Community-based Adaptation (CbA), Ecosystem-based Adaptation (EbA) and the Landscape Approach (LA) - Characteristics and Commonalities

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Introduction

The utilization of top-down concepts and practices in development work often neglects local contexts and sources of knowledge. This issue constitutes one of the major hindrances for development initiatives to improve their work to the degree they potentially could, leaving them susceptible to critical voices. Looking at this problem in the context of climate change, it is for instance well-known that adaptation strategies implemented by national governments hardly ever reach the most vulnerable population groups. This is inter alia due to a lack of local inclusion: Communities impacted by climate change need to adjust their behavior if they are to live with the consequences of a changing climate. In order to do so in a long-lasting manner, they need to understand, accept and agree with the adaptation solutions developed. Simultaneously, local communities own a broad range of knowledge about adaptation to disasters, to changing weather conditions or as a response to external influences like civil wars, etc. that can be utilized.

Interest in participatory methods as a means to implement climate change adaptation strategies in a more effective and sustainable fashion is thus growing. The paper at hand assesses three adaptation approaches which focus on such methods, namely Community-based Adaptation (CbA), Ecosystem-based Adaptation (EbA) and the Landscape Approach (LA). Despite their promising names, however, these approaches have also created major confusion among professionals in regards to the goals they each aim to achieve as well as to the differences and commonalities that exist between them. Shedding light on definitions, commonalities and differences of these adaptation approaches is what this papers strives for.

Community-based Adaptation (CbA)

The term ***Community-based Adaptation (CbA)*** refers to an approach focused on the inclusion and involvement of local communities in planning and implementation of adaptation interventions. Such local communities generally consist of different groups - i.e. men, women, youth, elders or multiple ethnic groupings - that have different capabilities and needs. In CbA, professionals and local populations assess in a shared process how climate change affects the resources and capacities of the local groupings, and which abilities, knowledge, experience and networks these communities have to increase their resilience and to reduce their vulnerability towards climate-related risks.

The goal of CbA is thus to support local populations in including the issue of climate vulnerability and -risk in their everyday activities, which in turn will help them improve their resilience against short-term climate variability and long-term climate change.

CbA combines information from local, participatory assessments (see Annex I) with scientific risk assessment modeling on climate change. The local, participatory risk assessment takes place on the ground, engaging with the people affected by climate change, and extracting local experiences and events connected to the phenomenon. In a joint process, it is being evaluated how climate-related incidents affect people's livelihoods and local resources. On the basis of this analysis, development and adaptation interventions are designed and discussed cooperatively. As participatory measures constitute the central feature of CbA, the approach always aims for the inclusion and involvement of all community members, and particularly of the most marginalized groups.

Central features of the CbA approach are:

- work on local level (neighborhoods, settlements, villages), particularly in geographical areas where people are highly vulnerable to climate change
- adaptation strategies are being developed in participatory processes, as part of which as many local interest groups as possible are being heard and included
- adaptation activities are identified and implemented in a common process, as part of which local capacities are being utilized as much as possible
- the approach builds on pre-existing cultural norms; local interests and concerns which create vulnerabilities are thoroughly considered

CbA measures can for instance include the following practices:

- development of household- and gender-specific new livelihood opportunities, whereby focus is shifted to areas which are hardly or not at all affected by climate change
- promotion of cooperation with agrarian associations to improve market possibilities for agrarian products
- diversification and stabilization of agricultural production through improved cultivation methods or adapted seeds
- improvement of systems of self-support on multiple levels (village, municipality, region)
- introduction of early-warning systems
- the importance of training and education on climate change, early warning and adaptive agriculture, animal husbandry- and aquaculture

Challenges the approach is facing are:

- Wrong understanding and conceptualization of 'community': It is highly important to recognize the heterogeneity of groups described as a 'community'. The latter often consists of a multiplicity of groupings with different convictions, interests, ideals or cultural identities (i.e. gender, age groups, social, ethnic or religious groups); power-imbalances and the domination of processes by local elites may make it necessary to work separately with different groups, even though the aim is to enhance internal community organization.
- CbA as an approach as well as the concept of who should be involved in its implementation are understood differently in different cultural, social and organizational contexts. More positive and country-specific examples of CbA are thus needed to generate a more holistic definition and understanding of the approach.
- Mainstreaming, upscaling and downscaling: The expectation and need is that CbA initiatives are scaled up in number, size and on a policy level in order to create considerable impacts. However, CbA is essentially a highly localized approach. The question thus remains how such community- and site-specific measures can be scaled up and replicated without losing their highly localized character.
- Blurry boundaries between CbA and development work: CbA aims to reduce vulnerability through improved adaptive capacity, thereby resolving development shortfalls. CbA practices thus often resemble development interventions. As funding is often provided in limited amounts by (I)NGOs or small project funds from GEF, embassies and other donors, competition in regards to funding opportunities can arise as part of these overlaps. Perceptions of adaptation- or development terminology simply being utilized as rather empty 'buzzwords' to receive funding sometimes evolve.
- Participatory approaches are highly time-consuming, particularly in the beginning. They therefore need longer-term funding, which does not correspond to development projects' typical funding periods of 3 to 4 years.

