



# **GUIDE 2.0 TO THE MODIFIED BASIC NECESSITIES SURVEY**

**WHY AND HOW TO CONDUCT DIGITAL-BASED BNS  
IN CONSERVATION LANDSCAPES**

Cover: Indigenous hunter in the ituri forest. Credit : Idriss Ayaya WCS

Back: Woman with her children in bateke Republic of Congo. Credit : Diane Detoef, WCS



# Preamble

During the last decade, the conservation community has made significant progress developing robust methods for monitoring the status of conservation species, habitat targets and threats (these include: camera trapping, line transects, remote sensing image analysis, ranger patrol/law enforcement monitoring, and community monitors). However, we have not made similar progress in developing tools for regularly and credibly monitoring and reporting progress on governance systems that ensure sustainable resource use, nor on how to best assess the impacts (positive and negative) of conservation investments on the livelihoods and well-being of people whose lives are influenced by conservation actions.

After 2 years of investment and field testing, USAID and its conservation partners launched, at the 2014 World Parks Congress in Sydney Australia, a new, credible, low-cost, expert-opinion based, quantitative tool for assessing the strengths and weaknesses of all governance bodies with jurisdiction over natural resource management within a given landscape or seascape.

This BNS technical manual 2.0 is the result of comparable effort led by the Wildlife Conservation Society with support from USAID, to offer conservation practitioners a simple, practical, low-cost, quantitative approach for credibly assessing how conservation actions affect families' livelihoods and sense of well-being, and tracking changes within and across villages over time. Families who live with wildlife, forests and aquatic systems who depend directly on nature's goods and services for food, fuel, income and shelter are the community's greatest advocates for conservation and are the most motivated stewards for protecting wildlife and conserving natural resources.

Caring about peoples' well-being matters to conservationists for three primary reasons. First, providing appropriate market and non-market based incentives for families to engage in conservation practices and to steward the wildlife they live with and the natural resources they depend upon, is a purposeful strategy. In other words, we see securing livelihoods as a means to a conservation end. Second, more secure livelihoods is a desired outcome of the conservation of natural resources that are the foundation of the economies and cultural identities of families and communities. Greater livelihood security allows families to take a long view on the environment, where the future is no longer discounted and resources no longer mined unsustainably. Lastly, conservationists share with doctors an obligation to "first, do no harm" and ensure that local people do not unjustly shoulder the costs of conservation of global public goods.

Given that secure livelihoods and conservation stewardship are deeply connected and that conservation should, at worst, do no harm to people's livelihoods, the conservation community needs a way to track and assess the effect of conservation actions on the well-being of people who live within the landscapes and seascapes where conservationists work.

The BNS approach is not based on the assumption that people are doing well if they make more than 1-2 dollars per day, or are in poverty if they make less. Rather, it is based on the understanding that people themselves are best able to decide what constitutes well-being. The approach is based on a United Nations definition of poverty as a lack of basic necessities. More specifically the approach asks communities to define what goods and services are necessary for a family to meet their basic needs. Examples of goods include material items such as: an axe, mobile phone, bed, or cook-stove. Services can include: access to clean drinking within 15 minutes' walk, reasonable walking distance to health care, children attending school, women participating in community decision making, or absence of domestic violence, etc. Families who do not own or have access to this basket of goods and services are, by community definition, not meeting a basic, minimum standard of well-being and thus according to the community, defined are poor (i.e., living below the community defined poverty line).

This manual is offered as a practical guide to implementing the Basic Necessities Survey (BNS) that was

originally developed by Rick Davies (<http://mande.co.uk/special-issues/the-basic-necessities-survey/>), and was modified and then field tested by WCS. The modified Basic Necessities Survey is imperfect, in that it does not attempt to answer all questions that could be asked about the impact of conservation (or development) actions on people's well-being. But it is the perfect core to a livelihood monitoring program, because it provides essential information about people's well-being from their perspective over time, and implementing a modified BNS is easy enough that it does not preclude gathering additional household information that a conservation project feels they need to adaptively manage their activities.

After the release of the first manual in June 2015, baseline and time-series Basic Necessities Surveys have been implemented on over 6,000 households in Republic of Congo, Democratic Republic of the Congo, Rwanda, Uganda, Madagascar and Nigeria, using the same consistent methodology. Through practice we have identified important improvements to using the tool, and have accumulated lots of lessons learned that we believe are worth sharing. This second version aims to present what we've learned and help practitioners to carry out the BNS more easily and more effectively.



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The modified Basic Necessities Survey methods description is licensed under the Creative Commons Attribution - Non Commercial – Share Alike 3.0 License. To view a copy of this license, visit:

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## Contacts

For further information, please contact the authors:

Dr. David Wilkie [dwilkie@wcs.org](mailto:dwilkie@wcs.org)

Dr. Michelle Wieland [mwieland@wcs.org](mailto:mwieland@wcs.org)

Diane Detoef [ddetoef@wcs.org](mailto:ddetoef@wcs.org)

For access to other WCS publications about BNS:

<http://globalinitiatives.wcs.org/PeopleandConservation/WCSResources/Publications.aspx>



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# CHAPTER 1:

## WHY WE CARE ABOUT LIVELIHOODS



**Figure 1:** Conservation should support local livelihoods, such as training these fishermen in sustainable methods, and at the very least not increase poverty. Credit: Andrew Kirkby

Why should a conservation organization care about the livelihoods or well-being of local people who live in the landscapes and seascapes where you work? Drawing on decades of work with local and indigenous peoples around the world we believe that being concerned about local people's well-being is important for the following three reasons.

First, well-being is a means to a conservation end. Providing economic incentives for poor families to engage in conservation practices is a purposeful strategy. When such practices are tied to higher incomes and greater livelihood security, people can think beyond immediate survival and consider longer-term natural resource management issues.

### **Means to a conservation end**

In the COMACO program in Zambia the team encourages local farmers to form small groups and agree to adopt conservation farming practices, stop hunting bushmeat, turn in their firearms, and provide the authorities intelligence on poachers coming into their communities. As a tangible, economic incentive to comply with these conservation friendly practices, farmers get to sell their crops using the It's Wild! brand and receive a price premium and increased livelihood security as a result.

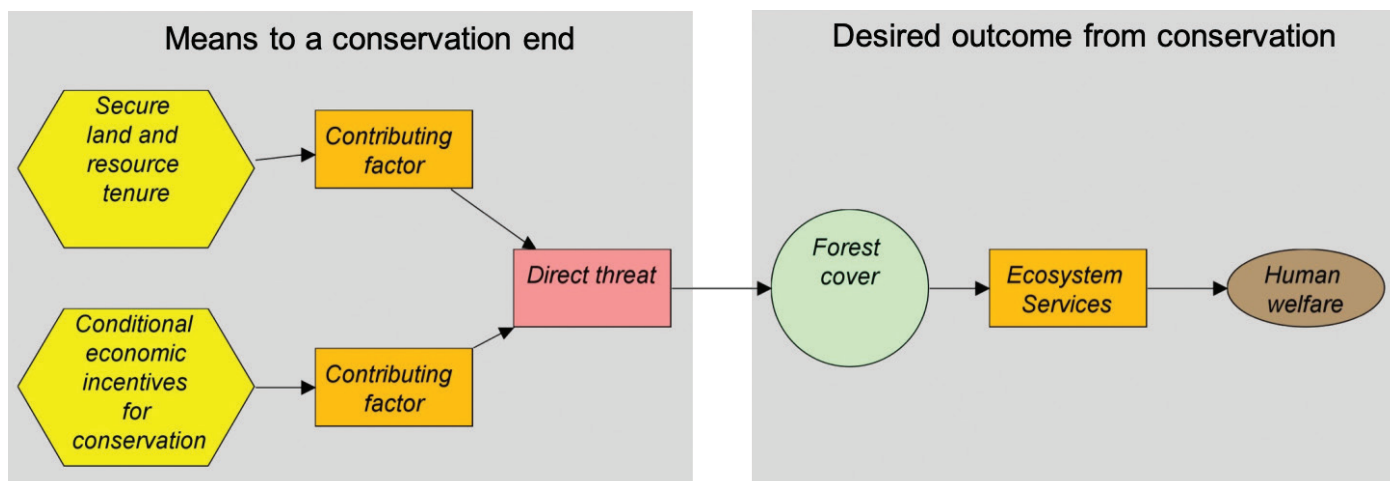
Second, a desired outcome of conservation is the economic security of local families. By contributing to the management of wildlife and wild places, communities prevent degradation and loss. In turn, the food, firewood, building materials and clean water that derive from these sustainably managed places directly support families in the bottom billion of the planet's population — those who depend upon nature for their well-being and have few, if any, alternatives. In this way, successful conservation leads to better livelihoods, creating a virtuous circle of sustainable management of nature.

### **Well-being derived from conservation**

For millennia the Efe and Mbuti peoples of the Ituri Forest in northeastern DR Congo have depended on hunting wildlife and gathering forest products to feed and clothe their families, and to define their cultural identities. A wave of deforestation is advancing towards the Ituri from the densely populated south, and commercial bushmeat hunters risk stripping the forest of its wildlife. Establishment of the Okapi Faunal Reserve (RFO) is helping secure over 1 million hectares of forest in the Ituri. Effective conservation of the RFO will not only protect the iconic okapi, forest elephant, buffalo, chimpanzee, and 11 species of primates, it will secure the forest dependent

Finally, conservationists have an ethical and moral obligation to "first do no harm." Our initiatives should not lead to increased poverty or disenfranchisement. For example, we cannot expect local communities to bear the brunt of crop damage due to elephants as our projects strengthen elephant population numbers—we have a moral obligation to develop effective mitigation measures. And to ensure that local communities do not unfairly shoulder the costs of conservation, which is a global public good.





**Figure 2:** Stylized conceptual model showing how market and non-market based strategies that directly benefit people can be incentives to reduce biodiversity threats, leading to improved ecosystem services that also improve human welfare

## CHAPTER 2:

# WHY THE BNS? WELL-BEING DEFINED BY LOCAL PEOPLE



**Figure 3:** Different peoples have different definitions of basic necessities. This Toposa family packs all of their goods into this donkey carrier; their wealth is defined more by the number of cattle and access to good grazing lands and water than by furniture or access to produce markets. Credit: Michelle Wieland, WCS



# I. What is well-being, and how is it measured

Conservation organizations have an ethical and moral obligation to ensure that conservation actions do not harm the well-being of the local people who live within the landscapes and seascapes where they work. But what is well-being? Is it the opposite of poverty? And how do we measure well-being?



**Figure 4:** Different views on poverty and well-being. Credit: WCS

There is no shortage of ways that field staff and university researchers have used to measure well-being. Some methods use qualitative participatory assessments of peoples' livelihoods and sense of food security. These are typically relatively inexpensive, do not require a great deal of staff training, but because they can be very subjective are more difficult to replicate to track well-being trends over time. Other methods involve detailed quantitative surveys of people's income, consumption, and assets. These do allow trends in family well-being to be tracked over time, but like the World Bank Living Standards Measurement Study are typically expensive to implement. Still others use health measures like Body Mass Index and mid-upper-arm-circumference to assess well-being.



**Figure 5 :** Different ways of measuring human well-being. Credit: WCS



These methods require extensive training to implement well and demand a lot from interviewees. What they all share is an outsider's view of what well-being means, and a heavy reliance on income as a measure. As a result, people living on less than \$1 or \$2 per day are often considered poor, when they themselves

## II. UN Definition of Poverty - A locally relevant measure

There is another way to think about well-being. It comes from the sense that everybody needs certain things to lead a good life, where basic needs are met. The United Nations has long argued that poor people are poor because they lack basic necessities. But that begs the questions "what are the basic necessities for a good life, and who decides what these are?"



**Figure 6:** A seemingly 'barren' village from Batéké, Congo. What basic services do residents here think are missing?

Credit: Diane Detoef, WCS

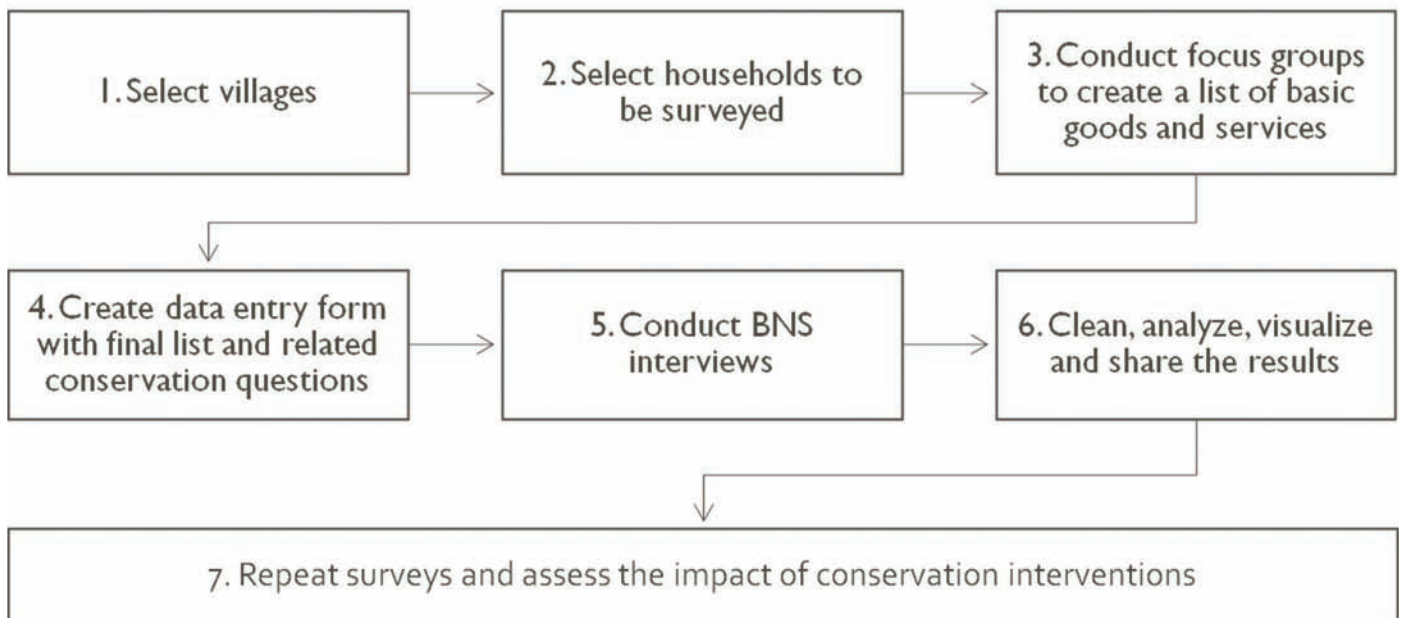
Rick Davies figured out that people themselves should define what basic necessities they need for a life where basic needs are met. And thus, he invented the Basic Necessities Survey (BNS). The BNS assumes that people themselves know best what goods and services are basic necessities. And those basic necessities are things all families should have and no families should live without. The BNS is well-being defined by local perceptions. It is quantitative, requires only modest amounts of staff training, and is easily replicated to track trends in well-being over time. It is for these reasons that the BNS is a cost-effective approach to assessing and tracking the well-being impacts of conservation and development projects.

