Lessons learned

Scaling-up Mountain Ecosystem-based Adaptation: building evidence, replicating success, and informing policy

A view of the Andes from Cordillera Huayhuash © Anaãs Zimmer

Background

The project 'Scaling Up Mountain Ecosystem-based Adaptation: building evidence, replicating success, and informing policy' implemented between 2017–2022, was built upon the success of the Mountain EbA Flagship Programme, carried out in Nepal, Perú and Uganda (which were named flagship countries). The project expanded its ambit to include three additional countries – Bhutan, Colombia and Kenya (named expansion countries).

It was expected that in flagship countries, EbA measures already implemented would be consolidated, replicated and scaled-up. In expansion countries, successful EbA actions in flagship countries were expected to be replicated and these countries made EbA ready, for future, larger investments.

In June 2022, IUCN commissioned an impact evaluation of the project for the generation of lessons learned. This brief presents these lessons learned.

General lessons learned

Lesson learned 1: EbA measures which deliver tangible dividends are the most effective.
Often, the impact of EbA activities, such as ecosystem restoration that generates ecosystem services to benefit human well-being, takes many years to become measurable and visible. For communities, such concepts of abstract, long-term benefits are, often, not easy to grasp.

When the impact becomes quickly evident and there are tangible benefits, EbA actions are successful and sustainable. Shown in the table below are some examples.

Country	EbA action	Benefit
Nepal	Restoration of roadside vegetation restoration to reduce the impacts of erosion and landslides, using broom grass.	Scaling-up broom grass cultivation in the Panchase region has increased the annual household income by an average of about 20,000 NPR[1].
	Development of homestays in the Panchase region[2].	Five homestays now receive money from the Ministry of Forests Environment and Soil Conservation (10,000 USD) and from the Ministry of Agriculture and Land Management (5,000 USD) for integrated organic farming and livestock management.
Peru	In the Nor Yauyos Cochas Landscape Reserve (NYCLR), the establishment of green-grey infrastructure (by restoring ancestral Yanacancha dams combined with modern infrastructure and technologies.	Bio-remediation of water quality and continuous supply of water. After investment by the project, the community now sees the benefits and maintains this infrastructure because they know that otherwise, the water will become silted and affect water security.
	Better communal management of pasturelands.	A member of the Miraflores community says she is able to sell dairy products, and animals at increased prices.
Uganda	Restoration of riverbanks and on-farm agroforestry.	A community member notes that crop harvests have more than doubled, and she is able to stock enough food till next planting season. Excess crops, milk and fodder are now sold. Another community member who owns four dairy cows is able to save 1,440,000 UGX (~ USD 397)[1] per year on buying fodder, which she now grows on her farm.

Lesson learned 2: The project's evidence, its extensive capacity building and creation of awareness now provide greater opportunities for replication and scaling up.

There is now a body of evidence, clear impacts and collaborations in three flagship countries, as well as strong foundations in expansion countries that provide great opportunities for EbA upscaling and replication. This foundation and the strong collaboration with the governments at local and national levels, provide excellent opportunities for the sustainability of EbA efforts.

Lesson learned 3: The project showcases the generation of co-benefits from EbA actions.

When EbA measures are implemented, these often lead to a range of additional benefits or co-benefits – such as the conservation of biodiversity; increase in biodiversity and increase in carbon sequestration.


Broom grass cultivation, Panchase region, Nepal © IUCN


Capacity building in livestock management in Miraflores © IdM


A farmer harvesting potatoes in Kwoti Sub County © IUCN

[1] Baseline average household income (before the project) is not available.
[2] The waters of the Panchase region drain to Pokhara's famous Phewa Lake. The Panchase area is also known for trekking. Therefore, the development of homestays will generate income from tourists.

Whether the project contributed to climate change mitigation (that is, how much carbon will be sequestered by the extent of ecosystem restored or better managed) has not been assessed.

Contribution to the conservation of threatened/conservation-dependent species was targeted both in Nepal (with a focus on *Paris polyphylla*), and the conservation of the tree fern (*Alsophila spinulosa* formerly *Cyathea spinulosa*),which is not threatened but is listed on Appendix II of CITES (where international trade is restricted); as well as in Perú (for *Vicugna vicugna*) where a specific EbA action and a management plan were implemented, respectively.

Co-benefits included the added conservation of the globally Vulnerable Andean condor (*Vultur gryphus*) and Peruvian guemal/Taruca (*Hippocamelus antisensis*) because of the improved management of the Puna grasslands, in the NYCLR, Perú.

