Sustainable land use

Competition for land is increasing worldwide.
Land is a scarce resource, so fair and sustainable land use planning is essential.

Background

Land is used for many purposes – for housing, agriculture, resource extraction, forest conservation, the preservation of biodiversity and climate action. The demand for land is high worldwide and its scarcity can easily lead to user conflicts, environmental degradation or social injustice. Fair and sustainable land use planning is therefore essential, with a focus on diverse user needs.

More than a third of the global land area is used for agriculture. It secures the food supply for the world's population, but also directly produces more than 12 per cent of global greenhouse gas emissions. If soil is intensively cultivated, emissions can increase significantly, along with the risk of soil degradation.

Agriculture is also impacted by global warming, reflected in changes in climatic conditions and an increase in extreme events such as droughts, floods and storms. They cause soil degradation and lower agricultural yields, with a resulting decline in resilience among smallholder farms in developing and emerging countries.

In order to ensure that land use is as sustainable as possible – i.e. in harmony with the environment and natural resources and with low production risks – integrated spatial and land use planning is required. It must take into account the often competing, conflicting or exclusive interests of various public and private sector stakeholders who are endowed with varying amounts of power.

Land rights are an important prerequisite for smart and balanced use of land. Secure land rights promote sustainable land investment and thus contribute to climate change mitigation, the protection of biodiversity and food security. They also support efforts to achieve the Sustainable Development Goals (SDGs), namely SDG 1 (No Poverty), SDG 2 (Zero Hunger), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action) and SDG 15 (Life on Land).

Sustainable land use planning must
balance a **multitude of user interests**
and meet **environmental, economic** and
social standards.



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Challenges

Numerous communities around the world lack formal or secure land rights. This lack of long-term security reduces their willingness and opportunities to invest in sustainable farming methods. At the same time, global population growth and increasing land grabbing are intensifying the pressure on already scarce land resources, making their sustainable use more challenging.

Local communities and marginalised groups are often underrepresented in land use planning, resulting in the loss of traditional knowledge and proven sustainable approaches. Short-term economic interests can lead to the neglect of long-term environmental impacts, resulting in overexploitation and degradation of soils, deforestation and loss of biodiversity. There is also a lack of responsible agricultural investment that is fully aligned with environmental and social standards.

Land use plans are often not implemented consistently and systematically. In some cases, they are disregarded completely, and investment schemes are then approved, even though neither the designated area nor the type of use meets the required standards. It often happens that sectors plans are not coordinated, and thus the same overlapping areas are often designated for different uses at the same time and thus overplanned.

Solutions from development cooperation

Sustainable land use requires the reconciliation of environmental, social and economic interests, with due consideration of diverse uses such as agriculture, housing, nature conservation and climate change mitigation. This is best achieved if all stakeholders – not only local communities and farmers, but also environmental associations and policy-makers – are involved in land use planning and decision-making processes at an early stage and on an ongoing basis. With such a participatory approach, interests can be balanced and conflicts reduced, and local needs can be integrated into planning. If stakeholders communicate transparently about their goals and the impacts of land use, it is easier for them to build trust and identify conflicts at an early stage, leading to increased acceptance of planned measures.

Sustainability goals should be firmly embedded in land use plans, for example by designating areas for nature conservation, renewable energies or sustainable agriculture. By promoting infill development and using existing housing areas more intensively, land consumption can be reduced and urban sprawl avoided. Development cooperation actors should provide more support for multifunctional land use that combines biodiversity, climate change mitigation and local recreation.



Laos: Integrated land management secures land rights and protects forests

More than 3,000 villages in Laos are located in state-designated forest areas. Here, the local communities' land use rights – in particular, collective forest use rights – have not yet been formally recognised. This often leads to land grabbing, land degradation and deforestation. The lack of legal certainty also discourages responsible investment in improving soil health and the sustainable use of soils.

The 'Land Management and Decentralised Planning' programme implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH shows how an integrated land management approach can improve the security of land rights, increase the sustainable use of land and preserve forests. The key to success: first, align participatory land use planning with participatory forest management, and then recognise customary law.

