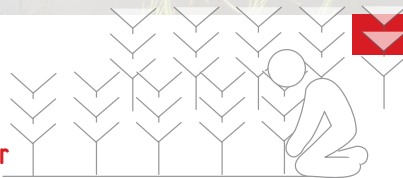




Landscape Approaches



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CONTEXT

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With their natural resources, landscapes provide livelihoods for people in rural regions. Using resources such as land and water opens potential for developing disconnected regions and can contribute to improving the people's living conditions. The way in which resources are used has an impact on biodiversity and the global climate, among other things. Landscapes therefore provide opportunities for slowing the progression of climate change.

However, pressure on landscapes is growing. In regions of population growth, land is needed for roads, dwellings, industry and trade, agricultural areas are expanding, and climatic conditions are changing. Multiple local, national and global stakeholders are placing demands on the use of natural resources, which leads to conflicts in many places. In addition, intact landscapes provide important ecosystem services which form the basis for the survival of all life. These include drinking water, clean air, food, energy sources, building materials and recreational opportunities as well as carbon storage and climate regulation.

Different forms of land use such as forestry, agriculture, conservation areas and settlements are interdependent. Policy and administrative measures and guidelines that focus exclusively on the protection or use of forests on the one hand or agriculture on the other hand can give only an incomplete perspective of landscapes with all their uses and stakeholders. A comprehensive approach, however, is the foundation for sustainable management of



landscapes that enables compromises between the various interests. Against this background, strategies for the integrated management of landscapes – known as landscape approaches – are gaining importance.

DEFINITION AND FUNCTIONS OF LANDSCAPES

Representatives of business, politics, geography, nature conservation, resources management, spatial planning and other areas have different views of the concept of ‘landscape’. The definitions in the various disciplines are accordingly diverse.



In development co-operation, we understand landscape to be a “*socio-ecological system that consists of natural and/or human-modified ecosystems, and which is influenced by distinct ecological, historical, political, economic and*

cultural processes and activities. The spatial arrangements and governance of a landscape contribute to its unique character.” (DENIER, L., ET AL. (2015): THE LITTLE SUSTAINABLE LANDSCAPES BOOK. GLOBAL CANOPY PROGRAMME (GCP), OXFORD. P. 26.)

Landscapes perform a wide range of functions – ecological, economic and social. Ecosystem services of landscapes act far beyond the boundaries of a landscape. They consist in storing groundwater, cleaning the air, sequestering carbon in plants and the soil, preserving biodiversity, etc. Landscapes are used to grow food and extract raw materials for industrial production and building materials, for example. Landscapes provide the population with (wood) energy, they form the basis for tourism and recreation and, not least, for settlement. The sustainable use of the resources of a landscape – but also their active protection – also generates income and employment opportunities.

The physical demarcation of landscapes does not follow exclusively administrative criteria such as regional or district boundaries. Rather, landscapes are defined on the basis of natural characteristics (rivers, landscape formation

vegetation, climatic conditions, etc.) and socio-economic factors – for example by the local residents and the different ways in which they perceive and demand to use existing natural resources. Thus, ethnic or religious affiliations and traditional usage interests also influence how landscapes are designed.