A remarkable co-benefit of the project ensued in Kenya in the Chepkitale Nature Reserve, Mt. Elgon, where IUCN worked with the local NGO Chepkitale Indigenous Peoples' Development Project (CIPDP) and the Ogiek Indigenous People. In 2000, part of the Ogiek people's ancestral lands was annexed into the Chepkitale National Reserve. The CIPDP filed legal action and for years between the Ogiek and local government there was dispute and distrust. During the project, IUCN played the role of a peacekeeper, communicating with the local government administration and supporting the community to build trust between the two. The Ogiek won this landmark case in September 2022. This is a exceptional example of an EbA initiative contributing towards peacebuilding and safeguarding rights of the Indigenous Peoples.

Lesson learned 4: The three-pronged approach of working simultaneously with local communities, local government and national government achieves impacts that can be showcased easily in global arenas.
In the flagship countries, particularly, the three-pronged approach is clearly successful, as strong relationships have been built at every level, which allow, in turn, for the integration of EbA into each level. At the community level, the extensive creation of awareness, training and implementation of EbA actions, lead to dividends and the achievement of sustainability for those actions. In turn, the project gains traditional knowledge practised in the target sites. The result is the integration of suitable EbA actions into the lives and livelihoods of communities. When communities start experiencing benefits, this leads to sustainability.

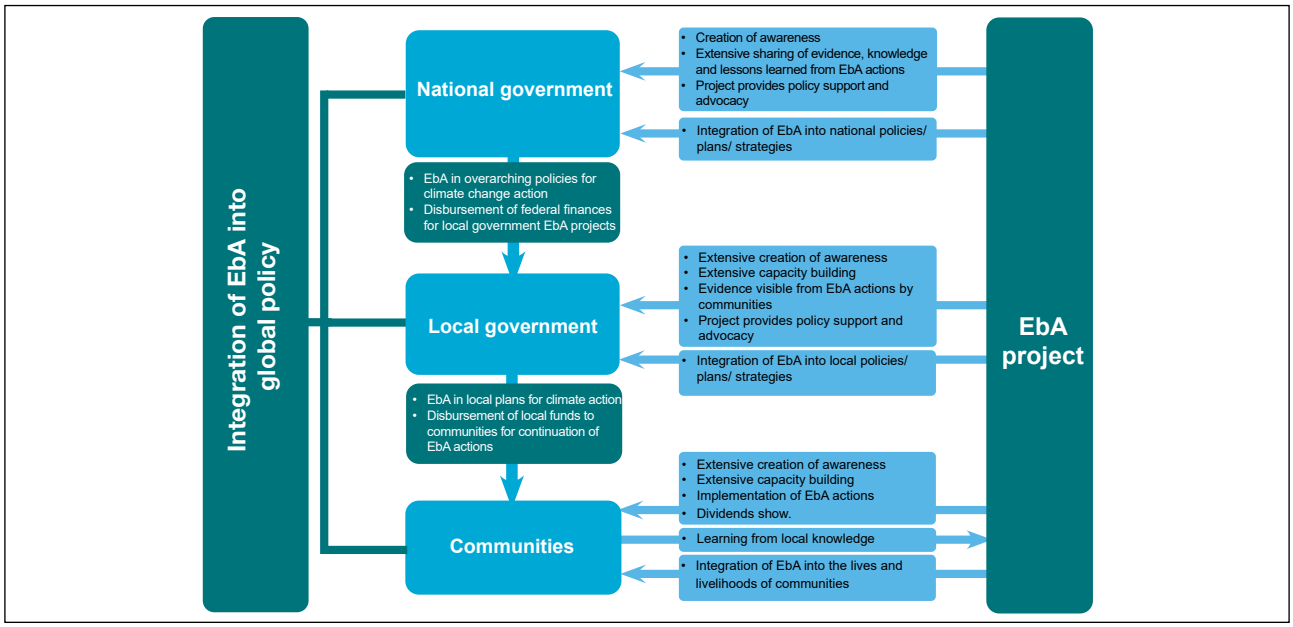

Conservation of a Vulnerable species (*Paris polyphylla*), Nepal (© Alisia Rai)


Better management of the Vicuña and grasslands, Tomas, Perú (© IdM)


The co-benefit provided to the Ogeik, with IUCN as peacekeeper (© IUCN)

At the local government level, extensive creation of awareness, capacity building and policy support and advocacy provided by the project, leads to the building of trust between the local government and the field team. Evidence from the EbA actions of communities becomes visible. Local governments, observing the impacts of the actions integrate EbA into local policies/plans and strategies.

