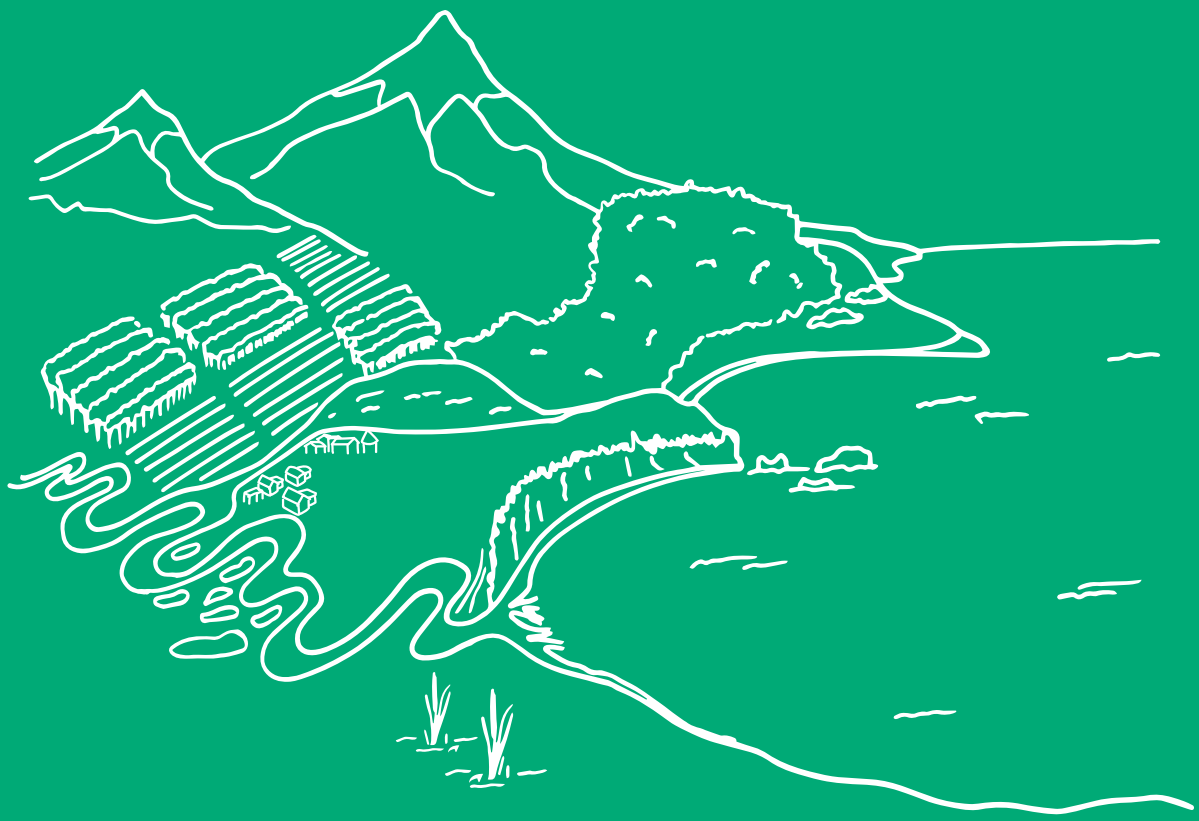
Ecosystem-based adaptation:

Question-based guidance for assessing effectiveness



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This booklet sets out guidance for assessing the effectiveness of an ecosystem-based approach to climate change adaptation. It describes a process, based around asking a detailed set of questions, that can be used by project managers and researchers to shape project design, assess the progress of an ongoing project or draw conclusions about the effectiveness of a project that has ended.

Policy and decision makers are increasingly recognising that nature-based solutions or ecosystem-based adaptation (EbA) may often provide the most cost-effective and broadly beneficial solution to adapting to climate change.

The assessment process has been developed as part of a four-year project called 'Ecosystem-based approaches to adaptation: strengthening the evidence and informing policy' coordinated by IIED, IUCN and UNEP-WCMC as part of the International Climate Initiative (IKI). The German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) supports this initiative on the basis of a decision adopted by the German Bundestag.

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For more information: **www.iied.org/ecosystem-based-adaptation**

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Contents

Ecosystem-based adaptation: the use of biodiversity and ecosystem services to help people adapt to the adverse effects of climate change.[1]

Effective ecosystem-based adaptation: an intervention that has restored, maintained or enhanced the capacity of ecosystems to produce services. These services in turn enhance the wellbeing, adaptive capacity or resilience of humans, and reduce their vulnerability. The intervention also helps the ecosystem to withstand climate change impacts and other pressures.[2]

1. CBD: Convention on Biological Diversity (2009) Connecting Biodiversity and Climate Change Mitigation and Adaptation. Report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change. CBD Technical Series No. 41. Secretariat of the Convention on Biological Diversity, Montreal, Canada.