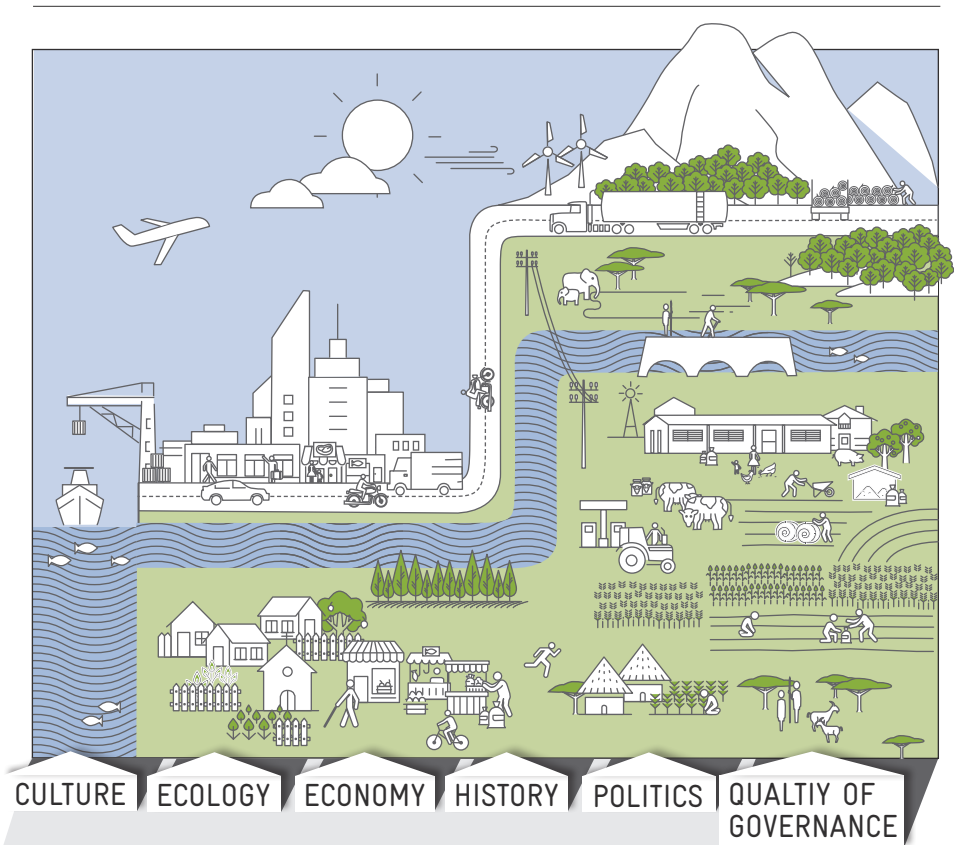


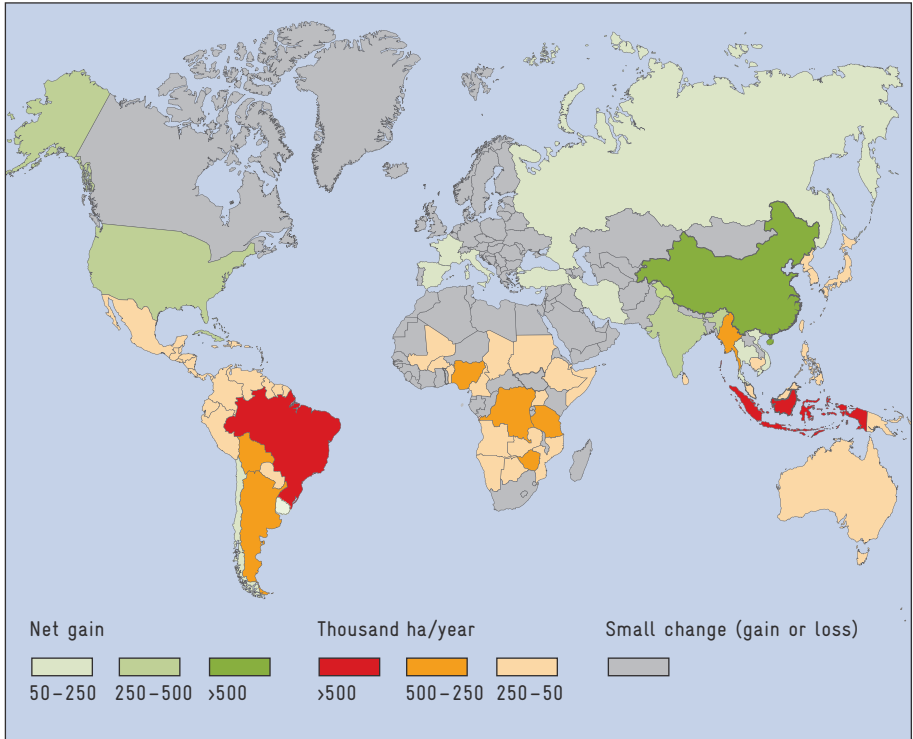
FIGURE 1 | Exemplary rendition of a landscape and factors that influence it

CHALLENGES AT LANDSCAPE LEVEL

Many landscapes are under threat. In many places, land is overused and misused. This is compounded by the impacts of climate change. As a consequence, soils are degrading across vast areas, biodiversity is declining, ecosystem services are dwindling and the productivity of natural resources is diminishing. At the same time, unadapted ways of life and economic models in a landscape are exacerbating climate change – setting in motion a vicious circle. From 2007 to 2016, non-sustainable land use in agriculture and the conversion of forest for crop and livestock farming purposes were responsible for 23 per cent of global greenhouse gas emissions.

