Conservation Strategy Fund

BUILD Year 3 Annual Report

October 1, 2013 – September 30, 2014

I: Summary of Activity Status and Progress

a. Introduction:

Between October 1, 2013 and September 30, 2014, Conservation Strategy Fund (CSF) and partners implemented the third year of the USAID program: Biodiversity Understanding in Infrastructure and Landscape Development (BUILD). The program aims to harmonize the development of infrastructure with the maintenance of biodiversity in the Andes, Amazon, the Albertine Rift and the Himalayas.

During Year 3 of BUILD, CSF provided technical support to governments and stakeholders in the Albertine Rift, Andes-Amazon and Himalayan regions to incorporate biodiversity impacts into infrastructure planning, approval and implementation. CSF focused on the following activities during Year 3: intensifying capacity building via follow-up and dissemination of infrastructure project analyses in Uganda and Andes-Amazon, and creating opportunities for media in the Andes-Amazon and diverse stakeholders in Himalayas and Uganda to learn and discuss environmental economics and policy tools used to integrate conservation and infrastructure. CSF participated in diverse forums and meetings in Uganda, Peru, Brazil and the United States to promote mitigation and compensation of environmental impacts of infrastructure projects in these regions. We provided technical support to the Ugandan National Environmental Management Authority (NEMA) to develop and disseminate the *"Guidelines for Economic Analysis of Environmental impacts in Uganda"*. In Peru, we continued to support the approval process of the Draft Ministerial Resolution on environmental compensation and signed an agreement with Peru's Ministry of Environment (MINAM) to design and develop at least two compensation case studies in Amazonian ecosystems. CSF also published in partnership with ELAW the Policy Brief and complete Discussion Paper on innovative policies that seek to address some of the most common challenges to reconciling infrastructure, conservation, and gender concerns, as well as a policy brief on financial mechanisms for mitigation and compensation entitled *Financial Incentives for Green Infrastructure*.

Other activities were carried out during Year 3 to incorporate biodiversity variables and impacts into infrastructure planning, approval and implementation. In Brazil and the Himalayas, economic tools training courses with BUILD curriculum were successfully delivered. In Uganda, significant progress was made in sharing specific information on infrastructure projects in the Albertine Rift. Likewise, priority policy changes were identified to improve infrastructure projects' biodiversity conservation performance. CSF has also continued analysis of several major infrastructure projects that contribute to the overall goals of the BUILD program in the Andes-Amazon region, including the Inambari dam in Peru and the Pucallpa-Cruzeiro do Sul Road between Peru and Brazil.

Among management issues worthy of note, implementation of the fieldwork analysis projects in Uganda have continued to require significant coordination effort on CSF's part and on that of the Uganda National Environmental Management Authority (NEMA), Wildlife Conservation Society (WCS) and International Gorilla Conservation Programme (IGCP). CSF has also needed to provide far more technical support than initially anticipated, directly and through the engagement of different specialists. Partners have delivered outputs late due to difficulty of gathering data due to bureaucratic and political challenges related to working on oil related issues in Uganda, and challenges related to running some methodologies for the first time. Nevertheless, final and preliminary results of all projects were shared during the Infrastructure Forum carried out in Kampala. In general, working in Uganda has become more difficult over the past 12 months, but we have found ways to work in a safe and positive manner.

b. Highlights:

- Infrastructure Media Training Brasilia: *"Obras de infraestrutura na Amazônia: desafios da cobertura midiática e ferramentas de apoio à análise e ao diálogo"* November 12th, 2013. We delivered our second BUILD media training, this time in Brasilia (the first one was delivered in Year 2 in Peru). Training themes included key environmental, social, economic and legal issues that need to be understood and debated by society to promote environmentally sound planning infrastructure projects.

- Completion of nine-month In-house capacity building program in environmental valuation techniques with the Environmental Ministry of Peru (MINAM). The training improved participants' ability to understand and interpret valuation studies, identify appropriate methodologies to value environmental goods and services in different situations, contribute to the design of Environmental Impact Assessment (EIA) terms of reference, and participate in the formulation and implementation of Peruvian law related to valuation.

- Himalayan Policy Forum in Kathmandu, Nepal: *Environmental-Economic Analysis and Infrastructure Policy Forum* on May 7, 2014. CSF carried out this activity in partnership with WWF-Nepal. Overall, this activity gave investors, development planners, journalists, representatives from environmental NGOs and development agencies the opportunity to discuss evaluation, mitigation and policy tools that can be implemented to optimize the economic performance of infrastructure projects.

- National Policy Forum in Kampala, Uganda: *Integrating ecosystem conservation and infrastructure development for social and environmental well-being in Uganda* on 10th - 11th September 2014. CSF carried out this activity in partnership with NEMA

and in collaboration with UWA, WCS and IGCP. The forum had excellent discussions on infrastructure policy issues, and important participation by authorities. The Ugandan analysis projects were presented and important feedback was compiled during the event.

- Two analysis projects in the Albertine Rift were completed and one achieved preliminary results:

  - Wildlife Conservation Society (WCS): *Cost Effectiveness Analysis of Oil Pipeline Construction in the Albertine Rift*. Analysis completed. This study analyzed the application of the least-cost path method to identify ways to reduce environmental impacts in a cost effective manner, and thus apply the first step in the mitigation hierarchy – avoidance. Findings suggest that there is indeed significant scope for reducing environmental impacts of linear infrastructure, including pipelines, by systematically including information on conservation values when analyzing potential routes. The study concludes that in order to select the economically optimal pipeline route, the next steps are to systematically include important socio-economic variables and fine tune financial and environmental costs of pipeline construction across the landscape. A significant outcome of the project was technical capacity building of our WCS partners in innovative GIS methodologies.

  - International Gorilla Conservation Programme (IGCP): *Cost-Benefit analysis of the proposed upgrading of the Ikumba-Ruhija-Buhoma road, through Bwindi Impenetrable National Park, South Western Uganda.* Analysis and Policy Brief of the project finalized. Overall, the results of this study show that road alternatives outside BINP would have better overall economic performance than upgrading the route through the park. This conclusion rests on: lowered overall risks to the gorilla population, lowered risks to specific groups upon which lucrative tourism activity depends, as well as on the greater number of people and communities who would benefit from routes outside the park.

  - Uganda National Environmental Management Authority (NEMA) and Uganda Wildlife Authority (UWA): *Estimating the environmental and biodiversity costs accruing from planned oil pipeline development in the Albertine Rift, the Case of Murchison Falls National Park.* The research team was able to implement the GIS methodology and have delivered preliminary analysis results. The team presented the project at the national policy forum, and shared the potential of the methodology to identify ways to reduce environmental impacts. One of the most important outcomes of the study has been the building of analytical capacity for the NEMA and UWA staff involved in the process, and building awareness of these economic analysis tools at an institutional and national level.

- Continued analysis and dissemination of several major infrastructure projects in the Andes-Amazon region leveraged, but not paid directly, by BUILD funds, including the Inambari dam in Peru, and the Pucallpa-Cruzeiro do Sul Road between Peru and Brazil. In May 2014, the Peruvian government officially rejected the Inambari project.
- Two economic tools training courses implemented that address infrastructure issues. A Himalayas regional training course on economic tools for infrastructure analysis with BUILD curriculum was implemented in Bhutan with participants from Nepal, India and Bhutan. A two-week economic tools training courses was delivered in Brazil using BUILD curriculum.
- Public launch of CSF's Infrastructure & Biodiversity section of our website, which includes an introductory video explaining how visitors can use the resources included, links to global inventories of infrastructure development, infrastructure publications, infrastructure news, and additional infrastructure resources. Also included on the landing page is a video discussing why economics is key to addressing environmental impacts of roads. The page also has descriptions and links to both of CSF's infrastructure analysis tools: the Hydrocalculator and the Roads Filter.
- Publication and dissemination of ELAW-CSF review on best practices and innovations in infrastructure policy via a Policy Brief and complete Discussion Paper.
- Development, publication, and dissemination of the *Guidelines for Economic Analysis of Environmental impacts in Uganda*.
- Further dissemination of CSF's complete document on incentive mechanisms for greener infrastructure, *Financial Mechanisms for Environmental Compliance in Infrastructure Projects*, and publication and dissemination of the *Financial Incentives for Green Infrastructure* policy brief .
- Infrastructure policy discussion meeting at NEMA with key Government Ministries, Departments and Agencies (MDAs), the Private Sector, and Civil Society Organizations (CSOs). Participants learned about the CSF-ELAW review of infrastructure policy best practices and innovations, and identified and discussed potential policy changes to improve biodiversity conservation performance of infrastructure projects in Uganda.
- Continued information gathering on innovative compensation mechanisms, as well as actively participated in discussions on the subject with national and international organizations such as the Amazon Infrastructure Working Group, Initiative for Conservation in the Andean Amazon (ICAA II), Inter-American Development Bank (IDB), WCS, Peruvian Society for Environmental Law (SPDA, the Peruvian government, World Bank, and offset pipeline experts.

- Presentation of the Peruvian compensation policy development at Yale's conference, "Forests as Capital," sitting on a panel with SPDA. The conference talk resulted in a paper entitled "Innovations in the internalization of social costs: The case of Peru's emerging ecological compensation policy" invited for a special issue of the Journal of Sustainable Forestry.
- Continued support of the approval process of the Draft Ministerial Resolution on environmental compensation and signed an agreement with Peru's Ministry of Environment (MINAM) to design and development at least two compensation case studies in Amazonian ecosystems.

c. Challenges:

- The politically sensitive nature of oil development in Uganda is an issue that CSF continues to take very seriously, maintaining good communication with our government partners to ensure that BUILD has the greatest positive impact possible.
- Facilitating access of information on infrastructure projects to the general public in the Albertine Rift continues to be challenging, but we were satisfied with the amount and quality of information that was publicly shared during the forum in Kampala.
- Delay of outputs of Ugandan analysis projects due to administrative and bureaucratic issues, some resistance to sharing information, and further need for training in order to run methodologies adequately.
- Carrying out the in-house training in MINAM with so many participants with varying analytical capabilities proved to be challenging.
- Moving the compensation policy initiative forward in Peru is challenging, as with moving any policy initiative forward, given that government officials are required to deal with many competing priorities at once. While the compensation policy might be a major priority for the Minister of Environment, it sometimes must go on hold while other urgent matters are addressed.
- Theft of Bhutan course and Nepal forum materials that were sent to Kathmandu prior to the Forum presented some unexpected challenges.
- Working in Uganda on transparency and gender issues related to infrastructure, particularly oil, has become more difficult over the past 12 months, due to policy changes in Uganda and specific actions by the Government of Uganda with regards to individual liberties and freedom of the press.
- Ensuring staff safety in Uganda presented challenges to implementation of activities.

d. Adaptive Management in Action:

During Year 3 of BUILD we implemented different strategies, fine tuned during Year 2 and 3, to promote active sharing of information on infrastructure projects and use of environmental economics tools to improve biodiversity performance of infrastructure decision-making process.