### The Basic Necessities Survey

- A measure of well-being, defined by local perception
- Fast, easy, replicable
- Allow comparisons between villages and over time
- Better target beneficiaries, measure your impact and do adaptive management



**Figure 7 :** A man in front of his house in Northern Congo. It is him and his community who can define what is necessary for them to live. Credit: Zanne Labuschagne, WCS



The following seven chapters describe how you and your teams can conduct these steps to work together with communities to develop a monitoring system for well-being. The BNS should be conducted every 2 or 3 years in the communities where you work.

## Lesson learned: Is BNS enough

BNS is one way to measure well-being, but is not the only way. If you want to measure the specific impact of a project, determine your indicator and whether or not it can be incorporated into the list of goods and services. If not, consider adding a question to the BNS, or use an additional or different survey.

Note the BNS does not capture all aspects of well-being, rather it is an affordable proxy measure. If it is important for your team to focus on social capital, which will likely not come out in goods and services, then you will likely need to use an additional survey tool. The BNS captures social services, which is a communal good meaning that most times everyone in the village will have the same score. However, you may identify differing access to these services depending on geography and wealth, who sometimes have privileged access to these services (such as access to charcoal or distance to boreholes). Keeping these community-identified services is important for you as a practitioner to understand what people want, and what the challenges are to getting those services.

Examples:

Food security: The BNS list often has a question about eating 2 or 3 meals a day and access to protein. But for more detailed information about food security, another survey would be appropriate.

Improved cookstove use: BNS can include a question about possessing or having access to a cookstove, but does not measure the use of it, neither the quantity of firewood or charcoal used. It is better to use a specific survey related to energy use for more detailed information.



## CHAPTER 3:

# SELECT VILLAGES TO SURVEY



**Figure 8:** A rural village in Sudan. In sparsely populated areas like this, choosing villages may be easy. What about protected areas encircled by 200 villages? Credit: Michelle Wieland, WCS

In this chapter we will explain how to select villages to be surveyed and if possible identify control villages that have not received assistance from your conservation or development organization to compare to villages that have likely benefited or may have been adversely affected by your project interventions.

## Select villages to survey

- Visit as many villages as you can, based on constraints of time and money
- Pick which project villages you will survey
- Pick control villages

### I. Select project villages to survey

Deciding how many villages to visit to conduct basic necessities surveys of households depends a lot on how difficult or easy it is to travel to the area, and then to each village. It is important to remember that variation in household livelihoods is typically much greater between households resident in different villages than between households in the same village. This is because access to natural resources, markets, health clinics, schools and wage labor are likely to be very similar or the same for households resident in the same village.

Project villages are those that you are impacting or want to have impact on, by conducting any type of conservation intervention – such as environmental education, land and resource zoning, economic incentives, or training. To understand how conservation actions might influence household livelihoods we need to do two things:

- First survey villages where we have conducted different activities
- Second control for factors like population size, market access, distance to health clinic and school, or distance to the protected area boundary.

There is no single answer on how many villages to survey.

If you have the time and financial resources, try to survey all villages within which you have conducted some type of conservation action. If you work with a lot of villages and travelling to them is time consuming, try to sample a minimum of 10 villages. The sample you select should try and include small and large villages, isolated and less isolated, with different ethnic groups, and different livelihood specializations such as fishing, crafts or hunting.

We will discuss household sampling in the next chapter.

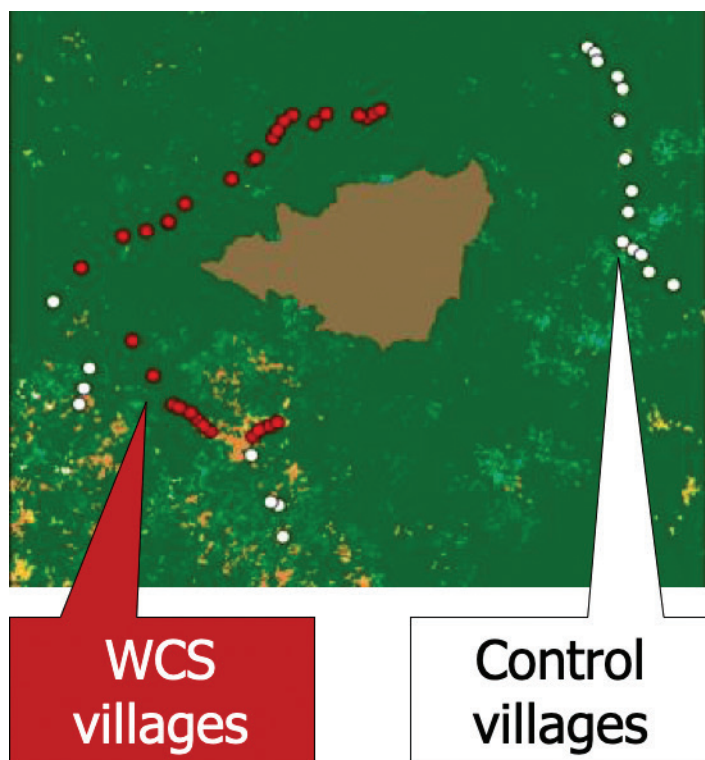
#### Select project villages

Pick villages that have different attributes:

- Conservation actions
- Population size
- Distance to markets
- Access to clinic
- Access to schools
- Distance to the protected

### II. Select control villages

Control villages are important to visit and survey because they help to evaluate whether conservation actions were responsible for or contributed to any observed changes in household well-being. Without control villages you would never know if an observed increase in well-being in your project villages was a result of your actions or just a happy consequence of something that affected all villages. For example, a change in the national exchange rate might have reduced the cost of imports, which allowed all households to buy more goods and accumulate more assets. So, for every project village it would be ideal to select a “matching” control village. Please remember that absolute matches are never possible. If other organizations are working in the area it may not be possible to find villages that match your project villages or that are also not influenced by conservation or development interventions. If you have the resources, pick an equal number of ‘control villages’ as you have ‘survey villages’ to research. Otherwise make sure that you have at least half the number of project villages selected as controls.



### What is a control village

- Matches project villages
- Same ethnic groups
- Population size
- Distance to markets
- Access to clinic
- Access to schools
- Distance to the park or reserve border
- But
- No conservation actions

**Figure 9:** Sampling of project and control villages

### How many villages to visit

- At least a random sample of 10 villages
- All if fewer than 10
- If possible all villages where you conduct conservation interventions, plus if possible half the number of these as of control villages

### Lesson learned: Missing control villages

It is possible that in your area of work, all villages are being impacted in one way or another by either an international/national NGO, a local association or a private company. If so, it is fine to identify only control households in villages where you work.

If you or another stakeholder starts a new development project in one of your control villages, it can no longer be a BNS control. You need to replace it with a new control village.

Note the lack of control villages means that you won't be able to conduct impact monitoring based on well-being. Ensure you understand what your project's donor expects!



## CHAPTER 4:

# SELECT HOUSEHOLDS TO SURVEY



**Figure 10:** A large village in the Central African Republic demonstrates the complexities of developing robust household sampling designs. Credit : WCS

In this chapter we are going to explain how to decide how many households to interview and how to select these households. People group themselves differently in different cultures, particularly in polygamous societies where a man may have several wives. For the purposes of BNS, a household consists of one or more people who live in the same dwelling and share meals



### Basic sampling rules:

#### Project villages

- If there are less than 30 households benefiting from a project in a village:
  - Survey all beneficiary households
  - Add other households from the village who might indirectly benefit from the conservation interventions in order to reach 30 households participating to the BNS per village
- If more than 30 households benefiting from a project in a village, select a representative sample with a 95% confidence interval and 5% margin of error<sup>1</sup>.

### Basic sampling rules: Control villages

- If a village with no conservation intervention has less than 30 households, survey all households.
- If a village with no conservation intervention has more than 30 households, select a representative sample with 95% confidence interval and 5% margin of error.

## I. Target project beneficiaries and controls

The BNS tool's sample unit is the household (as opposed to an individual). It is therefore important to identify all members of the household, highlighting male and female household heads, and recognizing that there may be more than one beneficiary and more than one project intervention in each household. In your BNS' project villages, it is important to identify households likely to directly benefit from specific conservation interventions (e.g., household members employed by the project or who received training in small livestock production and marketing). Before starting BNS sampling, ensure you have a list of all households expected to be direct beneficiaries of the project (i.e., their unique HH\_ID number) and that you are able to locate them on a village map. If the participants of a project are not the household heads, it is also important to know the names of the heads, as they are often well-known and easier to find in a village.

If there are less than 30 households benefiting from projects in a village, they should all be monitored with the BNS. You can also identify households who might be indirect beneficiaries (e.g., they own a small shop where project employees buy goods with their wages), and randomly select some of them to interview to reach 30 BNS households per village in total.

If there are more than 30 households benefiting from projects in a village, we recommend having a sample size that allows a confidence level at 95%, and a margin of error at 5%. This can be calculated through an online Sample Size Calculator .

In control villages, if there are less than 30 households, all of them should be surveyed. If there are more than 30, choose again a sample size that allows a confidence level at 95%, and a margin of error at 5%, with the online Sample Size Calculator.

When you know the sample sizes for the project and the control villages, use the technique described in sections II, III and IV of this chapter to randomly select households to participate to the BNS.

<sup>1</sup> Use for example the Survey Monkey Calculator : <https://www.surveymonkey.com/mp/sample-size-calculator/>. Enter your population size, i.e. the total number of direct beneficiaries in your project, and put the confidence level at 95%, and the margin of error at 5%. Click on 'calculate', and you will know how many beneficiaries need to be surveyed to have a representative sample.

Examples of household IDs:

- ## II. Randomly select households in a small village (<100 households)

In some villages all houses may be made of exactly the same materials, or there may only be two different types of household, or there may be four or five different kinds of house construction. What is most important is that you try to rank house construction along a scale from poor to wealthy.

[illegible]

<sup>2</sup> This applies to beneficiaries and controls when there are more than 30 per village and a sample needs to be selected.

To randomly select households , you could do the following:

- Number each house on the map
- Cut 5x5cm scraps of paper to equal the number of houses
- Write the number of each house on a separate scrap of paper
- Calculate the proportion of each household wealth class in the village (class% = houses in wealth class / total houses in village)
- Calculate the number of houses to survey in each class by multiplying class% by total sample size (minimum 30). If the number is less than 10 set the sample size to 10. If 10 is more than the total number of households in that class then survey all households in that wealth class.
- For each class that you are not going to survey all households, place the house numbered paper scraps for this class into a bag and without looking pull out one scrap of paper at a time until you have selected the number you calculated in the previous step. You could also do this using a random number generator on excel after numbering each household in a spreadsheet.

### III. Example of random sampling in small village

Let us use an example where, when we mapped the village, we found that there were 45 households situated along two dirt roads. The village is separated into two districts by a river with both sides accessible across a bridge on the main road.

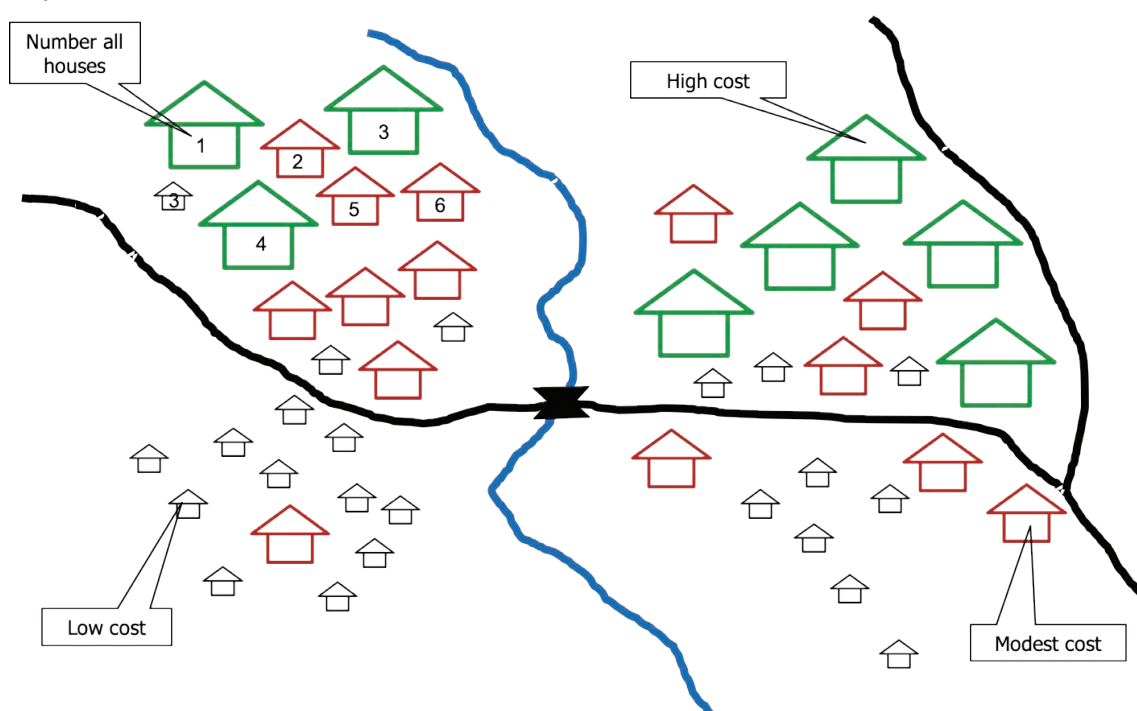
- 8 houses are built with expensive materials
- 14 houses are built with modestly costly materials
- 23 houses are built with low cost materials

Give each house in the village a unique number.

