Case study 1 - USAID's Monitoring and Evaluation System for CARPE : Lessons Learned from a Large-Scale Regional Environmental Conservation Program

David Yanggen and Jacqueline Doremus

Introduction: The goals and challenges of monitoring and evaluating CARPE

Virtually all donors require some system for monitoring and evaluation (M&E) of their grants. The most fundamental goal of any donor M&E system is to create a conduit of communication between the donor and the programme implementers. These systems seek to increase the transparency of implementation while simultaneously gathering data to provide a basis for assessing the results of the project. The results assessment provides a feedback mechanism for adaptive management based on successes and failures, and thereby for restructuring the on-going project and/or future projects of a similar nature. In addition, a donor uses this information to inform decision making about continued funding by policy makers within the agency and, in the case of most government donors such as USAID, with the legislative branch of government and taxpayers.

CARPE presents some unique challenges for M&E given its large scale and complexity. The programme has been going for 20 years and has contributed over US$100 million in funding during its seven years of field implementation to date (2004–2010). The programme consists of three components: governance and policy; a landscape programme of field-based improved natural resource management; and monitoring. For simplicity this chapter focuses on the landscape and monitoring components.

The landscape programme is vast. It includes 12 different Landscapes in seven countries[1] and co-

---

[1] Cameroon, Central African Republic, Democratic Republic of Congo, Equatorial Guinea, Gabon, Republic of Congo and Rwanda.

vers roughly 80 million hectares, approximately the size of the US state of Texas. These 12 Landscapes were prioritized for conservation in an international forum by a large number of national and international experts based on the level of intact forest, biodiversity richness and presence of endemic species.

The idea of the landscape approach is that ecosystems, and in particular wide-ranging animals such as elephants, need larger spatial areas than those covered by a typical protected area(PA)-focused strategy. A CARPE Landscape therefore includes not only PAs but also forest concessions (and other extractive resource zones or ERZs) and community-based natural resource management (CBNRM) zones, and explicitly considers the ecological interactions between these zones. The 12 Landscapes are made up of 37 PAs, 68 CBNRM zones and 43 ERZs, giving a total of 148 "macro-zones" as they are known in CARPE terminology.

Each of the 12 Landscapes is headed up by a institutional landscape leader from one of four international conservation NGOs that include the World Wildlife Fund (WWF), the Wildlife Conservation Society (WCS), Conservation International (CI) and the African Wildlife Foundation (AWF). Each landscape lead institution heads a consortium of institutional actors with competencies in diverse areas such are wildlife monitoring, botanical inventories, forestry, community development and institutional capacity building that are needed for an integrated conservation approach. In addition to the four lead institutions, there are currently 14 other consortium partners (many of whom work in multiple landscapes) and a significantly larger number of other institutional collaborators including notably national government institutions.

A further challenge has been that many of the conservation NGOs and the individuals working within them did not have a depth of experience of working on the large-scale field implementation of a conservation project such as CARPE. Much of the institutional culture and individual experiences related more to working on field research, often relatively narrow in scope.

Given the large number of institutional actors working across a large and widely dispersed geographical area, the USAID/CARPE team sought to use the M&E system as a means to provide coherence to the overall programme. The very word programme implies there is a desire to have a coordinated and consistent approach to attaining conservation objectives, and not simply a large number of disparate and isolated projects. Furthermore, disparate and isolated projects tend not to leave a lasting impact. An additional goal of CARPE and its M&E system is to leave structures in place that the national governments and NGOs as well as other donors can build upon in the future.

The funding given to each landscape is in the form of what USAID calls a "Cooperative Agreement". USAID Cooperative Agreements specify that the USAID management team has a "substantial involvement" role which includes approval of annual budgets and work plans. The M&E system therefore needed to propose a standardized format for a technical work plan and technical budget in order to provide for consistent evaluations across partners and landscapes.

