Table 2, using the questionnaire provided in Annex 2.

Activity D: Conduct KIIs

Conduct interviews with key informants based in the target district(s) to provide an alternative source of primary data regarding the local context and the intervention being examined.

Tasks for activity D

- Identify key informants in each project area in consultation with the implementing organisation.
- Interview selected key informants, using the default questions provided in Annex 1 as a guide.