- 18% of households are wealthy
- 31% are mid-range
- 51% are poor

Assuming that we want to conduct a survey on a sample of 30 households, that means we need to survey:

- 8 wealthy households, which is fewer than 10, so we survey them all
- $30 \times 0.31$  mid-range households = 9, so we round up to the minimum sample of 10
- $30 \times 0.51$  poor households = 15



**Figure 12 :** Participatory mapping of a village can help in the selection process of households



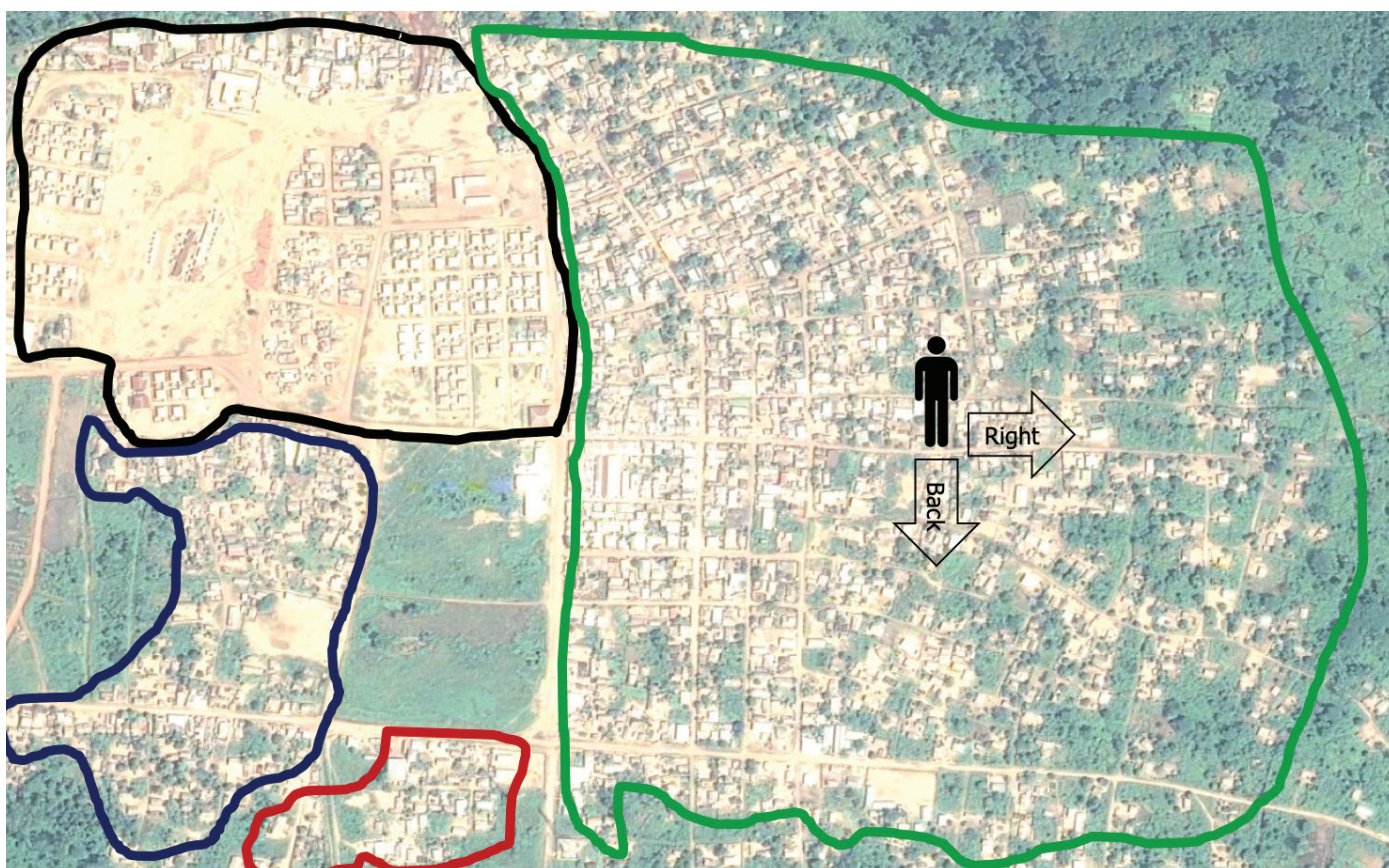
### III. Randomly select households in a large village or town

Given the complexity of large villages or towns, it is easier to stratify by geography rather than wealth, but this geographic stratification should pick up some wealth variation.

- When a village or town has more than 100 households
  - Determine if it has distinct administrative units and draw these on a map
  - If it does not have districts divide the village or town into 3 roughly equally sized areas
- For each administrative unit go to the center point and use one of the suggested methods below to randomly select the appropriate number of households in each unit, according to the recommendations at the beginning of this chapter. The number of households selected in each unit should be the same.

#### 1. A town with formal administrative units

For each administrative unit, mark the approximate center point on a map. Walk or drive to as near each center point as possible. Place four 5 x 5 cm scraps of paper into a bag. Each piece is marked with one of the following: 'left', 'right', 'forward', and 'back'. Select one piece of paper from the bag, and start walking along a road or path that is closest to the direction indicated on the piece of paper. Select the 2nd house on the left, then, travelling in the same direction the 2nd house on the right, and so on until you have selected N households, with  $N = \text{sample size} / \text{number of administrative units}$ . If you come to the end of the unit before you have selected the N households, return to the original center location and select one of the three remaining scraps of paper from the bag, and following that direction, selecting households as before, until you have selected N in total.

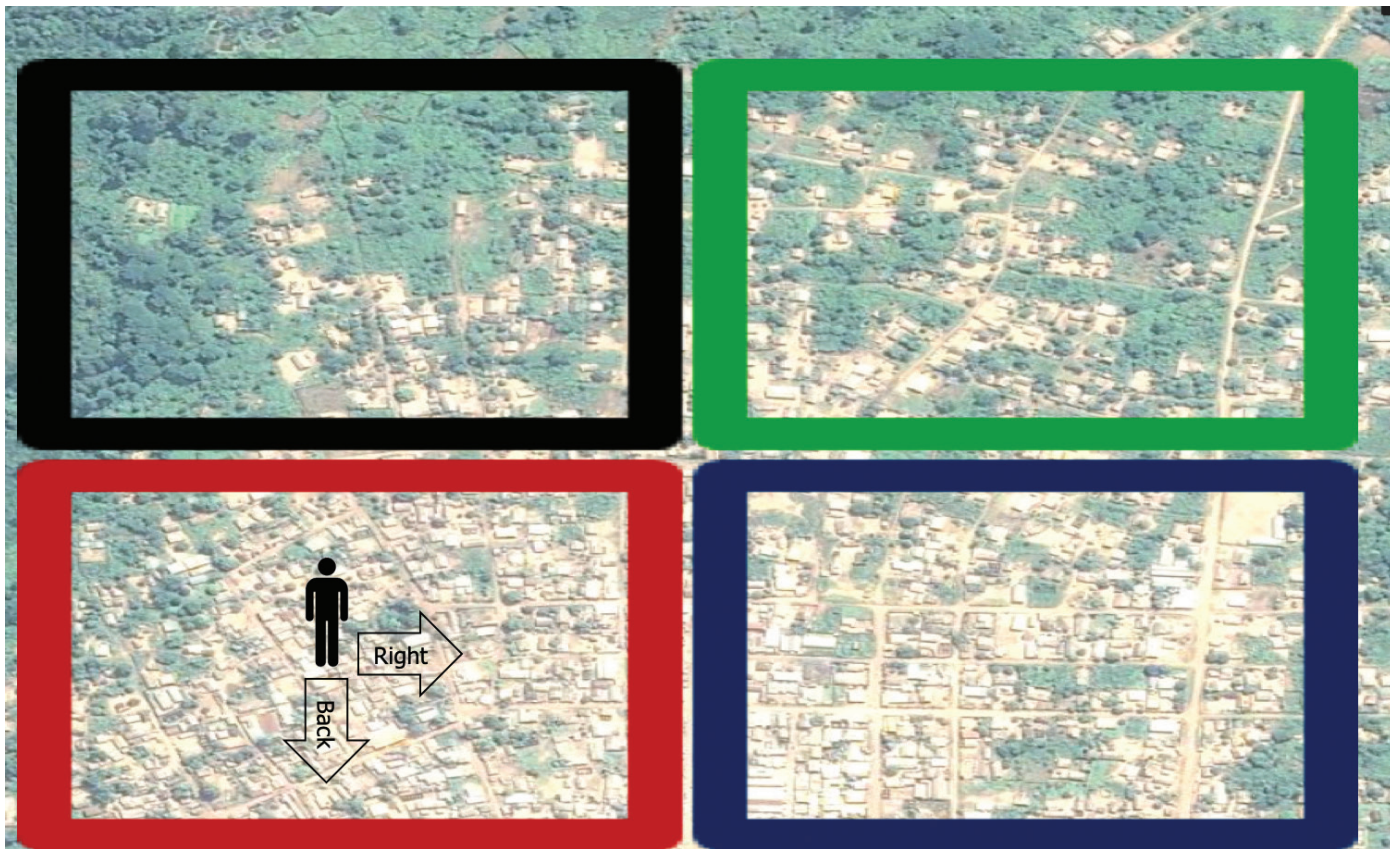


**Figure 13:** A town divided into districts



## 2. A town with no districts

In towns that have no recognized districts, divide the town into four roughly equal areas. Draw the approximate center of each area. And conduct the random selection as described for towns with districts.



**Figure 14** : A town divided into blocks

More complex sampling that includes factors of wealth, geography, and beneficiary status may be done. Work with the appropriate technical focal points to help you review which approach is best.

### Alternative method: Simple random selection

To select households in a village with more than 30 beneficiaries or controls do the following: first draw a map of all houses in the village and give each house a unique number (starting from 1), being helped by somebody who knows it very well. Then, divide the village into three equal blocks.

#### Project villages:

First, clearly specify which houses have direct beneficiaries and which may have indirect beneficiaries. Randomly pick up to 10 direct beneficiaries in the first block. If you do not reach 10, then add other indirect beneficiaries randomly picked up to reach 10. Repeat the random selection with each block in order until you have a survey list of at least 30 households.



## CHAPTER 5: CREATE A LIST OF GOODS AND SERVICES FOR THE BNS



**Figure 15:** Charcoal from the Ituri, DR Congo. Charcoal can be either be a good or service, and is often a good item to follow for forest conservation. But as it is a consumable that a household may not have on hand, charcoal is better included as the service "access to charcoal". Credit : Michelle Wieland, WCS



Collecting BNS data and analyzing the results is relatively simple and does not require specialist skills. But for the results to be a meaningful indicator of household well-being, getting the right list of goods and services is vital. In this chapter we explain what you need to do to ensure that you have a goods and services list that truly reflects what different people within the community think are important to their well-being.

## I. Focus groups

A time saving way to interview local people about what goods and services they believe are essential for meeting their basic needs is to use focus groups. These are small groups of 4-8 people that you have invited to talk with you together as a group, and you just need to ask them what are, for them, the goods and services that are truly essential for their lives. And, most importantly, you should encourage each group to talk amongst themselves. It is also good to make sure you do not have more than 8 people in each focus group. Children and curious people will probably want to come and see what is happening, but letting them listen or giving their opinion could make the discussion difficult to manage, disturb the participants, and lead to bad results. The only people who should be attending the focus groups are the ones that have actually been invited.

### Why focus groups

- Platform for discussion on actual basic necessities of life
- Focus groups are a time-saving approach and helps limit extreme ideas that at times are voiced by individuals whose points of view may not reflect that of the community.
- Marginalized groups can participate more freely

## 1. Who to interview

The people you will invite to the focus groups should be from across the village, not specifically the beneficiaries or control households.

It is important to remember two things when conducting focus group discussion. First, in groups it is quite common for a few individuals to dominate the conversation.

At times women may not talk in front of men, or minorities may say little when in a group with the other more politically dominant ethnic groups. Second, we know that women have different views than men about what are basic necessities.



**Figure 16:** A focus group of adult men in Madagascar. Credit: Michelle Wieland, WCS



Young people also have different ideas on basic needs than older people. Similarly, people in minority ethnic groups may value different goods and services than men and women from the majority ethnic group.

To capture these differences, we need to interview several groups composed of different community members:

- Men-only and women-only groups
- Groups of young people and groups of older people
- Groups of ethnic minorities.

For example, in a village without ethnic minorities, you should lead 4 focus groups:

- Young women
- Adult women
- Young men
- Adult men

And for a village with ethnic minorities, for example forest people, you should add 2 groups:

- Minority (Baka, Mbuti, etc.) women
- Minority men

In all of these groups, it is essential that everyone is able to contribute to the discussion on basic needs and that nobody's voice is excluded. Listening to everyone's point of view is very important and if someone has not spoken during the focus group it is important the focus group facilitator specifically asks him or her for his or her opinion. The purpose of the focus groups is to identify goods and services that are basic necessities for the majority of the community. Though it might be appropriate to include the wealthiest man or woman in the village, it is important to avoid including individuals who, because of their political influence (village chief, policeman, government official, etc.), may dominate the discussion and inhibit others from talking and providing their points of view. In any case, it is crucial to make everybody feel comfortable enough to express him or herself honestly, without any shame, on what they see as basic necessities. Pay special attention to including the opinions of women and minorities. It is the role of the interviewer/facilitator to ensure that all focus group participants get an opportunity to talk and that the discussion is not dominated by one or a few individuals.

During focus groups some participants may use the opportunity to complain about life in general, ask for help or gifts, and talk about their personal issues. The interviewer has to make it clear that this is not the purpose of the focus groups and guide the discussion back to the challenge of identifying basic goods and services. Managing a focus group is an art and if your team is not experienced in running focus groups it is worth inviting someone to help build the team's capacity<sup>3</sup>,

### Things to be aware of

- Some individuals may dominate the discussion
- Women may not talk much in front of men
- Minorities may not talk when in a group composed mostly of the ethnic majority
- Interview different groups separately
  - Men and women
  - Youth and elders
  - Minorities

<sup>3</sup> For more information about how to lead a focus group, check this [Community Tool Box](#).

but the most important factor that determines the success of a BNS goods and services focus group is practice.