Around 25 per cent of the world's ice-free land area is currently being degraded by anthropo-genic activities. Land used for farming with conventional methods erodes up to 100 times faster than it can regenerate itself. Since the year 2000, land used for farming has shrunk by some 53 million hectares worldwide as a result of degradation. Between 1998 and 2013, productivity decreased globally on approx. 20 per cent of cultivated land area. This is threatening the livelihoods of at least 1.3 billion people around the world. The loss of fertile soil is fundamentally changing landscapes and is very costly. Around the world, approx. USD 400 billion is lost each year from declines in productivity and harvest yields due to the loss of fertile soils.

In addition, at least 129 million hectares of forest has been destroyed since 1990 and forest area was decimated at a rate of 0.08 per cent annually between 2010 and 2015. Furthermore, forests are being damaged by unsustainable logging, firewood collection, overgrazing and uncontrolled burning. The consequence is dwindling biological diversity (including pollinators), a growing threat of flooding and droughts, and declining soil fertility.



ANNUAL NET FOREST GAIN/LOSS BY COUNTRY, 1990-2015

FIGURE 2 | Global forest loss

The most severely affected continent is Africa, where the population of sub-Saharan countries will double by 2050. Most people there depend directly on landscapes and their natural resources for their livelihoods. Approx. 70 per cent of the population work in agriculture. Increasing agricultural productivity is imperative for the development of the regions.

As a result, pressure on natural resources is growing and land consumption increasing. Growing demand for food and raw materials – e.g. as a source of energy – has a similar impact.

A large number of stakeholders from the private sector, the public sector and civil society have different interests – some of which are conflicting –



with a view to the use of landscapes and their natural resources. Representatives of all sectors are placing demands on land-scapes: nature conservation, agriculture and forestry, settlement developers, fisheries, extractive industries, industrial and infrastructure development and the tourism industry.

Given weak political and institutional frameworks, there is often a need to systematically identify the complexity of existing constellations of interests. Decision-making processes are not being effectively moderated. Coordination within public institutions is usually based on sectoral considerations. That makes it more difficult to work out compromises, e.g. between developing the economy and protecting the environment. The participation of citizens, civil society and the private sector in decision-making processes is often not ensured. Planning processes and governance structures place high demands on responsible persons and are often poorly adapted to local conditions. That makes integrated landscape management challenging to implement. Existing natural resources are being used unsustainably, causing natural resources to degrade over time, creating conflicts between various groups of land users and accelerating climate change.

PRINCIPLES OF LANDSCAPE APPROACHES

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In the context of development cooperation, landscape approaches are understood to be *'a set of concepts, tools, methods and approaches deployed in landscapes in a bid to achieve multiple economic, social, environmental objectives (multifunctionality) through processes that recognise, reconcile and synergise interests, attitudes and actions of multiple actors.'* MINANG, P. A., ET AL. (2015):

CLIMATE-SMART LANDSCAPES: MULTIFUNCTIONALITY IN PRACTICE. WORLD AGROFORESTRY CENTRE (ICRAF), NAIROBI. P. 8.

Landscape approaches enable compromises in order to seize existing potentials at landscape level for the benefit of the population without endangering existing natural resources. They enable a reconciliation of interests between various groups of users and societal objectives of ecological sustainability, for example between food production on the one hand and biodiversity conservation on the other hand.

Landscape approaches to sustainable development are characterized by the following principles:

Multi-stakeholder processes for the management of interdependent objectives.

Small farmers, livestock herders, forest users, village and citydwellers, civil society organisations, private sector enterprises and state agencies have different needs and interests regarding the use of 'their' landscape. In order to ensure that resources are used sustainably and conflicts are avoided, interests must be balanced and rights of use negotiated. This is achieved through dialogue processes and coordination mechanisms that include all relevant actors. This benefits vulnerable groups such as women, young people, children and landless people. Diverging interests are balanced and marginalised population groups can participate in decision-making processes. The participatory method defining the landscape approaches reinforces stakeholders' ownership and, hence, strengthens the long-term implementation of jointly developed management strategies.