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Ecosystem-based Adaptation (EbA)

With the Millennium Ecosystem Assessment in 2005, Ecosystem-based Adaptation gained further relevance and support among policy-makers and practitioners working with adaptation and development. After multiple years of discussions on definitions and conceptualizations, focus is now on providing information on implementation and funding opportunities for EbA measures. Another core aim is to strengthen the linkage between biodiversity/ecosystem services and climate change by improving and disseminating knowledge on this connection. As part of the UNFCCC Nairobi work Programme, a data base with EbA approaches has been developed in 2011 (available here).

The most common definition of EbA is provided by the Convention of Biological Diversity (CBD): "Ecosystem-based adaptation (EbA) is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change" (CBD 2009).

Ecosystem services are the benefits humans receive from ecosystems. These benefits can be categorized as the following (see Annex II):

1. *provisioning services*: food, fresh water, raw materials and medicinal resources
2. *regulating services*: regulation of climate, floods, diseases, water quality and waste management
3. *cultural services*: facilitation of spiritual fulfillment, aesthetic appreciation and eco-tourism
4. *supporting services*: soil formation, photosynthesis, nutrient cycle

EbA thus acknowledges that healthy ecosystems play a fundamental role in sustaining and improving the resilience of both the ecosystems in themselves and the people who live within them against climate change and the risks related to it. In sum, what defines an EbA project is that it always aims to **reduce people's vulnerability to and increase their resilience against climate change** by actively making use of **biodiversity and ecosystem services**. An EbA project will furthermore integrate well into and support as well as enhance **national, regional and local climate change policy**.

EbA demands a thorough understanding of ecosystem services and the processes needed to generate those. As the utilization of certain ecosystem services for adaptation purposes will for instance always entail that other such services cannot be used, a sensitive and knowledge-based prioritization needs to take place. For example, the preservation of mangrove forests as a protection against coastal erosion competes with the utilization of mangrove shrub and tree species as fire wood.

When discussing EbA, it is important to distinguish the following two concepts:

- preservation and utilization of ecosystem services for human adaptation to climate change (EbA)
- ecosystem management for ecosystem adaptation to climate change, with the primary goal of protecting ecosystem services ('adaptation of ecosystems')

Whilst the first adaptation category focuses on the resilience of **human beings**, the second conceptualization aims to generate **nature protection**.

Examples of EbA practices are for instance:

- coastal protection measures for the preservation or re-creation of mangroves and other coastal ecosystems, through which the impacts of floods, coastal erosion and salinization can be contained
- sustainable forest cultivation to stabilize the soil in hillside situations and to regulate water infiltration and runoff
- establishment of agroforestry-systems for the diversification of species and livelihood opportunities, the stabilization of the cultivation system as well as for the strengthening of resilience
- preservation of protected natural areas which feature a high biodiversity, in order to maintain genetic resources for agricultural crops and animals that have adapted to climate change
- management of invasive species, which harm the native biodiversity and threaten food- or water security

- water management e.g. in catchment areas
- urban EbA includes approaches based on the design and improvement of green and blue infrastructure, e.g. urban parks, green roofs and facades, tree planting, rivers, ponds, as well as other types of interventions that use ecosystem functions to provide forms of adaptation to climate risks, e.g. measures to increase soil permeability.

Eba is considered an adaptation approach with low or no implementation risk ('no regrets', see Annex III) – even if projected climatic changes do not occur, EbA measures create a variety of positive effects for people and the environment. EbA constitutes a widely applicable adaptation approach functioning on a variety of spatial and temporal scales. It holds the potential of providing more cost-effective and locally applicable solutions to climate change adaptation for relatively poor communities than engineered, costly solutions can bring about. EbA measures can, however, stand in competition with other forms of cultivation (for instance agriculture, stock breeding, wood production, gathering).