The team should do several role-play focus groups with each team member playing the facilitator and the rest the focus group. Team members who are focus group members must act as though they do not understand the BNS and are looking for guidance from the facilitator. They should suggest items that are not likely to be necessities so that the facilitator can learn how to help the focus group members better understand what we mean by a necessity. Focus group members need to try to make the facilitators live difficult so he/she can learn how to deal with the unexpected.

## 2. Where to do focus groups

Focus groups should be done in at least three different villages with different characteristics (i.e., village size, ecological conditions, wealth, distance to markets, access to schools and clinics) to ensure that you generate a list of basic needs that represents the range of households in the area.

## 3. Making introductions

Before starting, a good introduction about the purpose of the focus group will ensure that people feel comfortable to talk and that you get the information you need. So, it is important to:

- Tell people that you want to be able to work with them to define what things help them live a life without worry or hardship;
- Describe what we will do with the results;
- Let people know they can leave the focus group at any time;
- Ask for their verbal consent to participate (see FPIC box in Chapter 7)

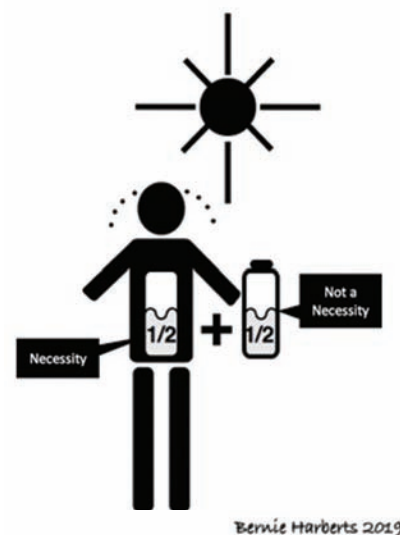
### Avoiding the wish list

It is possible that people in the focus groups will think that the list of goods and services is a list of “gifts” that you will provide to them. Thus, it is very important to make it clear from the beginning that this is not the case. Explain that the list will help measure human well-being of their community over time. It is not a laundry list of goods your program will provide them, but well-being standards that they themselves want to see improving over time. Ensuring everybody clearly understands this at the beginning will help people to think about actual basic needs in the community and not just about what they would like someone to give them.

## 4. Eliciting responses

In Central Africa, WCS found that many local people were having difficulty understanding what goods and services were necessary to meet their basic needs. This is not unusual particularly if focus groups are not conducted in the local language (not good practice) and people do not know or trust the focus group facilitators, or see the focus group as an opportunity to ask for development assistance.

To help focus group participants grasp a clear understanding of what goods and services are basic necessities, the WCSDRG team asked them to imagine that they are really thirsty, and they have a very large container of water. The amount that they need to drink from the container to quench their thirst could be thought of as a basic necessity (it meets their basic needs); the water that remains after they have quenched their thirst is still useful, but is more than what was needed so is not a basic necessity.



**Figure 17 :** The example of the water bottle as a basic necessity

## 5. Some practical tips

To facilitate the next step of selecting the items for the final list, record each good or service on a colored index card, using a different color for each focus group. If some participants are illiterate, draw as well as write each response to allow everybody to follow the activity on paper.

### Getting the discussion going

- A basic necessity is something every household must have to survive and something no household should live without. Something that meets your basic needs.
- Drinking water – a great example of a necessity.
- Give one or two examples of likely essential goods and services and ask if these examples are things everyone needs, things that meet basic needs.
- Goods are easy to understand. Give a couple examples of simple and complex services to help the audience grasp the concept of a service: access to micro-credit, good village governance, etc.
- Solicit other examples of essential goods and services.
- Write each item on a colored card (use a different color for each focus group: men, women, youth, minorities).
- Continue until you have 20-30 items.

## II. Compile the final list from the focus group results

This step is probably the most crucial in the BNS process because the final list will be used everywhere in a landscape for the baseline survey, and will be re-used in all future surveys. Thus, it must be appropriate to the entire landscape, reflecting and taking account of all the variety of basic needs for the different social groups in the area.

The final list should have a maximum of 35 village-defined goods and service (about equal numbers of each). To help you select the final items that you will put in the list from all the goods and services that came up in the focus groups, use the following 5 criteria in which you can categorize your goods and services:

N°	Criteria definition	Examples from DRC
1	Items everyone thinks are basic necessities and everyone has (or has access to).	Access to clean water Machete
2	Items everyone thinks are basic necessities, around half of all people have, but everyone will get as they become richer and services improve.	Access to health clinics Dining table with chairs
3	Items everyone thinks are basic necessities, but only some people have, and many may get as they become richer and services improve.	Access to secondary school Cell phones
4	Items some people thought were basic necessities, which may increase in importance in the future. These are items people in wealthier towns might consider basic necessities.	Satellite TV service Televisions
5	Items almost no one thought were basic necessities, and only some people in big towns cite as basic necessities.	Health insurance Automobile



Once you have all your colored cards from the different focus groups, you should lay them out on a table. Combine all duplicates, and split the cards into 5 groupings that correspond to the 5 criteria described above. Then choose between 5 and 7 goods and services from each of the five criteria groupings, making sure to select at least one card of each color from the five piles.

It is important to not have too many category 1 and 2 items in the final list; as people get wealthier there will come a time when all households own all category 1 and 2 items. Without items from categories 3, 4 and 5, simply recording a household's access to goods and services would no longer allow you to track the wellbeing of households as they became wealthier over time.



**Figure 18:** Focus group results on colored cards in Congo

## 1. Avoiding certain items to ensure your list is clear and easily measurable

Goods should be durable goods that can be used multiple times. Consumable goods (i.e., food, beverages, or petrol) can run out and should not be included in the list because it will bias your survey. Think of how often have you run out of soap or rice at home; would not having it at the time of a survey change your wealth category? If one of these consumable items is very important, turn it into a service, for example "Meal 3 times a day".

The list also should not have services that can be easily misinterpreted. Keep in mind that for each element of your final list, people will have to answer 3 simple questions: Do you have it? Is it really necessary? How many of this good do you have? Thus, it is very important that it is actually easy to give a yes or no answer with confidence. If the description of a good or service is too vague, people may be confused as how to answer the question. For example:

- o "Good school" Asking someone, "do you have access to a good school" can be very complicated; the school might be good, but the household may not have the money to send their kids to this school. So rather than phrasing the question as above, it would be better to have in the list the following service: "School age children attending school".
- o "Cooking utensils" Here the difficulty occurs with the "how many do you have" question. Most likely the interviewee will not know exactly how many pots, plates, spoons and spatulas the household has, you don't want to waste time for them to count, and the multiple monetary values for different items will complicate your work. Choose one kitchen utensil to add to the list that is easy to count, for example a cooking pot.

## 2. What is access

Access to a service is sometimes difficult to define, thus it is important to think about what it means. Does it mean the service is available? No. It means that it is both available and the household has the ability to purchase/use that service. For example, secondary school may be in a town nearby, but if a household doesn't have the money to pay for accommodation, do they really have access to it? For the BNS, access means that a household is actually using the service, not that the service simply exists in the village.

### III. The BNS+ and using a standard list to compare across programs

The BNS relies on the community to identify the list of goods and services that households must have to meet their basic needs. BNS+ allows conservation and development project implementers to add goods and services questions that are particularly relevant to understanding the human wellbeing implications of their activities.

Sometimes what is important for practitioners or donors may be goods and services that were forgotten during focus groups but that often come up at community meetings. Examples could include: access to domestic meat, freedom from human-wildlife conflict, or access to wage labor. Simply add these items randomly throughout the focus groups-derived list, and keep them identified in the database.

For goods and services that are not on the community list (but access to these are of interest to project team), simply add these goods/services to the list but identify these as BNS+ items, not proposed by community focus groups. After conducting your surveys, you can calculate: 1) if these goods/services are indeed considered basic necessities by families, and 2) what percentage of the population have them.

If you are working across several regions of a country and you want to compare BNS scores across these regions, you can have some repeated elements between different programs that form a “standard list” of items by which to compare households and villages. The goods and services may be items identified by the community or they may not. Standard items included in BNS surveys across Central Africa are shown in the box below.

#### Central Africa’s Standard List: Enhancing BNS’ relevance for conservation

In the two Congos, 8 USAID-funded landscapes in the CARPE program are using the BNS, providing a unique opportunity to harmonize protocols so that they are all able to:

- Compare key BNS results across all the landscapes
- Formally incorporate and monitor gender and minority concerns (items 1,2,3)
- Monitor important regional natural resource issues (items 5,6,7,8,9)

To do that, 10 standardized elements (8 services and 2 goods) are present in each list of these landscapes, and are based on the results of over 40 focus groups held across Central Africa.

N°	Standard elements for CARPE landscapes in the Congos
1	Women medics available to care for women in health clinics
2	Women participate in decision making in the village
3	Make a living without discrimination: same salary for the same work
4	Access to adult learning
5	Access to potable water within 15 minutes’ walk
6	Access to animal protein 3 times a week
7	Meal twice a day
8	Access to natural resources within an hour’s walk of home
9	Improved woodstoves/cookstoves or fuel-efficient stoves
10	Live chickens

## IV. When to update the list of goods and services

Several years after you created the first list of goods and services for the baseline survey, the economy of a village might have evolved and the community might feel that additional goods and services are now basic necessities. For that reason, it is important to ensure that the list always maintains items that are in the 3-5 category, i.e. that only wealthy people may have.

The question to ask yourself before conducting new rounds of BNS is, are the goods and services that community described during the baseline still relevant to them? Or are there new items that should be added to the list? The BNS must be both able to adapt to new needs (e.g. cell phone services), yet maintain the baseline list of goods and services.

If you think the situation of a village has not change much after 2 or 3 years, you can keep the same list. But 5 or 6 years after the baseline, it will, most likely, be necessary to conduct other focus groups. This allows you to assess whether communities still have the same opinion of what is necessary to live, or if their opinions have changed, what additional goods and services need to be added to the list.

To compare surveys from one time period to the next, it is important to use the same list of goods and services. This means that you can add new items but you should not delete items. As the list grows, the time to complete the survey will also grow—you risk subject fatigue and less reliable answers. Given this, you might, at some time in the future, need to decide what to do with items that were initially considered basic necessities but in subsequent surveys were no longer considered as necessities.

Use the same methodology as for the baseline to do new focus groups (remember, you'll need several). You do not need to do these with the same people or the exact same villages, as long as the sample is still representative of your project area.

### **Lesson Learned: Chiefs want to participate !**

In focus groups, our advice is always to try to avoid including individuals who could dominate the discussion and inhibit others. However, some traditional chiefs and government representatives might insist to participate in this exercise. If this is your case and you have at least 4 people who really want to be included, you can organize a special focus group for them. This can reduce frustrations and avoid potential conflicts, and can provide more inputs on community-based needs.



## CHAPTER 6:

### CREATE DATA ENTRY FORM



**Figure 19:** KoBoToolbox training in Madagascar. Credit: Michelle Wieland, WCS

In this chapter we are going to talk about preparing BNS electronic form for tablets and smartphones. This chapter is particularly oriented towards those of you who will be designing and analyzing the BNS—it requires that you train yourself (or attend a training) on how to use KoBoToolbox and KoboCollect application. The process below may sound very challenging to a new Kobo user—if so, seek support in your organization to guide you through your first round of surveys. Once you get the hang of it, it will become easier and easier!

## I. Why use an electronic form

In the first BNS manual (2015), we described how to prepare paper BNS data sheets. After completing the baseline surveys, we realized it was too much work for the field teams to collect data with paper and then enter the information into a relational database like Access. Not only did typing the paper data sheets into Access introduce numerous errors, but data entry and error correction was exceedingly time consuming.

With electronic forms, mistakes are reduced thanks to dropdown lists and validation criteria, and skipping the data re-entry step. Collecting BNS survey data on a hand-held device is easy, reduces data entry errors, and the information is automatically uploaded to a secure database on the internet.

Although using tablets might seem difficult for people who are used to paper, the interviewers showed that they learn quickly how to use it and to become familiar with this new tool. They appreciate how fast data can be entered and sent to the database on the cloud, and that they can start checking and correcting any entry errors, and analyzing the data as soon as they return from the field. Using electronic forms and cloud-based storage also dramatically reduces the risk that data are lost and helps maintain the confidentiality of participants' information.

### Lesson Learned: Using tablets in the field

Using tablets in the field requires some care. For the BNS, it is better to choose tablets of at least 6", with a good battery life. Buying an extra power bank will ensure the surveyors can work properly even in remote villages without regular electricity. Remember to switch off the Wi-Fi, Bluetooth and any energy-consuming app when collecting data in the field. A waterproof and/or shockproof case prolongs the life of your equipment. For surveyors using tablets for the first time, it is necessary to plan a specific training before going to the field on how to collect data digitally, providing some basic rules on how to take care of tablet or smartphone. Doing a pilot data collection and correcting errors before starting the real data collection will avoid losing data from badly filled forms.

## II. KoBoToolbox

KoBoToolbox is a free electronic data collection system based on Google's Open Data Kit. It was developed by the Harvard Humanitarian Initiative and Brigham and Women's Hospital to make ODK more user-friendly. KoBoToolbox can be used for any quantitative or qualitative survey, and reduces both data entry errors and data entry time. The data form can be filled in offline, and the data that is temporarily stored on the hand-held device will be uploaded to the cloud database when the device is reconnected to a mobile or Wi-Fi network.



KoBoToolbox

To start using KoBoToolbox, create an account by going on this website:  
<https://kf.kobotoolbox.org/>

Once the account is created, you can start building the BNS forms: one for the household survey, the other for the village price of goods, to be done at least once in each village.

In the next sections, we will describe how to create these two forms, collect and analyze data specifically for the BNS. If you want more information about using KoBoToolbox, visit their website ( <http://www.kobotoolbox.org/> ) and their help center ( <http://support.kobotoolbox.org/> )

We recommend that you read first the following article from the help center to familiarize yourself with the form builder before creating the BNS forms:

<http://help.kobotoolbox.org/creating-forms/formbuilder/overview-of-all-formbuilder-functions>.