In sum, the challenge of developing the CARPE M&E system was to create a structure that harmonized the metrics for assessing the progress of numerous actors in a large number of remote sites with different ecological and socio-economic conditions. An additional objective of the system is to help the implementing partners coordinate their field-based conservation work over a broad range of sites and with multiple institutions within a landscape. All this has to be achieved while still leaving enough flexibility to meet a broad range of site-specific conservation challenges across the Congo Basin.

The USAID/CARPE approach to monitoring and evaluation

CARPE objectives

To introduce CARPE's M&E system it is first necessary to discuss the specific objectives set by USAID for CARPE, in order to understand what

exactly is being monitored and evaluated. There are in fact two levels of objectives: the ultimate objectives known as strategic objectives (SOs) and the shorter-term objectives know as intermediate results (IRs). The strategic objectives of the programme are to slow the rate of deforestation and to conserve biodiversity.

In order to measure the rate of deforestation over a large area such as the Congo Basin, CARPE has relied upon satellite data provided by the National Aeronautics and Space Administration of the United States, interpreted by researchers from the University of Maryland and South Dakota State University (SDSU). This specific indicator involves measuring forest-cover change over time. The initial baseline was set at 1990 with change measurements for 2000 and 2005 which have been updated annually up to 2009 using an automated system developed by SDSU. This analysis permits the generation of deforestation rates across the basin, within and outside landscapes, and helps to identify hotspots of environmental degradation in order to better plan conservation interventions.

For the biodiversity conservation objective, the chosen approach was to select a number of indicator species and track their population status over time in selected sites in each of the 12 Landscapes. The most common indicator species chosen include elephants and primates such as gorillas, chimpanzees and bonobos. A key challenge has been to standardize the methodologies used for measuring these indicator species so that spatial and longitudinal comparisons would be meaningful. A working group involving the lead international conservation NGOs was set up and has addressed this methodological issue.

The work on deforestation and wildlife indicator species, along with parallel work that monitors logging concessions, constitute the component of capacity strengthening for monitoring of natural resources in the programme (though obviously the M&E aspects of the programme go substantially beyond this particular component). An important initial observation is that results concerning both these strategic objectives (defo-

restation and wildlife populations) are long-term in nature and therefore do not permit a shorter-term feedback on progress from the CARPE M&E system. It was therefore necessary to define intermediate results (IRs) that contribute to reducing deforestation and biodiversity loss and track the shorter term progress of CARPE landscape partners' work. For the CARPE landscape management programme, these intermediate results revolve around land-use planning (LUP) processes for each of the 12 Landscapes and for all the macro-zones specified within each Landscape.

The CARPE/USAID management team has defined four stages in the LUP process. The first stage is the development of a "strategy document" and is known as "convening" the LUP process. A strategy document essentially describes how to develop a management plan and identifies the data needed, planning team members, an activity timetable, etc. The second stage, known as "design", involves the development of a management plan. The third stage is "adoption" and entails the recognition of the management plan by the competent national authority. The final stage is "implementation" and involves carrying out the needed management activities specified in the management plan. Each of these stages constitute benchmarks to assess progress in achieving the intermediate results.

The CARPE M&E system : into the heart of the matrix

The central operational tool of the CARPE M&E system is known as the CARPE monitoring and work planning matrix which can be found on the CARPE website[2]. Partners fill out and send to USAID annual matrices which are updated three times a year: prior to the beginning of the year with a proposed work plan and budget for USAID's review and approval; at a midpoint in the year with the semi-annual report; and after the end of the year as part of the annual report containing an assessment of the year's accomplishments. A review of the individual components of this matrix provides a detailed overview of the M&E system. The matrix is divided into

---

[2] http://carpe.umd.edu/Plone/resources/carpemgmttools.

three principal sections; a benchmark monitoring section, a work plan section and a budget section. The benchmark monitoring section defines and breaks down the yearly standardized LUP benchmarks from five-year established targets for each Landscape and every macro-zone. Each Landscape is a reporting unit and fills out an integrated matrix with all the consortium partners contributing.