Potential challenges
Working with natural ecosystems is always a time-consuming task. Hence, the effects of EbA measures might first become visible after an extended period of time. The approach thus demands long-term oriented implementation processes and continuity in practice if adaptation goals are to be achieved.

The challenge of upscaling EbA is comparable to CbA-upscaling. Ideally, EbA can be used on bigger and multiple scales. However, the approach still often is context dependent, as it also tries to make use of bottom-up approaches, functions community- and site-specific and is not being mainstreamed in policy-making enough. Furthermore, EbA constitutes a rather new approach, and the amount of projects that have actually reached a stage where upscaling is possible still remains limited.

Other challenges the EbA approach is facing are the partly unclear (scientific and/or technical) information on the effects of different management options on positive or negative ecosystem-responses (potential trade-offs) and insufficient monitoring.

Finally, the results that EbA can create are limited and might demand supplementing technical solutions. If climate change gets too strong in its effects, it will change ecosystems and their abilities to provide ecosystem services in unpredictable ways; they will most probably not be able to provide the services they do now.

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The Landscape Approach (LA)

Sectoral approaches often address connected problem areas in adaptation and development in insufficient manners. Themes such as poverty reduction, food security, loss of biodiversity or climate

change are treated as individual entities and prioritized over each other rather than being seen as issues which need to be dealt with in more holistic terms. This is due to the fact that sectoral actors have different and often limited perceptions and understandings of the economic, ecological and social causes of complex problems. These actors follow rather singular goals (such as agricultural production) and evaluate alternative causes of vulnerability (like gender or health) as being less pressing matters. With the help of integrative approaches on a landscape level, more all-encompassing solutions for diversified systems of objectives can be developed. Landscape Approaches aim for a mutual consideration and assessment of the social, economic, ecological as well as politico-institutional challenges that exist in and for a geographical area and its inhabitants (see Annex IV).

During the mid-1980s, a paradigm shift towards more holistic understandings of developmental and environmental work started to emerge: Initiatives such as the WWF's 'Wildland and Human Needs Programme' from 1985, and political dialogues like the Earth Summit in 1992 and Agenda 21 resulted in a stronger focus on resource management approaches, which took the role of local communities and their demands in the context of environmental work into account. The traditional model of ecosystems needing to be protected from human intervention no longer constituted the center of attention – a shift towards more integrated approaches had taken place. Out of these holistic perspectives, a variety of Landscape Approaches with different characteristics evolved.

The management of village territories and water catchment areas as an alternative to sectoral management forms has proven its worth in multiple countries (e.g. India, Madagascar, Ethiopia, Burkina Faso, Niger, Bolivia). In India and in Latin-American countries, indigenous areas are being managed by the peoples living in these regions. In Southern Africa, many wildlife corridors and protected areas are considered trans-border entities (Transfrontier Conservation Areas).

The Landscape Approach tries to synchronize agricultural production, the utilization and protection of natural resources and the social-economical needs of a population. The idea of combined objectives is nicely reflected in the naming of the **Landscapes for People, Food and Nature** Initiative (LPFN). LAs integrate competing land use practices by conciliating between different interests and by establishing land use regulations. However, the approach recognizes that it is often impossible to satisfy all represented interests. In order to successfully implement land use regulation despite such disparities, it is thus of great importance to set up functioning control mechanisms or provisions for compensation.

Landscape Approaches help to identify positive and negative externalities and to reduce the negative impacts of individual management decisions. Participatory methods in planning and negotiation are utilized to make decisions transparent and acceptable. In order to be able to negotiate goals and priorities in a satisfying manner as well as to implement measures on multiple scales, LAs require a multidisciplinary perspective and the engagement of all key stakeholders. As part of this process, both the benefits for the local population involved and the needs of the entire population need to be considered. As Landscape Approaches often connect food security and enhanced productivity to the preservation of ecosystem services on landscape level, many LA measures resemble EbA and CbA interventions.