In Uganda, given reluctance to share information, the strategy was based on building up information sharing and use of environmental economics tools through presenting preliminary results and drafts of analysis projects and policy guidelines in institutional meetings, multi-institutional meetings, and the policy forum. During these activities, information on infrastructure projects, tools and case studies was shared broadly. NEMA, UWA, WCS and IGCP carried out the institutional and multi-institution meetings with CSF technical support for presentations and materials, whilst the national policy forum was carried out with CSF's active presence. Through their various meetings, the study teams built the necessary relationships and leverage for the forum to be a successful event.

Also, given the delays and methodological problems involved in running specific analyses for the first time in Uganda, CSF devoted more time and effort than planned towards ensuring the completion of the analyses conducted by IGCP and WCS. These two analyses have been finalized and CSF will work on editing the final documents. CSF was not able to ensure the completion of the NEMA-UWA team given their reluctance to share preliminary products. Nevertheless, CSF was able, with technical support provided by WCS to the NEMA-UWA team, to ensure that NEMA-UWA ran the analysis and completed preliminary results. The efforts they made to apply the methodology and disseminate preliminary findings internally enabled both NEMA and UWA, and even the Petroleum Exploration and Production Department (PEPD), to understand how environmental-economics and GIS tools can be used to improve decision-making with regards to biodiversity conservation in relation to linear infrastructure. Even if the NEMA-UWA team does not finalize the analysis, their active role in the analysis is an important step toward building capacity within these two key government institutions, and improving the infrastructure decision-making process, particularly related to pipelines.

In relation to security issues in Uganda, CSF made important logistical coordination efforts to assure safety of speakers and participants in Kampala. Partners, especially IGCP, provided key support to assure safety. These were necessary precautions, and it is worth noting that a security situation arose in Kampala while our staff was there implementing the policy forum, with the U.S. Embassy sending out an emergency alert for all U.S. citizens not to leave their homes. In relation to materials stolen in

Kathmandu, partners and CSF made important last minute coordination efforts to substitute materials.

Carrying out the in-house training in MINAM with so many participants with varying analytical capabilities proved to be challenging. To cope with this additional work, an assistant was hired to help the instructor review participant's work, manage weekly reading, track participant performance, and coordinate feedback from the instructor to participants. With these adjustments, we were able to conduct a very successful In-house training course, with an evaluation rating of 3.8/4.0 by participants for the contribution of the training to their knowledge and skills.

Being available whenever the need arises to participate in discussions to move forward the compensation policy initiative has proven to be an important strategy to implement biodiversity compensation in Peru. As a result, we were able work on and sign an agreement with Peru's Ministry of Environment (MINAM), which will allow us to provide technical support to design and develop at least two compensation case studies in Amazonian ecosystems.

e. Table of Activity Status:

Activity Number	Activity Title	Status
Objective 1: Government and civil society understand, discuss and use information on the real economic and ecological tradeoffs of infrastructure projects to improve ecological and economic outcomes.		
1-1	Train key people inside and outside government to perform integrated environmental-economic project analysis.	Completed
1-2	Improve groups' access to information required to analyze and compare infrastructure options.	Completed
1-3	Use training and case analysis to change outcomes of specific infrastructure project to protect biodiversity	Completed
Objective 2: There are clear policies governing project selection, mitigation and compensation.		
2-1	Ensure that policy-makers have access to good models.	Completed
2-2	Provide technical assistance to decision-makers and advocates formulating policies.	Completed
Objective 3: There are financial mechanisms that maximize compliance with mitigation and compensation agreements and regulations.		
3-1	Promote adoption of financial mechanisms.	Completed

3-2	Ensure local people affected by infrastructure projects and compensatory measures are involved in monitoring mitigation and compensation.	Completed Andes-Amazon; Mixed performance Uganda

II. Detailed Description of Progress

a. Key short and long-term program objectives.

The overall goal of Conservation Strategy Fund's (CSF) BUILD program is development of infrastructure policies and investment decisions that are ecologically sound, economically efficient and socially equitable to different populations and genders. CSF will gather, test and disseminate best practices at a global level, while investing in capacity and policy change in specific regions: the Amazon and Andes and the Albertine Rift. Limited activities will also be directed to the Serengeti and Himalayan regions.

CSF's BUILD program will create lasting human capacity for infrastructure analysis, gather and aggressively share information globally on what countries are doing *right*, and work intensively with several governments in the Albertine Rift and Andes-Amazon regions on policy innovations to reduce biodiversity loss due to infrastructure development. By improving selection, design and mitigation of key infrastructure projects, BUILD will impact biodiversity conservation in the focus region in the short term. In the long-term, BUILD will have biodiversity impacts by building analytical talent, technical knowledge and better policies, which together will determine the scale of biodiversity and social impacts of dozens of infrastructure decisions over the coming decades of economic growth.

CSF recognizes that there are economic, institutional, cultural and legal barriers to the adoption of biodiversity-friendly infrastructure policies. We will spotlight the leverage points that can bring about systemic change in on-the-ground outcomes and work with the actors in control of those levers.

In this way, CSF's BUILD program will work towards USAID's overall BUILD goal to *"Improve policy, regulatory and planning approaches to avoid or reduce negative impacts of infrastructure development on biodiversity through innovation and learning, focused on engagement with government, local stakeholders and civil society."*

We have three major objectives that we believe are necessary conditions for achieving the overall goal of our BUILD program:

1. Government and civil society understand and discuss the real economic and ecological tradeoffs of infrastructure projects.

   Activities under this Objective include formal training in environmental economics for governments, NGOs and other stakeholders, mentored environmental-economic analyses, in-house technical capacity building, media training, and improved access to information required to analyze and compare infrastructure options.

2. There are clear policies and procedures governing project selection, mitigation and compensation.

   Activities under this Objective include a review of best practices in infrastructure policy, recommendations for policy improvement, dissemination of existing policy innovations, and policy design support for government, NGOs and affected peoples.

3. There are financial mechanisms to maximize compliance with environmental requirements.

   Activities under this Objective include reviewing options for financial mechanisms and channels, promoting the adoption of those mechanisms by policymakers, and ensuring involvement of local people in monitoring mitigation and compensation.

Year 1 of CSF's BUILD program focused on efforts to plan, coordinate and launch the program, deliver training courses in the Amazon-Andes and Albertine Rift regions, launch in-house technical support programs, gather information on proposed infrastructure projects, invite proposals for follow-up analysis in the Albertine Rift, and review infrastructure policy best-practices and financial compensation mechanisms at regional and global levels.

Year 2 of CSF's BUILD program focused on efforts to coordinate and implement with partners follow-up analyses in the Albertine Rift, implement the in-house training program in Peru, deliver media and economic tools training courses in the Amazon-Andes and Albertine Rift regions, provide technical support to the Peruvian government to design and implement biodiversity compensation policy, participate in infrastructure policy forums and networks in Brazil, promote sharing of infrastructure project information in Uganda, provide technical support to NEMA to identify potential policy improvements, document different financial compensation mechanisms, and assess with

partners innovative policy measures that could improve biodiversity safeguarding in infrastructure planning, approval and implementation around the world.

Year 3 of CSF's BUILD program has focused on launching our infrastructure website and publications on infrastructure policy best practices and financial incentive mechanisms, completing follow-up analysis projects and outreach in the Albertine Rift, extending and disseminating infrastructure analysis results in the Andes-Amazon, completing the In-house valuation training program in Peru, delivering a media training in Brasilia on infrastructure projects in the Brazilian Amazon, delivering infrastructure analysis and policy forums in the Himalayas and Albertine Rift, developing a Himalayan regional course in Bhutan focused on infrastructure analysis tools, and continuing to provide technical support to the Peruvian and Ugandan governments on compensation policies and valuation guidelines.

b. Summary of Progress for Each Site

Andes-Amazon

In Year 3, we completed the In-house valuation training with MINAM, and delivered a media training event in Brasilia on strategic media coverage of infrastructure projects in the Brazilian Amazon. These built upon our capacity building activities in Years 1 and 2 that included two-week training courses in Economics Tools for Conservation and Infrastructure Planning in both Peru and Brazil, and a regional media training in Peru. In Brazil we also implemented a two-week training course that was not funded as part of the BUILD program, but incorporated the BUILD course curriculum on infrastructure analysis that has been developed and tested through previous BUILD courses.

In Years 1 and 2 and 3, CSF has been intensively engaged with the Ministry of Environment of Peru and with a working group of civil society organizations on the policy for ecological compensation for infrastructure impacts. Our guidance includes explicitly considering indirect impacts, and recommending an environmental fund as a mechanism to direct payments from project developers to high priority compensation sites. In Year 3 this process concentrated on working with the Peruvian government and specifically moving forward the Draft Ministerial Resolution on environmental compensation, as well as proposing pilot implementation of the policy in different types of infrastructure and extractive projects. We also presented our work on the Peruvian compensation policy development at a Yale School of Forestry conference and were invited to submit a paper to the Journal of Sustainable Forestry.

In Years 1, 2 and 3 we also collected data on major road and hydroelectric infrastructure

projects and information bottlenecks throughout the region, and updated and developed online tools and platforms (HydroCalculator and Roads Filter tools) for sharing this information to the public, culminating in the launch of the Infrastructure page of CSF's website in Year 3.

Albertine Rift

In Year 3 we successfully launched and implemented key training, analysis and policy activities of our BUILD program in the Albertine Rift region in collaboration with the Uganda National Environmental Management Authority (NEMA), Wildlife Conservation Society (WCS) in Uganda, International Gorilla Conservation Programme (IGCP), Uganda Wildlife Authority (UWA), and ELAW local partners in the region. We have spent considerable effort building connections and relationships with NEMA, other NGOs and national and district government offices in the region.

In Year 3 we continued to provide technical support to three field research projects in Uganda that analyzed the environmental-economic impacts of specific infrastructure threats to biodiversity. The National Environmental Management Authority (NEMA) / Ugandan Wildlife Authority (UWA) analysis project aimed to identify and quantify the environmental impacts on biodiversity of the planned oil pipeline development in Murchison Falls National Park. The objective of the Wildlife Conservation Society (WCS) Uganda analysis project was to determine the most economically viable (most financially and environmentally acceptable) route for the proposed oil pipeline in Murchison Falls National Park. The objective of the International Gorilla Conservation Programme (IGCP) analysis project was to evaluate the economic and environmental impacts of upgrading a road that crosses the Bwindi Impenetrable Forest National Park, and compare them with those of building an alternative road that does not cross the park but serves communities that lack road access.

As part of the BUILD program, NEMA conducted several infrastructure policy meetings with key Government Ministries, Departments and Agencies (MDAs), the Private Sector, and Civil Society Organizations (CSOs). We also continued our technical support to NEMA to draft valuation guidelines on economic analysis of environmental impacts.