The far left-hand side column of the monitoring and work plan section of the matrix lists all the intervention zones, starting with the Landscape itself followed by each individual macro-zone grouped in the three land-use categories starting with PAs, then CBNRM zones and finally ERZs. At the landscape level, there is a space to list the wildlife monitoring SO indicator of animal population densities. Moving to the right across the matrix, the next column lists the current year's LUP benchmarks for each of the zones. A benchmark is listed in percentage terms such as PA X is 100 percent convened, CBNRM zone Y is 50 percent designed, or ERZ Z is 25 percent implemented. The size of the zone in hectares is also listed in order to calculate the area of land that is engaged at any given stage of the LUP process.

The next column to the right lists the "means of verification" or MOVs that are needed to verify the progress of each zone in the LUP process. Partners propose these and the USAID management team's review of the initial work plan approves them or asks for revisions. The MOVs can roughly be divided into three categories following the LUP process. Planning MOVs during the convening process typically include reports on activities such as socio-economic surveys, ecological studies and stakeholder meetings that are conducted to inform the plans and contain informational inputs for the subsequent development of the management plan. LUP MOVs logically include strategy documents and management plans both in draft and final form. Finally there are implementation MOVs. These serve to document the application of the activities specified in the management plan and include reports on a broad range of activities such as ecoguard patrolling, environmental education, tourism, community livelihood activities and on-going site-specific monitoring.

It is worth underlining at this point, as just mentioned above, that all the individual zonal management plans have their own system of monitoring and evaluation. These M&E systems track results in each of the Landscapes and in each of the macro-zones as a function of the objectives set out in the management plans. These systems are a more site-specific layer of M&E and complement the standardized basin-wide CARPE M&E system.

Continuing to the right in the CARPE M&E matrix, the next section is the actual work plan itself. The work plan identifies six standardized work activity categories. These include: data collection and assessment; stakeholder meetings and workshops; training and capacity building; policy advocacy; media and outreach; and implementation. These activity categories are standardized and are included for each individual planning zone unit. The next level of disaggregation in the following column is for specific tasks associated with each activity category. Typically there are several tasks for each activity category. For example, in the training and capacity building category, there may be tasks related to community environmental education, GPS (Global Positioning System) training for ecoguards, and training in database management for national government collaborators. Finally, each task is assigned to one or multiple institutions in the consortium and a specific person or persons. The last column sets a target date for finishing the task.

The second main component of the M&E matrix is the budget section. As stated above, CARPE Cooperative Agreements require the USAID management team to approve annual budgets. A well designed budget matrix facilitates programme evaluation from a financial point of view. The budget section is disaggregated into six standard categories which match the work plan standardized activities. This alignment therefore provides consistent and useful insights into each Landscape's technical approach.

The first disaggregation is between USAID funding and match funding. The level of match funding a consortium raises is a performance criterion and also allows the US Government to show how much additional funding it has levera-

ged into the programme. Activities supported by match funding must be integrated into the CARPE work plan and must also correspond to the landscape programme description found in the Cooperative Agreement between USAID and the landscape consortium lead organization.

Another level of disaggregation is by consortium partner. Each consortium partner typically contributes a specific competency for the integrated conservation programme. The institutional distribution of funding therefore gives an insight into the weight given to different landscape programme components providing an input to USAID's evaluation. In addition, USAID put a special provision into the landscape cooperative agreements that states that any change in a consortium's teaming arrangement must be approved by USAID. This was included principally as a guarantee against landscape lead organizations taking unilateral action to redistribute budgets in a way that could undermine an integrated conservation approach. Budget disaggregation at the partner level allows for this type of monitoring oversight.

Finally, budgets are disaggregated by zonal categories (Landscapes, PAs, CBNRM zones and ERZs) and by the six standard work plan activity categories for each zonal category (but not for each individual zone). The landscape approach seeks to balance conservation interventions between protected areas, extractive resource zones and community zones. In fact, USAID/CARPE requires that a minimum of 50 percent of financial resources be spent outside protected areas. This level of disaggregation allows USAID to evaluate whether a landscape consortium is implementing a balanced landscape conservation approach.