2. Seddon *et al.* (2016) Ecosystem-based approaches to adaptation: strengthening the evidence and informing policy. Research overview and overarching questions. Background Paper. London, IIED. Available at http://pubs.iied.org/G04045/

Why assess EbA effectiveness?

Despite the strong theoretical appeal of ecosystem-based adaptation (EbA) and its potential practical application for meeting objectives under all three Rio Conventions and the Sustainable Development Goals, the approach is neither being widely or consistently used nor becoming integrated into national and international policy processes.

Reasons for this include:

- Uncertainty about how best to finance EbA in a locally sustainable and long term way
- A mismatch between the long-term effects of climate change and short-term dynamics of politics and decision making
- The lack of flexible models, strong communication and cooperation across many sectors and levels of governance usually needed to implement EbA, and
- A weak evidence base relating to EbA effectiveness, including its economic viability.

An ecosystem-based adaptation approach at the project level is also challenging, not least because the implementing team needs to understand the local context, as well as have skills in development and the social sciences, ecosystems and environmental management, and political economy.

Being able to measure the effectiveness of the EbA approach, generating evidence that could be communicated simply and applied in new contexts to fulfil the practical potential of EbA, would be a major step forward in helping communities to increase their resilience to climate change.

To support this goal, while addressing the challenges described above, IIED, IUCN and UNEP-WCMC have devised an EbA assessment process. This guidance sets that out, including the overarching questions at its heart, providing advice on who to interview, how and at what point in a research project.

Ecosystem-based adaptation interventions include:

- Restoring coastal ecosystems such as coral reefs, mangrove forests, dune systems and salt marshes, in order to dissipate the energy of powerful tropical storms
- Wetland and floodplain management to prevent floods and maintain water flow and water quality in the face of changing rainfall regimes
- Conservation and restoration of forests and other natural vegetation to stabilise slopes, prevent landslides and regulate water flows preventing flash flooding, and
- Establishment of healthy and diverse agroforestry systems to cope with increasingly variable climatic conditions.

Who is this assessment process for?

This process has been designed for practitioners and researchers who are implementing EbA projects or interested in studying their effectiveness. The evidence collected can inform the planning and implementation of EbA projects.

What does the assessment process achieve?

The investigatory process, based around asking four overarching questions followed by two levels of sub questions, helps to gather and organise as much evidence as possible. The responses provide important detail for assessing and comparing the effectiveness of an ecosystem-based adaptation strategy in ecological, social and economic terms.

Applying the approach in many different sites will move EbA research and implementation beyond case studies to broaden the evidence base on its effectiveness.

Information generated from the assessment can also help climate change policymakers to recognise when EbA is effective and then, where appropriate, help them to integrate EbA principles into national and international climate adaptation policy and planning processes.

A question-based process for assessing EbA effectiveness

The overarching four questions are broad and encompass the detail regarding how a project team might assess and compare the effectiveness of an EbA approach.

Table 1 sets out the framing questions and includes a set of nine more specific and detailed questions for assessing EbA project effectiveness. The framing questions can also be useful for guiding the design of EbA projects.

In Annex 1 there is a questionnaire providing further detail and options for answers which enable them to be coded. The questionnaire content reflects the growing consensus around what makes ecosystem-based adaptation effective. The exercise will help assess effectiveness at a project level and fill more general EbA knowledge gaps. The questionnaire has been trialled in 13 projects in 12 countries under the 'Ecosystem-based approaches to adaptation: strengthening the evidence and informing policy' project.

In Annex 2 there is a set of questions for situations when researchers and practitioners want to interview respondents who do not have a technical background in ecosystem-based adaptation. The questions use non-technical language.