In Year 3 we held an Environmental-Economic Analysis and Infrastructure Policy forum in Kampala, showcasing the methods and results of the three analysis projects, as well as a clinic on environmental-economic tools for infrastructure planning and development, sessions on infrastructure policy best practices, key infrastructure policy innovations and strategies for implementation, strategic funding mechanisms for compensation and mitigation, and a discussion on the sustainability of Uganda's current infrastructure

development plans. The event finalized with the launch of the "Guidelines for Conducting Economic Analysis of Environmental Impacts in Uganda".

Himalayas

In Year 3 we delivered an infrastructure analysis and policy forum in Kathmandu in collaboration with WWF-Nepal. The forum shared and discussed environmental-economics and policy tools being used around the world to integrate biodiversity conservation and infrastructure, in the context of Nepal's development plans, and included presentations by Nepal's Ministry of Physical Planning and Work, Ministry of Science, Technology and Environment, and Ministry of Forest and Soil Conservation, as well as the Asian Development Bank and the World Bank. We also delivered a one-week course in Bhutan on conservation economics tools for analysis of infrastructure, which was delivered in partnership with the Ugyen Wangchuck Institute for Conservation and Environment and drew participants from Nepal, Bhutan and India.

c. Activity Description

Objective 1: Government and civil society understand, discuss and use information on the real economic and ecological tradeoffs of infrastructure projects to improve ecological and economic outcomes.

Activity A1-1: Train key people inside and outside government to perform integrated environmental-economic project analysis.

Major Achievements and Progress in Year 3:

- Expected Year 3 Outcome: Completion of economic analysis projects in the Albertine Rift region with graduates from the Uganda course to analyze the environmental-economic impacts of specific infrastructure threats.

  Result: Three field research projects were conducted to analyze the environmental-economic impacts of specific infrastructure threats to biodiversity. Two of them were completed and one ran the methodology and has preliminary results and conclusions. Final and preliminary results of the analyses have been disseminated.. The National Environmental Management Authority (NEMA) / Ugandan Wildlife Authority (UWA) analysis project aimed to identify and quantify the environmental impacts on biodiversity of the planned oil pipeline development in Murchison Falls National Park. The objective of the Wildlife Conservation Society (WCS) Uganda analysis project was to determine the most economically viable (most financially and environmentally acceptable) route for the proposed oil pipeline in Murchison Falls National Park. The objective of the International Gorilla Conservation Programme

(IGCP) analysis project was to evaluate the economic and environmental impacts of upgrading a road that crosses the Bwindi Impenetrable Forest National Park, and compare them with those of building an alternative road that does not cross the park but serves communities that lack road access.

- Expected Year 3 Outcome: Evaluate opportunities for implementation of post-course training or analysis project following DRC course. This will depend on interest and commitment among graduates, financial and staff resources available from CSF, and whether it is safe to carry out the activity in DRC's Albertine Region.

  Result: We were unable to move forward with an analysis project due to limited capacity and resources, combined with the political instability in eastern DRC.

- Expected Year 3 Outcome: Completion of Environmental Valuation In-House training with Peru's Ministry of the Environment (MINAM).

  Result: The nine-month In-house training was completed in December 2013, and gave participating MINAM staff knowledge and tools in environmental valuation techniques.

- Additional Year 3 Result: We took advantage of the opportunity of being in the Himalayan region in May 2014 for the policy forum in Nepal to implement a one-week course in Bhutan on conservation economics tools for analysis of infrastructure, which was delivered in partnership with the Ugyen Wangchuck Institute for Conservation and Environment (UWICE) and drew participants from Nepal, Bhutan and India.

- Additional Year 3 Result: A two-week economic tools training course, *Ferramentas Econômicas para a Conservação*, was delivered in Brazil using BUILD infrastructure analysis curriculum.

Regional Detail

Andes-Amazon:

In Year 3, CSF completed the In-house capacity building support in environmental valuation techniques with the Environmental Ministry of Peru (MINAM) in the *Dirección General de Evaluación, Valoración y Financiamiento del Patrimonio Natural* (DGEVFPN). The nine-month In-house training was implemented from April - December 2013, and consisted of guided readings, weekly virtual discussions, and three in-person workshops in Lima. The final workshop was implemented from December 6-7,

2013. Seventeen participants received participation certificates and 14 received Graduation certificates for the full nine-month program, six of them with a rating of Excellent. The program included a microeconomics module and five economic valuation methods. This training improved participants' ability to understand and interpret valuation studies, identify appropriate methodologies to value environmental goods and services in different situations, contribute to the design of Environmental Impact Assessment (EIA) terms of reference, and participate in the formulation and implementation of Peruvian law related to valuation. Participants found the program very useful, and in the program evaluations, gave an average rating of 3.8 out of 4 (95%) when asked about the contribution of the course to their knowledge and skills. The course schedule, participant list, and summary of the training evaluations are included as Appendices.

In July 2014, CSF delivered a two-week economic tools course, *Ferramentas Econômicas para a Conservação*, in Minas Gerais, Brazil. The training was not part of the BUILD program, but incorporated BUILD curriculum on integrated environmental-economic analysis of infrastructure projects. This curriculum has been developed and refined over the past three years of the BUILD program in courses in Peru, Brazil, Uganda, DRC and Bhutan. We published a blog article about the course, and the schedule and participant list are included as Appendices.

Albertine Rift:

The following three field research projects that analyze the environmental-economic impacts of specific infrastructure threats to biodiversity in Uganda were conducted in collaboration with graduates from our Year 1 Economic Tools course in Uganda:

i. **Cost-Benefit analysis of the proposed upgrading of the Ikumba-Ruhija-Buhoma road, through Bwindi Impenetrable National Park, South Western Uganda**. The objective of the International Gorilla Conservation Programme (IGCP) analysis project was to evaluate the economic and environmental impacts of upgrading a road that crosses the Bwindi Impenetrable Forest National Park, and compare them with those of building an alternative road that does not cross the park but serves communities that lack road access. Information and recommendations are being provided to stakeholders and decision makers.

   The analysis and a policy brief of the executive summary of the project are finished. The complete analysis report will be finalized by CSF by the end of October. The results of this study show that road alternatives outside BINP would have better overall economic performance than upgrading the route through the park. This conclusion rests on lowered overall risks to the gorilla population, lowered risks to specific groups upon which lucrative tourism activity depends, as

well as on the greater number of people and communities who would benefit from routes outside the park. A policy brief with the final executive summary of the project, the draft of the final report, and the presentation of results from the National Policy Forum in Kampala are included as Appendices.

ii. **Cost Effectiveness Analysis of Oil Pipeline Construction in the Albertine Rift.** The objective of the Wildlife Conservation Society (WCS) Uganda analysis project was to use GIS analysis to determine the most economically viable (most financially and environmentally acceptable) route for the proposed oil pipeline to transport oil from the central processing facilities that will be located just below Murchison Falls National Park to the refinery located in Kabale parish in Hoima district.

The analysis is finished, and the complete document will be finalized in November. The study analyzed the application of GIS least-cost path methodologies to reduce environmental impact of oil pipeline routing as a way to apply the first step in the mitigation hierarchy: avoidance. Findings suggest that there is indeed significant scope for reducing environmental impact of linear infrastructure, including pipelines, at a landscape level by systematically including information on conservation values when analyzing potential routes. The study concludes that in order to select the economically optimal pipeline route, the next step is to include important socio-economic variables and fine-tune the financial and environmental costs of pipeline construction across the landscape. A significant outcome of the project was technical capacity building of our WCS partners in innovative GIS methodologies.

The draft Executive Summary and draft Complete Report and the presentation of results from the National Policy Forum in Kampala are included as Appendices.

iii. **Estimating the environmental and biodiversity costs accruing from planned oil pipeline development in the Albertine Rift, the Case of Murchison Falls National Park.** The National Environmental Management Authority (NEMA) / Ugandan Wildlife Authority (UWA) analysis project aimed to identify and quantify the impacts on biodiversity of the planned oil pipeline development in Murchison Falls National Park.

This analysis study has not been completed. Methodology and preliminary results were presented at the national policy forum with emphasis on the innovative methodology, approach and process. Policy forum participants endorsed the methodology and requested further communications, so that methodologies and results can be used to inform upcoming plans and decisions. The study team was able to implement the GIS methodology and analyze results, but given some

methodological problems and inconsistencies with results, they need to rerun the analysis. One of the most valuable outcomes of the study has been the building of analytical capacity for the NEMA and UWA staff involved in the process, and building awareness of these economic analysis tools at an institutional and national level.

The presentation of the project given at the National Policy Forum in Kampala is included as an Appendix.

In Year 3 these analysis projects received both technical and financial support from CSF to help the three research teams: 1) define their objectives, methodology and work plan; 2) conduct and write literature reviews; 3) select and design the methodology; 4) design surveys, conduct fieldwork and collect relevant data; 5) run methodologies appropriately; 5) analyze results; 6) incorporate feedback; and 7) draft final reports, executive summaries and public presentations. CSF provided in-person support via workshops, field visits and analysis work sessions with each research team.

Himalayas:

The course in Bhutan - *Analysis of Infrastructure from a Conservation Economics Perspective* - was delivered from May 12-16, 2014 in collaboration with the Ugyen Wangchuck Institute for the Environment (UWICE). Over twenty participants attended from Bhutan, Nepal and India, and learned new tools and knowledge about environmental economics and cost-benefit analysis related to infrastructure development. Participants gave the course high ratings - an overall personal value of 4.3/5 (86%), and an averages score of 4.4/5 (88%) for the various course modules. The most valuable topic as perceived by participants was cost-benefit analysis. The course summary, schedule, list of participants, and results from the end-of-course evaluations are included as Appendices. A short 1-minute video of impressions of the course from one of the participants can be viewed at https://www.youtube.com/watch?v=r8d17TF7ZQc&list=UUSUx8XzYbinaF0whJYXHU8Q.

Key management issues and challenges in Year 3:

Providing technical support to NEMA for the oil pipeline analysis project continued to be challenging due to administrative and bureaucratic issues, and some resistance to sharing information. The provision of local technical support through WCS (backstopped by international experts) was an effective strategy towards sharing and training NEMA-UWA experts on innovative tools for pipeline planning. Another challenge in implementing this activity was limited access to information and valid data on oil and gas developments in Uganda, which is still controlled and not easily accessible. Secondly, the

team undertaking the study was from two institutions (NEMA and UWA) and it took time to agree on the approach and methodology, partly due to the fact that they needed to use information that they were not sure if they were authorized to use, given confidentiality issues. It is important to note that there is still no official agreed pipeline route.

Also, given the delays and methodological problems involved in running specific analyses for the first time in Uganda, CSF devoted more time and effort than planned towards ensuring the completion of the analyses conducted by IGCP and WCS. These two analyses have been finalized and CSF will work on editing the final documents. CSF was not able to ensure the completion of the NEMA-UWA team given their reluctance to share preliminary products. Nevertheless, CSF was able, with technical support provided by WCS to the NEMA-UWA team, to ensure that NEMA-UWA ran the analysis and completed preliminary results. The efforts they made to apply the methodology and disseminate preliminary findings internally enabled both NEMA and UWA, and even the Petroleum Exploration and Production Department (PEPD), to understand how environmental-economics and GIS tools can be used to improve decision-making with regards to linear infrastructure. Even if the NEMA-UWA team does not finalize the analysis, their active role in the analysis is an important step toward building capacity within these two key government institutions, and improving the infrastructure decision-making process, particularly related to pipelines.