At the national level, the creation of awareness and the provision of policy support and advocacy leads to the building of trust between the local government and the



The three-pronged approach to integrating EbA at all levels

country field team. The team extensively shares evidence, knowledge and lessons learned from EbA actions. Seeing the benefits and impacts of the approach, the national government integrates EbA into its national plans/policies and strategies. When the finances and prioritisation for projects are decided at the national level, fund allocations are disbursed to the local government. The local government then supports EbA actions carried out by communities, further strengthening sustainability. This process has been exemplified in the Panchase region, Nepal, where the local ministry calls for proposals and the families who have engaged in EbA actions during the project apply. This money comes from the national government.

The evidence, knowledge and lessons learned at all three levels of implementation are then showcased easily in global arenas and integrated into global policy. (See figure above, for a diagram of the process just described.)

Lesson learned 5: Knowledge shared by project countries has supported the development of other EbA projects and networking with existing projects has boosted EbA efforts.

Sharing knowledge and experience from the project has facilitated the dissemination and prioritisation of the EbA approach into other regional projects within target countries. Shown in the next column is a table which presents these projects.

Country	Other projects/synergies
Nepal	• EBA-II project implemented by the Ministry of Forests and Environment • UNEP's Urban EbA project • IUCN's GCF project
Perú	• Nature based Solutions Initiative of Perú (led by Instituto de Montaña (IdM), with support of from the University of Oxford) • GCF 'Resilient Puna' project (powered by GIZ, Profonanpe, MIDAGRI and IdM among other institutions • IKI NDC-Perú project
Uganda	• The International Climate Initiative (IKI) EbA Evidence and Policy Project • Implementation of the Scaling up Mt. EbA project has been integrated with the Sipi Integrated Water Resources and Management project, which is building on the achievements of the flagship EbA project within some of the old sites
Bhutan	• Living landscapes: securing High Conservation Value (HCV) in the south-western Bhutan
Colombia	• GEF project 'Adaptation to Climate Impacts in Water Regulation and Supply for the Chingaza-Sumapaz-Guerrero Area' by Conservation International. • Aslo many other projects through extensive capacity buidling and sharing of knowledge
Kenya	• The Intergovernmental Authority on Development (IGAD) in Eastern Africa, collaborating with the IUCN Eastern and Southern Africa (ESARO) programme, with funding from Swiss Development and Cooperation's BRIDGE initiative is working in the Sio-Malaba-Malakisi (SMM) sub-basin of the Nile (downstream of the Chepkitale Nature Reserve), facilitating the implementation of the transboundary water governance

Lesson learned 6: Knowledge management is about internal, as well as external management.
More knowledge sharing and learning opportunities among partners about project actions, achievements and the project as a whole, would have been beneficial. Many respondents of the interviews conducted, for several questions answered, 'Don't know'. Also, there was a missed opportunity to connect with many respondents in the interviews planned and with the interviews conducted, there were some gaps regarding the information they possessed about the project. TMI's field and global staff leaving because of the project interruption in 2019, as well as COVID-19, were major contributing factors to these gaps. Communicating project goals and objectives, as well as outputs, results and most importantly, achievements, is ultimately beneficial to the project. To this end, communication using social media and field tours would be valuable.

Operational lessons learned

Lesson learned 7: The project has exemplified adaptive management, which is critical for EbA projects.
In EbA, there are external factors which often cannot be controlled or managed. For example, an unpredicted storm can wipe out seedlings that have just been planted during restoration activities. In addition, ecosystems themselves are inherently complex, often with unknown and unexpected variables compounding the restoration of the ecosystems' full functionality. Adaptive management is, therefore, essential for EbA.

At the end of 2019, the project was overwhelmed by an unexpected administrative issue that resulted in its abrupt cessation. This was followed almost immediately by the global pandemic of COVID-19, which resulted in long and repeated lockdowns in the target countries.

The resolve and persuasiveness of IUCN's global team in negotiating with the donor to restart the project, under the sole management of IUCN, ultimately revived it at the end of 2021. Adaptive changes to the results framework and adjustments to work plans were made, and work was recommenced in January 2022.

The role that the country focal points played in spurring work after the long pause and continuing to endeavour to build relationships with new government officers[3], is also laudable.