Policy coherence across sectoral boundaries.

Potentials and challenges at landscape level are not limited to individual sectors. Landscape approaches comprise all sectors that are necessary for the development of sustainable management approaches within the landscape: agriculture, forestry, environment, water, energy, transport, infrastructure, etc. In order to find solutions, government agencies and stakeholders from the private sector and civil society are systematically involved. Landscape approaches promote coordination and cooperation between public and private stakeholders from diverse sectors. Synergies of cross-sectoral cooperation can be harnessed and policy guidelines made more coherent between the sectors.

Legal certainty of tenure and equal use rights of natural resources.

The use of landscapes and their natural resources requires a framework recognised by all users. Secure access to land and water and rights of use of forests and pastureland are essential to preserve the livelihoods of the people living within the landscape. This benefits women in particular, who are often prevented from having secure access to natural resources. Successful

joint use of natural resources requires transparent rules and effective governance structures at local level. Delegating decision-making powers from the central government to the local level is crucial – e.g. as part of decentralisation processes.



Ecosystem-friendly and sustainable production systems.

Landscape approaches apply a broad range of tried and tested strategies and methods for the sustainable management of natural resources (e.g. forest landscape restoration, integrated landscape management, sustainable land management, land degradation neutrality, watershed development,

agroforestry, integrated rangeland management, crop-livestock integration systems). Besides focussing the economic benefit for the local population they ensure the long-term conservation of biodiversity and ecosystem compatibility of applied production and cultivation methods. Measures aimed at restoring degraded landscapes, erosion control, improving soil health and fertility, adapted animal husbandry systems or reforestation measures are also implemented at local level. Landscape approaches promote cooperation among the stakeholders within a landscape, which supports the diffusion of adapted and sustainable management methods. In this way, they contribute to the resource efficiency of the landscape as a whole.



Communication and coordination between administrative levels.

Landscape approaches affect not just the local level. Lessons learned at landscape level and needs of local stakeholders are taken into account at higher administrative levels through effective communication and coordination processes between the various administrative levels (local, regional, national). Proven strategies for promoting landscapes and the needs of local groups of stakeholders are introduced into political decision-making processes at regional and national level. This makes policy guidelines more coherent, which fosters the implementation of landscape approaches at local level.

CHALLENGES OF LANDSCAPE APPROACHES

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Landscape approaches require a reasonable lead time for planning and implementation of jointly developed management strategies. Only then can the intended changes be brought about. In order to motivate stakeholders and reinforce their ownership, it is necessary to give thought to positive changes and benefits that can be realised in the short term.



Conflicting objectives often increase complexity of multi-stakeholder processes. Negotiating, planning and implementing management strategies places high demands on stakeholders' capacities, resources and readiness to embrace change. They must have a will to cooperate and compromise because changes to land use can put certain groups of stakeholders at a disadvantage in the short to medium term. Appropriate governance structures and institutionalised processes are necessary to strike a balance between the stakeholder groups.

These challenges illustrate why landscape approaches are dynamic and should be continuously adapted – with a view to both conceptual aspects and aspects of operationalisation. Project evaluations, studies on the effectiveness of landscape approaches and the analysis of lessons learned from implementation can make important contributions in this area.

CONTRIBUTION OF LANDSCAPE APPROACHES TO THE SDGs

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Landscape approaches foster the elaboration and implementation of spatial development strategies, which are suitable for achieving economic, social and ecological objectives. A successfully implemented cross-sectoral landscape approach, for example to the management of water catchment areas, thus creates economic impetus. It increases agricultural productivity, creates new employment opportunities, promotes biological diversity, contributes to climate change adaptation and improves water availability and quality.

As landscape approaches involve different sectors and take into account the needs of a range of stakeholders, they also contribute to achieving a range of Sustainable Development Goals (SDGs). The 17 goals and 169 targets of the United Nations 2030 Agenda are interconnected and interdependent. The international community acknowledges that realising the SDGs requires an integrated approach. That is exactly what landscape approaches do.