Carrying out the in-house training in MINAM with so many participants with varying analytical capabilities proved to be challenging. Originally MINAM's In-house training was designed for a smaller group of people (8 to 10). However, due to MINAM's expressed needs, the training ended up being for a larger group (22). To cope with this additional work, an assistant was hired to help the instructor review participant's work, manage weekly reading, track participant performance, and coordinate feedback from the instructor to participants. With these adjustments, we were able to conduct a very successful In-house training course, with an evaluation rating of 3.8/4.0 by participants for the contribution of the training to their knowledge and skills. We would recommend that the In-house training be carried out with a smaller group (maximum of 10). This is to ensure sufficient instructor-participant direct interactions. Also, if the specific training requires a minimum economic base, it is necessary to carry out a more thorough selection process, to guarantee that all participants can meet the program requirements.

Activity A1-2: Improve groups' access to information required to analyze and compare infrastructure options.

Major Achievements and Progress in Year 3:

- Expected Year 3 Outcome: Information on several key infrastructure projects and their financing is disseminated in Uganda. We will continue our efforts to identify information that can be publicly shared.

  Result: In Uganda, NEMA provided a list of major projects with specific information that they are willing to share to the general public. NEMA has authorized the publication of this infrastructure project information within CSF's Infrastructure Inventory provided the location tool is adjusted to display projects with non-specific locations. Likewise, we made continued progress in our discussions related to information sharing, and we successfully worked with NEMA to plan and deliver a stakeholder policy meeting, as well as a national public infrastructure analysis and policy forum.

- Expected Year 3 Outcome: Meetings held in NEMA to share information to promote the provision of protocols and channels to publicize economic and environmental information on infrastructure projects and to receive public input on the different stages of infrastructure project development. In Peru, we will continue to collaborate with the Environmental Ministry. In Brazil, we will continue coordinate our efforts through the Infrastructure Working Group

  Result: Several information-sharing meetings were held at NEMA in Year 3 involving the research teams as well as staff from NEMA and other relevant government institutions. In Brazil we continued to participate in the GT Amazon Infrastructure Working Group in Brazil, and held meetings and discussion session with AVINA, TNC, OEco and WWF to plan the media training. In the Andes Region, we continued to participate in infrastructure and biodiversity policy activities through the Initiative for Conservation of the Andes Amazon Phase II (ICAA II). Also, we continued to share information on infrastructure project trade-offs, mitigation and compensation with MINAM in Peru through the stakeholder process we are coordinating with SPDA, WCS, TNC and other local organizations.

- Expected Year 3 Outcome: Media training implemented in Brazil and Uganda on basic technical aspects of infrastructure projects' environmental and economic impacts, infrastructure policy best practices and innovations, and standards and policies for mitigation and compensation.

  Result: In November 2013 we delivered our second BUILD media training, this time in Brasilia, on strategic media coverage of infrastructure projects in the Brazilian Amazon. Training themes included key environmental, social, economic and legal

issues that need to be understood and debated by society to promote environmentally sound planning infrastructure projects. Given the reality of increasing media restrictions in Uganda, we decided to incorporate the media training event into the policy forum event.

- Expected Year 3 Outcome: Infrastructure website resources launched and improved. This will be a dedicated section of CSF's website focusing on infrastructure resources. Components will include an infrastructure project inventory, policy tools and standards, interactive tools, publications, training offerings, and analysis resources. The goal is to expand the target audience beyond CSF's current website users, mainly conservation professionals working in NGOs and government agencies, to media professionals reporting on infrastructure and people working with human rights organizations who are concerned with impacts of infrastructure development.

  Result: In early 2014, we publically launched the Infrastructure & Biodiversity Resource section of CSF's website. The section includes an introductory video explaining how visitors can use the resources included, links to global inventories of infrastructure development, infrastructure publications, infrastructure news, and additional infrastructure resources. Also included on the landing page is a video discussing why economics is key to addressing environmental impacts of roads. There are also links and descriptions to both of CSF's infrastructure analysis tools: the Hydrocalculator and the Roads Filter.

- Expected Year 3 Outcome: Publish an infrastructure article in each quarterly CSF newsletter as well as at least two policy briefs or discussion papers. These will be focused on Albertine Rift follow-up analysis projects, as well as on results from the infrastructure best practices review and our work on mitigation and compensation mechanisms. These will be digital newsletters sent via email as well as online documents housed on CSF's website. They will be publicized via CSF's network of colleagues, partners and course graduates, as well as shared during BUILD courses, media trainings, policy forums, and other meetings related to BUILD infrastructure policy work.

  Result: We published infrastructure articles in each of our bi-monthly newsletters and published a policy brief entitled *Financial Incentives for Green Infrastructure*, as well as a policy brief and discussion paper on our global survey of infrastructure policy best practices with ELAW, both entitled *Moving towards greener infrastructure: Innovative legal solutions to common challenges.* We also published a policy brief on a hydroelectric dam project on the Usumacinta river in Mexico, and published several infrastructure blog articles. These documents are housed on CSF's website, and were

publicized via CSF's network of colleagues, partners and course graduates, as well as shared during the Bhutan course, media training in Brazil, Himalayan and Ugandan policy forums, and other meetings in the Andes-Amazon and Brazil related to BUILD infrastructure policy work. Newsletters are sent via email to 3,000+ recipients and all articles are posted onto CSF's blog on the website.

- Additional Year 3 Result: CSF contributed to an international symposium at James Cook University in Australia entitled "Impacts of Roads on Ecosystems & Livelihoods". Following the symposium, we were also invited to be a contributing author to a paper published entitled *A global strategy for road building* published in September 2014 in the journal Nature.

Regional Detail

Global:

In early 2014, we publically launched the Infrastructure & Biodiversity Resource section of CSF's website. This section includes an introductory video explaining how visitors can use the resources included, links to global inventories of infrastructure development, infrastructure publications, infrastructure news, and additional infrastructure resources. Also included on the landing page is a video discussing why economics is key to addressing environmental impacts of roads. There are also links and descriptions to both of CSF's infrastructure analysis tools: the Hydrocalculator and the Roads Filter. New components of this section are described in detail below:

Global inventories of infrastructure - These global lists act a portal to infrastructure project inventories. Inventories include the Bank Information Center (BIC), The World Bank, and the International Finance Corporation (IFC), among others. Developed as part of the website is *CSF's Inventory of Infrastructure Project Information* from around the world. This inventory includes a dynamic map that pinpoints all of the projects across the globe as well as a list view with individual project details and a close-up map for each project. Users can click on projects from the map view or the list view. Each project inventory includes the following information:

- region & country,
- x & y coordinates,
- infrastructure type,
- project status,
- name of development company or institution,
- financing body,
- name of any environmental and social standards applied to the project,
- whether or not there has been a feasibility study, EIA or economic/cost-benefit analysis completed,

- total number of hectares affected,
- type of land-use,
- ecosystem(s) affected,
- whether or not there is potential loss of access to water quality,
- whether or not the project is within a protected area,
- number of people displaced,
- whether or not communities are in voluntary isolation, and
- links to external analysis, reports, and photos.

There is also room for comments by other visitors or authors. We are waiting to publicly launch this portion of the website due to the continued sensitivity of Uganda project information, and until we can link it to a communication and outreach strategy to promote population of the inventory. In the meantime, we have included a list of other inventory resources.

Global inventories of Infrastructure development – This includes a list of over a dozen relevant inventories of infrastructure and development projects, from institutions such as the World Bank, IMF, African Development Bank, International Rivers, and the Inter-American Development Bank.

Infrastructure resources – This includes a global list of infrastructure resources such as policy tools and standards and interactive analysis tools.

Infrastructure publications – This is a list that includes all infrastructure-focused papers published by CSF.

Infrastructure news – This is a list that includes all infrastructure-focused news published by CSF.

We published a policy brief on *Financial Incentives for Green Infrastructure*, and a policy brief and discussion paper from our global survey of infrastructure policy best practices and innovations, undertaken in partnership with ELAW: *Moving towards greener infrastructure: Innovative legal solutions to common challenges* (Policy Brief and Discussion Paper). We also published a policy brief on a hydroelectric dam analysis in Mexico: *Tenosique: Environmental economic analysis of a hydroelectric project on the Usumacinta River.*

Our *Financial Incentives for Green Infrastructure* policy brief is the mostly highly viewed publication on the CSF website, and six of the top ten most-viewed publications on our website focus on infrastructure.

Also, we published infrastructure articles in each of our bi-monthly newsletters:

- Oct/Nov 2013: *Economic tools for responsible infrastructure* (DRC course)
- Dec 2013/Jan 2014: *CSF brings together journalists and conservation experts at forum in Brasilia* (Brazil media training)

- Feb/Mar 2014: *Do EIAs work?* (Announcement of policy brief and discussion paper on financial incentive mechanisms for greener infrastructure)
- May/Jun 2014: *Himalayan infrastructure from a conservation economics perspective* (Bhutan course)
- Jul/Aug 2014: *CSF and WWF deliver policy forum on infrastructure and biodiversity in Nepal* (Nepal forum)

Infrastructure-related blog articles published in the last twelve months include the following:

- Economic tools for responsible infrastructure - 10/31/13
- Shaping Shipping: The Panama Canal – 11/6/13
- Resplendent Roadkill, Almost – 11/19/13
- CSF brings together journalists and conservation experts at forum in Brasilia – 12/13/13
- Watch this video on roads and rain forests – 12/18/13
- The Road Less Traveled: BR-319 – 12/18/13
- CSF awarded $100,000 from Handsel Foundation for work in Africa – 3/11/14
- Himalayan infrastructure from a conservation economics perspective – 5/28/14
- CSF and WWF deliver policy forum on infrastructure and biodiversity in Nepal – 6/23/14

All publications are housed on CSF's website. Newsletters are sent via email to 3,000+ recipients and all articles are posted onto CSF's blog on the website.

We produced and published a Spanish-language how-to video for the HydroCalculator tool that takes users through the screens for data input and explains how the analysis tool works. Over the past year, we have had more than 1200 views of our HydroCalculator tool. During those same dates, our HydroCalculator help articles have been accessed 12,000 times, our Infrastructure site has received 2,000 page views, and our Roads Filter has been viewed 480 times. Since May of 2014, CSF's new online video lessons, which include a series focused on cost-benefit analysis, have been viewed over 1,000 times.

The Nature paper entitled *A global strategy for road building* was a collaborative effort that grew out of an international symposium CSF attended in October 2013 at James Cook University that included presenters from Harvard Univeristy, University of Minnesota, University of Melbourne, CSF and James Cook University. Included as Appendices are an informational flyer about the symposium, and the official press release for the paper. The resulting Nature paper presents a large-scale global zoning scheme for prioritizing road building that seeks to limit the environmental costs of road expansion while maximizing its benefits for human development. The analysis identifies areas with

high environmental values where future road building should be avoided if possible, areas where strategic road improvements could promote agricultural development with relatively modest environmental costs, and 'conflict areas' where road building could have sizeable benefits for agriculture but with serious environmental damage.

