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INTRODUCTION TO PARTICIPATORY APPRAISAL

1. PARTICIPATION

Participation empowers people to find solutions to their own development challenges. It is both an attitude and a philosophy that encourages learning, discovery and flexibility.

2. TYPES OF PARTICIPATION¹

No type of participation is better than the others. Sometimes different types are required. In participatory appraisal, the level of participation may range from information giving, where the focus is on data collection, to interactive, where the focus is on external agents and communities working together to identify problems, solutions and action plans.

- **Passive participation:** People participate by being told what is going to happen or has already happened. It is a unilateral announcement by an administration or project management without listening to people's responses. The information being shared belongs only to external professionals.
- **Participation in information giving:** People participate by answering questions posed by extractive researchers using questionnaire surveys or similar approaches. People do not have the opportunity to influence proceedings, as the findings of the research are neither shared nor checked for accuracy.
- **Participation by consultation:** People participate by being consulted, and external people listen to views. These external professionals define both problems and solutions, and may modify these in the light of people's responses. Such a consultative process does not concede any share in decision-making, and professionals are under no obligation to take on board people's views.
- **Participation for material incentives:** People participate by providing resources, for example labor, in return for food, cash or other material incentives. Much on-farm research falls in this category, as farmers provide the fields but are not involved in the experimentation or the process of learning. It is very common to see this called participation, yet people have no stake in prolonging activities when the incentives end.
- **Functional participation:** People participate by forming groups to meet predetermined project objectives related to the project; which can involve the development or promotion of externally initiated social organizations. Such involvement tends to occur after major decisions have been made rather than in the early stages of project development. These institutions tend to be dependent on external initiators and facilitators, but may become self-dependent.

¹ 1 From Pretty, J.N., Guit, I., Thompson, J. and Scoones, I (1995). A Trainer's Guide for Participatory Learning and Action, London: International Institute for Environment and Development (IIED)

- **Interactive participation:** People participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones. It tends to involve interdisciplinary methodologies that seek multiple perspectives and make use of systematic and structured learning processes. These groups take control over local decisions so people have a stake in maintaining structures or practices.
- **Self-mobilization:** People participate by taking initiatives independently of external institutions to change systems. They develop contacts with external institutions for resources and technical advice they need, but retain control over how resources are used. Such self-initiated mobilization and collective action may or may not challenge existing inequitable distributions of wealth and power.

3. KEY PRINCIPLES OF PARTICIPATORY APPRAISAL

Participatory appraisal is a family of approaches and methods that enable people to present, share and analyze their knowledge of life and conditions, so as to plan and act. It is participatory, flexible, lightly structured, adaptable, exploratory, empowering and inventive.

- **Behavior and attitude**
 - Listen, learn and respect
 - Be prepared to unlearn negative attitudes and stereotypes
 - Act as facilitator, not an expert
- **People are knowledgeable**
 - On subjects important to their livelihoods
 - Certain individuals have unique and valuable perspectives
- **Co-learning**
 - Share knowledge, experience and analysis
 - Combine local and professional knowledge for effective acceptable action
- **People are rational**
 - There is an insider's and an outsider's perception of behavior
 - Based on the information available, most people make rational decisions
 - The appearance of irrational behavior means that a misunderstanding may have occurred
- **Optimal knowledge/optimal ignorance**
 - There is a balance between the need for information and the need for timely decision-making
- **Action-orientated**
 - Be prepared to take action rather than just collect data

3.1. METHODS USED IN PARTICIPATORY APPRAISAL

Different participatory appraisal tools can be used to investigate the same issues. Although the methods are intended primarily to explore different aspects of the issue, there will be some overlap in the information generated. Three main groups of tools will be presented during this training:

- **Informal interviewing:** Semi-structured interviews, key informant meetings, focus-group discussions.
- **Ranking and scoring:** Simple ranking, pair-wise ranking, proportional piling, matrix scoring.
- **Visualization:** Mapping, timelines, seasonal calendars, Venn diagrams.

3.2. CROSS-CHECKING DATA

Qualitative research methods require data checking and analysis. In participatory appraisal, this process begins during fieldwork. Throughout an investigation the practitioner is analyzing information, and as a result the hypothesis guiding the investigation is continually evolving. There are several ways in which data is crosschecked, validated and analyzed.

- **Probing:** During an interview, information provided by informants is explored for internal consistency. When an interviewee responds to a question, the interviewer usually asks additional questions to verify and deepen his or her understanding of the interviewee's viewpoint.
- **Triangulation:** An analytical process where data collected by different methods and from different sources is compared. Triangulation is used to explore patterns and coherence, as well as to understand the bias of different informants. Triangulation occurs during an interview, when comparing secondary information and interview results, and during final analysis.
- **Conflict of interest:** It is important to understand any potential conflict of interest your informants might have in order to interpret the information you gather.
- **Weighing of evidence:** The practitioner needs to weigh the evidence gathered from different sources to make a judgment on which to prioritize and investigate further.
- **Laboratory diagnostics:** Results, particularly regarding a diagnosis, should be confirmed with biological testing.

3.3. ANALYSIS IN PARTICIPATORY APPRAISAL

Different types of data can be collected during an epidemiological study.

- **Quantitative:** A measure of "how much" of something, expressed as a specific quantity with a unit. For example, a distance of 10 km is a quantitative measure.

- **Qualitative:** Descriptive and considered more subjective than quantitative data. Instead of a specific quantity and unit of measure, in qualitative terms a distance might be described as “farther” than another.
- **Semi-quantitative:** Information that has been assigned a numeric quantity but the unit of measure may be irregular. Semi-quantitative data is often created from qualitative data by using systems of ranking or prioritization.

3.4. BIAS

Bias affects all human observations and perceptions. It is a propensity to present one perspective, or a partial perspective, even though there are other equally valid alternatives. In research bias is a deviation from the truth, or a systematic tendency in the collection, analysis, interpretation, publication, or review of data that leads to conclusions that are different from the truth. This does not imply that the deviation is intentional. As scientists we must always be aware of the potential for bias in our work. Understanding bias is a key requirement for being an effective participatory appraisal practitioner.

- **Spatial bias:** The selection of a study area based on convenience and access. Investigators often travel by road, leading to study areas identified by proximity of villages to good roads. The people in more remote communities (often the poorest) remain unrepresented in the study.
- **Project bias:** The selection of a study area based on the presence of other projects, because of the increased level of activities in the village and comfort with outside investigators. Visitors and researchers are often channeled to areas where projects have been active and most of the work will then concentrate on these places.
- **Person bias:** The selection of respondents who are easy to access and interact with. The views of certain types of people (influential, rich, vocal, etc.) can be overrepresented in the interviewing process, and those people may be biased against poor people, or ignorant of their needs. The “rural elite,” while not at all representative of the cross-section of the community, is often the most vociferous during group interviews, drowning out the voices of others. The investigator must make a special effort to include marginalized members of the community in a study, such as women, approaching them in settings where they feel comfortable enough to express their views.
- **Seasonal bias:** The collection of data during one part of the year, which may not be representative of the pattern of disease during other parts of the year. For example, malnutrition, morbidity and mortality may be highest at the end of the dry season. Surveys carried out at other times of the year may miss these phenomena.
- **Diplomatic bias:** The reporting of information by informants that hides certain problems, out of respect or embarrassment because the problem may have a negative social stigma. For many communities, poverty is the subject of shame, and the needs of the poorest are sometimes glossed over or even concealed, either by the poor themselves or by officials working with them.