For example, SDG 1 (No poverty), SDG 2 (Zero hunger) and SDG 8 (Decent work) also play an important role in the sustainable use of natural resources (SDGs 6, 13 and 15). Achieving the goals must not be in exchange for overexploiting natural resources or causing dwindling biodiversity. This is particularly important for people living in rural areas because their livelihoods are usually based on the use of natural resources – especially in developing countries. Natural resources and biodiversity therefore must be preserved on a sustainable basis.

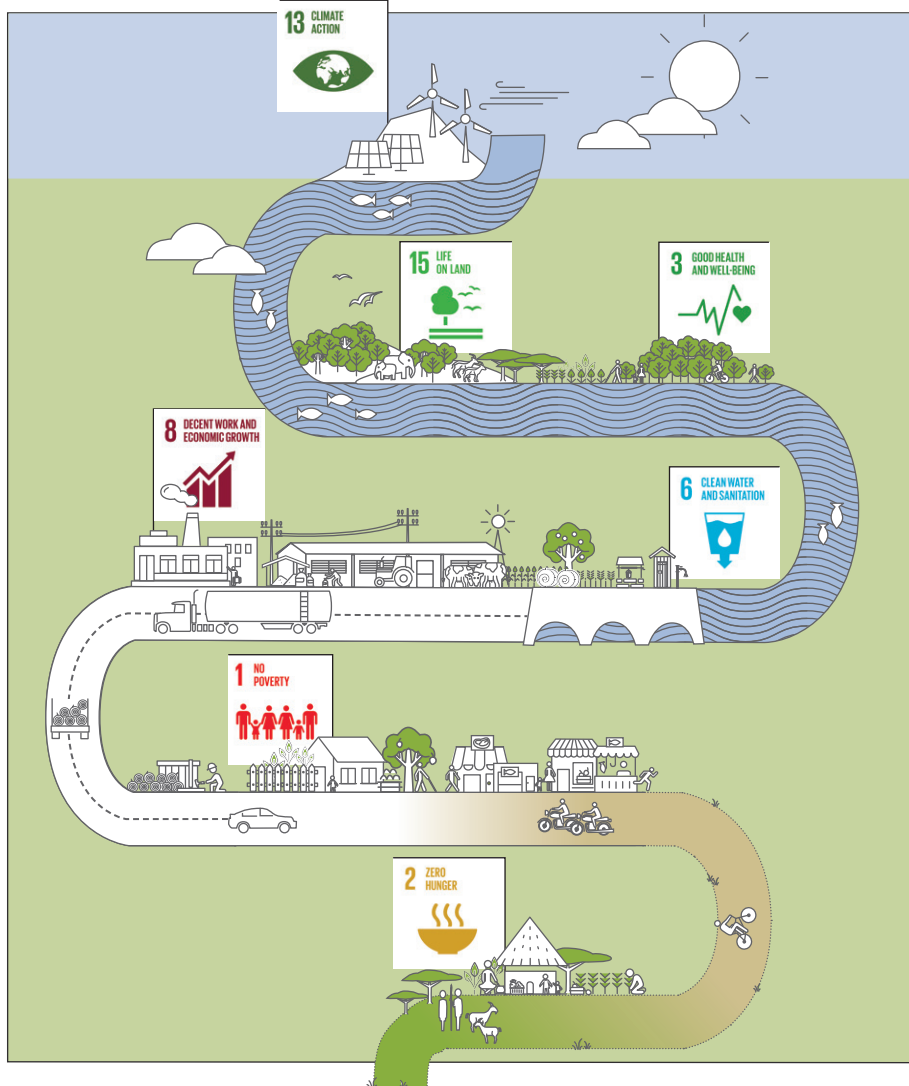


FIGURE 3 | Contribution of landscape approaches to the SDGs

RECOMMENDATIONS FOR ACTION

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Landscape approaches make an important contribution to the development of rural areas and to the achievement of the SDGs. The following measures at national and subnational level foster the implementation of landscape approaches. Convinced political decision-makers in governments, ministries and authorities are of crucial importance to the successful implementation of these measures. International organisations, donors, and technical cooperation can also facilitate.