Here are some other articles that will help you understand how this BNS form works:

Validation criteria:

<http://help.kobotoolbox.org/creating-forms/general/limiting-responses-with-validation-criteria>

Grouping questions:

<http://help.kobotoolbox.org/creating-forms/grouping-questions-and-repeating-groups>.

Multiple languages:

<http://help.kobotoolbox.org/creating-forms/adding-another-language-to-your-form>.

For the BNS, you will need two forms: the household survey and the price of goods survey. The forms are available in the public collection WCS Socio-Economics of KoBoToolbox library (BNS Household and BNS Price of goods). You can also download the templates for these forms here:



### **BNS template forms for KoBoToolbox:**

<https://drive.google.com/drive/folders/1Kg06QTGSG7FheBhmsbcZu-0Wlie3UyQd?usp=sharing>

### **Important notes for surveys in other language than English**

By default, all the elements in the column name of the survey page, as well as list\_name and name of the choices page must remain in English. This allows the online database to automatically analyze the data.

## **III. BNS household form**

Now that you have created your list of BNS goods and services with the focus groups, it is easy to create a digital form for the household survey. In your KoBoToolbox account, click on the blue button “New” at the top left of the screen and select “Upload an XLSForm”.

Drag and drop the XLSForm called “bns\_household” or click in the window to browse the form.

When the form is uploaded, you can change the title of your project as you wish, but it is best to keep “BNS” to find it easily, as well as the year of data collection. Description, sector and country are optional.

Click on “Create project” and then on the pencil button to edit the form in the form builder.

### **1. Form style and settings**

It is very important to not change the form style and keep “Grid theme”; with a different style you will not be able to see the list of goods and services in a table. You should not remove any of the metadata already selected. The today, start and end are key components of the form to know when the surveys



were done, and allow to check the time spent per survey to control the effort of your surveyors. When the survey time is too short (less than 10 minutes), it might mean that the survey is fake. When the survey time is too long (over 45 minutes), maybe the surveyor needs new explanations to understand better the form and how to use it. You can add other metadata if you want to, then close the “Layout and Settings” panel.

## 2. Questions

The welcome message is an example that you can edit adapt to your context. See FPIC box in Chapter 7 for more details about this welcome message and how to ask consent to participate.

You can edit/delete/add **options** in the following questions:

- Select your landscape
- Name of the interviewer
- Select district
- Select village
- Select household
- Household head ethnicity
- Ethnicity of other household members
- Livelihood activities.

When editing the options, option **values** need to be updated too in the grey box on the right. Make sure to use only lowercase, no space, and no special character. For example, if the name of one interviewer is Tony Kajembe, then the value could be `tony_kajembe`, or `tkajembe`, or just `kajembe`. For households’ IDs, you can put both the ID and the name of the household head in the label to be able to identify it, but should put only the ID number in the value. For example: 01001 Moka Paul in the label, and 01001 in the value.

For all the other questions, do not change any **Data Column Name** as the form must comply with the naming convention of the online database so that data can be retrieved, stored, and analyzed properly. For the questions about a year, you can edit the **validation criteria** (currently  $> 1900$  and  $< 2020$ ) if you create the form after 2020, so that the answer should be inferior to the actual year. This applies for the following:

- Arrival year of the participant into the village
- Birth year of the household head
- Birth year of other household members.

The questions to select the district, village and household should be a cascading selection: when a district is selected, only the villages from that district should appear, and only the households from the village selected should appear. You can import the formatted table of districts, villages and households to make the cascading selection in the form builder: see

<http://help.kobotoolbox.org/creating-forms/general/adding-cascading-select-questions>

In the questions about attitudes towards the park or reserve, you can add the name of a protected area in the **label**:

- Do you know the park/reserve?
- Does the park/reserve provide you any benefit?

In the question about the collection of natural resources, “nr1” to “nr5” should be replaced by the natural resources that you wish to have information on.

If you need another information that is not in the form yet, you can choose to add any BNS+ question you want. In the template, it is a text-type question, and this can be changed by deleting and re-adding

a question, as long as the Data Column Name remains **bns\_plus**.

The **“Goods and Services List”** is where you will use the final list that you created. We might worry that if the first four goods and services on the list are very likely considered basic necessities by everyone, that people might be influenced by that and say that the next item or items on the list are also basic necessities. To ensure that the order we present the list of goods and services does not influence peoples’ answers, put the goods and services in random order .

For each item of your list, three basic questions will be asked:

- Do you have it?
- Do you think it is really a basic necessity that every family must have and no family can live without?
- If the item is a good, then ask how many do you have?

For the list of goods and services, we use a specific question type that is a matrix question. You just need to add the goods and services in the table, by using the “ + ” button that is under the header, on the left. In **“Data Column Prefix”**, make sure to use only lowercase, no space, no special character. To learn more how to use this response type, go to:

<http://help.kobotoolbox.org/creating-forms/question-matrix-response-type>

### 3. Deploy the form

When all the questions are finalized, save and deploy the form. You can learn more about deploying forms here:

<http://help.kobotoolbox.org/creating-forms/general/deploying-a-form-as-a-new-data-collection-project>

Once it is deployed, you can start using it. We strongly suggest that you pilot it before starting the actual data collection. Save the link to this form, as you will need it to set up the tablet or smartphones that will be used to collect the BNS data. Here is an example of BNS household form (See also Appendix 1):

<https://ee.kobotoolbox.org/x/#YfGS>

#### Important:

Two years after your surveys, when BNS data should again be collected to assess change in well-being over time, you should duplicate the form so that the database knows it will be a new dataset, and it will use the year of creation of the form for each new dataset. To do that, just go to your list of forms in KoBoToolbox, put your mouse on the line of the BNS form, and click on “clone”. The clone should also be linked to the online database and have the appropriate tag (See section V of this chapter). Use a clone for each new BNS round.

## IV. Village price of goods

To both measure household wealth and differentiate between households scoring equally on BNS goods and services, we calculate the total value of all the goods they own. To do that, you must record the village price for all goods in the list. This second data sheet is based on the BNS and allows to indicate the village sales price for each good on the list – see Appendix II for an example. If there are different brands or different types of a good on sale in the village, enter the average sales price. If the good is not available in the village, then ask people the price they would have to pay to

<sup>4</sup> To put the goods and services in random order, you can put the list into an Excel spreadsheet, add a column with the « Rand » function in front of each item, and then sort the list using this new column with random numbers.



**Figure 20 :** Woman in a shop. Assessing prices fluctuation over time is important to understand the economic context

buy this from a trader, or determine the price in the nearest market town. The date is vital as this allows you to develop, over time, a Consumer Price Index for the village, which enables you to measure price fluctuations and to estimate the economic inflation rate over time. This village price of goods survey should be done in the shops at least once in each village where you are doing the BNS.

In your KoBoToolbox account, click on the blue button “New” at the top left of the screen and select “Upload an XLSForm”. Drag and drop the XLSForm called “bns\_priceofgoods” or click in the window to browse the form.

When the form is uploaded, you can change the title of your project as you wish, but it is best to keep “BNS prices” to find it easily, as well as the year of data collection. Description, sector and country are optional. Click on “Create project” and then on the pencil button to edit the form in the form builder.

## 1. Form settings

You should not remove any of the metadata already selected. The “today” in particular, automatically saves the date, and is a key component of that survey. You can add more metadata if you want, and then close the “Layout and Settings” panel.

## 2. Questions

The welcome message is an example that you can adapt to your context. See FPIC box in Chapter 7 for more details about this welcome message and how to ask consent to participate.



You can edit/delete/add options in the following questions:

- Name of the interviewer
- Select district
- Select village
- Name of the good

When editing the options, option values need to be updated too in the grey box on the right. Make sure to use only lowercase, no space, and no special character. For example, if the name of one interviewer is Tony Kajembe, then the value could be `tony_kajembe`, or `tkajembe`, or just `kajembe`. For the goods, if you have a 25 liter jerrycan in your list of goods, the value should be `"jerrycan_25l"`.

For all the other questions, do not change any Data Column Name as the form must comply with the naming rules of the online database so that data can be retrieved, stored and analyzed properly.

The questions to select the district and village should be a cascading selection: when a district is selected, only the villages from that district should appear, and only the households from the village selected should appear. You can import the formatted table of districts, villages and households to make the cascade in the form builder: see

<http://help.kobotoolbox.org/creating-forms/general/adding-cascading-select-questions>

To save time for the surveyors, in the settings of the question "How many goods are on the BNS list of your landscape?" you can put a default answer once you know the number of goods on the list.

### 3. Deploy the form

When all the questions are finalized, save and deploy the form. You can learn more about deploying forms here:

<http://help.kobotoolbox.org/creating-forms/general/deploying-a-form-as-a-new-data-collection-project>

Once it is deployed, you can start using it. There are two ways you can collect the data with this form:

- With the link to the form: see for example this Price of Goods form (also in Appendix II) <https://ee.kobotoolbox.org/x/#YfmU>. You can open it from any internet browser of any device,
- With Kobocollect App on Android device. To learn how to install the app, download a form and collect data, go to

<http://help.kobotoolbox.org/collecting-data/kobocollect/collecting-data-with-kobocollect-on-android>

#### **Important:**

Every two years, every time you want to collect BNS data again to assess changes in well-being, you will have to:

1. Clone the two forms and add the year to the title,
2. Share these clones with the bns account, and
3. Add the tags and change the ID tag to the one of the new BNS Household Form.

You're all set! Again, testing the forms in the office and doing a pilot before starting actual data collection is highly recommended.

## V. Link the forms to the online database

The World Resource Institute and WCS built an online database that can organize, store and analyze the BNS data. To be able to use this online database, your project should sign a data sharing agreement and send it to LWilliams@wri.org.



### Data sharing agreement with WRI

<https://drive.google.com/open?id=1OsROPX7FeWJM-bz8biAtJ4DsILvlpLfU>

Once signed and sent to WRI, you can link the forms to the online database. To do that, you need to share both forms with the “bns” account. More information about sharing forms is available here: <http://support.kobotoolbox.org/managing-projects/sharing-forms-with-other-users>.

In the list of forms on your KoBoToolbox account, put the mouse on the “bns\_household” form and click on the Sharing button. Add the “bns” account and choose “see form” and “see submissions” as access authorization. Then, add the tag “bns” by clicking on the tag button, that you will also see when putting the mouse on the form in the list.

For the “bns\_priceofgoods” form, share again with the “bns” account, with “see form” and “see submission” as access authorization. The Price of Goods form requires two tags: the first should be “bnsprice”, and the second should be the unique identifier of the Household form, so that the database knows how to link the two.

To find this unique ID, click on the Household form in your list, and look at the URL. It should

look like this: <https://kf.kobotoolbox.org/#/forms/xxXxxxxX99XXxXxxx9xX/>. The letters and digit after “forms/” is the unique ID of the Household form. Copy this ID, and paste it as a tag for the Price of Goods form.

Once the two forms are shared, with their tags, the online database will be able to retrieve the data.

The screenshot shows two form entries in a list. The first entry is 'bns\_household' with a single tag 'bns'. The second entry is 'bns\_priceofgoods' with two tags: 'bnsprice' and 'aoDnmtC83sGHsSiTwEpi3C'. Each tag is shown in a grey box with a close button (X) and an 'Add tag(s)' button.

**Figure 21:** Tags example for the BNS forms

### Important:

After two years, when you want to collect BNS data again to assess change in well-being over, you will need to share again the new forms that you cloned with the bns account, and add the tags again with the new ID of the Household form.

## CHAPTER 7: CONDUCT SURVEYS



**Figure 22:** A BNS household survey practice in Madagascar. Credit: Diane Detoef, WCS



In this chapter we will explain how to conduct a basic necessities survey.

## I. Before going to households

Prior to conducting a BNS survey we assume that you have already talked with the village elders and residents to explain the purpose of the study and to ask their permission to conduct surveys in the village. It is extremely important to take the time to explain to the authorities and to the participants why we are doing this, detailing the process, showing how they can benefit from the results of the surveys and ensure they completely understand the reason for your presence in the village.

To facilitate this, you can give local authorities a BNS factsheet that explains the BNS process and reasoning behind it (See Appendix V). When the community and its leaders have given you permission to conduct the basic necessities survey you should ask them what is the best day of the week and time to visit. This helps enormously to increase the probability that people will be available, avoiding the frustration of not finding people at home and having to track them down in the village or out in the fields. It also ensures that the interview does not conflict with peoples' work, making people more willing to devote the time needed to complete the interview. On the chosen time period, you then need to visit each household on your survey list (see Chapter 4 on selecting households) and complete the BNS interview.

### Lesson Learned : Importance of FPIC in BNS

Free, Prior and Informed Consent (FPIC) is necessary to obtain before starting any interview:

- Free means that there is no manipulation of the participants and the consent process is directed by those affected by the project/study;
- Prior implies that consent is solicited sufficiently in advance before beginning the activities, with time available for consultation processes;
- Informed suggests that participants receive the necessary and relevant information on the key point of the project/study such as nature, size, reason and duration. Different people might consider different information as relevant.

As participating to the BNS does not provide any direct monetary or in-kind benefits, following a proper FPIC procedure will prevent participants from dropping out in the middle of the interview, and avoid receiving complaints from communities after the study.

To properly inform each future participant, you should explain the following in advance before asking for consent to participate in the study:

- Purpose of the BNS,
- Study procedure,
- Risks and benefits from participating,
- Confidentiality,
- Contact information,
- Voluntary participation.

All this information should be provided in local language. If a person refuses to participate, you should never insist. The detailed informed consent procedure is available in Appendix III.

All the surveyors who are going to do the BNS should receive the training on ethic principles for research with human subjects: Human Subjects Research

More broadly speaking, working with communities means obtaining their consent, whether it be for research activities or village programs. The IRB, Institutional Review Board, is an approach to ensure the protection of interviewees from any potential harm caused by research (e.g. household's gps coordinates or a hunter's name linked to illegal activities).



**Figure 23:** Takana women in an informal basic necessities discussion in Takana, Bolivia. Including women in the BNS is essential as they play a large role in natural resource use and household well-being. Credit: WCS

## II. During BNS interviews

Here are some tips for conducting the interviews with households:

### The gender rule

Take gender into account; conduct surveys with as many women as men.

### The 30 minute rule

Each survey shouldn't take more than 30 minutes.