- **Professional bias:** The filtering of information through the lens of one's professional training, rather than objectively considering it as reported. Health professionals may introduce bias, preventing them from really understanding what informants are trying to tell them. In epidemiology, professional bias can cause problems at the technical level, preventing study teams from correctly understanding the traditional knowledge base.

3.5. ATTITUDE AND BEHAVIOR

It is important to be aware of our own attitudes and behavior, and how they might influence our work. Human beings communicate with all five of our senses: sound, sight, hearing, touch and smell. Most of us are used to communicating primarily with the sense of sound, by speaking. However, when we interact with others we are consciously or subconsciously communicating in other ways. Our attitudes are often displayed through these other means of communication; we exhibit behavior that the people become aware of and respond to in unanticipated ways. Our attitude and behavior may bias our study.

It is also important to be aware of the attitudes and behaviors of those with whom we are working. The attitudes and behaviors of our interviewees provide us important information for our study, as well as how well we are facilitating the interview!

1. SEMI-STRUCTURED INTERVIEWS

An interview is a focused conversation between two or more people. It is a method of collecting data by talking to people and asking questions. In structured interviews the instrument used to collect data is a questionnaire. Questionnaires often use close-ended questions, which can usually be answered with 'yes' or 'no' or a short response. Generally, questions are asked in a manner such that the answers fall within an expected range of answers. By restricting an interview in such a way, one risks losing valuable information, viewpoints and context behind a response. Remember, if it appears that a response is not rational, then we have failed to understand some key factor in the situation. By avoiding closed-ended questions we provide the respondent the opportunity to explain to us the rationality behind a response. Interviews in participatory epidemiology are semi-structured, and the instrument used to collect data is a checklist or interview guide which reminds the interviewer about the subjects to be covered, but does not tell the interviewer what questions to ask.

1.1. CHECKLISTS

A checklist allows the interview to be flexible and permits the respondents to express their thoughts in their own words within their own conceptual frameworks. It provides overall direction and ensures that no major points are missed in the interview. Respondents can discuss issues of special interest to them, and the appraisal team can investigate specific themes raised by the respondents. Not all items on a checklist/interview guide need to be covered with every group of participants; this is a matter of judgment.

1.2. PLACE AND TIME

The place and time when interviews are conducted influence their success. Unfortunately, the study team does not always have control over these aspects, but every effort should be made to arrange a quiet and comfortable location. Ideally, the interview team and respondents should feel relaxed and on equal footing with each other.

The best time for an interview varies from community to community, and an initial exploratory visit is often needed to make sure that you plan the interview for a suitable time. Always ask if it is a convenient time and if not, when you could meet.

1.3. INTRODUCTIONS

The first step in any interview is introductions. The members of the study team should introduce themselves and ask the participants to introduce themselves, assuming that it is culturally

acceptable. The introduction and the reason for the visit should be accurate, but should not bias the response of the participants.

The study team must be careful not to raise community expectations concerning future projects or services. The introduction is a good opportunity to diffuse some of these expectations by stating that the appraisal is only a study and the members of the appraisal team are not the decision-makers for future programs.

1.4. QUESTIONS

Open-ended questions are designed to encourage full, meaningful answers using the responder's own knowledge and feelings. Typically, these questions begin with why, when, how, what, where, who? After listening to a response, the interviewer can probe further with clarifying questions.

A good question does not make assumptions. For example, if the respondents have described a current disease problem that is consistent with diarrhea and you wish to know when previous outbreaks occurred, you might wish to ask, 'When was the last time this disease occurred?' However, it would be better to ask: 'Have you ever seen this disease before?' The first question is leading. It assumes that the disease has occurred before and communicates the assumption to the respondents, who may state a year for the sake of being polite or out of fear of appearing uninformed. The second question allows the respondents greater freedom to state what they confidently know.

1.5. PROBING

Probing means to ask detailed questions on a specific subject raised by a respondent. Probing is both a data gathering and quality control technique. Probing can be used to verify the internal consistency of information or simply to gather more detailed information on a particular subject.

Verifying the internal consistency of information is an important means of data quality control. Probing helps to establish the plausibility of statements made by informants by gathering more detailed information about an issue. This does not mean that 'trick questions' or attempts to lead the participants into self-contradiction should be made. Participatory appraisal is founded on enlightened respect for individual opinions and observations. The interviewer respectfully evaluates the quality and merit of all statements from all individuals.

1.6. OBSERVATION

It is very important to observe as well as listen. Are the respondents relaxed and confident? Is there eye contact? What types of body language are being expressed? Are some topics sensitive? Is everyone participating? Who is not participating? Are some people comfortable and others not? What are the differences in appearance between those participating and those who are not? Is gender, wealth or age the issue (don't ask, observe)?

1.7. TEAMWORK

Usually a participatory appraisal interview is conducted by a team. There are three important roles, the interviewer, the note taker, and the analyst.

- A good **interviewer** is a good communicator. Remember communication involves two things, speaking and listening. When asking questions, the interviewer uses simple language. After asking a question, the interviewer gives the respondent all the time he/she needs to answer. Be diplomatic and adopt a positive attitude. Be informal, following the customs of your respondents, but also be confident and make sure that dominant personalities do not take over the interview and drown out the voices of other respondents.
- A good **note taker** listens to both the questions and the response. Note the nature of the question. Was it open or closed? How was it asked? These things will influence the response. Monitor the respondents and note any interesting behaviours. Did they become uncomfortable when a certain question was asked? Observe group dynamics. Note who within the group is contributing to which questions and who is keeping quiet. Listen and note if bias is introduced during an interview, and potential underlying reasons. Don't judge responses, note exactly what respondents say even if it does not seem rational to you. Even before the interview starts, the note-taker is at work: date, location, setting, number of respondents, gender, ages, ethnicities, start and end times. Many of these notes about the interview setting and implementation will help the team when it comes time for analysis.
- A good **analyst** listens closely to the interview, and is noting issues like subjects that have not been fully probed, subjects that may have been forgotten, confusing or conflicting responses, bias and discomfort among the respondents. The analyst does not interrupt the interviewer when an issue is noted. Often the analyst will find that an issue is rectified later in the interview and no intervention is necessary. Before the interview, however, the interviewer and analyst should agree on a protocol for how the analyst will notify the interviewer if something needs to be handled. For instance, the team may agree that at the end of each subject on a checklist the interviewer will stop and ask the analyst if there is anything else that needs to be clarified. Or the analyst might pass a small note to the interviewer to tell him or her of an issue or problem.

2. RANKING AND SCORING

The advantages of using ranking and scoring techniques include:

- They do not require actual numbers to be revealed, because the scores given are relative. Therefore, potentially sensitive questions such as, 'how many children live in this household?' are not necessary.
- Like other participatory epidemiology tools, the method does not require literacy on the part of the informants.

- Semi-quantitative data is collected that can be evaluated statistically. Comparisons can be made between different regions and different categories of informants.
- Data collected can be used to triangulate information from the semi-structured interview.

