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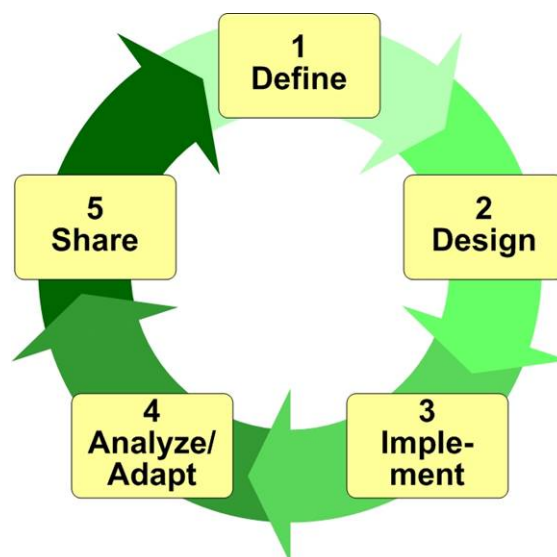


Resources for Implementing the WWF Project & Programme Standards

Step 4.2

Analyze Project Results & Assumptions

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Contents

What Is Analysis?	1
Why Is Analysis Important?	2
When to Analyze Project Results and Assumptions	3
How to Analyze Project Results and Assumptions	4
1. Develop a rough plan for your analytical work	4
2. Conduct initial descriptive analyses	4
3. Refine and improve your data as necessary	4
4. Test your assumptions	4
5. Make sense of your results.....	5
6. Do other exploratory analyses.....	5
7. Document your analyses and your findings	6
8. Share your results	6
References.....	6

This document is intended as a guidance resource to support the implementation of the *WWF Standards of Conservation Project and Programme Management*. Although each step in these *Standards* must be completed, the level of detail depends on the circumstances of individual projects and programmes. Accordingly, each team will have to decide whether and to what level of detail they want to apply the guidance in this document.

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Written by: Deborah Heaney, WWF-UK **Edited by:** Foundations of Success

Please address any comments to Sheila O'Connor (soconnor@wwfint.org).

Analyze Project Results & Assumptions

What Is Analysis?

Analysis is essentially about converting the raw data that your project has collected into useful information. For example, in your database you might have a table of the data from 200 survey transects that your project team collected from a reef over the past 3 years. Or you might have data from 50 different focal household surveys that you conducted. Analysis is about taking all these data points and trying to make sense of them so that you can use the information to adapt and improve your work. It is fundamentally about answering questions: Have the fish populations on the reef increased or decreased in the areas where you have set up fishing regulations? Do the stakeholders who have participated in your education and outreach efforts value biodiversity more than those who haven't?

As outlined in Box 1, the specific analyses that you can undertake are largely determined by the monitoring design that you employed and the data that you have collected. There are two basic kinds of analysis:

- **Describing Your Data** – Almost all analyses start by taking your raw data and trying to summarize and describe them in meaningful ways. For example, you might want to characterize typical values of your sample or population (e.g., mean or median values), the degree of variability among the values (e.g., variance or standard deviation), or the number of times that certain values appear (e.g., frequency tables).
- **Testing Hypotheses** – Once you have described your data, the next step is to use them to answer the questions that you have posed about your project and to explore what else you can learn about your project. These processes typically involve comparing how two or more variables differ from one another or how they are related to one another. For example, you might want to compare the fish populations at the start and the end of the project, or those inside a protected area to those outside a protected area.

The specific type of analysis that you will do depends on a number of factors including the type of data that you have (continuous, categorical, or qualitative), the degree of precision you need to have in your answer, and your analytical skills. There are hundreds of techniques for analysing different kinds of data – far more than can be covered in this short guidance piece. In this overview, we thus instead cover some basic concepts that are covered in more detail in Margoluis and Salafsky (1998). To learn more about specific analyses, such as how to calculate a mean and standard deviation, or to do a regression analysis, you will have to consult any good statistical text.

Box. 1. A Brief Primer on Monitoring Design as a Precursor to Analysis

The specific kinds of analysis that you will do depend on the monitoring methods that you used and the data that you have. And both of these in turn ultimately depend on the questions that you originally asked and the monitoring strategy that you established.

To answer a specific question, there are two overarching monitoring strategies:

- Compare a situation affected by your project to itself over time (either pre-test/post-test or time series monitoring designs)
- Compare a situation affected by your project to ones not affected by your project (either comparison group or strict-control monitoring designs)

Although strict-controls are the gold standard for showing causality, almost all conservation projects tend to use the first strategy as it tends to require less investment.