Andes-Amazon:

Focus countries in the Andes-Amazon region for Activity A1-2 in Year 3 were Peru and Brazil. In the Andes Region, we continued to participate in infrastructure and biodiversity policy activities through the Initiative for Conservation of the Andes Amazon Phase II (ICAA II). Also, we continued to share information on infrastructure project trade-offs, mitigation and compensation with MINAM in Peru through the stakeholder process we are coordinating with SPDA, WCS, TNC and other local organizations. In Brazil, we continued to work with our current collaborators such as the Amazon Infrastructure Working Group in Brazil (CSF, Imazon, Insituto Centro de Vida, Idesam, WWF, Instituto Socioambiental, Avina Foundation, TNC, OEco and others).

During Year 3, we delivered our second BUILD media training in the Amazon-Andes region, held in Brasilia in November 2013. In attendance were twenty-five journalists, twelve women and thirteen men, from the Amazonian regional media and national and international media, including Amazon television, web and print outlets, the Brazilian Senate's official news service, nationwide radio and the Wall Street Journal. The training focused on strategic media coverage of infrastructure projects in the Brazilian Amazon, and themes included key environmental, social, economic and legal issues that need to be understood and debated by society to promote environmentally sound planning for infrastructure development. The training included expert briefings on infrastructure from Instituto de Pesquisa Ambiental da Amazônia (IPAM), Instituto do Homem e Meio Ambiente da Amazônia (IMAZON), World Wide Fund for Nature (WWF), The Nature Conservancy (TNC), Wilson Cabral, John Lyons from the Wall Street Journal, OEco and CSF. A report of the media training event and the participant list are included as Appendices, and an article about the event can be found at http://www.diariodaamazonia.com.br/encontro-discute-obras-do-pac-na-amazonia/

Albertine Rift:

The focus country in the Albertine Rift for Activity A1-2 in Year 3 was Uganda. In Year 3, NEMA provided a list of major projects with specific information that they are willing to share to the general public, and authorized the publication of this infrastructure project information within CSF's Infrastructure Inventory provided the location tool is adjusted to display projects with non-specific locations. Likewise, we made continued progress in

our discussions related to information sharing, and we successfully worked with NEMA to plan and deliver a stakeholder policy meeting as well as a national public infrastructure analysis and policy forum. These activities are reported under Objective 2 Activity 2-1. In Year 2, NEMA convened a meeting focused on information sharing, infrastructure policy best practices, and the Ugandan analysis projects that was attended by Government Ministries, Departments and Agencies (MDAs), the Private Sector and Civil Society Organizations (CSOs). The goal of the meeting was to give participants a brief on the BUILD project including its scope and targets, mobilize partners and stakeholders' support for BUILD activities, analysis studies and outcomes, identify policy engagement opportunities, and form a technical task force to keep the process and project relevant. In Year 3, we built upon this foundation, and information-sharing activities were organized via the analysis projects. Meetings were held with the following organizations and institutions as part of our outreach and communication strategies: NEMA, UWA, Economic Policy Research Centre (EPRC), Tullow Oil, Environmental and Natural Resources Advisory Council (ENRAC), China National Offshore Oil Corporation (CNOOC), Ministry of Works and Transport, Office of the Prime Minister (OPM), Uganda National Road Authority (UNRA), Makerere University, the Ministry of Water and Environment, and Ministry of Energy and Mines, among others.

Key management issues and challenges in Year 3:

In Uganda, identifying, gathering and consolidating information on infrastructure development has continued to require both time and effort. Infrastructure information in the Albertine Rift is most often generated by sector and managed by different institutions. Although the institutions and agencies coordinate and collaborate on various functions, sharing information is solely left to the designated managers of the information. Therefore, improving information access depends largely on identifying the managers and engaging them to promote and enable access to the different information users.

Although regulations do not prohibit allowing access, the process of access is not easy. Infrastructure is regarded as an initiative of government, thus government always determines the infrastructure project information that can be shared publicly. Inevitably, most of the infrastructure information in this regard is considered sensitive because of the many impacts typically associated with such projects, be it economic, social or environmental. It has been stated that the key consideration for allowing access is national security. Thus government departments and officers are governed by strict regulations in terms of access to information. Also, once the information is collected, displaying the information in a sensible way has also proved challenging. This sensitivity to information sharing and to involvement by foreign organizations can be illustrated by a participant comment during an information-sharing meeting: “Listening to the [BUILD] project overview, objectives, activities and targets, it is a good project. However, one

develops a fear that the target area being Albertine Rift, information gathered may be used by outsiders against our developments. What is in place to assure stakeholders that it is not so?"

In an effort to mitigate this challenge, we have maintained as close communication and collaboration with our government partners as possible, and have worked closely with NEMA and the other research teams in conducting the follow-up analysis projects. We continue to work with NEMA towards improving information sharing through stakeholders meetings, and the successful implementation of the national infrastructure policy forum in Kampala in September 2014 was a tremendous step forward.

Activity A1-3: Use training and case analysis to change outcomes of specific infrastructure projects to protect biodiversity.

Major Achievements and Progress in Year 3:

- Expected Year 3 Outcome: Communication and dissemination activities implemented for the Pucallpa-Cruzeiro road analysis, including internal workshops with TNC, and public presentations of the Cost-Benefit Analysis and the Opportunity Cost Analysis.

  Result: In the Andes, results of the Inambari dam and Pucallpa road analyses were presented to stakeholder monitoring groups and government officials in Peru and Brazil via online and print publications, in-person presentations, and via the ICAA II consortium network. The Inambari study showed that the dam project would be very profitable for the Brazilian economy, but negative for Peruvian society In May of 2014, the Peruvian government officially cancelled the Inambari hydroelectric dam project.

  The results of the Pucallpa analyses found that none of the transport alternatives is economically feasible, and that there are technical limitations related to the natural movements of the Ucayali River that render the projects unfeasible given the proposed routes. It was also determined that, even though the train project has significantly higher investment costs, it represents the least worst alternative, because it would have significantly lower environmental costs than the road.

- Expected Year 3 Outcome: Participants in the In-House valuation training in MINAM learn appropriate applications of valuation techniques, and a subset are able to use valuation techniques in their own analyses, with the overall goal of improving the process of infrastructure project analysis and approval in favor of biodiversity conservation.

  Result: CSF's completed a nine-month In-house training in Economic Valuation of Environmental Impacts for MINAM, consisting of guided readings, with weekly

discussions and three workshops. Participants found the program very useful, and in the program evaluations they gave an average rating of 3.8 out of 4 (95%) when asked about the contribution of the course to their knowledge and skills in valuation. Details are reported under Activity 1-1.

- Expected Year 3 Outcome: Communication and dissemination plans developed and communication efforts initiated for each follow-up economic analysis project in the Albertine Rift.

  Result: The Ugandan research teams have developed outreach strategies and have communicated with various stakeholders throughout the analysis projects, and have also presented their methodology and results during the national infrastructure analysis and policy forum in Kampala in September 2014. Details of the forum are reported under Objective 2 Activity 2-1.

Regional Detail

Andes-Amazon:

The Inambari dam study in Peru (*Inambari's Hydroelectric Project Cost-Benefit Analysis)* was completed in Year 2 and disseminated through the CSF website and during different dissemination events in Year 2 and Year 3. The study consisted of an economic and financial analysis of the project that incorporated the social and environmental benefits and costs. The results showed that the dam project would be very profitable for the Brazilian economy, but negative for Peruvian society. In May 2014, the Peruvian government rejected the Inambari dam project. The official government decision: http://www2.congreso.gob.pe/Sicr/TraDocEstProc/Contdoc02_2011_2.nsf/d99575da99ebfbe305256f2e006d1cf0/c64f0341b197fb4505257ce100676197/$FILE/00391DC20MAY230514.pdf

A statement by one of our collaborators, Jose Serra Vega, about the importance of the CSF study: "The rejection of the Foreign Relations Committee of the Peruvian Congress to Peru-Brazil Energy Agreement can be interpreted as a victory for the Peruvian society. We thank ProNaturaleza and Conservation Strategy Fund, which took the initiative to fund studies on Inambari that opened the way to the debate and gave the arguments used by the Commission to reject the agreement."

In Year 3, CSF conducted a second-phase analysis for the Pucallpa-Cruzeiro road study in Peru, the final aim of which is to complete a more detailed Cost-Benefit Analysis of the road that integrates social and environmental externalities and that includes alternative modes of transport. CSF led additional in-depth research and communicated new results on the Pucallpa-Cruzeiro road, including a Cost-Benefit Analysis of a railway

alternative for the road, deforestation projections under different scenarios, a land-use and opportunity-cost-of-land analysis, and estimation of the economic values of positive and negative externalities.

We have developed three intermediate analysis products:

- Cost-benefit analysis of the road and the train alternative, including the environmental and social externalities.
- Analysis of land use change and deforestation
- Analysis of opportunity costs.

We are currently in the process of integrating all of these analyses into one complete analysis report. A draft of the final report (not for public dissemination) is included as an Appendix.

The analysis conclusions are that none of the transport alternatives is economically feasible, and that there are technical limitations related to the natural meandering of the Ucayali River that render the projects infeasible considering the proposed routes. It was also determined that, even though the train project has significantly higher investment costs, it represents the least worst alternative because it has significantly lower environmental costs than the road.

Workshops have been held in Lima in December 2013 and March 2014 to share the results from this follow-up research. CSF, TNC and Grupo de Análisis para el Desarrollo (GRADE) participated. We have also held meetings in Pucallpa in May 2014 and August 2014 with the infrastructure monitoring team (Grupo de Monitoreo) and Indigenous group representatives (Comunicadores Indigenous), as well as the Ucayali Regional Government. The indigenous monitoring group is particularly concerned about the road, because while it may bring benefits in terms of access to education and health, it may also bring negative impacts to land tenure and culture, as they have seen with the Inter-Oceanica Sur project (crime, prostitution, etc.).

In September 2014, CSF participated in a two-day workshop in Rio Branco, in the state of Acre in Brazil. During the workshop, CSF presented the Pucallpa-Cruzeiro project and general CBA analysis concepts to government and civil society organizations, including the Brazilian civil society organizations Comissão Pró-Índio do Acre (CPI), SOS Amazônia, Acre state government (AEPI), and the National Indian Foundation (FUNAI). From Peru, the Infrastructure Mega-Projects Monitoring Group of Ucayali was represented by TNC, SERNANP, the regional government of Ucayali, Instituto del Bien Comun (IBC), and CSF. At the conclusion of the workshops, the participating organizations signed an agreement to define a Border Working Group that will be monitoring the project with a bi-national range, and defined several activities for the

beginning of the group. The workshop presentations, Border Group agreement, and the activities discussed in the last part of the workshop are included as Appendices.