Also remember that the question of ‘importance’ can be interpreted in different ways. You may ask the question, “Which kind of animal is most important for your family?” The father answers goats, but the son answers sheep. When you probe by asking each man why, the father says that goats are more important because they reproduce quickly and therefore provide the most food for the family. The son says that sheep are more important because they can be sold at a premium price at festival times, thereby providing the most income for the family. Now you cannot group the responses together, because the respondents understood the question differently, and actually answered different questions. Were you interested in the asset that generates the most income? Then your question should have been, “What kind of animal is most important to your family in terms of the amount of income it generates?” If you are interested in the asset that is most important to a family’s livelihood, you might ask, “What kind of animal does the most to support your family?” Or, you might ask your respondent both questions. Then you will have two sets of data, one about important livestock for livelihoods, and important livestock for income. You can see if there is a difference in the two results. Also, because you probed by asking ‘why’, you will have a rich body of information about why some livestock are kept, even if they are not the most important economically!

2.1. SIMPLE RANKING

In simple ranking the informants are requested to order a list of items based on a defined set of criteria. Simple ranking is a fast and easy tool that allows many people to participate. It is an easy way to make sure there is a consensus among the group being interviewed, and gives the investigator the opportunity to probe more deeply into the meaning behind the ranking. Ranking criteria could include prevalence, mortality, impact on the household, and many others.

Method

1. Have your ranking criteria clear in your own mind. You may want to write them down in your notebook. For example: common childhood diseases, village, past 12 months; do two rankings for comparison, one on morbidity and one on mortality.
2. To develop the list of items for ranking, begin with an open-ended question: For example, “What are some common disease problems that affected children under five years of age in your village in the last year?”
3. Probe the responses. Ask for descriptions of the diseases and clarify details. Can you diagnose each disease, or are some syndromes that you cannot further diagnose?
4. Explain that you want to carry out an exercise to better understand what you are learning about their common childhood health problems. Have pictures, symbols or objects to represent each disease, or write the name of each disease on a card. Place the cards on the ground where everyone

can see them, and remind the participants what each card represents. Remember, not everyone will be able to read or understand each drawing, so be careful to clearly explain what each card represents. Some of your respondents will memorize the cards in this way.

5. Ask the group to rank the diseases based on your defined criteria. For example, ‘Please show me which of these diseases affected the most children in your village in the last year by placing that card on top, and continue ranking them until the disease that affected the fewest children is on the bottom.’”

6. Give them time to discuss and rank the cards by consensus. Encourage them to make adjustments if they want to. When they appear to have finished, ask them if they all agree on the result.

7. Leave the cards in place. Summarize and crosscheck their ranking. For example, ‘You have put pneumonia first, followed by diarrheal diseases, then malnutrition, then HIV/AIDS. Is this correct?’

8. Probe the results. “Why did you put pneumonia first and HIV/AIDS last, and why is malnutrition above HIV/AIDS?”

9. Record the ranking question, the results, and notes of any discussion during the ranking and probing.

Simple ranking is a quick way of gathering data to help the researcher understand issues from the respondents’ point of view. It is usually best to conduct this exercise with small groups, although it can be done with individuals or quite large groups. Respondents should discuss the ranking and arrive at their decision by consensus. Listening to the discussion and probing the results of the ranking provides as much or more information than the final ranking.

EXAMPLE OF SIMPLE RANKING

Rank	Health & Social problems
1	Lack of clean water
2	Diseases (e.g. malaria, typhoid)
3	High costs of medical services
4	Inadequate water for farming
5	Low productivity for crops & livestock
6	Poor roads
7	Alcoholism
8	School drop outs
9	Domestic violence

2.2. PAIR-WISE RANKING

Pair-wise ranking is a slightly more complex method than simple ranking. Each item is compared individually with all the other items one-by-one. In pair-wise ranking, the interviewer compares two items from the list and asks the participants to name the most important. This is repeated for every possible combination in the list. This approach is considered more reliable than simple ranking as it assists the participants to consider every possible relationship. It is especially useful if informants cannot reach a consensus using simple ranking or if they score two items nearly the same when using proportional piling. After the respondents rank each pair, they are asked why they made the choice they did. The criteria they specify are called indicators.

Method

1. Have your ranking criteria clear in your own mind. You may want to write them down in your notebook. For example: common childhood diseases, village, past 12 months, morbidity.
2. To develop the list of items for ranking, begin with an open-ended question: For example, “What are some common disease problems that affected children under five years of age in your village in the last year?”
3. Probe the responses. Ask for descriptions of the diseases and clarify details.
4. Explain that you want to carry out an exercise to better understand what you are learning about their childhood disease problems. Have pictures, symbols or objects to represent each disease, or write the name of each disease on a card. Place the cards on the ground where everyone can see them and remind the participants what each represents.
5. Select one disease card and a second one. Ask, ‘Which disease did you see most often in the last year? HIV/AIDS or pneumonia?’ Once they have chosen, crosscheck the answer and then probe, ‘Do you all agree? Why do you think pneumonia is occurring more often than HIV/AIDS?’
6. Repeat the question comparing the same disease with each of the other diseases one-by-one, crosschecking and probing each pair. Then select the second disease and compare it with all the remaining diseases one-by-one, and so on until all the diseases have been compared with all the other diseases.
7. The result of each comparison is recorded as well as the details of any discussion generated by crosschecking and probing.
8. Count the number of times each disease was selected. The disease that was selected the most times is ranked highest.

EXAMPLE OF PAIR-WISE RANKING

	A	B	C	D
A		A	A	A
B			B	D
C				D
D				
	3	1	0	2

2.3. PROPORTIONAL PILING

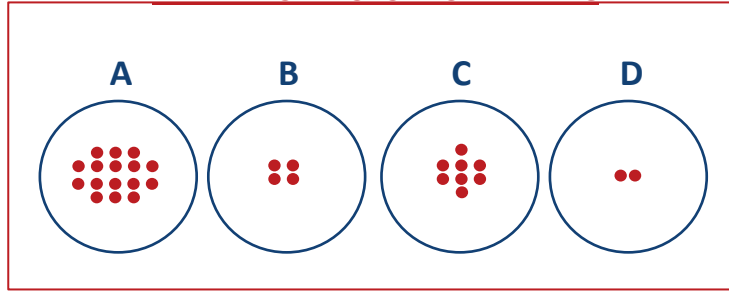
Proportional piling is a tool that allows respondents to give relative scores to a number of different items or categories according to one criterion. The scoring is done by asking participants to divide 100 counters (beans, stones or similar items that are familiar to the community and locally available) into different piles that represent the categories. For example, the community could give scores to a set of disease problems (the categories) according to the impact the diseases have on their livelihood (the parameter). Alternately, the community could be asked to score the diseases according to how commonly they occur. Semi-quantitative data is collected by recording the number of counters in each category.

Method

1. Have your ranking criteria clear in your own mind.
2. To develop the list of items or categories for scoring, begin with an open-ended question. For example, 'what are the health problems that affected the adults in the community in the last year?'
3. Probe the responses. Ask for descriptions and clarifications.
4. Explain that you want to carry out an exercise to better understand what you are learning about their health problems. Draw circles on the ground, one circle for each disease mentioned, and place a drawing or card next to each circle that illustrates the disease. Circles can also be made from construction paper or drawn on flipchart paper.
5. Make sure everyone recognizes each category by its drawing or card.
6. Place 100 counters in a pile, and ask the respondents to divide them according to a particular characteristic or parameter. Respondents should not count the counters, but divide them visually. Record the question now if you haven't already. For example, 'Please divide these beans to represent the impact each disease had on your livelihood in the past year'.
7. Allow time to discuss and divide the piles by consensus. When the group appears to be finished, summarize and crosscheck the result. "Does everyone agree? Does anyone disagree that tuberculosis has such a big impact?"
8. Count the counters, but leave them in place so that the result can be discussed.
9. Probe the results. Why did they make these choices? For example, 'HIV/AIDS ranks second with 20 beans and malaria third with 5 beans, but there is a big difference between 20 and 5. Why do you say that tuberculosis had such a greater impact on your livelihoods than malaria in the past year?'