Central aspects of the Landscape Approach are:

- heavy inclusion and engagement of all resource users and stakeholders
- adequate balance between participatory involvement and technical innovation
- good governance as key factor (transparency, gender, participation)
- search for coordinated, accepted and context-specific solutions
- harmonization of local and regional concerns
- consideration of dynamic processes in the landscape

LA measures can for instance include the following practices:

- sustainable intensification and diversification of agriculture and agroforestry
- collaborative planning and implementation of resource use (e.g. by laws)
- improvement of common lands (e.g. erosion control, reforestation, pasture improvement)
- rehabilitation of bad lands (soil or gully reclamation)

- community organization (producer and resource user groups)
- transboundary protected areas

Major challenges the Landscape Approach is facing are:

- slow and thus often long initial phases, during which the approach is being developed and the implementation started (knowledge- and implementation gap in need of being adjusted)
- complex approach, which generally demands long-term implementation phases not limited to a project cycle of 3-4 years
- sector-specific experts and institutions are reluctant towards working inter-sectorally (for instance when it comes to setting up cooperation between different sector ministries)
- inclusion of internal and external actors requires a lot of coordination
- guaranteeing transparency in complex multi-stakeholder approaches like LAs is highly important, yet also even more challenging
- Landscape Approaches are often perceived as enhancements of the Reducing Emissions from Deforestation and Forest Degradation (REDD+) framework; as the scope of LAs in terms of spatial-, temporal-, stakeholder- and sectoral scale is often larger than in REDD+, it needs to be made sure that typical criticism brought forward in relation to REDD+ is not repeated and fortified in Landscape Approaches; this includes too little recognition of and acting upon dynamics in social-ecological regimes, the overlooking of unequal power relationships, the lack of actual local inclusion or a too strong focus on parameters of growth which does not actually benefit local populations
- as LAs are explicitly not limited to sectoral or purely administrative borders where these are limiting rather than an advantage, an overly spatialized interpretation should be avoided; this however can be difficult to achieve
- sufficient and continuous political support is needed, but often hard to establish and to sustain

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Commonalities and differences between the approaches

All three approaches clearly place human resilience at the center of their work. None of them is hence to be understood as a mainly conservational or environmental approach to development and adaptation. As such, CbAs, EbAs and LAs all make use of bottom-up measures and local capacity building to varying degrees. They furthermore all work with geographical entities and predominantly aim to synthesize ecological processes and biodiversity with the needs and demands of the people living in these areas. Each approach however can be traced back to its sectoral origin:

In CbA, humans constitute the core 'tool' for adaptation. Yet, the approach also often considers ecological processes as well as the sustainable utilization of natural resources and of ecosystem services, and can as such resemble EbA.

EbA puts major emphasis on eco-systemic perspectives to human adaptation. The human being gets integrated into these, since it is understood as being a part of the ecosystem. Implemented correctly, EbA constitutes a 'green connection' between local interests and concerns and broader measures on a landscape level.

Even though the term Landscape Approach is rather generic and all-encompassing, approaches from this field generally focus on land use planning and the utilization of different ecosystem entities *through humans*, even though ecological aspects are being considered. Climate change adaptation terminology has not been integrated, but has effectively been one of the central outcomes of Landscape Approach measures.

The demand to integrate and jointly manage CbA, EbA and LA when working in developing country contexts is growing, as different interest groups and stakeholders have varying requirements in terms of scales, actors and tools to be applied in the face of a changing climate. Furthermore, tackling the issue of climate change and how to adapt to it is in itself a too complex task to be addressed in a single-approach manner. As mentioned above, no approach aiming to generate human resilience against climate change can function without a community component. In most cases – and this is true for both rural and urban contexts – an eco-systemic approach to human adaptation is also highly beneficial. Being able to apply these measures to a 'meaningful' landscape (whose borders are defined by what and who one needs to work with in a given context and which functions as an umbrella nesting multiple approaches), and combining them with further land use-related activities, constitutes a long-term goal for many human resilience-related interventions. What is thus needed are **more positive examples of how to integrate, balance and jointly manage CbA, EbA and LAs**, and of how to enlarge rather small-scale approaches so that they potentially can evolve into landscape-level models.

One such example is the Spring-Shed Development Program (Dhara Vikash) which was initiated in the Indian state Sikkim in 2008. The initiative was started as a small-scale pilot project to increase the discharge of springs as well as the discharges' duration. With the help of combined CbA and EbA measures – a mixture of rural watershed management, GIS- and geohydrology technologies – more than 50 springs and 4 lakes could be revived in this Northeastern Indian state. With support from the government, similar initiatives of larger scale are now underway in other Himalayan states, clearly upscaling the EbA and CbA activities just mentioned and potentially even developing them into a landscape measure.