Mainstreaming sustainable management of landscapes in policy frameworks

Partner countries should develop a comprehensive set of development-oriented guiding principles for sustainable management of landscapes. These guiding principles should encompass all target dimensions of a landscape. They should be integrated into the government's political and strategic directives and, in this way, create the prerequisites for the sustainable management of landscapes, which promotes the reconciliation of socio-economic development and resources conservation – at all administrative levels.



Harmonising sectoral plans to achieve multiple objectives

Sector development plans that are implemented separately have only limited effectiveness. Harmonising sector strategies at national and subnational level prevents counterproductive measures. Where there are coherent sector strategies, potentials for the sustainable use of landscapes are identified and various objectives could be achieved in parallel.

Objectives, budgets and resources of involved sector ministries and authorities should be coordinated and oriented to the sustainable management of landscapes. In order for that to occur, the national government needs to provide incentives that promote cross-sectorial cooperation and coordination between state institutions at subnational level.

Strengthening local actors to participate in multi-stakeholder processes

In order to be able to implement landscape approaches, multi-stakeholder processes at local level are indispensable. Appropriate institutional structures should be used to negotiate compromises between different groups of interests and to moderate conflicts. The involvement of all relevant stakeholders of a landscape legitimises such bodies to make decisions about local development priorities.

In order to strengthen such structures, corresponding decision-making powers should be devolved to the level of the landscape – for example in the context of decentralisation processes. The various stakeholder groups must be enabled to participate in such platforms in accordance with their needs. Particular focus must be placed on groups that are often disadvantaged – particularly women, young people and young adults.

Ensuring equal participation of women and young people

Women and young people are important population groups within a landscape. Women have a large share in agricultural production and perform crucial household management functions. The population of youths and young adults continues to grow – particularly in Africa. This creates challenges for labour markets, but also development potentials for landscapes. The sustainable and integrated management of landscapes requires women and young people to be involved in planning and decision-making processes. Marginalised population groups must be specifically supported because they do not have equal access to resources and especially education. This disadvantage must be offset by capacity development measures and adapted consulting services. Only then can women and young people be appropriately represented in multi-stakeholder processes and assert their interests and priorities in the management of a landscape.

Active participation of national governments and public institutions

National governments, ministries and authorities can be involved with varying intensity in planning and implementing landscape approaches. Sustainable management of landscapes is conceivable with minimal participation of public agencies. Ideally, national governments should actively participate in implementing landscape approaches because they have far-reaching decision-making powers compared with other stakeholders, e.g. in the area of legislation.

Public institutions can be the initiator of a landscape approach or take the role of a neutral intermediary. As partners in a landscape approach, governments should support multi-stakeholder processes and involve other public institutions or demand contributions from them. Responsible government agencies can provide advice on policy options, inform the public and raise awareness about particular topics or encourage the public to participate.



Negotiating and securing land and resource use rights

Negotiating use rights of a landscape's natural resources and securing these rights are important factors in planning and implementing landscape approaches. A combination of the two aspects determines who is allowed to use particular resources to what extent and whether this usage entitlement will prevail in the long term. The specific design of use rights, ownership and access at the level of a landscape varies greatly depending on the local circumstances.

Mechanisms for the recognition and enforcement of rights of use that are accepted by local groups of interests should be established. They must take into account the specific conditions at the level of a landscape. In the case of use rights that are not legally protected, mechanisms that enable fair negotiation and conflict resolution at local level are necessary.

Promoting public and private investment in landscapes

The local population within a landscape needs investment that is both aligned with their priorities and protects landscape resources.

National governments can support the mobilisation of private sector investment by initiating a joint investment plan. Promoting measures aimed at performance-based payments for emission reductions through forest, soil or biodiversity conservation enables additional investment in landscapes. It is also helpful to adjust the economic policy framework, e.g. in the areas of trade and marketing of agricultural and forestry products. Favourable tax legislation and the use of fiscal-policy instruments have a positive impact on investment activity. Partner countries can liaise with donors to influence their priorities and, in this way, strengthen their support of activities at the level of the landscape.