It is usually best to conduct this exercise with small groups, although it can be used with larger groups or with individuals. The group should discuss the division of the counters and arrive at their decision by consensus. Listening to the discussion and probing the results of the piling provides as much or more information than the final score. This information tells you why the respondents gave the scores that they did and tells a lot about how they view the problems. Have your proportional piling question clear in your own mind and write it down in your notebook.

EXAMPLE OF PROPORTIONAL PILING



2.4. MATRIX SCORING

Matrix scoring is essentially a series of proportional piling exercises in two dimensions, where a list of items such as diseases is scored against a list of indicators such as clinical signs. This method can be used to better understand the local characterization of diseases, and the meanings of local disease names. This tool can take some time to complete, so make sure you plan your time well.

Method

Imagine that you would like to conduct a matrix scoring exercise to understand the clinical signs a community associates with different diseases.

1. Use the diseases mentioned by your respondents. When your respondents tell you the name for a disease in their language, use that name during the interview rather than an English or scientific name. That way everybody, respondents and research team alike, are on the same page.
2. For each disease obtain a list of clinical signs and epidemiological features.
3. Draw a matrix on the ground or on flip chart paper. Make sure it is big so that everyone can see it. Put enough columns for each of the diseases. Use pictures, objects or cards to represent the diseases and place these across the top of the matrix. Be sure to mention what disease each card represents, using the local language name, as you place it on the ground. This way those that cannot read or understand the picture can memorize the cards as they appear.
4. You will use all the indicators (clinical signs) mentioned by the respondents for the various diseases. Write the first indicator on a card, or use a picture or object to represent it. Place this to one side of the first row of the matrix. Be sure to repeat it aloud so all the participants know what it is.
5. Place a pile of 30 counters next to the indicator and ask the participants to use them to show how strongly the indicator correlates with each disease. Summarize and crosscheck for agreement between the respondents. Leave the counters where they are.
6. Repeat the exercise for each indicator one by one, gradually building up the matrix. Leave the matrix in place so that everyone can view the results and discuss as a group.

7. During the exercise and after the matrix is complete, it is essential that the investigator carefully probe the informants as to why they are scoring the way they are. After the matrix is complete, summarize the results and give the informants the opportunity to make changes if they wish. Ask your respondents what new learning or insights they have gained from the exercise.

8. Record the results in a matrix in your notebook.

EXAMPLE OF MATRIX SCORING

	Factor A	Factor B	Factor C
Disease 1		5	28
Disease 2	8	10	6
Disease 3	10	5	5
Disease 4	30	9	

3. VIZUALIZATION TECHNIQUES

Visualisation techniques demonstrate information that cannot be easily communicated orally. The information collected can be used to triangulate information from the semi-structured interview.

3.1. PARTICIPATORY MAPPING

Participatory mapping is a technique for diagramming key physical resources, hazards, and land use patterns. It is one of the most useful tools of participatory epidemiology because sometimes it is easier to draw a map than to describe spatial relationships orally. Mapping can be used at the beginning of an interview to define the spatial boundary of the area under investigation. It can also be referenced through the rest of the interview whenever spatial issues arise. Once a map has been drawn it can be used to demonstrate the location of disease outbreaks, the spread of disease through an area over time and to show risk factors for disease occurrence or spread.

As with other activities, it is useful to prepare a mental or written checklist of items to be probed during the mapping exercise. Respondents should not only be asked to illustrate locations on the map, but to provide underlying reasons for movements and resource use. At the end of the interview, maps can be used to plan disease control activities.

Method

1. Request the informants to draw geographic and physical features of their village or area on a map: the place of the meeting, main roads, rivers, lakes, important public places, health posts and clinics, fields, bore holes, etc.
2. Make sure that features important to your study are included: health clinics, immunization centers, maternal-child services, family planning services, mode of delivery (no cost or need to pay), approximate distance, etc.

3. Once the map is completed, or while participants are drawing the map, ask probing questions, such as, 'what services are available to perinatal women? How far do they need to travel to the center? Are referral centers available for complicated pregnancies? Where did an outbreak of neonatal diarrhea occur?'
4. To finalize the map, find out which direction is north and mark it on the map. Also try to obtain an idea of scale by asking the distance between two key points, and then add an approximate scale. If symbols are used to represent features, add a key to the map.
5. Copy the map into a notebook or take a photograph of the map.

3.2. RISK FACTOR MAPPING

A risk map is an image that shows the spatial distribution of disease risk. The principle behind risk maps is that the spatial distribution of a risk factor will influence the spatial distribution of disease risk. If different risk factors exist for a given disease, and they have different degrees of association between the risk factors and the disease, it becomes difficult to estimate the likely spatial distribution of the risk of disease. One option then is to overlay and combine the spatial distribution of multiple risk factors, in order to obtain a combined indication of disease risk. This is the approach used for creating risk maps. These days risk maps are often generated using geographic information software so that epidemiologists can identify areas that may be at high risk for a disease. However, risk factors for disease can be mapped without needing sophisticated equipment.

Method

Imagine, for example, you are conducting a study on highly pathogenic avian influenza (HPAI) in poultry, and you are interested in identifying risk factors for the introduction of HPAI to village poultry populations, risk factors for HPAI spread between different poultry populations, and risk factors for human exposure to HPAI. You have traveled to a village that recently experienced an outbreak of HPAI in its poultry to study the outbreak and identify these risk factors.

1. Begin by creating a participatory map with the villagers, making sure that all the geographic and physical features are included.
2. Discuss with the villagers what animal diseases are important to them. Since they recently had an outbreak of HPAI in their poultry, they will likely mention HPAI, and then you can focus on your disease of interest from that point forward.
3. Work through the various disease determinants that you are familiar with. You might have them listed, or you might use a mental checklist. To name a few: first household affected, second household affected, spread of the disease through the village, types of poultry affected, nearest poultry market, homes of poultry traders, movement patterns of poultry traders on bicycles or motorcycles, location of commercial poultry farmers, movement patterns of suppliers (feed, litter, chicks, etc.) and buyers (eggs, manure, finished birds, etc.) for commercial operations, location of butchers, houses that own fighting cocks, location of rivers and gardens, which houses have poultry houses, where free range birds like to gather, etc.

4. Ask probing questions as details develop on the map. For example, once the first affected house is mapped, and the poultry market, you can ask: When was the last time people in this house visited the poultry market? Did they bring back any new birds and put them their flock?
5. Be sure to observe closely. When the path of the poultry trader is drawn, and the path of the outbreak spread, look to see if they are similar. If they are, ask questions to probe your suspicion. For example: When did the outbreak start? When did the poultry trader last pass?
6. Through this process you are running through the risk factors that you are familiar with, but keeping your mind open to discovering new risk factors as the map and the discussion develops.
7. Remember that there may be sensitivities about an outbreak. Be careful not to create an atmosphere of recrimination, where some people begin blaming others for their disease problems. For example, the informants may want to hold the person in the first affected household responsible if they begin to feel that he is responsible for the outbreak. Make sure the atmosphere of the interview is one of open discovery, so that what is learned can be used by both you and the members of the villagers to prevent outbreaks in the future, not to exact retribution for outbreaks in the past.
8. When the exercise is complete, discuss with the villagers what they have learned, and how this may help them prevent outbreaks in the future.