The activity category budget disaggregation also gives useful insights into evaluating a Landscape's technical approach. For example, at earlier stages in the LUP process it is logical that an important percentage of funding should go towards planning activities related to data collection and stakeholder engagement. As the LUP process matures, this percentage should shrink as more funding goes towards implementation activities. In some cases, certain institutions and/or individuals were more comfortable with re-

search-related activities and continued to emphasize data collection beyond the initial planning stages of the LUP process. As CARPE is an applied conservation programme, USAID used this budget information for evaluations and to provide constructive feedback as needed.

Lessons learned

CARPE is relatively unique in that it is a 20–year-old programme operating in nine different countries and with 18 direct institutional partners in the landscape component alone. It would be difficult to overstate the level of complexity of the programme. A number of experiences and innovations associated with the M&E system could prove useful particularly to other large-scale conservation initiatives.

The M&E system design primarily took place over a period of two years, from about 2004 to 2006. As this timeframe implies, the design was an iterative process based on trial and error, and incorporating feedback from the CARPE implementing partners. An M&E workshop was held in 2005 for all the landscape leaders. There was a dual purpose to this workshop. Firstly, to teach the landscape leaders how to use this M&E system and secondly, to provide a venue for eliciting feedback from the implementing partners on how to improve the system.

The workshop adopted a learning-by-doing approach and partners filled out sample M&E matrices for their landscapes and then shared their questions and concerns with the other landscape leaders and the USAID/CARPE management team. This greatly increased partners' comfort level with the CARPE M&E system and significantly improved the quality of reporting. To further reinforce the workshop training, USAID developed a CARPE reporting guidance manual (see CARPE website) that explains section by section how to fill out the M&E matrix. This manual has been updated as the M&E system has evolved over time. The lesson learned from this experience is that a complex M&E system needs to provide supplementary training and guidance to users in order to ensure quality implementa-

tion.

Secondly, given that the CARPE partners are the direct users of the M&E systems (i.e., they fill out the matrix) they have the best knowledge of the challenges to actually making it operational. By facilitating partner feedback and using their suggestions, the USAID/CARPE management team has been able to improve the effectiveness of the system as well as to reduce the time burden needed to fill it out. The lesson learned here is that a participatory approach to M&E development with end users is critical to improving the system's design and to achieving a greater buy-in from the partners and therefore increasing their willingness to provide the highest-quality information.

Another example of the critical importance of technical backstopping involves the development of LUP documents (management plans and strategy documents). As noted previously, LUP planning is at the heart of the programme and therefore its M&E system as well. Further, the LUP documents are arguably the most important category of MOV required to show accomplishment of established benchmarks. However, land-use planning can mean different things to different people, and certain partner institutions and individuals have had limited experience with this aspect of conservation.

The USAID/CARPE management team therefore decided to call upon the US Forest Service (USFS) to write a series of technical guides (see CARPE website) for each of the four CARPE zone categories. These guides focus on identifying the minimal common components that should be found in a management plan and strategy document while leaving ample flexibility for site-specific applications. USAID and the USFS organized two parallel workshops in Libreville and Kinshasa to train landscape partners in LUP. The minimal common components now serve as a standard by which USAID can evaluate the quality and completeness of the LUP documents. A lesson learned is that for particularly complex endeavours such as land-use planning, it may be necessary to provide outside technical backstopping that not only trains partners but also provides a clear standard by which their accomplishments will be evaluated.