Another example is provided by the Global Mountain EbA Programme, implemented in Nepal, Peru and Uganda. Here, pilot projects were initiated in a first step, having a strong community orientation in their assessment- and implementation phase, which generated local ownership and commitment. Once an understanding for the benefits that bottom-up EbA can bring about for local communities was established, efforts were started to scale EbA up to the landscape level, creating beneficial outputs *across* entire ecosystems. More in-depth and large-scale vulnerability assessments were performed, and EbA measures based on evidence from the pilot initiatives could be developed. Cost-benefit analyses were conducted, and EbA was integrated into global, national, regional and local planning and policy processes. A community-oriented environmental approach to adaptation had evolved into a landscape-level initiative.

	Community-based Approach	**Ecosystem-based Approach**	**Landscape Approach***

Basis	• strongly participatory approach • strengthening of local communities' capacities to reduce climate change vulnerability	• ecosystem- and human oriented approach • management of ecosystems for human climate change mitigation and adaptation	• ecosystem- and human oriented approach • adaptive and integrated management of resource utilization (competing land use forms) on landscape level
Focal area	• mainly sectoral, bottom-up • improvement of livelihoods • rectification of resource problems	• holistic, bottom-up • sustainable utilization of ecosystem services (benefits for humans are in focus) • improvement of ecosystem functions	• holistic • improvement of livelihoods • preservation of ecosystem services • development of synergies and trade-offs between different interest groups
Geographical scale	• community- or village level, political borders	• landscape level, water catchment areas, ecological borders	• landscape level, water catchment areas, ecological or administrative borders
Spatial extent	• small	• large	• large
Challenges	• perception of 'community' • mainstreaming, upscaling, downscaling • blurry boundaries between CbA projects and development interventions • 'CbA' understood differently in different cultural, social and organizational contexts; examples needed	• long implementation phase • very thorough understanding of ecosystem functions and -services needed • monitoring and identification of potential trade-offs as complex processes • mainstreaming, upscaling, downscaling • limits to effectiveness of ecosystems	• long implementation phase • knowledge- and implementation gap • willingness and meaningful engagement on the side of all key stakeholders needed • monitoring as complex process • complex approach, where guaranteeing transparency can be challenging • needs to avoid REDD+-pitfalls • overly spatialized interpretation to be avoided
Methods	• Mainly participatory methods and assessment tools	• multi-sectoral and participatory processes based on systems thinking approaches • emphasis on soft and cost-effective solutions • based on both scientific and local knowledge	• based on both participatory and scientific methods • spatial analysis • Participatory Land-Use Planning (PLUP)
Examples	livelihood resilience, Disaster Risk Reduction, capacity building, social mobilization and networking	reforestation, sustainable forestry, wetland rehabilitation, management of invasive species, biodiversity conservation, water management, green and blue infrastructure	agroforestry systems, spatial planning and development, land rights, land use planning, agro- and ecotourism, joint land management, transboundary protected areas, community organization, sustainable grazing**

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Annex

I. Examples of participatory CbA tools

Participatory tool	Uses
Mental models	• Identify drivers and effects of climate change
Seasonal calendars	• Define seasonality and links with livelihoods • Can be combined with timelines to show perceived changes in seasonality over time
Timelines	• Create a record of hazards and events • Detect trends in climate, e.g. temperature and rainfall

Community mapping and modelling	• Identify:
	  ○ Resources
	  ○ Types and causes of risks and threats
	  ○ Extent of vulnerable areas
	  ○ Vulnerable households and individuals
	• Plan Disaster Risk Reduction (DRR)/Climate Change adaptation measures

Transect walks	• Detect Vulnerability/risks • Categorize land uses and resources
Ranking	• Vulnerabilities and hazards • Coping and DRR strategies, e.g. water management options, crop varieties
Dream maps and drawings	• Vision of community or farm and how to achieve
Theatre, poems, songs	• Awareness raising of risks and risk reduction measures • Advocacy
Participatory video	• Awareness raising • Farmer to farmer communication • Advocacy
Stakeholder analysis	• Recognize institutions, relationships, power
Key informant discussions	• In-depth discussion of vulnerability, livelihood sources

Source:
Participatory Learning and Action 60 (2009). International Institute for Environment and Development. Order no. 14573IIED. http://pubs.iied.org/pdfs/14573IIED.pdf

II. Ecosystem services

Category	Services
Provisioning	• Food • Raw materials • Fresh water • Medicinal resources
Regulating	• Local climate and air quality • Carbon sequestration and storage • Moderation of extreme events • Waste-water treatment • Erosion prevention and maintenance of soil fertility • Pollination • Biological control
Supporting	• Habitats for species • Maintenance of genetic diversity
Cultural	• Recreation and mental and physical health • Tourism • Aesthetic appreciation and inspiration for culture, art and design • Spiritual experience and sense of place