Risk factor maps can provide information for the development of risk maps. They can be used to facilitate the rational implementation of disease surveillance and control activities. It makes sense to focus surveillance and control efforts on places where an outbreak is most likely to occur.

3.3. SEASONAL CALENDARS

Many human and animal health problems show seasonal variation. A seasonal calendar can be used to visualize and analyze local perceptions about the seasonality of disease incidence, vector populations, risk factors, farming practices, etc. The seasonal occurrence of diseases is interesting to understand in relation to the seasonality of factors that affect their occurrence, such as climate, management practices, vectors, etc. New or unusual factors may emerge that are important in a particular area. The information can be useful for improving disease mitigation strategies, such as timing of vaccination or prophylaxis.

In order to construct a seasonal calendar it is first necessary to be familiar with local terminology, descriptions of seasons and how these relate to the months of the year. This information can be gathered from key informants. The seasonality of different events or activities of interest is then demonstrated by indicating timing of occurrence or scoring occurrence in relation to the seasons.

Seasons are defined by different characteristics in different regions. Understanding the characteristics that are used to define the seasons in the area under investigation is the first step in creating a seasonal calendar. Then other seasonal events (indicators) can be investigated. Human activities, namely political, religious and cultural events such as festivals, holidays and times when cash is needed can affect movements and disease spread. Other seasonal factors such as availability of water or presence of vectors may be of interest, depending on the disease of interest.

Management and marketing practices for livestock may be seasonal due to movements, calving, housing and buying stock or off-take, and may be significant in terms of zoonoses risk. School calendars may be important, as schools are important sources of exposure for children, as is travel during holidays. Other important uses of seasonal calendars include vulnerable periods for child-care and exposure to infectious agents.

Having developed a seasonal calendar, the results are discussed and probed with respondents to find out why things happen at certain times and how they may or may not be related to other factors.

Method

The interviewer should be familiar with local customs and practices, common disease problems and factors that may affect disease occurrence. This information can be gathered during the interview, or from other sources. From this information a list of indicators is developed, and the following method used to explore seasonality.

1. Draw a line on the ground or at the top of a piece of flip chart paper and indicate that this represents one year.
2. Ask the informants to describe the seasons that they experience during the year. Record the local names for these seasons. Ask the participants to divide the line into seasons based on their occurrence and length during the year.
3. Label the seasons either by writing them on cards or representing them with local objects or pictures. If the months of the year are commonly used, then write these along the line above or below the relevant seasons.
4. Ask the informants about key indicators that define each season (rainfall, temperature, length of day, etc.). For each indicator give them a pile of 20 counters, and ask them to divide the counters between the seasons to show the relative association of the indicator with the seasons. All the counters for an indicator should be used. After each indicator is completed draw a line beneath it and go on to the next indicator. Record the results but do not remove the counters.
5. Repeat this with other types indicators (health event or disease), so that gradually a matrix is built up. The name of the indicator may be written on the flip chart or on a card and placed at the side of the matrix. For illiterate participants, a picture or object may represent the indicator.
6. Once the calendar has been completed, the results should be discussed with the informants using open and probing questions. For example, you could ask, ‘Why is this disease more common in this season? Do you know what causes this disease? So this disease seems to occur when there is a lot of rain, why is that?’

EXAMPLE OF SEASONAL CALENDAR

Season	Dry season	Hot season	Rainy season
Factor A	**	***	*****
Factor B	*****	**	*
Factor C	-	-	****

3.4. TIMELINES

Many diseases of interest occur as epidemics at finite time points, or as flare-ups of endemic disease. The interviewer may note the years of major epidemics for various diseases on a timeline. Timelines are a useful tool for exploring the frequency of key disease events and patterns over time. Information on major events, such as droughts and famines or political events may also be included to assist informants in remembering the timing of key disease events. These events may also have an impact on disease occurrence because of the changing movements and habits of animals and people. Their inclusion may allow for triangulation of reported risk factors for disease occurrence. Local names for events should be used as much as possible.

Besides providing information in itself, the timeline will provide a useful reference for triangulating the reports made by the community with information in the official government surveillance system.

Method

1. Decide on the timescale to be used, based on the issues of interest.
2. To set the scene, ask the participants to indicate key events during the timeframe – events affecting the community, political, social or cultural events, major harvest or climatic events. This will help everyone, researchers and respondents alike, to have a common frame of reference.
3. Add indicators of interest related to the disease of interest, such as start, ending, peaks in the number of affected, when different locations became affected, responses, disease control interventions, appearance of new symptoms, etc. As each new indicator is added, listen to the discussion and probe the results. For example, “Did the vaccination program start on the same day in all the affected areas?” “Were there some areas that weren’t affected, and what are their relation to those you have put on the timeline?” “Did you notice anything else unusual at that time, besides the arrival of the new type of mosquito?”
4. Probe the completed timeline. For instance, you could ask, “Did the disease ever occur in this area before that year?” “Did anything different or significant happen in the few months before the outbreak?”
5. Ask the respondents if they have any new ideas after having done the exercise.
6. Record the timeline in your notebook.

EXAMPLE OF TIMELINE

Year	Key Events	Major outbreaks
2011		
2012		
2013		
2014		

3.5. VENN DIAGRAMS

Venn diagrams show logical relationships between sets or groups of items or characteristics. They are comprised of various sized circles based on the importance of the item or characteristic. The degree of overlap (or non-overlap) indicates the inter-relatedness of the items.

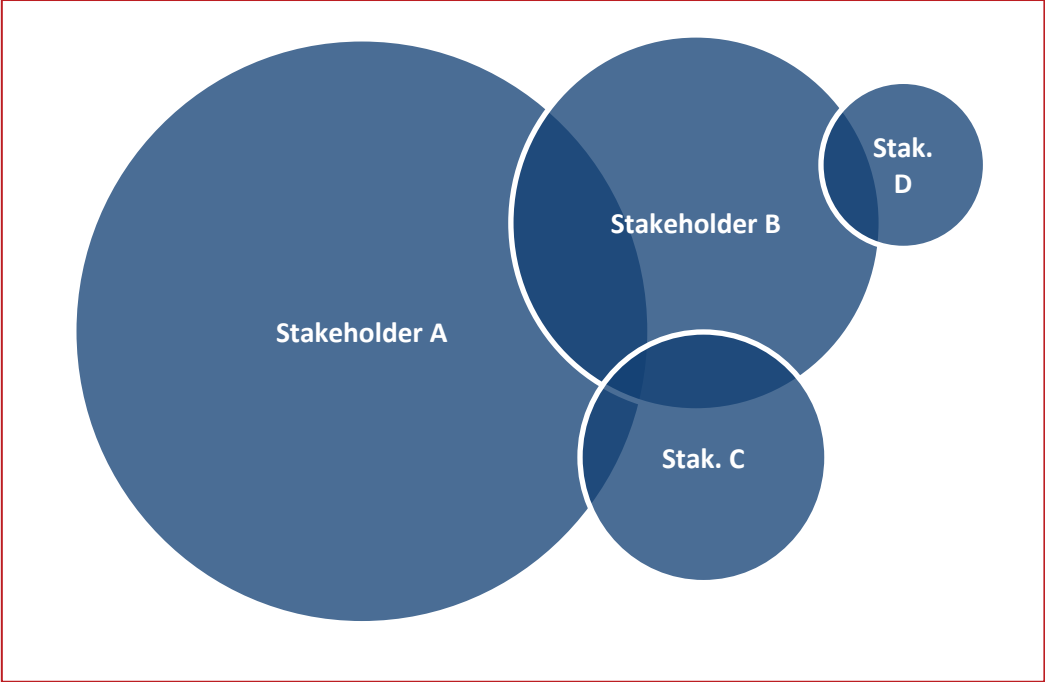
Venn diagrams can provide useful information on relationships that are difficult to describe orally. The ways in which informants organize the diagram can provide insight into their thinking about management practices, health policies and other topics of interest, etc.