The institutional cultures of many of the conservation NGOs and the individuals within them often were more oriented to narrow research and did not include experience in implementing complex large-scale conservation programmes. Many of the partners initially viewed the CARPE reporting system as an additional burden beyond their actual conservation work. And yet any applied conservation or development project needs to set objectives and establish a work planning framework. The CARPE M&E system, as designed, sets clear benchmarks and lays out a rigorous system for planning conservation work. With time and training, CARPE partners came to appreciate the M&E reporting system as a useful tool for structuring their own activities, in particular for coordinating and integrating the activities of diverse consortium partners within a Landscape. The lesson learned here is that an M&E reporting system should be designed to facilitate work-planning and objective-setting activities that an implementing organization needs to conduct regardless of donor requirements.

An enormous amount of data has been generated by the CARPE M&E system. There are a large number of variables, numerous sites, and many years of data. The USAID management team developed an MS Access database that facilitates the aggregation and analysis of the data received. This tool is critical for the evaluation of partners' performance and reporting to USAID headquarters, the US Congress, other donors and interested stakeholders in general. A typical data query, for example, could be how many hectares of each type of macro-zone are under an operational land-use management plan. This database can also be used to engage in more policy-oriented analysis, such as the average cost per hectare of the development of management plans for the different types of macro-zones. The lesson learned from this experience is that a complex M&E system needs to establish a database system that can easily upload data from standardized reporting matrices in order to facilitate the ability of the management team to evaluate and disseminate programme results in a timely fashion.

Adding together the Landscapes and macro-zones, there are 160 zones. For each one of

these zones, a CARPE partner typically sends in several MOV documents per year. The CARPE management team thus receives well over 500 documents each year. There is a tremendous wealth of information contained within these reports. One of the key constraints the CARPE management team noted was that these reports were not easily accessible to national governments, other Landscapes in the programme or even within a given conservation NGO working in multiple sites.

In response to this situation, the USAID/CARPE management team in collaboration with the University of Maryland developed the web-based CARPE Information Management Tool[3] or IMT. The IMT organizes and makes publicly available on the web all the MOV reports generated by the programme. In order to facilitate locating the reports, the IMT presents a Congo Basin-wide map with the Landscapes outlined. By clicking on a given Landscape, the user is directed to all the information for that Landscape. The user can then click again to get a map of all the individual macro-zones within each Landscape. A final click brings the user to all the reports for a given macro-zone categorized under the following headings: land-use planning, ecological information, socio-economic information and stakeholder participation documents. The lesson learned from this experience is that information sharing can be a critical constraint in any large-scale conservation programme so a mechanism for sharing is of critical importance to facilitate collaboration and to disseminate programme results. Web-based geo-referenced information management tools can be particularly effective to this end.

This chapter has previously noted that CARPE M&E takes place both within different timeframes and at different geographical scales. The wildlife population and deforestation monitoring take place over the long term, whereas the LUP process, which contributes to reducing deforestation and biodiversity loss, is a short to medium-term result. The CARPE M&E matrix is a standardized system that covers all twelve Landscapes across the Congo Basin. The individual management plans developed by CARPE and national part-

ners for each Landscape and macro-zone are site-specific and adapted to local conditions and objectives. The lesson learned from this experience is that, for a large-scale and long-term programme such as CARPE, it is useful to carefully consider multiple time and spatial scales and to design a multi-layered M&E system to capture the full range of spatial and temporal results generated.

A final lesson learned concerning M&E involves the generation of lessons learned. The CARPE M&E system generates a massive quantity of data and information that permits the monitoring and evaluation of results achieved by the programme. However, this information does not always permit a more analytical evaluation of the conservation practices and strategies employed by the different actors in the programme. The USAID/CARPE management team therefore decided to launch this CARPE Lessons Learned Initiative covering all the key thematic components of the programme and of which this article represents one of many chapters. These lessons learned are published both in book form and on the web. They permit a sharing of conservation experiences both between partners and geographical sites within the programme as well as with the broader conservation community. The documentation and dissemination of lessons learned add to the overall knowledge base and therefore contribute to improving the effectiveness of conservation programmes in the Congo Basin and around the world.

---

[3] http://carpe-infotool.umd.edu/IMT/.