### Which language to use

You want to make sure people clearly understand you. Use the language that people are the most comfortable with, usually their native (birth) language. Surveys will be easier and will go faster if the interviewer knows how to speak in the local language of the village (See Chapter 6, II to know how to add language to your KoBoToolbox forms).

### Ensuring surveys are conducted in private

Some of the questions during the BNS maybe quite personal. For a more honest answer, ensure that no one else is listening during the survey. Find a private space where you and your interviewee can sit quietly together without being overheard. Other people present during the interview can influence the answers, especially if they come in the middle of the interview without knowing what the BNS is about.



If someone does attempt to join the interview, politely tell him or her that you will soon be finished and would be happy to talk with him or her at that time. This is especially true for women whose husband is listening; his presence may make her too shy to give honest answers.

#### Using women to survey women

A woman will always feel more comfortable if the interviewer is a woman, so it is ideal if you can have at least one woman in your team of interviewers. In the same way, to interview a member of a minority group, one of the interviewer's should be from this minority group too.

#### In a situation with more than one wife

It is possible that you survey a household with two or more wives. If the two wives are living in the same house, then you should consider all the goods owned by both of them as there are consisting in one single household. But if they are living in different houses, and not eating at the same cookstove, then they should be considered different households.



**Figure 24 :** Woman crushing maize in Northern Congo. A BNS household survey will be much easier if a woman is interviewed by another woman. Credit: Z. Labuschagne / WCS

#### The introduction is the most important part of a survey

It is really important that people feel comfortable enough to be completely honest with you. To achieve that, you need a good introduction. People might not understand why you are asking so many questions about their household. In some cultures, asking for ages can be taken as a way to gather information to perform witchcraft. In the introduction you should explain that this survey will help you understand the linkages between natural resources and well-being of communities, and that neither their names nor their answers will be published; their confidential information won't be used to put their household at risk in any way (See detailed Informed Consent procedure in Appendix III).



## Not a wish list

You don't want people to believe that the list we are asking them about is a wish list you will provide them if they think it is necessary but they don't have it. If so, you risk everything becoming a basic necessity, making any meaningful analysis impossible. It is important to ensure that interviewees are very honest with you. If they know you are not going to bring them more mosquito nets, you have more chance they will tell you the true number of mosquito nets they have.

## The basic necessity definition

If people don't understand what a basic necessity is, they will probably answer "yes" to the entire set of questions, making it impossible to generate meaningful results. The mistake is to think that necessity is the same as important. It is not. Here is the definition of a basic necessity:

**"Something all families should have and no family should live without"**

The interviewee must understand that a basic need is more than just something they would like to have to make their lives better; it is more than something that is important to have. It is something that you can't live without, something essential to life. The problem is, in some languages words like "necessary" or "essential" don't exist. So before going to the field, sit with your team to define 'basic necessity' in the local language. You can give examples, like the one about the container of water we talked about in Chapter 5 (see box below).

After you finish your explanation, to check if the person you are interviewing understands the difference between a basic need and something important, you can ask two questions, using goods or services that are not in your list. For example, if in your final list you don't have a pair of shoes and sunglasses, you can ask:

- "Do you think a pair of shoes is a necessity?"

It most likely is, and most people would answer yes if they understood the explanation you gave them before. If they don't, then you have to explain it again. If they do, then you can ask another question:

- "Do you think sunglasses are a necessity?"

It is most likely not, and most people, if they understood the explanation you gave them before, should answer no. If they don't, it means you have to again explain the definition of a basic necessity, and the difference with something they would like to have. If they do, it means you can start your survey.

### **An example to define basic necessity – The drinking water**

Ask your interviewees to imagine that they are really thirsty, and they have a very large container of water. The amount that they need to drink from the container to quench their thirst is a basic necessity; the water that remains after they have quenched their thirst is still useful, but is more than what was basically needed.

## Don't influence answers

The answers must come from the person you are surveying, not from you or from anybody else. So when you are asking the 3 keys questions, be careful not to do it in a way that could influence the answers. A leading question, like:

- "A gun is necessary, right?"

will result in "yes" most of the time. Furthermore, even if the answer surprises you, like for example if someone tells you a car is a basic need, don't try to ask the question again or to ask "Are you sure?"; because this is also a way to influence their opinions about basic necessities. An important rule is to simply write down the first answer the person gives to you.

## Look around you

To triangulate questions about having goods and services, to verify people's responses and be more confident about your data, use your visual sense. For example, if you ask someone, do you have a plastic chair, and she/he answers no but you are sitting on a plastic chair in front of the house, then you can ask who owns this chair.

## Age issues

In some cultures it can be very difficult for people to know their age or the age of their children. If this is the case ask about historical events (where you born before or after independence), do comparisons with people they know (are you older than Ngutcha?), or inquire about their child's current school level. When all else fails, simply estimate the person's age according to their appearance.

### To lead a good BNS interview

- Take gender into account
- 30 minutes maximum
- Use local language
- Interview in private
- Use women to survey women
- Clear and concise introduction
- Define basic necessity
- BNS is NOT a gift list
- Don't influence answers
- Look around you
- Estimate ages if they don't know

# CHAPTER 8:

## FROM DATA TO ANALYSIS



Central Africa Regional  
Program for the Environment

HOME BNS NRGT

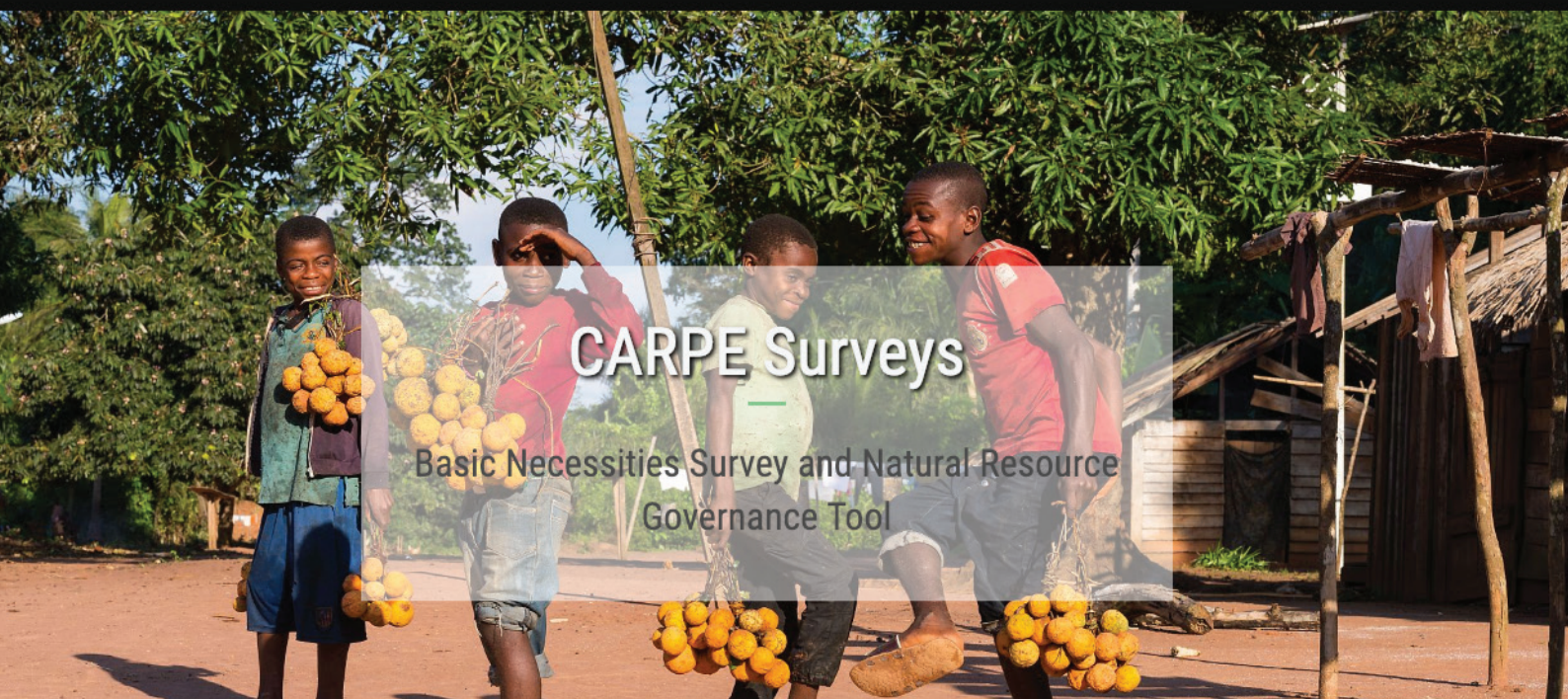


**USAID**  
FROM THE AMERICAN PEOPLE



ddetoef\_wcs

LANG



**Figure 25:** Homepage of the BNS and NRGT online database ( <https://gis.forest-atlas.org/surveys/> )



In this chapter, we will see how to:

- 1) Upload and then clean the data
- 2) Retrieve analyzed data from the global online BNS database
- 3) Visualize and interpret the results using graphs or bar charts, then share the results with colleagues and with surveyed villages.

## I. Send and clean up data collected

When all data are collected and the team come back to an office with internet connection, simply connect the tablets to the Wi-Fi to send/upload the data to KoBoToolbox in the cloud. In the Kobocollect app on your tablet, open the "General Settings" (the three dots at the top right of the screen), then go to "Form management" and put the "Autosend" on "Wi-Fi only".

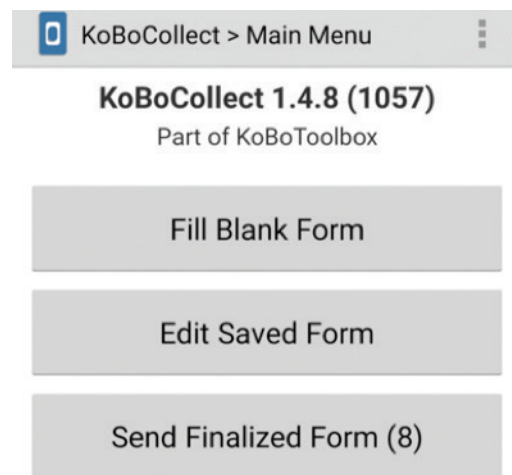


Figure 26 : Screenshot of KoboCollect App

## Lesson Learned : Reducing risk of losing data

Although tablets are safer than paper, there is still a risk of losing data if the device breaks or gets stolen. To avoid this, one approach is to send data to the server as often as possible using internet mobile network when available. Of course, using a case and keeping the device in a secure location at all times are the first steps in preventing any data loss.

Before being analyzed, all data need to be checked for any errors and be corrected. As the online database for our BNS data is directly linked to KoBoToolbox, it is necessary to error check and correct the data online. To do this, connect to your Kobo account, select the BNS form and click on the "Data" tab on top of the screen. Select "Table" view on the left, and from there you can see all your data. Use the filters to check for mistakes. When you find an error, open the survey data by clicking on "Open" at the beginning of the line of data then "Edit". The form will open in Enketo, and from there you can correct the fields as needed. Once everything is correct, go to the bottom of the form and click on "Submit". You should see a window with the mention "successfully submitted", and you can close it.

To learn more about editing data in KoBoToolbox, and view screenshots that demonstrate the steps, go to <https://support.kobotoolbox.org/managing-your-project-s-data/how-to-edit-or-delete-a-single-submission>.

## II. Retrieve data from the online database

The database automatically retrieves and syncs the data between KoBoToolbox and the online database every hour.

The data are stored, organized and analyzed on an online database that you can access using this link: <https://gis.forest-atlas.org/surveys>. You can connect using the login details provided by the database administrator ( [ddetoeuf@wcs.org](mailto:ddetoeuf@wcs.org) or [jboundamas@wri.org](mailto:jboundamas@wri.org) ) after signing the data sharing agreement with WRI.

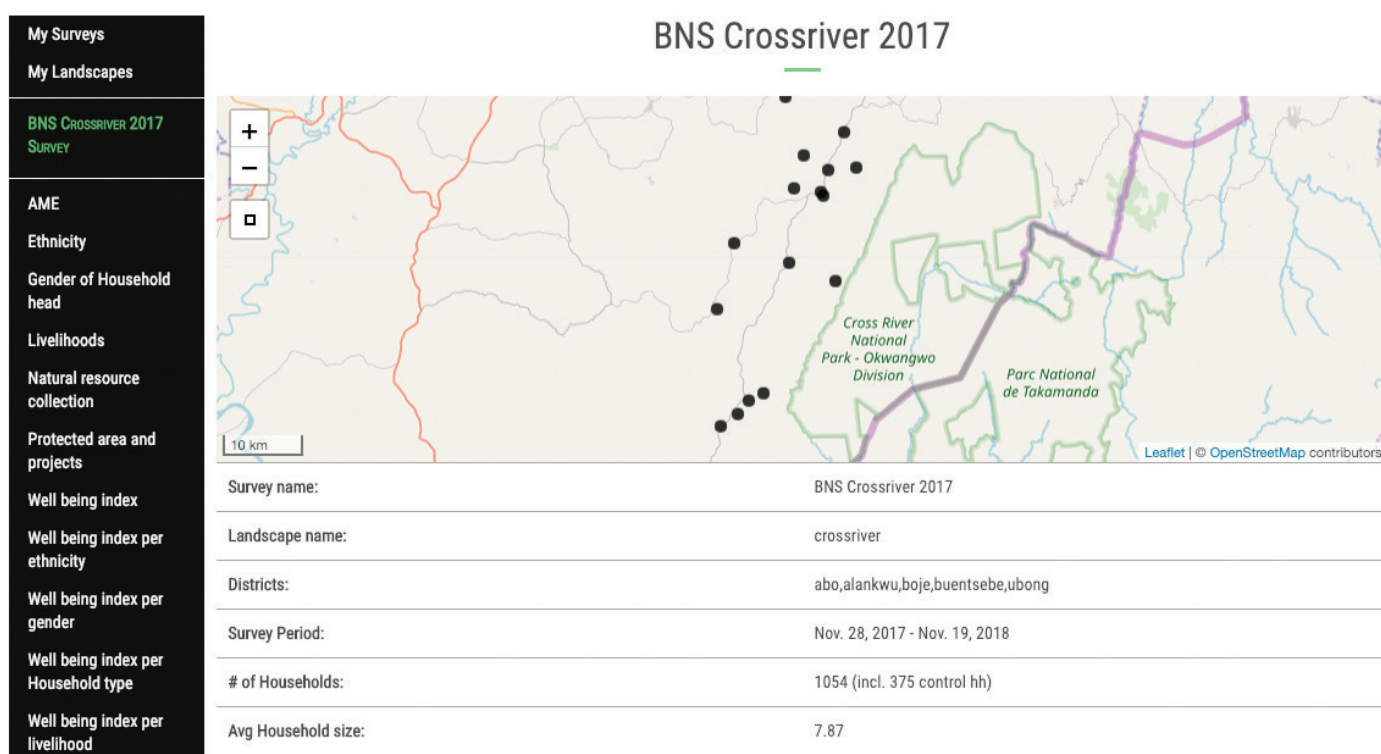
The BNS database automatically calculates each household's well-being score from the data collected (see appendix IV for explanations on how the well-being score is calculated). It also allows you to do a lot of different analysis, for example:

- Determine the poorest households in a village;
- Determine which villages are poorest;
- Compare household wellbeing by ethnicity, by male vs female heads, or by different natural resource access/use;
- Link household wealth to their use of natural resources (data generated from other surveys), for

example linking BNS results with bushmeat consumption results

- Compare different landscapes with a standard set of goods and services in all BNS surveys
- Compare observed changes over time to understand if project households' wellbeing is improving relative to non-project households

Once you are connected, click on "BNS" to access your data. You can go to "My Surveys" or "My landscapes" to see your datasets. "My surveys" displays the data per year, and "My landscapes" combines the data of multiple years for each landscape. The panel on the left lists all the available queries, disaggregated by village, district, and landscape. The data appear in a table, that you can download by clicking on the "Download as" links below the table.