Method, an example for village health resources in the Democratic Republic of the Congo

1. It would be good to have a mental checklist of items or resources that you want to cover, or a list in your notebook. For example, you may include: clinics, health personnel, traditional healers, NGOs, district offices, hospitals, pharmacies, forests for traditional plants, midwives, village leaders, etc. But keep in mind that there will likely be resources that you had not been able to anticipate.
2. Begin the discussion with an open question like, “Tell me about your local health resources. Where do you go or who can you ask for help when someone in your family gets sick?”
3. When an item is mentioned, draw a circle in the middle of a piece of flip chart paper, or on the ground, and label it. You can write the name of the category, such as ‘village health center’, in the circle, or you can use an object or picture. You can also do this exercise by cutting a circle out of colored paper and asking your respondents to place it on the ground for everyone to see the item.
4. When each subsequent item is named, you need to ask clarifying questions. For instance, when one respondent in your group said, “Village health center,” that might prompt another respondent to say, “Community health worker”. You need to find out how the second item is related to the first, if at all, and the degree of overlap. You can ask, “Does the community health worker work out of the village health center?” “Does she visit your homes, or does she work in an office at the center?” “Does she work in other villages too?” “Is she independent, or does she work for an organization like an NGO?”
5. As the group gets an idea about the relationship between the newly introduced category and the categories already shown, you can draw a circle for the new category that overlaps the other categories. Or you can cut out a new circle and ask your respondents to place it in the diagram.
6. The degree of overlap of the circles shows the level of interaction whereas the size of the circle shows the size of the group considered.
7. Allow your respondents to continue to discuss their health resources, asking clarifying questions or prompting new ideas as the group goes along.
8. When the diagram is finished ask your respondents to consider the final product, and help you correct any inaccuracies.
9. Ask your respondents if they have any insights or new ideas after having done the exercise.

10. Relationships among different groups can change and therefore it is important to indicate the date when the diagram was made.

EXAMPLE OF VENN DIAGRAMS



ASSESSMENT OF ACCEPTABILITY

1. WHAT IS ACCEPTABILITY?

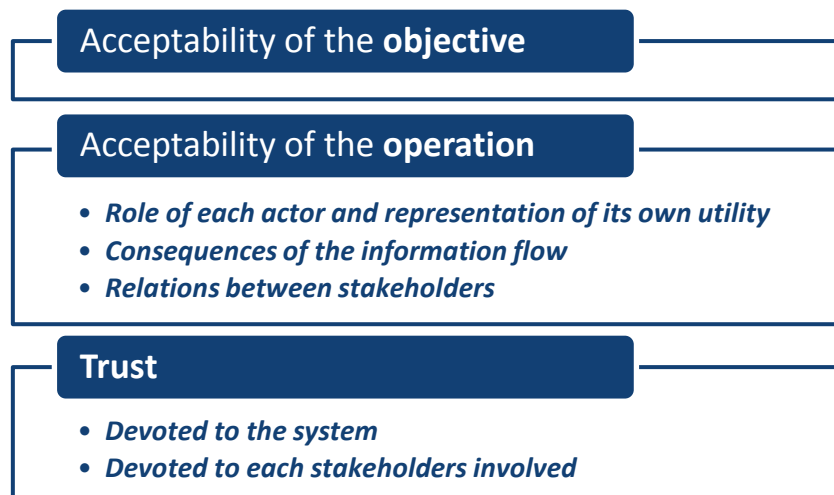
1.1. DEFINITION AND IMPORTANCE IN THE EVALUATION PROCESS

Acceptability refers to the willingness of persons and organizations to participate in the surveillance system, and to the degree to which each of these users is involved in the surveillance¹.

This evaluation attribute has been listed by the CDC as one of the main quality of surveillance. Indeed, the decision to report a suspected event is a critical function of an emerging infectious disease surveillance system. In order to limit the under-reporting of suspected cases and to identify the best ways to improve the current surveillance system, it is crucial to assess stakeholders' willingness to participate in this system.

1.2. ELEMENTS TO TAKE INTO CONSIDERATION

Acceptability is relevant to different aspects of surveillance system. It first refers to the acceptance by the actors of the system **objective** and to the way it is **operating**. The acceptance of the way the system is operating refers to *(i)* the role of each actor and the representation of its own utility, *(ii)* the consequences of the flow of information for each actor, and *(iii)* the relations between stakeholders. Another essential element of acceptability is the **trust** in the system as a whole but also in each other stakeholders involved in it.



Each element was assessed using specific participatory appraisal tools, adapted and developed to collect data related to specific questions as stated in the following table.

¹ RISKSUR Consortium definition

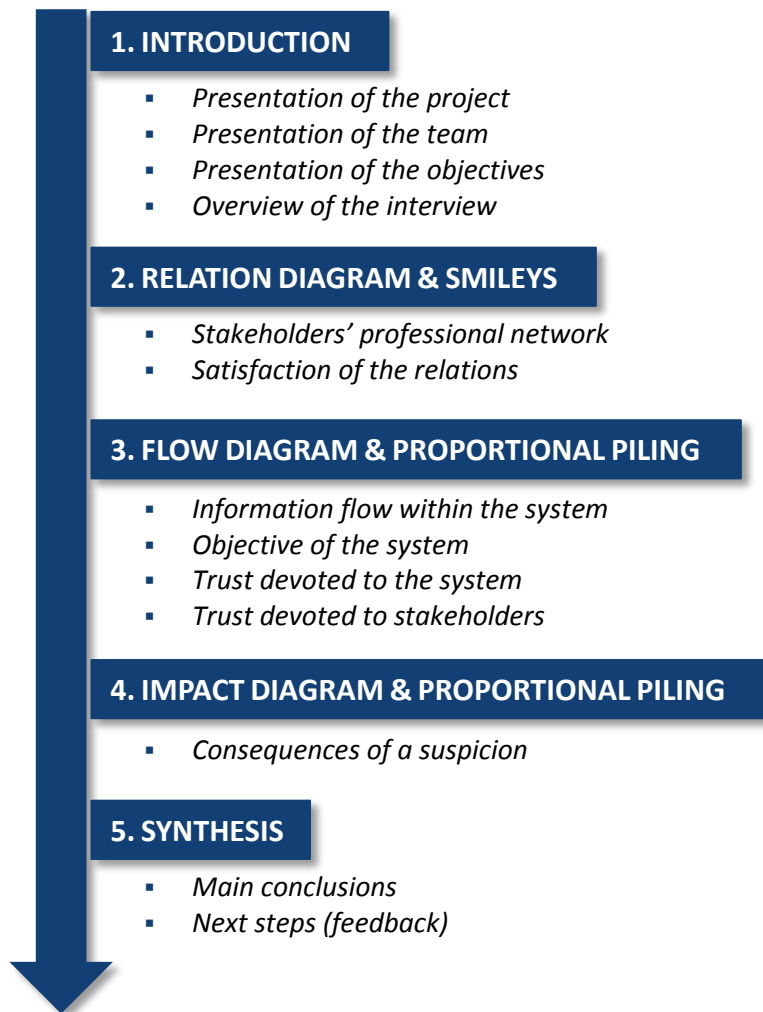
Acceptability's elements	Associated questions	Associated participatory methods and tools
Objective	Are stakeholders <i>satisfied</i> by the objective of the system?	Flow diagram
Operation	-	-
Role of each actor and representation of its own utility	Are stakeholders <i>satisfied</i> with their duty?	Flow diagram
Consequences of information flow	Are stakeholders <i>satisfied</i> with the consequences of information flow?	Impact diagram associated with proportional piling
Relations between stakeholders	Are stakeholders <i>satisfied</i> with the relations they have with other stakeholders?	Relational diagram associated with smileys
Trust	Do stakeholders know about the system?	-
In the system	Do stakeholders trust the system to fulfil its surveillance objective(s)?	Flow diagram associated with proportional piling
In the other stakeholders involved in the system	Do stakeholders trust the other stakeholders to fulfil their role in the system?	Flow diagram associated with proportional piling