Once you have selected your specific monitoring strategy, you still need to decide how you will implement it – specifically, you need to determine which individuals (units) in your population you will collect data on. Conceptually, the easiest way is to **census** all the individuals in the population. For example, if your project objective was to raise household income in a small village of 18 households by 30% over 3 years, you might want to interview all the households at the start of the project, record their average income, and then do the same at the end of the project.

In many cases, however, it may be either cost-prohibitive or impossible to census all the individuals in a population. For example, suppose you want to know about income changes in 20 villages that each have about 100 households. In these cases, you need to **sample** the population – select a subgroup of houses that you think represent the overall population and then interview them. If your sample is truly representative of your population, then you can extrapolate the results from the sample to the entire population. But this requires several extra steps in your analytical effort. First, in setting up your monitoring, you have to determine your sampling frame and select your sample, either randomly or deliberately. Then in your analysis, you have to determine the probability of whether your sample truly represents your population. The science of statistics is largely about analyzing data from samples to make inferences about the broader population.

Source: Margoluis & Salafsky (1998)

Why Is Analysis Important?

Analysis is one of the most important aspects of adaptive management, as it allows you to systematically assess whether you are on track to achieve your stated goals and objectives, and to revisit the assumptions that you made and test whether they still hold true in light of any new information that has been gathered, and make informed decisions on any revisions that are needed. Analysis carried out at regular intervals will ensure that your project is kept on track and remains

targeted towards achieving your goals and objectives. Analysis is also about learning – the reflection and review that is undertaken leads to the identification of lessons that can add value to the next stage of your project and contribute to the wider knowledge of the WWF Network.

All too often, analysis is either done in a very cursory basis, or it is assigned to one or two project team members who have some scientific background. Ideally, however, your entire project team should be involved in if not actually doing the analysis, at least discussing and interpreting the results. Involving your entire team in your analyses will:

- Enable the project team to explore underlying causes of how and why results were achieved (or not achieved).
- Explore why things have not worked and seeks practical ways forward – be solution-focused rather than seeking to apportion blame.
- Bring a range of perspectives (across the team and partners) to bear on an issue to find solutions and ways forward.
- Capitalise on the knowledge and experience of the project team through the use of participatory approaches.
- Lead to the identification of lessons and good practice that can be shared to leverage a greater impact across the WWF Network and the wider conservation community.
- Assist in providing a clear rationale to donors and partners on what changes need to be made and why.
- Share understanding of challenges faced, and ownership of decisions for change.

When to Analyze Project Results and Assumptions

Like data management, analysis should not be left until the very end of your project. Instead, it should be a continuous process. Many project implementers seem to feel that they are too busy with day-to-day work to analyse and deal with the data that they collect. To overcome this challenge, it is important to find ways to fit analysis into your workplan.

Formal analysis of all relevant data should be formally scheduled to take place at least once a year (twice a year is often desirable) – to inform Technical Progress Reports. Formal analysis on a more frequent basis can pay dividends, but you may discover diminishing returns if you conduct analysis too frequently – as time needs to elapse to allow new approaches, processes or activities to take form and their effectiveness (or shortcomings) to have time to emerge. A number of factors will contribute to the timing of any formal analysis that you undertake:

- Analysis should be undertaken in advance of, or in conjunction with developing your annual workplan.
- Analysis should feed into Technical Progress Reports or other reports that you are required to complete.
- Some analysis of monitoring data should begin to take place as monitoring data is gathered to ensure that you do not forget the context within which you gathered the data, and to enable you to triangulate your results and crosscheck them if necessary.

It is good practice to identify up front the timing of when decisions will be made, and work back from this to identify at what point analysis will need to be done. The Table of Project Reporting Cycle

within the Operational Network Standards¹ will provide a useful starting point.

In addition to formal analyses, it is also important to recognise the importance of informal analysis and adaptation that is ongoing during the Implement Step, and not to create a structure that is so tight that there is little room for innovative thinking and practice. Staff on the ground will need to adapt processes on an ongoing basis dependent on real-time experience of what is happening on the ground. This must, however, be incorporated into a more systematic analytical process within the Analyse/Adapt Step to ensure that these decisions are captured and feed into a wider process of analysis and decision-making; and to ensure that ultimately changes are documented so others will understand how and why the project has evolved.

How to Analyze Project Results and Assumptions

Whatever approach you use, the most important thing is to ensure that the analysis is accurate and relevant, and that it is understood by the people using the findings, and that results are available when they are needed.