**Figure 27 :** Screenshot of the BNS online database showing a summary of the results from Nigeria

Below is the list of available queries that compares BNS results<sup>5</sup>. If you need another query that is not in the list, you can download the raw data directly from your KoBoToolbox account (in the "Download" section of the "Data" tab) or email the database administrator.

**Adult Male Equivalent (AME):** The AME is a measure of the size of the household that takes into account gender and age of each household member.

**Ethnicity:** calculates the ratio of each ethnic group amongst the people surveyed.

**Gender of household head:** ratio of household head gender.

**Livelihoods:** number of livelihood activities.

<sup>5</sup> According to the well-being index

Natural resource collection: average number of times per week collecting natural resources; for each natural resource, the percentage of surveyed people collecting them.

Protected area and projects: ratio of people who have been beneficiary of a project, who know the protected area and who think they benefit from the protected area

Well Being Index (WBI): the WBI is calculated for each household based on if it possess/access a good/service and on the 'weight' of this good/service in the community (how necessary people think it is).

Wealth Index: this is calculated based on the average price of goods of the list in the area and the quantity of these goods possessed by the household.

## WCS and WRI Partnership for the BNS database

The BNS online database was created thanks to a partnership between the Wildlife Conservation Society and the World Resources Institute. This partnership was born from the USAID-funded Central Africa Regional Program for the Environment (CARPE). They created a platform to support information collection and analyses across CARPE projects, and facilitate the utilization of information about threats to, and conservation of, wildlife as a global good.

For more information about this platform and the BNS database, you can contact the database administrators: Thomas Maschler ( [tmachler@wri.org](mailto:tmachler@wri.org) ) or Diane Detoef ( [ddetoef@wcs.org](mailto:ddetoef@wcs.org) ).

## III. Visualize, interpret and share

You can open the downloaded data in Excel and create pivot tables and graphs to visualize the results. You can also create your own specific analyses from the raw data downloaded on your KoBoToolbox account. There are thousands of ways you can present your results, so it is important to take the time to think about what questions you want to answer and what table or graphic would present the results that would be most easily understood.

For example, here are some of the most common questions that you can explore when analyzing BNS data:

- What factors appear to influence the wellbeing of households (e.g., gender of household head, distance to the protected area, primary livelihood activity, or conservation intervention, etc.)?
- Is the wellbeing of households correlated to conservation actions better or worse over time?
- Did attitudes towards the protected area change over time?
- Does the list of goods and services considered basic necessities change over time (i.e., do some lose their necessity status while others become necessities)?

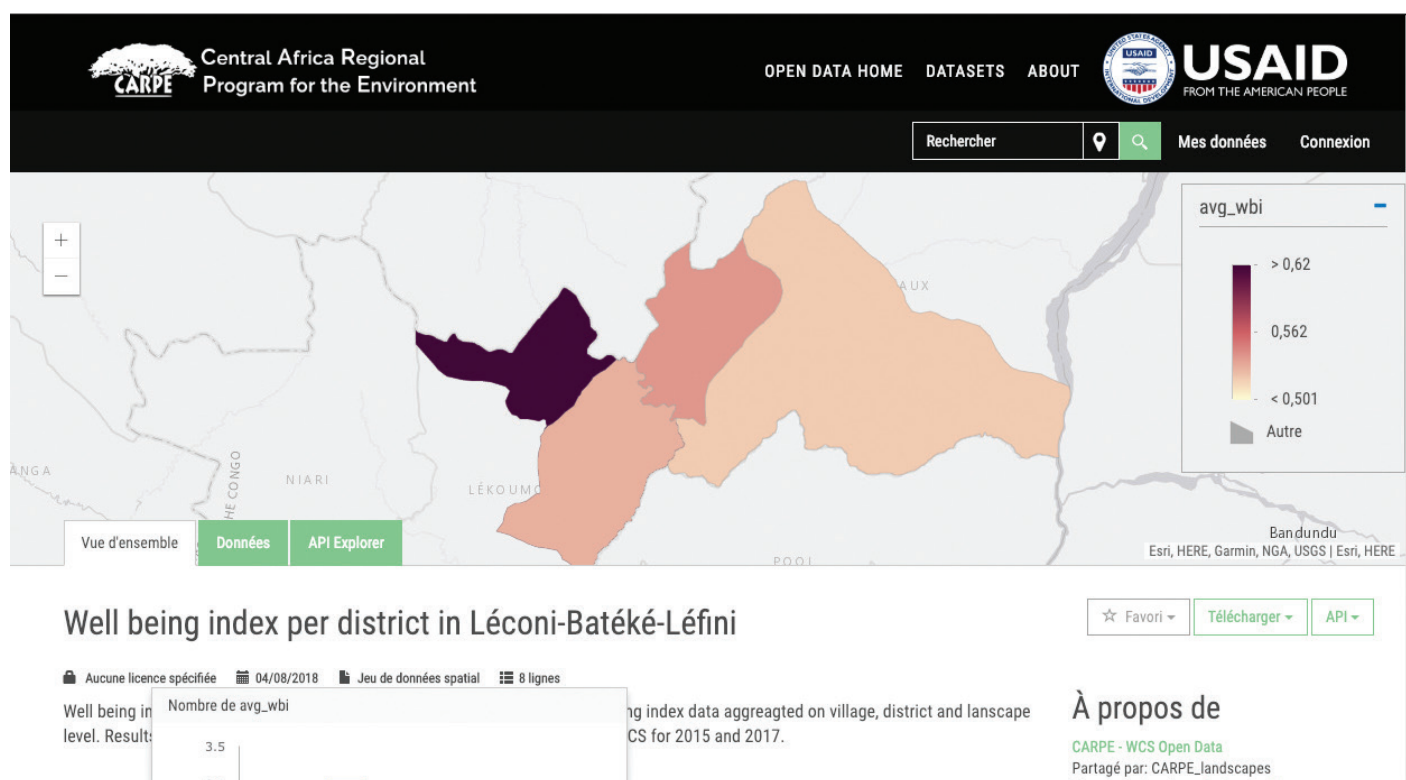
You can also export the results into a GIS program to visualize indicators across villages, landscapes, countries or regions.

Remember to share your results with all interested stakeholders. The communities you worked with might be interested to know the average well-being score for the community, the proportion of households in different wellbeing categories, how household wellbeing is changing over time. This BNS discussion is an opportunity to talk with community members about why they think the documented changes in household wellbeing occurred – what factors in their minds causes the observed changes. A useful tool for doing interviews like this is called "The Most Significant Change" by Rick Davies – the same person who created the BNS.



Finally, more than being a monitoring tool, the BNS should also be used for adaptive management. If over time the results show that your beneficiary households are doing worse than the controls, your team should work to understand why this may be happening. Information from the “Most Significant Change” discussions with communities will also help understand why wellbeing trends are not heading in the direction you desired.

If you are able to identify why wellbeing trends are heading in the wrong direction your team will need to decide how to turn trends around. Some interventions might need reinforcements, others might need to be replaced with alternative solutions that will have a better impact on both conservation and human well-being.



**Figure 28 :** Screenshot of the platform developed by WRI to visualize BNS results

#### IV. Time series BNS data is needed to detect wellbeing trends

The BNS is a monitoring tool for your interventions, either for specific households who are beneficiaries of a livelihood project, or for an entire village that has received support from your organization.

##### **Lesson learned: Starting a new project**

For a proper impact evaluation, monitoring baselines should be conducted before starting any project. If between two BNS rounds you start a new project in a different village, make sure you do the baseline in this village as soon as possible, before villagers receive any benefits.

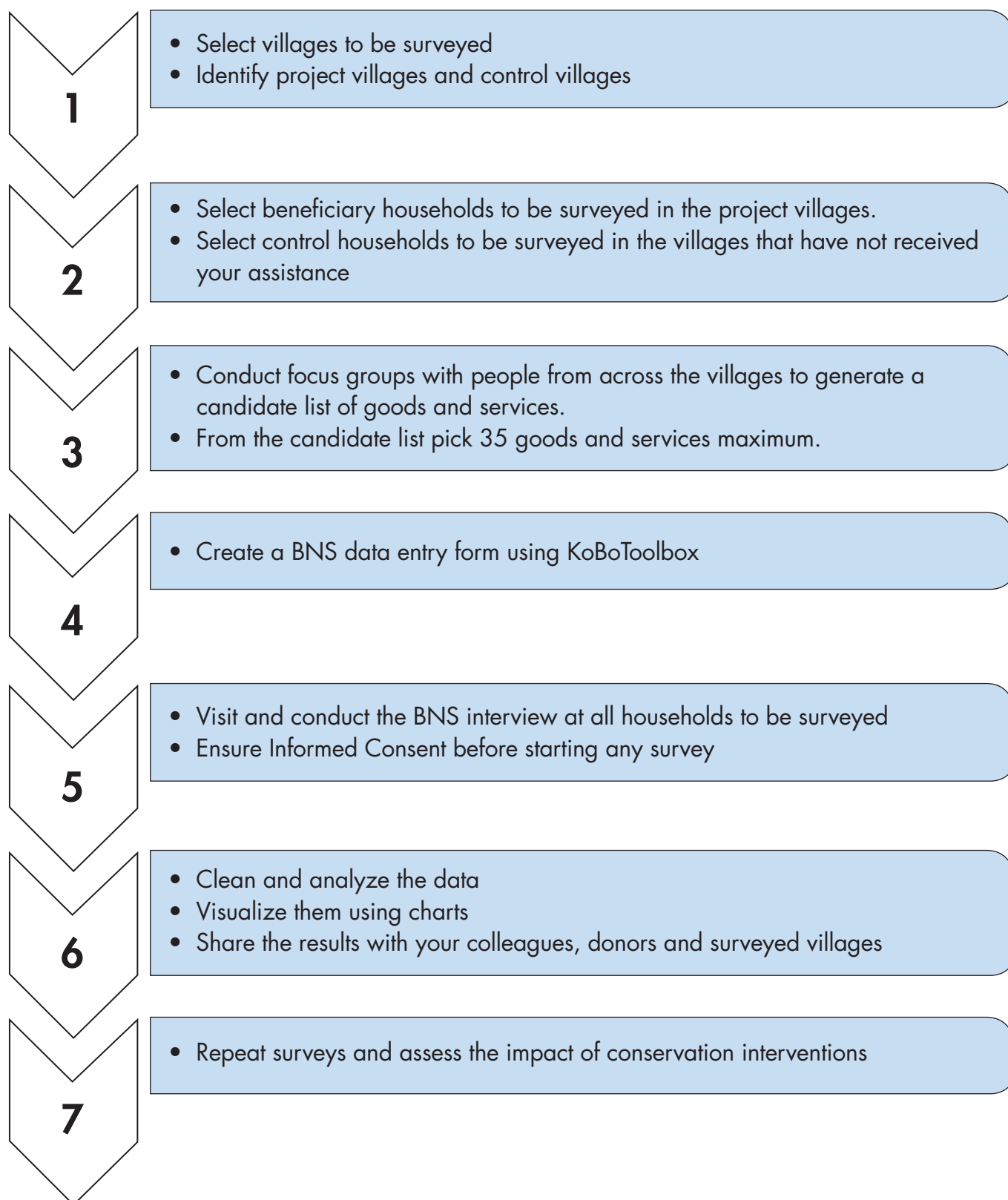
A household's wellbeing is likely to change for many reasons, some associated with the project, others not. The wellbeing index could show a decline from one time period to the next because a household member died, or the they live in a war zone with regular attacks and burglary, or all their chickens died of Newcastle's Disease. We actually expect each household's wellbeing index to wobble up and down over time. To detect a trend, you need at least 3 and preferably more data points.

Be sure to document changes that occur after your baseline BNS survey, for example a new road through a village, or the start of a development project by another organization. These may differentially impact project or control village well-being and thus influence your long-term comparative analysis.

The BNS should be conducted every 2 or 3 years to monitor change over time. The two surveys should be conducted every time: the household one, surveying the same households, and the village price of goods survey.

You may have difficulties finding the same households as in the previous BNS rounds. It is very important to properly record the names and GPS of participants to find them again after 2 or 3 years, but even with that information some people might move or die. Remember you are trying to monitor a household, not individuals. If the participant you interviewed last time is no longer there but his/her household is still present, continue with another adult from the same household. Only if you cannot find any members of the monitored household, should you find a new household to follow.

You should keep going to the same villages, both project and control, over time. With each additional survey, you will be better able to see if and how conservation interventions in these villages influenced the wellbeing of households. Remember you will not be able to see a trend until you have at least 3 different years of BNS surveys – because 2 points always produce a straight line!