2. ORGANISATION OF THE MEETINGS

The assessment of the acceptability using participatory approaches can be implemented with all types of stakeholders in the system, from farmers and hunters to Veterinary Services. Nonetheless, each meeting should join only one type of actor. The preferred way to implement the process is by the organisation of focus group discussions. It is better not to have too many people involved in each group. Five participants appeared to be manageable. It is also feasible to implement the approaches through individual interviews. A focus group will last approximately three hours; an individual interview approximately two hours.

Several steps will be implemented for each meeting, as describe below. You will have to start first with introductions, from your side (e.g. project, objectives) and from participants'. You should specify that the information that will be collected will be anonymous. Also, an important point the participants need to understand is that there is no question of judgement in this process. The objective is to assess their point of view, and to understand about their feeling regarding the surveillance system targeted.

Finally you will have to present them the organisation of the day. "Three exercises will be implemented with you. The first one will target your professional network and your relations. The second one will be related to the sanitary information. And the last one will be related to the consequences of some specific event."



It is better to implement these tools with a team: one person in charge of facilitating the discussions, and one (or two) persons in charge of taking notes and of observing participants' behaviour. If you have no choice than implementing it with only one person, it is advisable to use a digital recorder. Indeed, you will not be able to facilitate the meetings and taking notes in the same time.

3. TOOLS

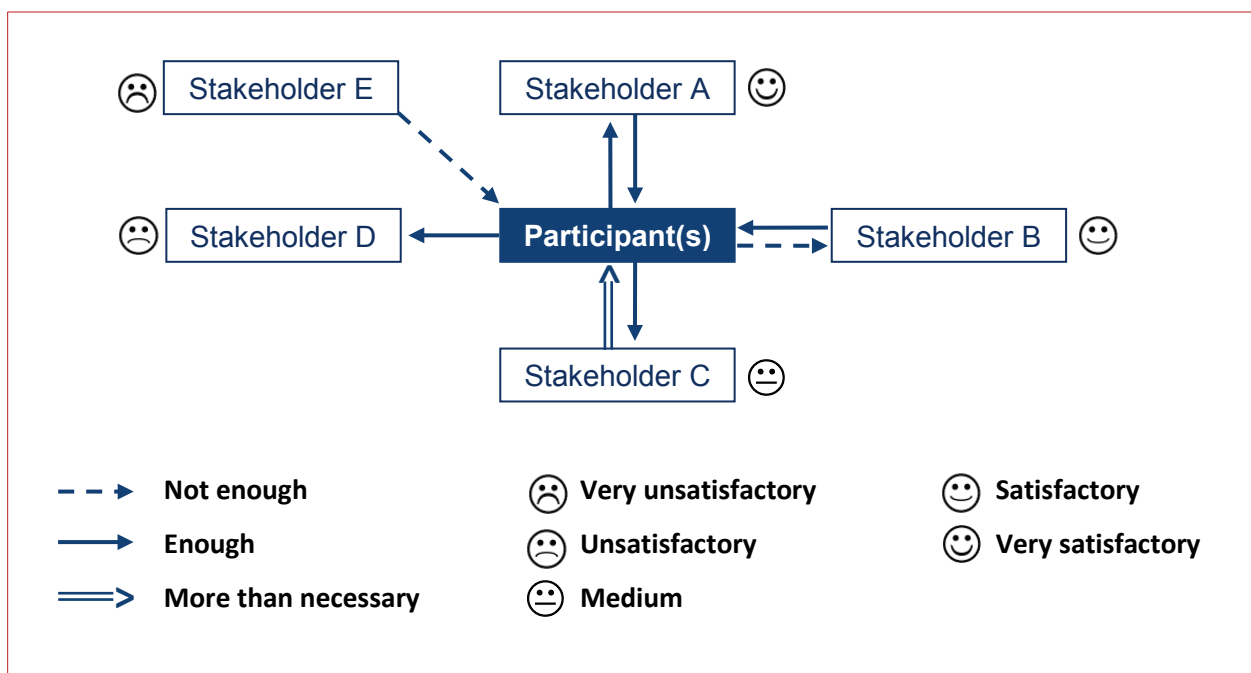
3.1. RELATIONAL DIAGRAMS & SMILEYS

Relational diagrams are used to identify respondents' professional network and interactions between stakeholders. This tool is a good way to introduce the evaluation process with participants as they are talking about their professional relations. The objective here is not to focus on relations related to the surveillance system, but to have an overview of participants' relations.

After drawing the diagram with participants, the objective is to assess their satisfaction level for each relation. Five smileys will be used on the relational diagram, representing five levels of satisfaction: very unsatisfactory, unsatisfactory, medium, satisfactory, very satisfactory. The objective is to have one, and only one smiley per identified stakeholder/organisation.

Method

1. Draw a box in the middle of a flipchart, with the status of participants (e.g. farmers, hunters).
2. Ask respondents about stakeholders or organisations they have interactions with in the frame of their activity (e.g. farming, hunting). Draw a box for each of them.
3. Ask respondents to describe these relations. Are these interactions on one side only or on both sides? Could these interactions be defined as (i) not enough, (ii) enough, or (iii) more than necessary? Draw arrows accordingly.
4. For each interaction ask (i) what information / services do stakeholders exchange, and (ii) why did they define them as not enough, enough or more than necessary.
5. Summarize the discussions by going through the diagram. Be sure no stakeholder / organisation are missing in the diagram.
6. Once the diagram is drawn, ask participants to devote one and only one smiley per box according to their satisfaction. Be sure participants understood that it is not a judgement but a representation of their own feelings. Ask them to explain their choice.
7. Summarize the discussions and the results by going through the diagram.