1. Develop a rough plan for your analytical work

This is an extension of your monitoring plan. You should try to quickly determine:

- What questions you want to answer (for example: Did we achieve our objectives? Did our community education strategy work?)
- What data you will use to answer them
- Who will do it
- When they will do it
- Who will use the results

2. Conduct initial descriptive analyses

Look at the relevant data sets. For quantitative data, look at the maximum and minimum values for any given variable and see if they make sense. Calculate the mean and the standard deviation. If it is appropriate, look at the data in frequency tables or plot them on a graph. For qualitative data, read or look through the data. In either case, discuss the results of the descriptive analyses with members of your team.

3. Refine and improve your data as necessary

If you find holes or errors in your data, see if you can go back to the original data source and fill or correct them.

4. Test your assumptions

Go back to your original results chains and to your goals and objectives. Did you reach your desired goals and objectives? For example, did the number of fish increase? Did household incomes

¹ Available on Connect at <https://intranet.panda.org/documents/document.cfm?uFolderID=52860&uDocID=54603>

increase by 30%? As discussed above, testing assumptions generally entail making some sort of comparison. For example, your comparisons might be:

- **Comparing your project site to itself over time** – For example, decrease in incidences of poaching within a protected area over a three year period, increase in wildlife species, reduced vulnerability of local communities to human/wildlife conflict.
- **Comparing one or more sites to others** –This could be between sites/communities within your project or a comparison between a site within and a site outside a protected area (sometimes referred to as a control group). If you contribute your project data to larger data sets, you can then compare across many projects, thus facilitating learning.
- **Comparing actual work with planned work** -- In other words analysing where you are in relation to where you thought you would be. This type of comparison is important to improve your planning ability.

5. Make sense of your results

Through an analytical process you should not only identify how you are progressing within your project, but also consider why you have achieved these results, and determine what needs to happen next. Reflection on activities and processes complements the analysis of hard data generated through monitoring, enabling teams to look at the “how” and the “why” not just the “what”; the relational along with the material and the processes that accompany outcomes.

These need to be explored by considering the results offered by your analysis of monitoring data in the context of your model, results chains and/or logframe. If you implemented an activity and the desired impact or outcome did not occur, there are at least four possibilities to explain what you saw:

1. Your original logic was wrong,
2. Your original logic was correct, but you did a bad job of executing the activity,
3. Your original logic was correct and you did a good job of executing the activity, but your monitoring is faulty, or
4. Your original logic was correct, you did a good job of executing the activity, and your monitoring is fine, but the world changed and a new factor or factors emerged.

Any one of these (or a combination) can have an impact on elements of your project. The process of analysis helps the team to recognise these problems and achieve a greater understanding of what has happened in order to make decisions and/or management recommendations on how and where changes need to be made. Similarly where there have been successes it is important to explore these same areas to pinpoint what were the factors that enabled this success; otherwise the good practice cannot be replicated or shared with other partners and stakeholders.

6. Do other exploratory analyses

In addition to testing your main assumptions, you might also want to take the opportunity to look at your data and see what other information you might be able to glean from them. Are there any surprising correlations between variables?

7. Document your analyses and your findings

As you go through your analyses, it is good practice to keep track what you are doing – in effect keeping a laboratory notebook. This record will be useful for your team when you want to repeat analyses at a later date as more data come in or when you want to write them up in reports. As existing project staff move on, it will also help ensure that new project staff have a record of what was done, what was learned as a result and why, therefore, particular decisions were taken (thus contributing to an organisational memory). Finally, it becomes the foundation for learning as discussed in the next step. Good documentation will include the following:

- Brief description of the issue/activity/approach.
- What were the challenges?
- What was done?
- What has been learned?
- What worked? How?
- What could have been done differently? How?
- What were the contributing factors?
- What are the next steps and/or management recommendations in light of your analysis?

8. Share your results

Once analysis has been completed and documented, these outputs should be shared with the whole team, partners and stakeholders, along with details of lessons learned. This will help to ensure a wide understanding of what is happening within the project, what changes need to happen and why – thus contributing to buy-in for any changes. Key lessons and recommendations should also be shared with a wider audience who could learn from your experience and incorporate good practice and recommendations into their own.

References

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Learning Toolbox

<https://intranet.panda.org/documents/document.cfm?uFolderID=50443&uDocID=55790>

A Networking and Learning Programme on Health Communications for Development. (A website with some useful resources on learning).

<http://www.healthcomms.org/learn/learning.html>