Next steps in the communications strategy for the Pucallpa analysis include the following:
- Complete final synthesis analysis report and publish a digital version
- Present the final results in an event in Lima at end of 2014
- Meetings with MINAM, the Finance Ministry, and other key government representatives at regional and national level
- The publication and dissemination of the physical version
- A short video about the project (5-10 minutes) that may include the project context description, the identified environmental and social risks in each case (road and train) and finally the key results of the economic feasibility analysis
- Presentations of the final results in Pucallpa and continued work with the indigenous communities

Albertine Rift:

In Year 3, communications efforts built upon the foundations developed in Years 1 and 2, including the information-sharing meeting convened by NEMA in February 2013 on infrastructure projects, infrastructure policy best practices, and the Ugandan analysis projects. This meeting was attended by Government Ministries, Departments and Agencies (MDAs), the Private Sector, and Civil Society Organizations (CSOs). The goal of the meeting was to give participants a brief on the BUILD project including its scope and targets, mobilize partners and stakeholders' support for BUILD activities, analysis studies and outcomes, identify policy engagement opportunities, and form a technical task force to keep the process and project relevant. In Year 3, we built upon this foundation, and information-sharing activities were organized via the analysis projects, as well as the policy meetings reported under Objective 2 Activity 2-1. For example, CSF and IGCP had several informal meetings with the Ugandan National Road Authority (UNRA) in which we presented preliminary results from our analysis on the road that crosses Bwindi Impenetrable Forest National Park. This built a foundation for suggesting project modifications once the analysis was completed, and UNRA indicated some willingness to analyze and consider potential alternatives around the park.

Communications strategies were developed for each analysis project as part of the workplan, and occurred throughout the duration of the projects.

1. Estimating the environmental and biodiversity costs accruing from planned oil pipeline development in the Albertine Rift, the Case of Murchison Falls National Park (NEMA / UWA)

- Present project goals and methods during information sharing meeting at NEMA in February 2013.
- Meet with key stakeholders throughout the project, including NEMA, UWA, WCS, Ministry of Finance, Planning and Economic Development, Tullow Oil.
- Share preliminary analysis results in meetings within NEMA and UWA.
- Present methods and preliminary results during national infrastructure analysis and policy forum in Kampala in September 2014.
- Prepare executive summary and final report in digital form.
- Disseminate results via CSF network and NEMA / UWA network.

After the National forum presentation, Petroleum Exploration and Production Department (PEPD) representatives showed interest in both the WCS and NEMA-UWA studies, and expressed openness to the idea of using the methodologies to improve pipeline routing.

2. Cost Effectiveness Analysis of Oil Pipeline Construction in the Albertine Rift. Wildlife Conservation Society (WCS)

- Present project goals and methods during information sharing meeting at NEMA in February 2013.
- Meet with key stakeholders throughout the project, including meetings with with Hoima District Government, Bulisa District Local Government and Kasese District Local Government.
- WCS Multi Stakeholder Marxan/Tradeoffs Workshop in July 2014 to present goals, methods and preliminary results of the project.
- Present methods, results and conclusions during national infrastructure analysis and policy forum in Kampala in September 2014.
- Prepare executive summary and final report in digital form.
- Disseminate results via CSF network and WCS network.

WCS communicated various preliminary and final results to NEMA prior to the forum. After the national policy forum, CSF, WCS, and Joseph Bull, a biodiversity offset expert from Imperial College London, held a meeting with staff from the Ministry of Energy and Mines to discuss project methodology, findings and potential opportunities to conduct biodiversity offsets in Uganda. At an international level and with CSF's support, the WCS analysis has been circulated among international experts who have provided guidance regarding potential improvements to methodology and dissemination of results.

3. Cost-Benefit analysis of the proposed upgrading of the Ikumba-Ruhija-Buhoma road, through Bwindi Impenetrable National Park, South Western Uganda (IGCP)

- Present project goals and methods during information sharing meeting at NEMA in February 2013.
- Meet with key stakeholders throughout the project, including Uganda National Road Authority (UNRA), Uganda Wildlife Authority, and Uganda Chapter of Poverty and Conservation Learning Group (Ug-PCLG).
- Present methods, results and conclusions during national infrastructure analysis and policy forum in Kampala in September 2014.
- Prepare executive summary and final report in digital form.
- Disseminate results via CSF network and IGCP network.

IGCP carried out their communication strategy from the outset and engaged with key stakeholders throughout the analysis process. Once preliminary results were ready, IGCP carried out various presentations to UWA, and Uganda Chapter of Poverty and Conservation Learning Group (Ug-PCLG). CSF presented preliminary results of the analysis to UNRA in an informal meeting, and UNRA was open to discussion and analyzing further the design of alternative routes. While in Kampala in September 2014 for the forum, the IGCP and CSF analysis team formally presented the study results to UWA, and IGCP has continued to support UWA in the elaboration of additional presentations to share and promote the results of the analysis.

Key management issues and challenges in Year 3:

The main researcher for GRADE, our partner organization for the Pucallpa analysis, left the organization, which resulted in GRADE not having sufficient expertize to conduct the analysis. As a result, CSF took a more active role in all of the research activities.

Various challenges with the Ugandan analysis projects have been described under Activity A1-1. Despite these challenges and setbacks, the analyses have yielded important results in support of biodiversity conservation, developed innovative analysis methods, provided alternative routing options for roads and pipelines, and increased technical capacity of all the organizations involved.

Objective 2: There are clear policies governing project selection, mitigation and compensation

Activity A2-1: Ensure that policy-makers have access to good models.

Major Achievements and Progress in Year 3:

- Expected Year 3 Outcome: Infrastructure policy best practices and innovations synthesized, disseminated and publicized via CSF's Infrastructure website and other channels.

Result: We have completed the final policy brief and synthesis discussion paper from the ELAW review of infrastructure policy best practices in BUILD target regions and policy innovations around the globe: *Moving towards greener infrastructure: Innovative legal solutions to common challenges* (Policy Brief and Discussion Paper). CSF edited and incorporated feedback from staff and partners into ELAW's complete report on infrastructure policy best practices and innovations. The report seeks to identify and describe opportunities for the application of effective and innovative legal tools designed to reconcile infrastructure, biodiversity conservation, and gender. These documents have been published on CSF's website, shared via CSF's newsletters and network, highlighted in policy meetings with partners, and incorporated into CSF's training courses, media trainings, and policy forum events. The policy brief and discussion paper are included as Appendices.

- Expected Year 3 Outcome: Deliver a national forum in Uganda on biodiversity and infrastructure policy, including identification of co-sponsors.

  Result: In September 2014, CSF delivered a 2-day national forum in Kampala in partnership with NEMA and in collaboration with IGCP, UWA and WCS entitled *Environmental-Economic Analysis and Infrastructure Policy Forum: Integrating ecosystem conservation and infrastructure development for social and environmental well-being in Uganda*. Over 50 people attended from government institutions, civil society organizations and the private sector. The forum had excellent discussions and important commitments by authorities, and included results of the economic analysis projects, the infrastructure policy best practices review, and valuation guidelines for Uganda.

- Expected Year 3 Outcome: Plan and deliver regional infrastructure policy forum on biodiversity and infrastructure policy in the Himalayas

  Result: In May 2014, CSF delivered a 1-day national forum in Nepal in Kathmandu: *Environmental-Economic Analysis and Infrastructure Policy Forum.* CSF carried out this activity in collaboration with WWF-Nepal. Overall, this activity gave investors, development planners, journalists, representatives from environmental NGOs and development agencies the opportunity to discuss evaluation, mitigation and policy tools that can be implemented to optimize the economic performance of infrastructure projects.

- Expected Year 3 Outcome: Participate and collaborate in regional forums on biodiversity and infrastructure policy in the Andes and Brazil.

Result: In the Andes, we continued to participate in infrastructure and biodiversity policy events hosted by the Initiative for Conservation of the Andes Amazon Phase II (ICAA II). Likewise, we continued to work with TNC, WCS and SPDA in Peru and participate in compensation stakeholder meetings and forums. In Brazil, we continued to participate in the GT Infrastructure Group meetings and held meetings and discussion session with AVINA, TNC, OEco and WWF to plan the media training.

Regional Detail

Andes-Amazon:

In the Andes Region, we continued to participate in infrastructure and biodiversity policy activities through the Initiative for Conservation of the Andes Amazon Phase II (ICAA II). Also, we continued to share information with MINAM on infrastructure project trade-offs, mitigation and compensation in Peru through the stakeholder process we are coordinating with SPDA, WCS, TNC and other local organizations. In Brazil, we continued to work with our current collaborators such as the Amazon Infrastructure Working Group in Brazil (CSF, Imazon, Insituto Centro de Vida, Idesam, WWF, Instituto Socioambiental, AVINA Foundation, TNC, OEco and others).

Albertine Rift

The *Environmental-Economic Analysis and Infrastructure Policy Forum: Integrating ecosystem conservation and infrastructure development for social and environmental well-being in Uganda* was delivered September 10-11, 2014 in Kampala in partnership with NEMA and in collaboration with WCS, IGCP and UWA. Over 50 people attended from government and civil society organizations throughout the country. The objective of the forum was to share and discuss environmental-economics and policy tools being used around the world to integrate biodiversity conservation and infrastructure, in the context of Uganda's development plans.

The event consisted of an infrastructure clinic on environmental-economic tools and case studies for integrating biodiversity into infrastructure planning and development, sessions on the Uganda Case studies of application of environmental-economic tools conducted by the International Gorilla Conservation Programme (ICGP), Wildlife Conservation Society (WCS), Uganda Wildlife Authority and National Environmental Management Authority (NEMA), and a presentation on the potential for biodiversity offset mechanisms for compensation and mitigation. The policy sessions presented an overview of infrastructure development plans in Uganda, the results of CSF's global review of infrastructure policy best practices with ELAW, and potential policy innovations to integrate biodiversity conservation in infrastructure development in

Uganda and possible strategies for implementation. The event finalized with the launch of the *Guidelines for Conducting Economic Analysis of Environmental Impacts in Uganda* developed with CSF technical support. The forum generated excellent discussions and important commitments by authorities, and provided an important opportunity to showcase the goals, methods and results of the Ugandan analysis projects, with potential to influence decision-making authorities for those development projects. The forum description and report, schedule, list of participants, valuation guidelines, presentations and photos are included as Appendices.

Himalayas

The *Environmental-Economic Analysis and Infrastructure Policy Forum* was delivered in Kathmandu on May 7, 2014 in collaboration with WWF-Nepal. Over 40 participants attended, representing infrastructure development stakeholders, including investors, infrastructure planners, journalists, environmental NGO's, and development agencies. The forum consisted of a clinic on environmental-economic tools for infrastructure planning and development, followed by sessions on infrastructure policy best practices, Strategic Environmental Assessment, and a discussion of Nepal's infrastructure development situation and plans. Presentations were made by Nepal's Ministry of Physical Planning and Work, Ministry of Science, Technology and Environment, Nepal's Ministry of Forest and Soil Conservation, as well as the Asian Development Bank and the World Bank. A number of high-level actors participated in the Forum, including the Secretary of Ministry of Science, Technology and Environment, and the Deputy Director General of the Department of Roads in the Ministry of Physical Infrastructure and Transport. A summary of the event, the forum schedule, the list of participants, and photos are included as Appendices. Photos can also be found at https://www.flickr.com/photos/86198176@N03/sets/72157644910903227/

Key management issues and challenges in Year 3:

The document provided by ELAW was very comprehensive and required significant revisions to create synthesized products for dissemination to stakeholders and government policy makers.