In Bhutan, before the hiatus, a review of the environmental policy framework had been completed, ready with recommendations for improved integration of EbA within different policies. After the hiatus, it was found that there had been government re-structuring, which meant that the ministry with which the country focal point had worked for two years, would likely no longer exist.

Exemplifying admirable adaptive management, the project in Bhutan modified its course as a result of the consultations with the actors and collaborated with the Tarayana Foundation and the College of Natural Resources, Royal University of Bhutan, to enhance their ongoing programme on springshed management in the Gawa Phuntsum and Tsezusachu springsheds. The project provided technical support in the preparation of several briefs and in capacity building.

The efforts of the project teams (both at the global and country level) in restarting the project under conditions of a 'perfect storm' is an excellent example of adaptive management.


Before 2019: working with Watershed Management Division (© IUCN)


After 2020: working with the Tarayana Foundation and the College of Natural Resources (© IUCN)

[3] as frequent political change is often experienced in the Global South

Lesson learned 8: Projects with a longer duration that build upon existing EbA work and evidence show clear impacts and sustainability.

The three flagship countries have now had on-the-ground work and policy advocacy since 2011 (not counting the hiatus). The results show clearly that these three countries now have measurable outcomes. These results indicate that longer project durations are warranted for EbA actions, which require time for – for example, restoration – impacts and co-benefits to show.

It should also be highlighted to donors that in the Global South, getting a project approved by the incumbent government often takes 12-18 months. Also, often government changes and the resulting reshuffling of government officers reset the project clock. These realities should also be accommodated in decisions made about project durations.

The expansion countries should also be provided with opportunities to build upon the foundation that they have achieved in this phase. For example, Kenya carried out community-based vulnerability assessments, spatial mapping and a feasibility study to identify a suitable spring for green-grey infrastructure and only just managed to carry out the last step of the construction of spring protection. The community appears to want more springs protected, because these springs will then provide more of them with water security.

Lesson learned 9: A shift to a Theory of Change approach would have ensured more streamlined monitoring and reporting

The current results framework used in the project has been converted to a work plan to track and capture administrative issues (deliverables) such as 'flagship countries develop detailed work plans and 'All countries submit mid-year updates detailing their implementation activities, challenges, plans, delays, staff changes, new opportunities, etc.'

The expected reporting template from countries is based on the project's results framework and has been developed to capture all the expected targets. However, reporting on the EbA targets and progress is also scattered under field reports and meeting logs. It would have been beneficial if details of the total number of capacity building events and the total number of persons trained were readily available, and always disaggregated by gender. Some countries would have also benefitted from improved reporting.

To ensure effective monitoring and periodic evaluation, as well as course-correction (as needed) for adaptive management, using a Theory of Change (ToC) is recommended, because a ToC will provide an immediate snapshot of all the EbA actions proposed, at any given time, if used as a tool for project management, capturing quantified information before and after EbA interventions[4]. It should be noted that ToCs are recommended over other results framework and approaches for adaption, as in the shown below:

> *'The ToC approach is one of the most robust results frameworks to be used in the context of adaptation because it is particularly well-suited for the design, monitoring and evaluation of complex, multifaceted and long-term interventions' (GIZ, IUCN and IISD, 2022; and GIZ, UNEP-WCMC and FEBA, 2020).*

Even though all elements of the ToC were included in project reports, using a diagram onto which immediate, interim, and final results, as well as externalities that retarded progress and the number of beneficiaries for each action were logged in periodically, would have provided a clear summary of the project in one place at any given time, and not have data scattered in different places.