Source:
Ecosystem Services. The Economics of Ecosystems and Biodiversity (TEEB).
http://www.teebweb.org/resources/ecosystem-services/

III. Co-benefits EbA

Adaptation measure	Adaptive function	Co-Benefits			
		Social & cultural	**Economic**	**Biodiversity**	**Mitigation**
Mangrove conservation	Protection against storm surges, sea level rise and coastal inundation	Provision of employment options (fisheries and prawn cultivation) Contribution to food security	Generation of income to local communities through marketing of mangrove products (fish dyes, medicines)	Conservation of species that live or breed in mangroves	Conservation of carbon stocks, both above ground and below ground
Forest conservation and sustainable forest management	Maintenance of nutrient and water flow Prevention of landslides	Opportunities for: Recreation, Culture, Protection of indigenous peoples and local communities	Potential generation of income through: Ecotourism, Recreation, Sustainable logging	Conservation of habitat for forest plants and animal species	Conservation of carbon stocks Reduction of emissions from deforestation and degradation
Restoration of degraded wetlands	Maintenance of nutrient and water flow, quality, storage and capacity Protection against floods or storm inundation	Sustained provision of: Livelihoods, Recreation, Employment opportunities	Increased: Livelihood generation, Potential revenue from recreational activities, Sustainable use, Sustainable logging of planted trees	Conservation of wetland flora and fauna through maintenance of breeding grounds and stopover sites for migratory species	Reduced emissions from soil carbon mineralization
Conservation of agrobiodiversity	Provision of specific gene pools for crop and livestock adaptation to climatic variability	Enhanced food security Diversification of food products Conservation of local and traditional knowledge products	Possibility of agricultural income in difficult environments Environmental services such as bees for pollination of cultivated crops	Conservation of genetic diversity of crop varieties and livestock breeds	
Sustainable management of grassland	Protection against floods Storage of nutrients Maintenance of soil structure	Recreation and tourism	Income generation for local communities through products made from grass	Forage for grazing animals Provide diverse habitats for animals that are predators and prey	Maintenance of carbon storage of soil

Source:
UNFCC (2011). Ecosystem-based approaches to adaptation: compilation of information. UN Subsidiary Body for Scientific and Technological Advice.
http://unfccc.int/resource/docs/2011/sbsta/eng/inf08.pdf

IV. Comparison between sectoral approaches and the Landscape Approach

Issue	Sectoral or project approach	Landscape approach
Problem addressed	Simple	Complex (even wicked)
Objectives and endpoint	Precisely defined	Loosely defined
Objective setting	Fixed in advance	Regularly revisited
Planning	Linear (grand design)	Nonlinear and in frequent need of revision (muddling through)
Scale	Local: generally one or two major land uses	Large scale: multiple interacting land uses
Scope	Generally well defined	Fuzzy and evolving (subject of consultation & negotiation)
Emphasis	Goal driven	Process driven
Success and failure	Easily identified ("black & white)	Perception of positive and negative outcomes are stakeholder dependent and determined by changing contexts (shades of gray)
Monitoring	Progress can be measure, simple evidence-based, defined in advance	Complex, targets move and desired outcomes may require modification over time
Learning	Informal and project cycle level	Integral and continuous, social learning
Management & governance	Clear and well defined organizational roles and structures	Organizational roles evolve and often overlap; civil society has increasing significance
Authority	Largely centralized and clear	Decentralize/distributed, potentially dynamic and negotiated
Time scale	Short to medium term (a few years)	Many years to several decades
Role of other actors	Subject of a project	Participants within a process
External viewed as	Constraints and contexts	Possible subjects of higher level interventions to reduce threats or enable processes or outcomes
Negotiations to achieve	Specific outcomes	Engagement and to determine what is mutually acceptable
Role of science	To lead and define	To detect patterns, inform interpretation and contribute to evaluation and learning
Funding	Carefully budgeted, fits present-day donor cycles	Indeterminate (ideally institutionalized to support long-term vision)

Source:
Sayer J, Sunderland T, Ghazoul J et al. (2013). Ten principles for a landscape approach to reconciling agriculture, conservation, and other competing land uses. Proceedings of the National Academy of Sciences of the United States of America, 110, 8349–8356.
http://www.pnas.org/content/110/21/8349.abstract