As described in our Year 2 Report, the inability to access and share information publicly on infrastructure projects and policies in Uganda necessitated postponing the forum to Year 3 and shifting the focus to the results of the follow-up analysis projects. The forum also included a presentation of infrastructure policy best practices, opportunities for policy reform, mechanisms for mitigation and compensation, and the valuation guidelines we have developed with NEMA. This seems to have been the right approach, and a number of experienced international professionals in the audience commented that this is

the first time they have heard such a dialogue take place in Uganda.

In relation to security issues in Uganda, CSF made important logistical coordination efforts to assure safety of speakers and participants in Kampala. Partners, especially IGCP, provided key support to assure safety. Working in the Himalayas also provided some new challenges in terms of travel logistics and coordination, and it was somewhat difficult to form a new working relationship remotely. Despite these challenges, the forum was a successful event, and has provided important connections for future work in the region.

Activity A2-2: Provide technical assistance to decision-makers and advocates formulating policies.

Major Achievements and Progress in Year 3:

- Expected Year 3 Outcome: Opportunities for infrastructure policy reform identified in Uganda.

  Result: In April 2014, NEMA convened a meeting of representatives from key institutions to discuss infrastructure policy best practices and identify opportunities for policy reform. The meeting followed the publication of our work with ELAW to review infrastructure policy best practices in BUILD target regions and policy innovations throughout the globe.

- Expected Year 3 Outcome: Partners, policymakers and other stakeholders given technical assistance for policy reform. We will continue working with the Peruvian government, NEMA, and the Brazilian Infrastructure Working Group.

  Result: During Year 3 we continued providing technical assistance to the Ministry of Environment in Peru (MINAM) to improve compensation regulation and build the government's staff capacity to integrate biodiversity when planning, approving and implementing infrastructure projects. Details of our support to the development of the compensation policy are reported under Objective 3.

  In Uganda, we have provided technical support to NEMA to develop and publish valuation guidelines for the economic analysis of environmental impacts. The guidelines were published in August 2014, and officially launched during the national policy forum in September 2014.

  In Brazil we have continued to participate in the Infrastructure GT Working Group on opportunities to improve policies affecting biodiversity such as the environmental impact assessment process and policies regarding mitigation and compensation.

- Expected Year 3 Outcome: Continue outreach support to government in soliciting and incorporating public feedback into policy proposals via media and other communication networks for Andes-Amazon and Albertine Rift regions.

  Result: We have reached out to media in Uganda to participate in various meetings and the national policy forum in September, although it is unclear what level of information sharing will be possible in the region due to increased press restrictions in the county. In Andes our strategic plan has been to continue working through the ICAA II network, and in Brazil we delivered a successful media training event with regional, national and international journalists, and have continued participating in the Amazon Infrastructure Working Group. Partners and other collaborators include our current networks in the Andes (e.g. ICAA, MINAM partnership), Brazil (e.g. Instituto Socioambiental - ISA, Amazon GT Infrastructure working group, TNC, WWF), and Uganda (e.g. NEMA, UWA, WCS, IGCP, government Ministries and District Authorities).

Regional Detail

Andes-Amazon:

Since 2011, the focus of our infrastructure policy work in Andes-Amazon has been our collaboration with MINAM to design a compensation mechanism for environmental impacts of infrastructure development. Details of this activity are reported under Objective 3.

In Brazil we continued to participate in the GT meetings and held meetings and discussion session with AVINA, TNC, OEco and WWF to identify specific opportunities for policy reform in Brazil. While we have found it difficult to influence national level policy, we delivered a successful media training in the first quarter of Year 3 in collaboration with the GT infrastructure working group in which infrastructure policies and project selection, mitigation and compensation were discussed.

Albertine Rift:

In April 2014, NEMA convened a meeting of representatives from key institutions to discuss infrastructure policy best practices and innovations, and identify opportunities for policy reform. The meeting, *Policy Meeting on Innovative Solutions for Biodiversity and Gender Integration in Infrastructure Developments and Guidelines for Economic Analysis of Environment Impacts*, included an overview of the BUILD project and results of the ELAW infrastructure policy study, presentations of challenges and possible solutions to integration of biodiversity and gender issues, discussion of possible policy

improvements and innovations in Uganda, and presentation of the draft valuation guidelines for conducting economic analysis of environmental impacts in Uganda. In Year 2 and 3 of BUILD, our partner ELAW conducted surveys in Uganda and maintained an iterative process with partners and collaborators to determine the baseline legal framework for infrastructure policy reform and its current implementation. The surveys also collected data about gender issues regarding infrastructure and the existence of a window of opportunity for policy reform. The April meeting was an outcome of this process and of NEMA's review of the policy report, and sought to identify priorities to improve regulation of infrastructure to safeguard biodiversity. Representatives from NEMA, UWA, Economic Policy Research Centre (EPRC), Tullow Oil, Environmental and Natural Resources Advisory Council (ENRAC), China National Offshore Oil Corporation (CNOOC), Ministry of Works and Transport, Office of the Prime Minister, Uganda National Road Authority (UNRA), Makerere University, and the Ministry of Water and Environment were in attendance at the workshop. A report on the meeting and list of participants are included as Appendices.

NEMA requested technical support from CSF for the creation of guidelines for economic analysis that include environmental costs and benefits, with the overall goal of giving specific and useful guidance to practitioners on how to conduct economic analysis in the context of Uganda. The specific objectives of the guidelines are: 1) assisting policy and decision makers in developing regulations that achieve the highest environmental quality and human health standards at the lowest costs; 2) providing analysts with information needed to prepare high quality economic analyses; 3) developing an overarching framework for economic analyses on proposed projects; and 4) ensuring that important subjects such as uncertainty, timing, and valuation of costs and benefits are treated consistently in all economic analyses. The draft guidelines were presented during the NEMA April 2014 policy meeting, and officially launched during the September 2014 national policy forum. The document - *Guidelines for Conducting Economic Analysis of Environmental Impacts in Uganda* - was published in August and is included as an Appendix.

Key management issues and challenges in Year 3:

Through the process of providing technical support to the Peruvian government we have learned that it is essential to share knowledge across issues with several different CSF staff members, so that we can be available whenever the need arises to participate in discussions to move forward the policy initiatives.

In Brazil, working at a policy level has proven to be challenging. Therefore, we have continued devoting our efforts to strategizing with the Infrastructure Working Group and

other collaborators on ways in which communication activities will help move the mitigation and compensation of infrastructure projects discussion forward. These discussions have led to the potential to develop an analysis of hydroelectric dam development in the Tapajós basin.

In Uganda, engagement with the media proved difficult due to increasing government restrictions on the press.

Objective 3: There are financial mechanisms that maximize compliance with mitigation and compensation agreements and regulations.

Activity A3-1: Promote adoption of financial mechanisms.

Major Achievements and Progress in Year 3:

- Result: Based on CSF's complete document on incentive mechanisms for greener infrastructure, *Financial Mechanisms for Environmental Compliance in Infrastructure Projects*, CSF published and disseminated the *Financial Incentives for Green Infrastructure* policy brief in January 2014. The brief is included as an Appendix.

- Expected Year 3 Outcome: Discuss menu of financial mechanism options with partners and stakeholders in Uganda, and if possible analyze which are most appropriate in each context.

  Result: We have shared the document *Financial Mechanism for Environmental Compliance of Infrastructure Projects* with NEMA. Financial mechanisms options were discussed during the NEMA policy meeting in April and the national policy forum in September. Details from the policy meeting and forum are reported under Objective 2.

- Expected Year 3 Outcome: Continued outreach and collaboration with Peruvian government.

  Result: In Year 3 we continued working with the Peruvian Ministry of Environment (MINAM) on opportunities to create a landmark policy for an innovative compensation system. The environmental compensation guidelines document has been published as a Policy Directive and as a Draft Ministerial Directive by MINAM. We have continued working with MINAM and the compensation stakeholder group (CSF, TNC, WCS and SPDA) to identify several pilot test cases for the policy that

will 1) identify environmental impacts; 2) identify sites where compensation can take place (equivalents); 3) cost the implementation of compensation actions over the time period of the impacts; and 4) identify financial instruments to ensure that resources will be there.

We also presented our work on the Peruvian compensation policy development at a Yale School of Forestry conference: "Forests as Capital" and were invited to submit a paper to the Journal of Sustainable Forestry.

- Expected Year 3 Outcome: Continue to promote collaboration in each focus region between public interest law NGOs and biodiversity conservation groups.

  Result: In each training course, media training and forum event we have included legal NGO representatives as participants and have incorporated a policy and law module.

Regional Detail

Andes-Amazon:

The focus of our infrastructure policy work in Andes-Amazon has been our collaboration with MINAM and the stakeholder working group (CSF, TNC, WCS and SPDA) to design a compensation mechanism for environmental impacts of infrastructure development. The Draft Ministerial Resolution on environmental compensation contains key provisions from the original 2011 MINAM-CSF guidelines document, including the importance of long-term compensation commitments, financial guarantees, coverage of indirect impacts and a practical approach to economic valuation. Our guidance includes explicitly considering indirect impacts, and recommending an environmental fund as a mechanism to direct payments from project developers to high priority compensation sites. CSF staff has been integral players in drafting, debating and shaping the ideas for this mechanism. If approved and implemented, this policy will set a landmark example for policy best practices in the region and globally. Nevertheless, this policy resolution was almost cancelled during 2014. After a period of consultations and strategic planning with MINAM, CSF resolved to promote the policy through carrying out pilot compensation plans for specific infrastructure/extractive projects. These pilot plans will guide the Ministry and the private sector in the implementation of the compensation guidelines.

In January 2014 we presented the Peruvian compensation policy development at a Yale School of Forestry conference, "Forests as Capital," sitting on a panel with SPDA. The conference talk resulted in a paper entitled "Innovations in the internalization of social costs: The case of Peru's emerging ecological compensation policy" invited for a special

issue of the Journal of Sustainable Forestry, which CSF submitted in May. Included as an Appendix is a draft of the paper (meant for internal use only).

Albertine Rift

We have shared the document *Financial Mechanism for Environmental Compliance of Infrastructure Projects* with the lead economist at NEMA, and they produced a draft desk study of existing financial mechanisms in Uganda. Financial mechanisms options were discussed during the NEMA policy meeting in April and the national policy forum in September. Details from the policy meeting and forum are reported under Objective 2.