Table 1: Framework questions for assessing EbA effectiveness

1. Effectiveness for human societies	
Does (or did) the initiative allow human communities to maintain or improve their adaptive capacity or resilience and reduce their vulnerability in the face of climate change, while enhancing co-benefits that promote long term wellbeing?	
1.1	Does/did the EbA initiative maintain or improve the resilience and adaptive capacity of local communities and help the most vulnerable (eg women, children and indigenous groups)? If so, over what timeframes are/were these benefits felt and are/were they equitably distributed among different social groups?
1.2	Did any social co-benefits arise from the EbA initiative, and if so, are/were they equitably distributed among different social groups?
1.3	What role in the EbA initiative does/did stakeholder engagement through participatory processes and indigenous knowledge play? Does/did the use of participatory processes support the implementation of EbA and build adaptive capacity?
2. Effectiveness for the ecosystem	
Does (or did) the initiative restore, maintain or enhance the capacity of ecosystems to produce adaptation services for local communities and allow ecosystems to withstand climate change impacts and other pressures?	
2.1	What were/are the pressures having an impact on local ecosystem(s)? How did/do these affect the resilience of the ecosystem(s) to climate change (and other pressures) and their capacity to deliver ecosystem services over the long term?
2.2	After the EbA initiative, which ecosystem services were restored, maintained or enhanced and did the resilience of the ecosystem change? Over what geographic scale(s) and time frame(s) were these effects felt, and were there trade-offs (or synergies) between the delivery of different ecosystem services at these different scales?
3. Financial and economic effectiveness	
Is EbA cost effective and economically viable over the long term?	
3.1	What are the general economic costs and benefits of the EbA initiative? How cost effective is it, ideally in comparison to other types of interventions, and are any financial or economic benefits sustainable over the long term?
4. Policy and institutional issues	
What social, institutional and political issues influence the implementation of effective EbA initiatives and how might challenges best be overcome?	
4.1	What are the key policy, institutional and capacity barriers to, or opportunities for, implementing EbA at the local, regional and national levels over the long term?
4.2	What, if any, opportunities emerged for replication, scaling up or mainstreaming the EbA initiative or for influence over policy, and how?
4.3	What changes in local, regional and/or national government or in donor policies are required to implement more effective EbA initiatives?

Using the set of questions for assessing effectiveness

When to ask the questions

Researchers should ask those people with an interest or stake in the EbA project to answer the detailed questions in Table 1 and Annex 1 in a series of semi-structured interviews.

For projects that are coming to an end, or have ended, interviews can be a one-off event. For ongoing projects, they can be repeated over time to gather a richer data set. This will help project implementers, local people and communities to reflect on and learn from responses and, where necessary, change their behaviour or activities as a result.

For projects that are just beginning, these questions can be used to influence the project design. For selecting indicators, for example, and identifying what baseline data need collecting for measuring the impact of the project as it rolls out and once it is finished.

These monitoring and evaluation activities should feed back into design and implementation as the project progresses. This will increase the potential for effective results and allow a researcher to make continued improvements in project monitoring and evaluation over time.

Who to interview

Researchers should conduct interviews with a range of people who have a stake in the project so that they get a balanced perspective on the different components of effectiveness. For example, while project managers may feel they have adequately consulted the community about project design and implementation, the communities themselves may think differently.

The choice of who to interview is best made by local authorities, community leaders, other project partners and whoever is involved with the EbA project (or programme) implementation (and interested in measuring its impact and improving the knowledge base on EbA more broadly). The suggested types of people to interview are given on the next page.

National level	Key policy and decision makers connected to the project/programme, in particular those related to the relevant national Climate Change Adaptation Committee (or similar institutional arrangement). Although these people might not have detailed project implementation knowledge they are an important target for understanding the context within which EbA projects operate and opportunities for bringing the lessons to scale.
Local authority level	Key government and/or local authority officials who are involved with the project (or make local level decisions) at the field level.
Implementing partners	The bodies responsible for project implementation on the ground, which could be an NGO or civil society organisation, local government or project partner field staff.
Local communities	Communities involved with the project and targeted for project benefits, disaggregated by gender (or other forms of important social differentiation in the local context) where appropriate and possible.

How to conduct the interviews

One aim of the interviews is to get responses that are comparable across project sites, so first it is important to make sure that interviewees understand the questions they are being asked (and that the interviewer understands them as well). Many questions in Table 1 and Annex 1 include technical terms which are explained in the glossary in Annex 3. Another option is to use a less technically expressed version of the questions as set out in Annex 2.

Not all questions should be asked of all interviewees. Instead, researchers should ask interviewees the questions relating to their area of expertise. Community members, rather than national level policymakers for example, are usually best placed to assess whether expected improvements in adaptive capacity or resilience have in fact materialised, what the local costs and trade-offs are, and the role played by participatory processes and local or indigenous knowledge in the project. Equally, it is usually national policymakers who are best placed to identify high level institutional, capacity and policy blockages to EbA implementation at scale.

However, communities are rarely homogenous. There will be groups of people who are more vulnerable than others, or vulnerable in different ways, and community composition will change over time. If the project team wants to obtain the views of all these different groups then they must be identified first. This is an important step involving the poorest and most vulnerable people – often pastoralists, women, children/youth, the elderly or indigenous peoples – many of whom are particularly affected by the impacts of climate change. Focus group discussions with each group can be used in addition to one-to-one interviews.