3.2. FLOW DIAGRAMS & PROPORTIONAL PILING

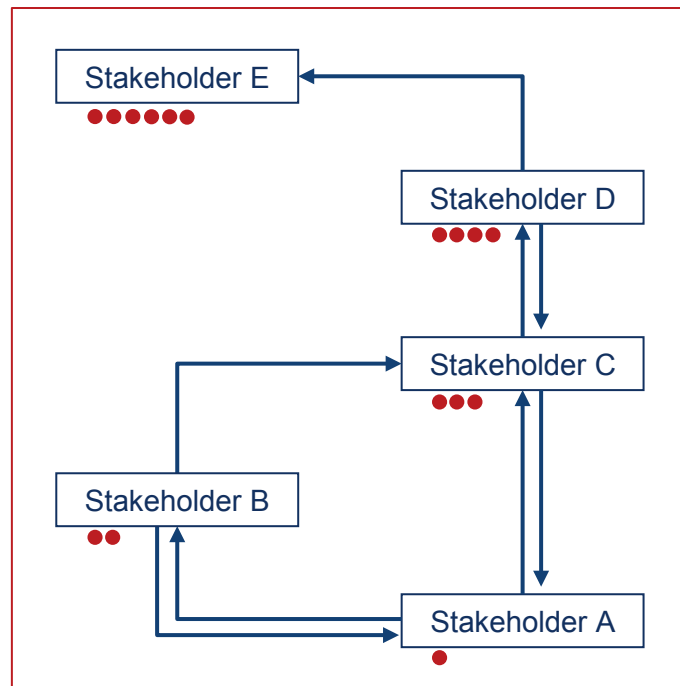
Flow diagrams are used to assess participants' knowledge about the flow of information following a suspicion and to identify the different pathways where this information can circulate. This exercise is

based on stakeholders' experience, knowledge and/or future attitude. This diagram highlights the knowledge of the system by stakeholders.

Once the diagram was considered completed by participants, proportional piling can be performed to quantify participants' level of trust. The proportional piling is implemented in two steps. The first step will provide a quantitative measure of the trust devoted to the system. The second step will provide qualitative data on the trust devoted to each stakeholder involved in the surveillance.

Method (for hunters)

- 1.** Ask respondents if they once had a sanitary problem with animals. If yes, ask them what did they do? If no, ask them what they would do? Go through the discussion to identify which actor or organization will have the information related to a suspicion in wildlife.
- 2.** Once the first(s) stakeholders receiving the information (i.e. suspicion) has been identified, ask participants if they know where the information is going. List the stakeholders who will have this information and draw arrows to show this information flow.
- 3.** Once the flow up of information has been completed, ask participant if they know if the information is going down, and how? Do they have feedback after reporting a suspicion?
- 4.** Once the diagram is drawn, ask respondents if they know why this system is in place? What is the objective of implementing surveillance?
- 5.** Using 100 counters, start implementing the proportional piling. First, ask participant to divide the counters into two piles. One pile representing their trust in the system, and the other one representing their lack of trust. Remember, the more you put counters the more you trust/don't trust the system. Be sure to explain participants that this is not a question of judgement. The objective is to take into consideration every aspect: human and/or budget constraints, relations between stakeholders, etc.
- 6.** Using the counters devoted to the trust in the system, ask participants to split them on the stakeholders / organisations represented in the diagram. Once more, the more you put counters the more you trust the stakeholder.
- 7.** Ask participants to explain about their choices. By going through the diagram, sum up the results to be sure to probe the data.

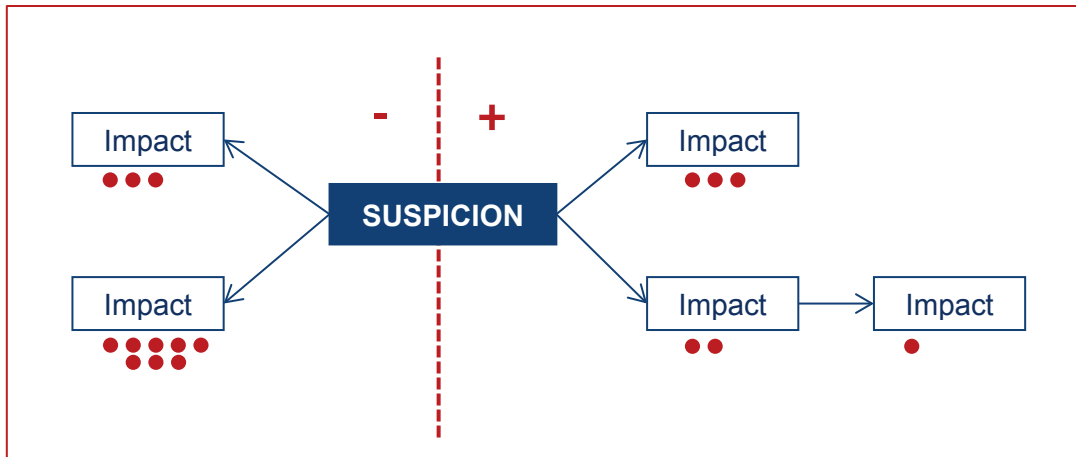


3.3. IMPACT DIAGRAMS & PROPORTIONAL PILING

Impact diagrams are used to assess both positive and negative impacts of a specific event and to document the consequences as experienced directly by respondents. The specific event experienced here is a suspicion.

Method

1. Ask participants to detail the potential consequences of a suspicion at their own level. If you have the information related to a suspicion, what will you do? Do you think your relations will change?
2. Ask participants if the consequence is positive, negative or both, and ask them to explain about their choice.
3. Once all the impacts are identified, sum up the discussions by going through the diagram.
4. Implement the proportional piling in two steps. First, ask participants to divide the counters on the positive and on the negative part according to influence on their activity. Be sure they understand that the more they put counters the more the influence will be high.
5. Ask respondents to split the counters of each category (i.e. negative or positive) according to the probability of occurrence of each impact. The more they put counters the higher the probability of the impact is.
6. Sum up the discussion in order to probe the results.



4. ANALYSIS OF THE RESULTS

In order to make the assessment of the acceptability, you will have to analyse the diagrams drawn by participants and the discussions they had during the meetings.

The first step of the process will be to analyse the result for each individual interview and for each focus group implemented. To obtain the final scores, you will just have to calculate the mean obtained.

The following tables present the evaluation criteria developed to provide score for each element of acceptability.

Acceptability of the objective		
Criteria	Level	Score
Participants did not identify any objective OR The objective(s) identified does not correspond to the one of the system	Weak	-1
The objective(s) identified partially corresponds to the objective(s) of the system	Medium	0
The objective(s) identified exactly correspond to the objective(s) of the system	Good	1

Acceptability of the operation		
Satisfaction of its own role		
Criteria	Level	Scores
Only negative points came out during the discussions	Weak	-1
There is a balance between positive and negative points OR Few positive points came out during the discussion	Medium	0
Mostly positive points came out during the discussion	Good	1

Consequences of the information flow		
Criteria	Level	Scores
Most of the consequences identified are negative AND/OR The weight devoted to negative consequences is considerably higher than the weight of the positive consequences	Weak	-1
There is a balance between the number of positive and negative consequences AND/OR There is a balance between the weight of positive and negative consequences	Medium	0
Most of the consequences identified are positive AND/OR The weight devoted to positive consequences is considerably higher than the weight of the positive consequences	Good	1

Satisfaction of the relations		
Smileys	Scores	
Very unsatisfactory	-2	
Unsatisfactory	-1	
Medium	0	
Satisfactory	1	
Very satisfactory	2	
Mean	Level	Score
[-2 ; -0,7]	Weak	-1
] -0,7 ; 0,7]	Medium	0
] 0,7 ; 2]	Good	1

Trust devoted in the system		
Proportional piling	Level	Score
[0 ; 33]	Weak	-1
] 33 ; 66]	Medium	0
] 66 ; 100]	Good	1