Key management issues and challenges in Year 3:

The compensation policy project with MINAM, on which CSF has been working since 2011, was almost cancelled by the government in 2014. CSF decided to promote the compensation policy by proposing to run pilot analyses to implement the policy, with the aim of facilitating its implementation by the government and the private sector. In December 2013, CSF staff discussed the idea of the pilot plans with MINAM's Vice Minister. This idea was well received, particularly in relation to the case of Interoceánica Sur highway. Also, during December, CSF revived contacts with other members of the Compensation Working group, and as a result the group has held meetings every two months. These meetings have focused primarily on identifying the pilot cases, designing a roadmap for all activities related to the implementation of compensation policy, and coordinating institutional roles. CSF is in the process of formalizing the pilot projects with the Ministry. Parallel to this, CSF raised funds from the Gordon and Betty Moore Foundation and MacArthur Foundation to support several of the pilot analyses.

Activity A3-2: Ensure local people affected by infrastructure projects and compensatory measures are involved in monitoring mitigation and compensation.

Major Achievements and Progress in Year 3:

- Expected Year 3 Outcome: Clear, simple information drafted on mitigation and compensation measures in target areas.

  Result: We have shared with national and community organizations our information on compensation, our guidance documents on financial mechanisms, and our synthesis documents on infrastructure policy best practices and innovations. We have shared information on compensation and financial mechanisms with the Pucallpa and

Inambari monitoring groups, the newly formed group in Rio Branco, and with the partners for the Uganda analysis projects (NEMA, UWA, WCS, and IGCP).

- Expected Year 3 Outcome: Information provided to collaborating organizations that are working in areas where economic analysis projects are taking place.

  Result: Local communications efforts focused on areas where analysis projects have taken place. We have held meeting with various stakeholders in Uganda, Peru and Brazil via the follow-up economic analysis projects, policy meeting and national policy forum. This includes the Pucallpa and Inambari analyses, and the Uganda analysis projects taking place in and around Murchison Falls National Park and Bwindi Impenetrable National Park.

- Expected Year 3 Outcome: Outreach plan developed with media and other locally appropriate channels.

  Result: In Uganda, local partners have implemented any activities that have to do with involvement of local communities in policy processes (NEMA) or with the infrastructure analysis projects (UWA, NEMA, WCS, IGCP). Similarly, in the Andes, local communications efforts have focused relevant social organizations and outlets in areas where analysis projects are currently taking place, via the Pucallpa and Inambari monitoring groups comprised of local and regional government officials, community representatives, and conservation organizations. We have also disseminated our results through the ICAA II Consortium led by The Nature Conservancy.

Regional Detail

Andes-Amazon:

In the Andes-Amazon, local communications efforts have focused on areas where analysis projects are currently taking place, via the Pucallpa and Inambari monitoring groups comprised of local and regional government officials, community representatives, and conservation organizations. In Year 3, workshops and outreach events have provided information to TNC, Grupo de Análisis para el Desarrollo (GRADE), SERNANP, the infrastructure monitoring team (Grupo de Monitoreo), Indigenous group representatives (Comunicadores Indigenous), the Ucayali Regional Government, Instituto del Bien Comun (IBC), Comissão Pró-Índio do Acre (CPI), SOS Amazônia, Acre state government (AEPI), and the National Indian Foundation (FUNAI).

Albertine Rift:

In Uganda, our analysis teams (NEMA, UWA, WCS, IGCP) have implemented communication activities and any activities that have to do with involvement of local

communities in policy processes or with the infrastructure analysis projects. During fieldwork conducted with the Ugandan research groups, meetings were held with local governments, community representatives and Protected Areas staff to discuss the analysis projects. Institutions and organizations represented include Hoima District Government, Bulisa District Local Government, Kasese District Local Government, offices of UWA, UNRA and Uganda Chapter of Poverty and Conservation Learning Group (Ug-PCLG), and staff of Bwindi Impenetrable National Park and Murchison Falls National Park.

The global policy review conducted by ELAW in Uganda included surveys about involvement of local people affected by infrastructure projects, and this issue was presented and discussed during the national policy forum in Kampala.

Key management issues and challenges in Year 3:

We have found that directly involving potentially affected people across the regions in monitoring mitigation and compensation has proven challenging because of political and social tensions around infrastructure development. This is especially true for a foreign NGO in Uganda. Local communications efforts have been most successful when they focus on areas where analysis projects are taking place. In Uganda, local partners have implemented any activities that have to do with involvement of local communities in policy processes (NEMA) or with the infrastructure analysis projects under analysis (UWA, NEMA, WCS, IGCP), and we have helped develop their presentations and materials. In the Andes, local communications efforts have also focused on areas where analysis projects are currently taking place, via the Pucallpa and Inambari monitoring groups comprised of local and regional government officials, community representatives, and conservation organizations. In the case of the Andes-Amazon, we have been successful in providing information and technical support directly to indigenous community groups.

III. Success Stories and Lessons Learned

One-page Success Stories and Lessons Learned will be developed as part of our BUILD Year 4 communication and materials development.

IV. Next Steps and Priorities

Our long-term vision is to make biodiversity conservation and management a central component of large-scale development design and implementation. Therefore, our long-term commitments are to continue:

- Effectively communicating that the development of smart infrastructure projects is only possible if decision-making includes a rigorous economic analysis of alternatives.
- Building capacity within civil society and governments to understand and conduct comprehensive economic analyses of infrastructure projects.
- Providing support to governments and civil society to design and apply policy that ensures environmentally, socially, and economically sound selection and implementation of large-scale infrastructure projects.

With the extension of the BUILD program, we plan to build upon the successes of the first three years of BUILD to achieve greater impact in the focus regions and worldwide. We plan to scale up our impact by encouraging the interest in and adoption of environmental economic analysis of biodiversity and infrastructure on a greater scale through strategically communicating all of the BUILD work products. This includes the analysis of global infrastructure policy best practices and the review of financial mechanisms for environmental compliance in infrastructure projects. We will also share broadly the BUILD case studies that have improved infrastructure development decision-making, as well as develop additional dissemination strategies for current BUILD studies that need further communication to achieve positive impacts for biodiversity. We will continue our policy guidance in Peru and Uganda, including a test case of the innovative Peruvian compensation policy, and also take advantage of opportunities to conduct an influential case study in the Amazon Basin in Brazil. We will tailor training material and publications for target audiences and participate in key infrastructure planning events and leading conservation events that focus on infrastructure issues. We plan to utilize our partners' networks as well as our own to broaden our scope and increase our impact.

In the Extension period, we plan to conduct the following additional activities to broaden the impact of the first three years of the BUILD program:

- Consolidate our training best practices for economic tools for biodiversity and infrastructure development based on the experiences during the first three years of BUILD. Course curriculum will include economic analysis of energy and transportation, infrastructure policy, how to value and incorporate of environmental impacts, and strategies for effective communication of results to diverse audiences (communities, banks, governments, NGOs). Curriculum will be expanded and improved to include more comprehensive examples on how biodiversity and ecosystem services can be valued. An important component of this will be the integration of GIS information and examples from the BUILD analyses in the Amazon and Albertine Rift, as well as innovative tools such as CSF's online HydroCalculator and Roads Filter.

- Conduct an applied economic valuation study of proposed hydroelectric dam projects in the Tapajós Basin in Brazil that will influence the provision of ecosystems services. This work stems from our active participation in the Brazilian Amazon Infrastructure Working Group during the first 3 years of BUILD. The project aims to provide decision makers at the local and regional levels with reliable information about the costs and benefits of specific dam projects, considering the impacts on biodiversity and ecosystem services.
- Create materials for different audiences and events to disseminate BUILD products. Materials will clearly explain, through the use of BUILD case studies and publications, the importance of incorporating biodiversity and ecosystem services into infrastructure planning and development as well as how it can be done. Materials to be developed include videos, publications, web content, press releases, and improved presentations for infrastructure-biodiversity results workshops.
- Scale up the impact of BUILD by launching a communications campaign using these materials specifically aimed at: 1) highlighting the importance of using economic analysis that incorporates biodiversity and ecosystem services as a cornerstone of smart infrastructure planning, 2) disseminating available analysis and capacity-building tools that can be used to improve infrastructure planning and development, including the innovative GIS models that have been developed in the BUILD Ugandan road and oil pipeline studies, and 3) encouraging the appropriate decision-makers to promote, in the infrastructure planning and development process, the use of comprehensive environmental economic analyses, financial incentives that promote compliance with environmental standards, and biodiversity offsetting techniques.
- Participate in specific follow-up capacity building and dissemination activities in the Amazon, Albertine Rift or Himalayas. Our BUILD analyses offer the opportunity to create "infrastructure clinic" workshops with our collaborators and key government institutions in the Amazon and Albertine Rift to disseminate key study results. We have also been invited by to participate in capacity building effort in Nepal following the success of our BUILD Nepal Infrastructure Policy forum in Kathmandu in May 2014. In the Extension period, CSF will continue guiding partners and case study participants in devising communications strategies that identify the key decision-makers and constituents, information relevant to them, and the ideal format and forum for presenting information.
- Scale BUILD infrastructure training globally by developing an in-house capacity building program for USAID staff in D.C. and mission staff from regional bureaus. The program will include CSF's refined economic analysis for biodiversity and infrastructure curriculum and will integrate lessons and models from BUILD case studies of environmental-economic analyses.

- Continue disseminating models of infrastructure policy best practices among collaborators in our focus regions, and also participate in global infrastructure and conservation conferences to disseminate these lessons globally.
- We will develop additional outreach materials, such as videos, presentations and web content encouraging the promotion of comprehensive environmental economic analyses, financial incentives that promote compliance with environmental standards, and biodiversity offsetting techniques within the infrastructure planning process.. Based on the success of our two media training events, we will also develop additional materials targeted for media.
- Continue providing policy guidance and technical support to the Ugandan government in drafting environmental valuation guidelines to incorporate biodiversity considerations in infrastructure planning.
- Perform test cases of the Peruvian compensation policy over the next two years. BUILD extension funds will be used to select one of the following four projects as the first test case: Lote 76 (oil), Hidrovias Amazonicas, Interoceanica Sur (IOS), and Mazan Hydroelectric. CSF will work with WCS togather estimates of ecosystem loss from partners, and then propose a practical standard for costing out the replacement cost for conservation as well as financial assurance mechanisms that ensure delivery of resources for conservation incentives and public protection over the life of the project. A goal of the test cases will also be to provide where possible an analysis of cumulative impacts of infrastructure development, considering indirect impacts such as illegal mining and deforestation. The result of this work will be a compensation plan for a selected project, and, even more importantly, models for determining pragmatic ways to quantify environmental equivalency and financial mechanisms that can be applied to many other projects in the future.
- Include in our various outreach, dissemination and capacity building activities our work on financial mechanisms for compensation of infrastructure development.
- Further develop guidelines to collaborators in our focus regions related to biodiversity offsets, since this is an important area in which we are developing expertise.

V. Photos and Videos

VI. Other Appendices

Photos, Videos and Appendices can be found at https://conservationstrategyfund.onehub.com/csf-project-2011-2015-build-reporting/pages/files