Communicating assessment results

Validate, share and connect

Before communicating the results, check interview responses against published and unpublished project documents and other relevant documents to validate the data and deepen understanding. Then share results widely with all those involved in the interview process to make sure knowledge is not lost if, and when, an EbA project ends. Where the set of questions is applied to different EbA projects, collating data in this way will allow comparison across sites.

It is important to share the challenges and failures from EbA implementation given the over emphasis on positive reporting to date. Reporting what hasn't worked so well and what the challenges have been can be far more useful for broader learning than focusing only on success.

Work with partners who are well connected to national adaptation planning processes to help make sure results from using this EbA interview-based approach are integrated into emerging climate change, biodiversity or development policy processes.

Many countries have National Adaptation Plans (NAPs) and Intended Nationally Determined Contributions (INDCs) – as required by the United Nations Framework Convention on Climate Change (UNFCCC) – but many have also independently developed their own national policy responses to the challenge of climate change. These may be climate change specific but are often sectoral – for example focusing on water management, forest management or agriculture.

Discuss the effectiveness findings at all levels

National-level sector-based policy dialogues or those focused on climate change responses are good places to explore the opportunities for, and obstacles to, the uptake of EbA in national adaptation plans and policies. Researchers and practitioners can share the results of the interview findings at these events.

Outreach is needed at the community level to allow communities themselves to learn through the process and retain influence over, and in some instances 'ownership' of, final outputs. This reduces the likelihood of the assessment process being purely 'extractive' in nature.

Outreach at the international level is also important so that the EbA effectiveness findings can shape emerging global policy recommendations and processes, such as UNFCCC reports and processes, and inform international networks of EbA practitioners. The Nairobi Work Programme and the UNFCCC Adaptation Committee provide key opportunities for this, as do NAP processes coordinated at the UNFCCC level.

Researchers could also consider sharing what they have found through peer-reviewed journal articles and existing adaptation knowledge platforms and networks, such as:

- EbA Flagship: **http://ebasouth.org/knowledge-centre/resources/links/eba-flagship**
- weADAPT: **www.weadapt.org**
- The Regional Gateway for Technology Transfer and Climate Change Action in Latin America and the Caribbean (REGATTA): **www.cambioclimatico-regatta.org**
- IUCN's Friends of EbA (FEBA) network: **www.iucn.org/theme/ecosystem-management/our-work/ecosystem-based-adaptation-and-climate-change/friends-eba-feba**
- The GIZ EbA Community of Practice: **www.adaptationcommunity.net**
- Biodiversity and Ecosystem Services Network (BES-net): **www.besnet.world**

These will help infuse knowledge into wider policy, planning and funding priorities and international debates, as well as reach practitioners engaged with EbA implementation. The latter is important so that projects can learn from each other and the EbA evidence base continues to grow.

Further Reading

There is more information on the effectiveness questions included in this guidance in 'Ecosystem-based approaches to adaptation: strengthening the evidence and informing policy. Research overview and overarching questions.' See **http://pubs.iied.org/G04045/**

UNEP-WCMC has developed an inventory of tools and methodologies relevant for ecosystem-based adaptation practitioners as part of the project. It is packed with detailed information on different tools, their functions and aims. The inventory aims to help users assess the conditions under which the different tools can work, as well as their benefits and costs. For more information see **www.iied.org/call-for-feedback-inventory-tools-support-ecosystem-based-adaptation**

Annex 1: Questionnaire for assessing EbA effectiveness

1.	**Effectiveness for human societies** Did the initiative allow human communities to maintain or improve their adaptive capacity or resilience, and reduce their vulnerability in the face of climate change, while enhancing co-benefits that promote long term wellbeing?	
1.1	**Does/did the EbA initiative maintain or improve the resilience and adaptive capacity of local communities, and help the most vulnerable (eg women, children and indigenous groups)? If so, over what timeframes are/were these benefits felt, and are/were they equitably distributed among different social groups?**	
a.	*How did/does the EbA initiative affect the resilience of local communities? (Circle which one applies and provide details if possible)*	*Resilience improved; resilience unaffected; resilience declined*
b.	*How did/does the EbA initiative affect the adaptive capacity of local communities? (Circle which one applies and provide details if possible)*	*Adaptive capacity improved; adaptive capacity unaffected; adaptive capacity reduced*
c.	*How did/does the EbA initiative affect the vulnerability of local communities? (Circle which one applies and provide details if possible)*	*Vulnerability reduced; vulnerability unaffected; vulnerability increased*
d.	*Which particular social groups experienced changes in resilience, adaptive capacity or vulnerability as a result of the initiative? (Circle all that apply and provide details if possible)*	*Poorest and most vulnerable people; women; children; elderly; indigenous groups; other (please specify)*
e.	*Were/are there trade-offs (or synergies) in terms of who experiences changes in resilience, adaptive capacity or vulnerability, particularly with regards to the poorest and most vulnerable? (For example, are adaptation benefits accrued by one social group whilst others are excluded?)*	*No/yes*
f.	*If yes, please provide details*	
g.	*Were/are there trade-offs (or synergies) in terms of where changes in resilience, adaptive capacity or vulnerability occur? (For example, are adaptation costs/benefits accrued by communities in one area at the cost of those in another?)*	*No/yes*
h.	*If yes, please provide details*	