**Figure 29 :** BNS steps



## APPENDICES

### I. Example of BNS form

#### Example BNS Murchison 2018

Select your landscape <input type="radio"/> Murchison Semliki <input type="radio"/> Option 2 <input type="radio"/> Option 3	★
Provide welcome message and ask for consent <input type="radio"/> OK	×
Name of the surveyor <input type="radio"/> Joe <input type="radio"/> Helena <input type="radio"/> Option 3	★
Participant name  	★
Arrival year in the village of the household  	★
Select district <input type="radio"/> Hoima <input type="radio"/> Option 2 <input type="radio"/> Option 3	★
Select village <input type="radio"/> Buhamba <input type="radio"/> Ibambiro <input type="radio"/> Option 3	★
Type of household <input type="checkbox"/> NGO beneficiary <input type="checkbox"/> Other beneficiary <input type="checkbox"/> Control	★
Have you ever participated to the BNS? <input type="radio"/> Yes <input type="radio"/> No	★
Select household  <input type="radio"/> hh1 <input type="radio"/> hh2 <input type="radio"/> Option 3	★
Household head gender <input type="radio"/> man <input type="radio"/> woman	★
Household head ethnicity  <input type="radio"/> Option 1 <input type="radio"/> Option 2	★
Birth year of the household head  	★
Besides the household head, how many people are in the household?  	★

### Other household members

Gender

☐ man ☐ woman

Ethnicity

☐ Option 1

☐ Option 2

Birth year

### Livelihoods

1st activity

☐ Teacher

☐ Farmer

☐ Hunter

☐ Option 4

2nd activity

☐ Teacher

☐ Farmer

☐ Hunter

☐ Option 4

3rd activity

☐ Teacher

☐ Farmer

☐ Hunter

☐ Option 4

4th activity

☐ Teacher

☐ Farmer

☐ Hunter

☐ Option 4

Have you ever been beneficiary of a project?

☐ yes ☐ no

Explain if yes

Do you know the protected area?

☐ yes ☐ no

Does the protected area provide you any benefit?

☐ yes ☐ no

Explain if yes

How many times last week did you collect natural resources?	0	1	2	3	4	5	6	7
Fruits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Firewood	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Bushmeat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fish	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Medicinal plants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Goods and services list	Do you have it?	Is it necessary?	How many do you have?
<b>machete</b>	<input type="radio"/> yes <input type="radio"/> no *	<input type="radio"/> yes <input type="radio"/> no *	
<b>house in bricks</b>	<input type="radio"/> yes <input type="radio"/> no *	<input type="radio"/> yes <input type="radio"/> no *	
<b>access to drinkable water at less than 15 min walking</b>	<input type="radio"/> yes <input type="radio"/> no *	<input type="radio"/> yes <input type="radio"/> no *	
<b>Row</b>	<input type="radio"/> yes <input type="radio"/> no *	<input type="radio"/> yes <input type="radio"/> no *	

GPS coordinates of the household

*GPS coordinates can only be collected when outside.*

latitude (x.y °)

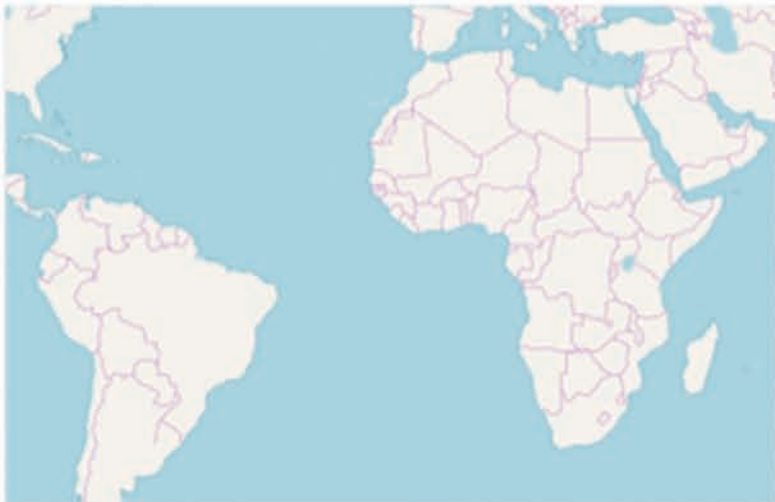
-79,935918

longitude (x.y °)

545,559082

altitude (m)

précision (m)





## II. Example of Price of goods form

### Example Price of Goods Murchison

\* Provide welcome message and ask for consent

☐ OK

Surveyor

☐ Joe ☐ Helena ☐ Option 3

District

☐ Hoima ☐ Option 2

Village

☐ Buhamba ☐ Ibambiro ☐ Option 3

Number of goods in your BNS list

\_\_\_\_\_

Price of goods

1

\* Name of the good

- |  |  |   |
|--|--|---|
| <input type="radio"/> 1. Bicycle             | <input type="radio"/> 2. Iron roofed house |   |
| <input type="radio"/> 3. Radio               | <input type="radio"/> 4. Hoe               | <input type="radio"/> 5. Mobile phone   |
| <input type="radio"/> 6. Energy saving phone | <input type="radio"/> 7. Machete           |   |
| <input type="radio"/> 8. Chicken             | <input type="radio"/> 9. Motorcycle        | <input type="radio"/> 10. TV            |
| <input type="radio"/> 11. 20L Jerrycan       | <input type="radio"/> 12. Goat             |   |
| <input type="radio"/> 13. Half acre of land  | <input type="radio"/> 14. Bed and mattress |   |
| <input type="radio"/> 15. Solar lamp         | <input type="radio"/> 16. Mosquito net     | <input type="radio"/> 17. Paraffin lamp |
| <input type="radio"/> 18. Tractor            | <input type="radio"/> 19. Cow              |   |

\* Price

\_\_\_\_\_

### **III. Informed Consent procedure**

#### **NOTE:**

The informed consent should be provided in local languages.

#### **PURPOSE OF STUDY**

You are being asked to take part in a study. Before you decide to participate in this study, it is important that you understand why the study is being done and what it will involve. Please listen to the following information carefully. Please ask me if there is anything that is not clear or if you need more information. The purpose of this study is to track changes in family wellbeing over time, and to determine whether our conservation work is responsible in wellbeing improvement or decline.

[For WCS beneficiaries] You were randomly selected amongst all the households in the landscape who are beneficiaries of a WCS project.

[For control hh] You were randomly selected amongst all the households in the landscape.

#### **STUDY PROCEDURES**

The survey is very simple. I will ask you a short series of question that you will answer by saying either Yes or No. The survey will take about 30 minutes. We will arrange with you a time that is convenient to participate in the survey. We will provide to you a copy of your completed survey, and will present the results of the survey at a community meeting after data collection and analyses have been completed.

If you decide to participate, we will come back every 2 years to ask the same questions: this will allow us understand how the wellbeing of your household is varying over time.

We will record you name and the GPS coordinates of your house in order to assist with annual follow up only: both will never be shared.

#### **RISKS AND BENEFITS**

You may decline to answer any or all questions and you may terminate your involvement at any time if you choose.

Participating to this study will help you understand how WCS's conservation interventions have an impact on the wellbeing of your household and of your village on the long term.

[For WCS beneficiaries] Participation or non-participation will not impact the benefits you may gain from the livelihoods/community projects you are part of with WCS.

#### **CONFIDENTIALITY**

Your responses will be stored in a safe place that only the researcher will have access to, and will not be shared with anybody else from your family, community, or officials. When we will analyze the data, your name will be kept confidential.

#### **CONTACT INFORMATION**

If you have questions at any time about this study, please call or send a message to the coordinator of the project (number ..... ) and we will come and talk with you.

#### **VOLUNTARY PARTICIPATION**

Your participation in this study is voluntary. It is up to you to decide whether or not to take part in this study. If you decide to take part in this study, you will be asked to give your oral consent. After you give your consent, you are still free to withdraw at any time and without giving a reason. Withdrawing from this study will not affect the relationship completed, your data will be returned to you or destroyed.

## IV. Explanation for the Well-being Index calculation

The well-being index can be calculated once all the household surveys have been done. First, we calculate the weight of each item, which is the percentage of people who voted an item as necessary. Only goods and services that have a weighting >50% are kept for the well-being index calculation.

Then, for each item kept as a necessity, we multiply the answer of the question "do you have it?" by the weight of the item. The sum of this multiplication gives the well-being score of each household. Then, we calculate the maximum score, which is the sum of the weighting of all assets on the list.

Finally, dividing the well-being score by the maximum score gives the well-being index of the household. This calculation is done automatically by the online database.

A	B	C	D
Basic Necessities	Have now Yes = 1, No = 0	Weighting (% of necessity votes)	Well-being score (own it * weighting)
1 hectare of land per person	0	0.995	0.000
Electric light	1	0.995	0.995
Bicycle	1	0.995	0.995
Concrete rice drying yard	1	0.988	0.988
Wooden rice chest	1	0.986	0.986
3 meals a day	1	0.983	0.983
Buffalo or cow	0	0.981	0.000
All children studying up to level 2	0	0.981	0.000
Well with well head	0	0.979	0.000
Stone built house	0	0.976	0.000
Thick cotton blanket	1	0.971	0.971
Doctor visiting the house when sick	1	0.950	0.950
Electric fan	0	0.931	0.000
A new set of clothes each year	1	0.924	0.924
Livestock vaccination	0	0.919	0.000
Meat once a week	0	0.833	0.000
Pesticide pump	0	0.800	0.000
Watch	0	0.774	0.000
Access to loans	0	0.767	0.000
Radio	0	0.743	0.000

Maximum score	18,471	=Sum(C2:C21)
Household's Well-being score	7.793	=Sum(D2:D21)
Household's Well-being index	43.29%	=Household's Score Maximum Score

**NB:** Maximum score = sum of the weighting of all assets and services considered by local families to be necessities





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## THE BNS: A STANDARDIZED MEASURE OF THE WELL-BEING



*Fig. 1: The bns is a tool to measure how WCS actions influence local livelihoods*

Botswana

Cameroon

Central African  
Republic

Republic of  
Congo

Democratic Republic  
of Congo

Gabon

Ivory Coast

Kenya

Madagascar

Namibia

Nigeria

Tanzania

Uganda

Zambia

### INTRODUCTION

It is necessary to monitor our conservation and development actions in order to measure their impacts on the livelihoods of local communities. To do this, WCS has chosen to use a method based on basic goods and services, the "SNB": a survey of basic needs. This tool is now used in all WCS sites in Central Africa, as well as by our partners. WCS uses it because it cares about the well-being of communities, and would like to see how we work to improve that well-being.

### METHOD

The first step is the establishment of a list of essential goods and services, defined by the local populations themselves. Focus groups are conducted in the communities with which WCS works, allowing everyone to express their views on what is considered necessary for them to live. This list must contain elements that everyone should have, and that no one should live without. In order to obtain a good representation of basic needs, these focus groups invite men, women, people of mature age, youth, Bantu and indigenous people in turn, in different villages.

Once the list has been compiled, the second step is to conduct questionnaires with a certain number of households per village. The households that will participate in the SNB survey are randomly selected from the village.



*Figure 2 : Practice and BNS surveys with tablets*

On each of the items on the list, we ask them three questions:

- is it really a necessity?
- does the household own it?
- how many do the household own?

We are also interested in additional data on household demographics, and the links between communities, parks and reserves. Finally, we collect in the villages studied the prices of the properties mentioned in the list in order to calculate a wealth index for each household studied.

## RESULTS

The results are recorded and analyzed on a computer. Various calculations make it possible to obtain, for each household, a "poverty score" that is relative to the standard of living of the village or geographical area. The results obtained during the first year thus provide a first standard of living, which will serve as a baseline for the future, in order to compare the evolution of living standards in the future. Indeed, the SNB is carried out every two years, in order to show the impact of WCS actions, and the changes in livelihoods over time in the villages where we work. Finally, the SNB not only shows the impacts of WCS's actions, but also the impact that others can have on the well-being of communities.

## USE OF THE BNS TOOL

WCS uses the SNB method in all its CAFEC sites in Congo and the DRC. In Congo, this concerns the Batéké Plateaux, the Nouabalé-Ndoki National Park, and the Lac Télé Community Reserve. In the DRC, this concerns Salonga National Park, Okapi Wildlife Reserve, Kahuzi-Biega National Park, and Mount Hoyo Reserve.



*Figure 3: The BNS is used on all WCS landscapes in Congo and DRC*

## ADVANTAGES OF THE BNS TO ASSESS THE STANDARD OF LIVING

- The lists created make it possible to represent the full diversity of local populations.
- This method has the advantage of providing results quickly, which are easily analyzed.
- The results can be useful not only to WCS, but also to any other entity interested in the evolution of the well-being of its communities.
- Other important factors can be taken into account to help conservation actors, such as household use of natural resources, to analyse this type of information from a poverty level perspective.

## IMPORTANCE OF THE BNS FOR LOCAL AUTHORITIES

Administrations, authorities or other local government representatives may also ask themselves what is the standard of living of the people living in the geographical area they manage. For this reason, the SNB is a very appropriate tool for understanding where underdevelopment is located, and at the same time which villages and households are below the average standard of living. It is an opportunity to understand how conservation can help their communities, and how local government entities work with NGOs to improve local living conditions.

**The BNS is an easy and quick to implement, inexpensive, reproducible tool that allows comparisons between villages and over time.**

## Contacts

Name: Diane Detoeuf,  
Agronomic engineer  
Function: Socio-economic Assistant  
CAFEC  
[ddetoeuf@wcs.org](mailto:ddetoeuf@wcs.org)

Name: Dr. Michelle Wieland  
Function: Socio-Economic Advisor, Africa Program  
[mwieland@wcs.org](mailto:mwieland@wcs.org)

[www.wcscongloblog.org](http://www.wcscongloblog.org)

**WCS**– Wildlife Conservation Society, CONGO PROGRAM, B.P. 14537  
Brazzaville, Republic of Congo

## WCS Mission

Protecting wildlife and its habitat is WCS's mission. We achieve this through science, international conservation, education and management of the largest system of urban zoos under the leadership of the Bronx Zoo.









U.S Agency for International Development  
1300 Pennsylvania Avenue, NW  
Washington, DC 20523  
Tel. 202 712 0000  
Fax. 202 216 3524  
[www.usaid.gov](http://www.usaid.gov)



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