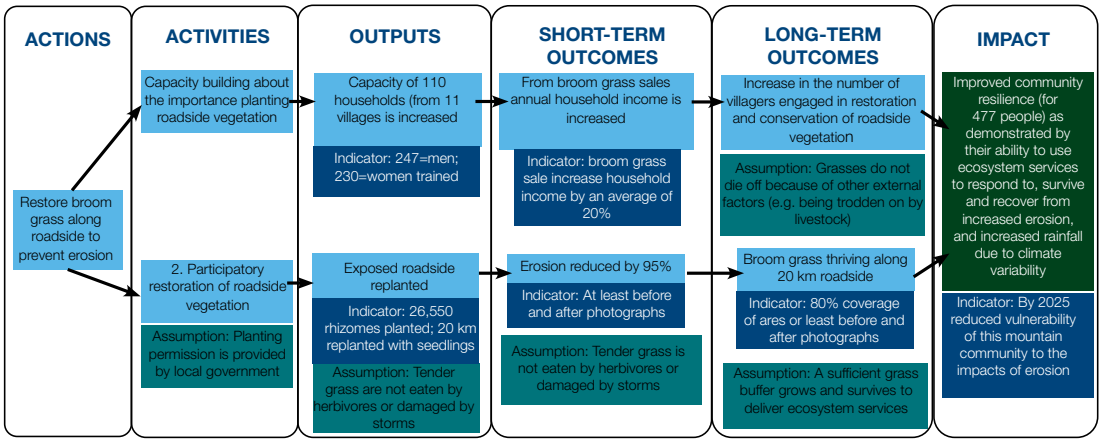
Such diagrams clearly illustrate 'pathways of change', highlighting the assumptions causing change towards the long-term impacts, establishing a more robust and rigorous internal monitoring and evaluation system from the very beginning of the project. These diagrams can be updated periodically, as project results and achievements become available, for sharing and dissemination at any point of time during the project.

Two simple pathways of change using the broom grass example from Nepal are shown in the next page.

Even Bhutan and Colombia, which had diverged from the given results framework could have developed their own ToCs at the beginning of the project to track progress against expected targets. For example, in the case of Colombia, the outreach of the capacity building that was carried out could have been tracked very easily through a ToC. Only Perú had developed at least a climate change impact chain.

Cross-continent learning is essential for country focal points and implementing partners. For future projects, it would be highly beneficial if budgetary allocation is made for at least two study tours (not meetings) to a neighbouring country, as well as one to one other continent, including at least one field visit in each country. To buttress actual study tours, virtual meetings for sharing lessons learned could be interspersed. Virtual meetings can be difficult, in practice,

[4] There are many references to an increase in household income but the baseline household income is not available for identification of the percentage increase.



Two simple pathways of change illustrated for Nepal's broom grass-growing EbA action

across different times zones in different continents, but if quarterly meetings are held annually, each country can take a turn to be present at a virtual meeting at a difficult time to overcome this problem.

Lesson learned 10: Emulating a model which allows for a project preparation phase would allow for discussions with proposed partners during the design phase.

The Global Environment Facility (GEF) proposal model is one in which a skeleton project information form (PIF) is drawn up with brief consultation and a given general direction of the project – a somewhat detailed concept note. After this, there is money provided by GEF to hire a team of consultants to flesh out the project document (ProDoc) and a results framework with extensive stakeholder, field and other consultations in project regions. This process takes up to six months, but when there is a validation of what is expected, every partner has agreed to what is to be done and a common results framework is available for tracking the progress of the funded project.

In the design phase of the project, it will be productive if discussions could be held with proposed government partners and country focal points, as is done in the GEF model. This will generate ownership of the project among government officers and allow country focal points to highlight what is possible and not. This would also allow for the design across countries of actions that can be achieved in practice and the development of a common results framework for all countries. (It should be noted that once the project started, county focal points made considerable efforts to forge relationships with partners and work closely with them and managed to kick-start project actions even after the hiatus. However, this was after the results framework was drawn up, the project developed and the money received.)

If this model of proposal writing is not practicable with other donors, alternatively, after a general project proposal is developed and funded, the programme officer could work – one-on-one with each country focal point – to develop a ToC specific to the country, but within a general framework, to make it more meaningful for each country.

Lesson learned 11: Setting up a project in (an expansion) country with in-country project staff is important for effective implementation.

The project in Bhutan would have benefitted from an on-site project office or an officer, as the focal point had to fly from the Asian Regional Office in Bangkok to Paro and back (~ 1923 km and emitting 363.8 kg of CO_2) for project activities. The same was applicable to Colombia as well, where the implementing partner was IUCN's Regional Office for South America, located in Quito, Ecuador.

Lessons learned towards the achievement of core EbA objectives

Lesson learned 12: There is a need to re-evaluate the overlap between the FEBA criteria for EbA and the NbS global standard criteria to avoid confusion among actors.

The terms NbS and EbA were often used interchangeably during interviews and in some project documentation. Adding to the confusion related to terminology, EbA is also known as NbS for adaptation.

Not all NbS are EbA actions, as they might not be targeting climate vulnerabilities *per se*, though the reverse that EbA is NbS holds true.

The FEBA framework has five criteria, while the NbS Global Standard has eight. (See table on next page.)

The clarification regarding which criteria must be used for assessing project actions must be provided, at the very earliest, by IUCN, so that this confusion is resolved.