i.	*Were/are there trade-offs (or synergies) in terms of when changes in resilience, adaptive capacity or vulnerability occur? (For example, are changes short term and/or long term?)*	*No/yes*
j.	*If yes, please provide details*	
1.2	**Did any social co-benefits arise from the EbA initiative, and if so, are/were they equitably distributed among different social groups?**	
a.	*What, if any, social co-benefits arise/arose from the EbA initiative (Circle all that apply and provide details of each if possible)*	*Disaster risk reduction; livelihood provision/ diversification; market access; food security; health benefits; sustainable water provision; security; reduced conflict over resources; improved social cohesiveness; improved policies; improved governance; knowledge enhanced; climate change mitigation; other (please specify)*
b.	*Do some social groups benefit more from these co-benefits than others?*	*No/yes*
c.	*If yes, please provide details*	
1.3	**What role in the EbA initiative did stakeholder engagement through participatory processes and local/indigenous knowledge play? Did/does the use of participatory processes support the implementation of EbA and build adaptive capacity?**	
a.	*Does/did the initiative incorporate local/ indigenous knowledge or practices?*	*Yes/no*
b.	*If yes, please provide details*	
c.	*What type of participatory processes engaged the local community in the initiative? (Circle one. See Annex 3 glossary for definition and typology of participatory approaches)*	*None; passive; information giving; consultation by external professionals; for material incentives; functional (ie in implementation); interactive; self-mobilisation; other (please specify)*
d.	*If participatory processes were used, did they support the implementation of EbA and build adaptive capacity?*	*Yes/no*
e.	*If yes, please provide details*	

2.	**Effectiveness for the ecosystem** Does (or did) the initiative restore, maintain or enhance the capacity of ecosystems to produce adaptation services for local communities and allow ecosystems to withstand climate change impacts and other pressures?	
2.1	**What were/are the factors having an impact on local ecosystem(s)? How did/do these pressures affect the resilience of the ecosystem(s) to climate change and other pressures and their capacity to deliver ecosystem services over the long term?**	
a.	*What were/are the factors having an impact on the local ecosystem(s)? (Circle all that apply)*	*Climate change; nutrient pollution; land conversion leading to habitat change; overexploitation; invasive species; disease; weak governance, institutions or legal framework; other factors (please specify)*
b.	*How did/do these pressures affect ecosystem(s) and landscapes and their ability (or not) to adapt to climate change and other stresses?*	
c.	*How did/do these pressures affect the capacity of the ecosystem(s) to deliver ecosystem services?*	
d.	*Are there any boundaries that influence ecosystem resilience? (For example, is there a minimum ecosystem size or water catchment area that needs to be protected to ensure ecosystem resilience and continued service delivery? Are there processes occurring outside the project area that affect project ecosystem resilience and service delivery?)*	*Yes/no*
e.	*If yes, please detail*	
f.	*Are there thresholds beyond which the ecosystems can no longer provide key ecosystem services? (For example, are there degrees of temperature change, degradation /exploitation, sea level rise or salinity that irreversibly alter ecosystem structure and functioning?)*	*Yes/no*
g.	*If yes, please detail*	