Building capacities for implementing landscape approaches

Capacities for planning, coordinating and implementing landscape approaches should be strengthened through training and education measures. Specialists and managerial staff in ministries, authorities and other public institutions require content-related support and advice in the design of planning and participatory procedures, e.g. in relation to land use planning. Advice on efficient internal work processes will benefit not just public institutions but civil society organisations as well. These include producer groups, farming cooperatives and user associations. These stakeholders must be strengthened so that they can articulate their interests and development priorities in political decision-making. The needs of women, young people and young adults in particular must be taken into account here.

In addition, the analysis and dissemination of sustainable production methods, weather information and geological and soil data should be supported. Public institutions and technical cooperation play a special role here.

PROJECT EXAMPLES

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**MULTI-STAKEHOLDER DIALOGUE AND RECONCILIATION OF INTERESTS
ON BEHALF OF BMZ, GIZ IS SUPPORTING THE MANAGEMENT OF THE KAILASH
SACRED LANDSCAPE**

The Kailash landscape (31,000 km²) is a transboundary high mountain region in the Himalayas between China, India and Nepal. Mount Kailash is revered as a sacred place by Buddhists and Hindus and attracts pilgrims and tourists.

The ecosystems and diversity of species of the Kailash landscape are under threat from overuse and climate change. By supporting the International Centre for Integrated Mountain Development (ICIMOD), China, India and Nepal have committed themselves to a sustainable approach to the conservation and development of the Kailash landscape.

The project aims to improve living conditions in the Kailash landscape by harnessing income potentials. Ecosystems are to be preserved at regional level. This is being done by developing action plans for the sustainable management of existing natural resources, for example in transition zones from forest to high alpine pasture.

The three countries and ICIMOD have developed a regional action plan for the implementation of approaches to the integrated management of water catchment areas in the Kailash landscape. The local population was able to incorporate their interests into the planning processes through inclusive participatory formats at community level. The cooperation between the countries was improved, particularly in the area of waste management and tourism. The promotion of tourism activities had a positive impact on the income situation of the local population.



LANDSCAPE APPROACH TO PROTECT FORESTS AND ECONOMIC BASIS ON BEHALF OF BMZ, GIZ IS SUPPORTING SUSTAINABLE CHARCOAL PRODUCTION IN MADAGASCAR

Wood is the main source of energy in Madagascar. However, the production of charcoal from natural forests in northern Madagascar does not meet the demand and contributes to forest degradation. This exacerbates erosion and accelerates the loss of soil fertility.

The Government of Madagascar promotes the sustainable production of charcoal outside natural forests. It incorporates afforestation into land use planning at local level: Between 2007 and 2015, some 9,000 hectares of plantations for the production of wood energy were planted in the DIANA Region. They already supply 20 per cent of the inhabitants of Antsiranana with sustainable charcoal, which is produced in efficient and environmentally sound charcoal kilns.

The plantations create additional income possibilities for around 3,000 households in 68 villages. Wood consumption per ton of produced charcoal was reduced by 2.7 m³ through the use of improved charcoal kilns. With an estimated 4,400 tons per year of charcoal produced from plantations, this accounts for a reduced wood consumption of 12,000 m³ or an afforested area of 300 hectares. In combination with energy saving cooking stoves, about 60,000 m³ of wood or 1,500 hectares of plantation stock are saved annually.



LAND USE MANAGEMENT ON A BROAD SCALE

ON BEHALF OF BMZ, GIZ IS SUPPORTING SUSTAINABLE LAND MANAGEMENT IN ETHIOPIA

Measures aimed at promoting sustainable land management such as terracing and crop rotation are reaching some 700,000 households or about 2 million people through 1,300 smallholder groups and associations in the regions Amhara, Oromia, Tigray, Benishangul-Gumuz, Southern Nations and Nationalities People (SNNP), and Gambella. Official rural extension officers and experts at district and community level can transfer these measures to other areas as well.

The project applies an approach called Protection through Production, which fosters business capacities of farmers while at the same time ensures sustainable use of natural resources and protection of local ecosystems.

More than 2,890 management plans for water catchment areas have been developed in partnership with the communities and are currently being implemented. The irrigation area used by smallholders has increased by around 5,000 hectares. The users are now producing larger harvests and improving their household income by selling their products at local markets.

Today the rural population is applying sustainable land management practices on some 580,000 hectares of formerly degraded land. Yields have increased by 35 to 80 per cent. In this way the local people are preserving the land to secure their livelihoods for the long term.



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