Whichever criteria are to be used, a more stringent

application of the selected standard (to be used throughout the project, not just at the beginning) is needed.

FEBA element	FEBA criterion	NbS Global Standard criterion
A: helps people adapt to climate change	Criterion 1: Does it reduce social and environmental vulnerabilities?	Criterion 1: NbS effectively address societal challenges
	Criterion 2: Does it generate societal benefits within the context of climate change adaptation?	
B: uses biodiversity and ecosystems	Criterion 3: Did it restore, maintain or improve ecosystems and their services?	Criterion 3: NbS result in a net gain to biodiversity and ecosystem integrity
C: it is part of a broader climate change adaptation strategy	Criterion 4: Supported by policies at every level	Criterion 8: NbS are sustainable and mainstreamed within an appropriate jurisdictional context
	Criterion 5: Supports equitable governance and enhances capacities	Criterion 5: NbS are based on inclusive, transparent and empowering governance processes

Lesson learned 13: Assessing linkages to biodiversity conservation and climate change needs improvement. EbA is centred on ecosystems and their services. Healthy ecosystems provide a suite of services for human well-being. Ecosystems are the sum of all living organisms and their interconnections with their non-living environment, in a given space, at a given time. The healthy functioning of these ecosystems and the delivery of ecosystem services depend on these interconnections. For example, for many food crops, for the ecosystem service of pollination, insects and nectar-feeding birds are essential. Without these species, this service will not be provided by ecosystems.

In biodiversity conservation, the increase in species diversity (i.e. increase in the number of species) is used as a proxy to measure the improvement of ecosystem health (and in turn, the delivery of ecosystem services). Such increases have been assessed anecdotally during the project, although they could have been assessed more robustly using established methods.

In addition, EbA that involves restoration/better management of ecosystems will generate not only climate adaptation benefits but also carbon sequestration and therefore, ecosystem-based mitigation. These linkages need strengthening in future projects. Shown in the box in the next column is a very approximate calculation of the likely increase in carbon stock.

For Perú, a very rough assessment using a number provided as average carbon stocks for different biomes[5], assuming that all other variables (such as temperature, soil type, plant species diversity and soil microorganism diversity) between the temperate grassland biome and the Puna grasslands correspond, is shown in the table below. However, to assess the actual impact of the EbA action, a baseline assessment of the carbon stock is necessary.

Rough estimate of climate change mitigation in two sites

Ecosystem restored/ under better management regimens	No.of hectares	Very approximate estimation of current carbon stock when fully grown (tonne)[4]	Baseline stock	Increase in carbon stock as a consequence of EbA action
Puna grasslands	8,881	2,150,125.624	Not known	Quantity in column 4- quantity in column 5

A grassland in Miraflores, after EbA interventions(© IdM)

[5] Gorte, R. W. (2009). Carbon Sequestration in Forests. Congressional Research Service 7-5700 www.crs.gov RL31432. CRS Report for Congress Prepared for Members and Committees of Congress.

Conclusions

Although beset with major issues that resulted in a two-year hiatus, the Scaling Up Mountain Ecosystem-based Adaptation: building evidence, replicating success, and informing policy' has yielded several valuable lessons. The lessons from long-term project sites (the flagship sites) show the effective sustainability of project and community ownership, showing that longer durations for project implementation are needed for EbA. The three pronged approach of the creation of awareness and capacity building at community, local and national government levels has been unparalleled in achieving results.

The undeterred resolve of the global mountain EbA team in negotiating with the donor to re-start the project and the country teams efficiency and effectiveness in kick-starting the project after the hiatus and achieving what they have is laudable.

Training of local government officials, Panchase, Nepal © IUCN

Regional Symposium on Research Advances in Sustainable Use of the Vicuña © IdM

Training on climate change in mountains, Sipi micro-catchment, Uganda © IUCN

Workshop on Springshed EbA Punakha, Bhutan © Taranya Foundation

EbA and Eco-DRR training for the GEF project, Lima, Colombia © IUCN

Participatory spatial mapping, Labooy, Chepkitale Nature Reserve, Kenya © IUCN

However, the method and quality of reporting must be improve by using a clear theory of change approach that allows for more effective self-monitoring and evaluation.

For more information contact

Ali Rizvi Raza
Head, Climate Change Team
Centre for Economy and Finance
IUCN (International Union for Conservation of Nature)
Email Ali.Raza@iucn.org
www.iucn.org