2.2	**After the EbA initiative, which ecosystem services were maintained, restored or enhanced, and did the resilience of the ecosystem change? Over what geographic scale(s) and time frame(s) were these effects felt, and were there trade-offs (or synergies) between the delivery of different ecosystem services at these different scales?**	
a.	*After the initiative how did ecosystem resilience change? (Circle one)*	*Resilience improved; resilience unaffected; resilience declined*
b.	*After the initiative were ecosystem services maintained, restored or enhanced?*	*Yes/no*
c.	*If yes, which ecosystem services were maintained, restored or enhanced? (Circle all that apply and provide detail on each if possible)*	*Provisioning (eg food, water, wood, fibre, fuel); regulating (eg climate regulation, flood regulation, water purification, disease regulation); cultural (eg spiritual, aesthetic, recreation, education); supporting (eg primary production, soil formation, nutrient cycling); other (please specify)*
d.	*At what geographic scale(s) were ecosystem services maintained, restored or enhanced?*	*Local village/area; watershed; forest; mountainous region; other (please specify)*
e.	*Were/are there trade-offs (or synergies) between the delivery of different ecosystem services at different geographical scales? (For example, are there trade-offs/synergies between water security at the project site and 'downstream' or in neighbouring ecosystems/watersheds, or trade-offs/ synergies between an ecosystem service such as water security in one area with agricultural productivity in another?)*	*Yes/no*
f.	*If yes, please detail*	
g.	*Over what time frame(s) were/will ecosystem services be maintained, restored or enhanced? (Please specify for each service)*	*0-1 year; 1-2 years; 2-5 years; 5-10 years; 10+ years*
h.	*Were/are there trade-offs (or synergies) between the delivery of different ecosystem services at these different timescales? (For example, does the initiative meet current needs, whilst compromising the ability to address future needs, or vice versa?)*	*Yes/no*
i.	*If yes, please detail*	

3. Financial effectiveness

Is EbA cost effective and economically viable over the long term?

3.1 What are the general economic costs and benefits of the EbA initiative? How cost-effective is it, ideally in comparison to other types of interventions, and are any financial or economic benefits sustainable over the long term?

a.	*Is there evidence about how cost effective (in terms of initiative financial costs and benefits) the EbA initiative was/is?*	*No/yes*
b.	*If yes, please provide details of any formal cost-benefit analysis conducted, or any less formal estimates of project costs and benefits.*	
c.	*Was the EbA approach compared to any other types of interventions or approaches (eg infrastructure, community services, inaction etc)?*	*No/yes*
d.	*If yes, how cost effective was/is the EbA initiative compared to other interventions/ approaches? (Circle one and provide details if possible)*	*More cost effective; costs and benefits roughly equivalent; less cost effective*
e.	*Are there any broader economic costs and benefits from the EbA initiative (these go beyond project operational costs and profits?)*	*No/yes*
f.	*If yes, please specify (Circle all that apply and provide details if possible).*	*Avoided/increased losses from disaster risks; avoided/increased costs of using man-made systems instead of ecosystem services; land or service value increases/decreases; local income enhancement/reduction; opportunity costs when other landuses are not taken up; other (please specify)*
g.	*Please quantify and provide evidence regarding the above economic costs and benefits where possible.*	
h.	*Were/are there financial/economic trade-offs (or synergies) between management at different geographical scales? (For example, are financial/economic gains/losses accrued outside the project site?)*	*No/yes*
i.	*If yes, please detail*	
j.	*Have/do financial/economic benefits and costs change(d) over time? (For example, are financial/economic benefits short lived or long term?)*	*No/yes*
k.	*If yes, please detail*	

4. Policy and institutional issues

What social, institutional and political issues influence the implementation of effective EbA initiatives and how might challenges best be overcome?

4.1 What are the key policy, institutional and capacity barriers to, or opportunities for, implementing EbA at the local, regional and national levels over the long term?

a.	*What were/are the key policy, institutional and capacity barriers to implementing EbA at the local level? (Circle all that apply, order in terms of importance and provide details if possible)*	*Knowledge unavailable; financial resources unavailable; technical skills unavailable; key stakeholders lack the authority to take the actions needed/planned; mandates unclear; insufficient implementation capacity; weak institutions; insufficient cross-sectoral institutional or inter-ministerial collaboration; weak or no collaborative cross-sectoral legal frameworks; unsupportive donor/government policy; low donor/government priority; other (please specify)*
b.	*What were/are the key policy, institutional and capacity barriers to implementing EbA at the provincial/state/sub-national/regional level? (Circle all that apply, order in terms of importance and provide details if possible)*	*Knowledge unavailable; financial resources unavailable; technical skills unavailable; key stakeholders lack the authority to take the actions needed/planned; mandates unclear; insufficient implementation capacity; weak institutions; insufficient cross-sectoral institutional or inter-ministerial collaboration; weak or no collaborative cross-sectoral legal frameworks; unsupportive donor/government policy; low donor/government priority; other (please specify)*
c.	*What were/are the key policy, institutional and capacity barriers to implementing EbA at the national level? (Circle all that apply, order in terms of importance and provide details if possible)*	*Knowledge unavailable; financial resources unavailable; technical skills unavailable; key stakeholders lack the authority to take the actions needed/planned; mandates unclear; insufficient implementation capacity; weak institutions; insufficient cross-sectoral institutional or inter-ministerial collaboration; weak or no collaborative cross-sectoral legal frameworks; unsupportive donor/government policy; low donor/government priority; other (please specify)*
d.	*What were/are the key policy, institutional and capacity opportunities for implementing EbA at the local level? (Circle all that apply, order in terms of importance and provide details if possible)*	*EbA 'champions'; government prioritisation; appropriate incentives in place to motivate action; strong local institutions; strong local governance/bylaws; other (please specify)*

e.	*What were/are the key policy, institutional and capacity opportunities for implementing EbA at the provincial/state/sub-national/ regional level? (Circle all that apply, order in terms of importance and provide details if possible)*	*EbA 'champions'; government prioritisation; appropriate incentives in place to motivate action; strong regional institutions; strong regional policy/legislation; other (please specify)*
f.	*What were/are the key policy, institutional and capacity opportunities for implementing EbA at the national level? (Circle all that apply, order in terms of importance and provide details if possible)*	*EbA 'champions'; government prioritisation; appropriate incentives in place to motivate action; strong national institutions; strong national policy/legislation; other (please specify)*
g.	*Is/was the local level policy, institutional and capacity support available enough to ensure the initiative can be sustainable over the long term?*	*Yes/no*
h.	*Please provide details.*	
i.	*Is/was the provincial/state/sub-national/ regional level policy, institutional and capacity support available enough to ensure the initiative can be sustainable over the long term?*	*Yes/no*
j.	*Please provide details.*	
k.	*Is/was the national policy, institutional and capacity support available enough to ensure the initiative can be sustainable over the long term?*	*Yes/no*
l.	*Please provide details.*	
4.2.	**What (if any) opportunities emerged for replication, scaling up or mainstreaming the EbA initiative or for influence over policy, and how?**	
a.	*Did any opportunities emerge for replication, scaling up or mainstreaming the EbA initiative or for influencing government/donor policy?*	*Yes/no*
b.	*If yes, please detail (Circle all that apply, order in terms of importance and provide details if possible).*	*National policy change leading to widespread national roll out; inclusion in NAP/INDC; change in attitude to EbA from policy makers/ planners; stronger links forged between relevant government bodies supports cross-sectoral planning; change in donor policy and hence in-country funding; new tools developed to support replication; other (please specify)*
4.3	**What changes in local, regional and/or national government or in donor policies are required to implement more effective EbA initiatives?**	
a.	*What changes in local, regional and/or national government or in donor policies are required to implement more effective EbA initiatives?*	*Local:* *Regional:* *National government:* *Donor:*

Annex 2: Questions for assessing EbA effectiveness using non-technical language

Questions	Link to Annex 1 questionnaire
Country/area	
Group (village, men/women, youth, elderly, indigenous people etc) or individual	
Who compiled this table	
Date	
Who is present from the community (please list)	
The local ecosystem	
What pressures are there on local ecosystems (communities of plants and animals in an area) and landscapes?	2.1 a
How do these pressures affect you and your wellbeing?	2.1 b, c
What sorts of ecosystem benefits and functions returned after the project (eg food, water, wood provision; flood/disease control; spiritual, recreational and cultural benefits; and healthy soils/air/water)?	2.2 b, c
What sort of geographical area did these benefits cover?	2.2 d
How long do you think these benefits will last?	2.2 g
Benefits to people	
How does the project affect whether people can cope with the impacts of climate change?	1.1 a, b, c
How does the project help poor people, women, children, the elderly and indigenous groups cope with the impacts of climate change?	1.1 d
Do some people benefit more than others?	1.1 e
Do people in some places benefit more than people in other places?	1.1 g
Do people benefit now or later?	1.1 i
How else does the project benefit communities? (eg Are disasters less frequent, are livelihoods, food security or market access better, are there health benefits, are water sources better, are local/national institutions better, is conflict reduced, is social cohesion better, is security improved, are people more knowledgeable?)	1.2 a
Do some people get more of these other project benefits than other people?	1.2 b

How were communities involved in project planning and implementation? (Were communities told what was going to happen without opportunities to shape the project; did they give information to researchers without opportunities to shape the project; did they get money or food for working on the project; did they help the project meet its predetermined objectives; did they help analyse challenges, participate in project decision making and help create project plans?)	1.3 c
How does involving the community affect whether people can cope with the impacts of climate change?	1.3 d
Policies and institutions	
What challenges do policies, institutions and government/donor staff pose for project implementation?	4.1 a, b
How do policies, institutions and government/donor staff help implement the project?	4.1 d, e
Will this help mean the project can last for a long time?	4.1 g, h
What changes to policies, institutions and government/donor staff are needed to make the project better?	4.3 a

Annex 3: Glossary of key technical terms

Adaptive capacity The ability to shape, create or respond to longer term change in addition to 'bouncing back' from shocks. Strengthens resilience and reduces vulnerability to a wide range of hazards. Requires information plus the capacity and opportunity to learn, experiment, innovate and make decisions. The amount, diversity and distribution of assets and resources of the five capitals facilitates alternative strategies (adapted from Ayers *et al.* 2012; Ensor and Berger 2009):

1. Human capital represents the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives
2. Social capital means the social resources that support people in pursuit of their livelihood objectives
3. Physical capital comprises the basic infrastructure and goods needed to support livelihoods
4. Natural capital means stocks from which ecosystem services flow, and
5. Financial capital denotes the financial resources that people use to achieve their livelihood objectives.

Biodiversity The variability among living organisms from all sources including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within and among species and diversity within and among ecosystems (MEA 2005).

Community-Based Adaptation (CBA) A community-led process, based on communities' priorities, needs, knowledge, and capacities, which should empower people to plan for and cope with the impacts of climate change (Reid *et al.* 2009).

Ecosystem services The benefits people obtain from ecosystems. These include provisioning services such as food and water; regulating services such as flood and disease control; cultural services such as spiritual, recreational, and cultural benefits; and supporting services such as nutrient cycling that maintain the conditions for life on Earth. Some of the ecosystem services can enhance people's adaptive capacity towards climate change (MEA 2005).

Indigenous knowledge or local knowledge Knowledge that is unique to a given culture or society. It is the basis for local-level decision making in agriculture, healthcare, food preparation, education, natural resource management, and a host of other activities in rural communities. It contrasts with the international knowledge system generated by universities, research institutions and private firms.

Participatory approaches A range of approaches involving communities in project planning and implementation. These approaches can be (adapted from Adnan *et al.* 1992; Dazé *et al.* 2009):

- Passive, where people are told what is going to happen or has already happened
- Information giving, where people answer questions posed by extractive researchers (they cannot influence proceedings and research findings may not be shared with them)
- Consultation by external professionals who define both problems and solutions (decision making is not shared, and professionals are under no obligation to take on board people's views)
- For material incentives, where people provide resources, for example labour, in return for food, cash or other material incentives
- Functional, where people form groups to meet predetermined objectives related to the project. Such involvement tends to be during later project cycle stages after major decisions have been made
- Interactive, where people participate in joint analysis, which leads to action plans and the formation of new local institutions or the strengthening of existing ones (groups take control over local decisions so people have a stake in maintaining emerging structures or practices), and
- Self-mobilisation, where people take initiatives independent of external institutions, develop contacts with external institutions for the resources and technical advice they need, but retain control over how resources are used.

Resilience (ecosystem) The capacity of a system to tolerate impacts of drivers without irreversible change in its outputs or structure (MEA 2005).

Resilience (human) The ability to absorb shocks or ride-out changes, but also to move beyond short-term coping strategies and a return to the status quo, to longer term development in spite of (or in light of) climate change. Important components of resilience include: a diversity of assets or livelihood strategies to reduce vulnerability to a wide range of hazards, good connectivity between institutions, and the degree of social inclusion and social capital (Ayers *et al.* 2012; Ensor and Berger 2009).

Vulnerability Vulnerability to climate change is assessed in reference to a particular hazard, such as flooding, and considers underlying human and environmental factors. Vulnerability is affected by exposure to a hazard (often related to geographic location - such as living in a flood-prone area) and the sensitivity of the community affected (for example, a community dependent on rain-fed agriculture will be more sensitive to changes in rainfall) (Ayers *et al.* 2012; Ensor and Berger 2009).

Wellbeing A context- and situation-dependent state, comprising basic material for a good life, freedom and choice, health, good social relations and security.

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This booklet sets out guidance for assessing the effectiveness of an ecosystem-based approach to climate change adaptation. It describes a process, based around asking a detailed set of questions, that can be used by project managers and researchers to shape project design, assess the progress of an ongoing project or draw conclusions about the effectiveness of a project that has ended.

Policy and decision makers are increasingly recognising that nature-based solutions or ecosystem-based adaptation (EbA) may often provide the most cost-effective and broadly beneficial solution to adapting to climate change.

The assessment process has been developed as part of a four-year project called 'Ecosystem-based approaches to adaptation: strengthening the evidence and informing policy' coordinated by IIED, IUCN and UNEP-WCMC as part of the International Climate Initiative (IKI).

For more information: www.iied.org/ecosystem-based-adaptation

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