The village communities in the state-designated forest areas participate in joint planning of how the land should and may be used in the future. Traditionally used areas are identified, potential conflicts are defused, and property boundaries are clearly defined. This is accompanied by the introduction of participatory forest management, which establishes collective rules of use, promotes forest conservation and enables sustainable land management, following a holistic land use strategy. Digital tools such as remote sensing, geographic information systems and drones support mapping. Once these processes have been completed, the formal registration of individual and collective rights of use can begin.

The data collected during planning and registration is fed into the national Land Use Information System (LUIS) and used to implement land management measures (e.g. land use planning). LUIS is continuously updated with new data from planning and registration processes. This creates a dynamic data cycle that effectively combines planning, implementation and monitoring. The experience and data gained from local implementation are also integrated into the policy dialogue at the national level and the development of legislation as policy decisions can be made in a practical and evidence-based manner.

Burkina Faso: Participatory mapping of gold mining areas

In Burkina Faso, informal gold mining causes soil degradation, the loss of valuable agricultural land and significant chemical contamination of water resources.

GIZ's Global Programme Responsible Land Policy (GPRLP) therefore strengthens local communities' land rights and promotes the sustainable use of soil. This is done by creating participatory maps and defining usage zones for agriculture, livestock farming and water and resource extraction, for example. This has enabled communities and miners to create their own information and communication system, which has already reduced conflicts over land use. The clear documentation of land rights also provides the stability required for forward planning and protects the interests of local communities. To ensure long-term implementation, a clear and flexible roadmap has been drawn up for communities, and a local committee of experts has been set up to advocate for its implementation.

Areas degraded by gold mining are rehabilitated: pits are filled in, forests are replanted, soils are renaturalised and their fertility is restored. In local agreements, gold miners commit to using land and water in a resource-saving manner. In gold mines that continue to operate, the treatment and use of chemicals are now aligned with the interests of affected areas and existing regulations, with municipalities and committees monitoring compliance with relevant legislation. For example, restrictions have been imposed on the use of environmentally harmful chemicals and sustainable mining methods have been introduced.



Results of GIZ's Global Programme Responsible Land Policy (GPRLP) (2016–2026)

In a survey in Uganda, **30 per cent** of the **smallholder farmers** surveyed stated that they were managing their land **more sustainably** and had increased **their productivity** now that their land rights were secure.

In Benin, **40 per cent** of **households with land titles invested** in agroforestry practices (40 per cent), compared to only 10 per cent for households without land titles.

In Ethiopia, secured land rights led to a **24 per cent** increase in **investment** in **afforestation**.

Securing **indigenous peoples'** land rights in the Amazon significantly **reduced deforestation** by a factor of **2 to 3**.

Key messages

1 Sustainable land use promotes climate change mitigation, food security and biodiversity and secures local communities' livelihoods.

2 In view of increasing conflicts of use, land scarcity and the effects of climate change, land use must reconcile environmental, social and economic interests in the long term.

3 Sustainable land use helps to protect natural resources.

4 Secure land rights are the basis for sustainable land use. Secure access to land is a prerequisite for investment in its conservation and sustainable use.

5 Participatory mapping and zoning create stability for forward planning and facilitate conflict resolution at an early stage.

6 Sustainable land use is successful when all stakeholders are involved in decision-making processes at an early stage and on a long-term basis.

Land use planning can only **succeed in the long term** if **all stakeholder groups** are involved.







Recommendations for development cooperation

1. Integration of all stakeholder groups in land use planning: Development cooperation can support the competent authorities in involving all stakeholders within and outside government in planning processes, both horizontal and vertical, and thus increasing their individual autonomy. The provision of spatial data for all sectors is crucial. Regional authorities should assist local authorities with technical backstopping and ensure continuous monitoring of existing land use plans.

2. Strengthening local community participation: To ensure compliance with land use plans, development cooperation should specifically promote community participation. Villagers need access to information, education about their land rights and active involvement in decision-making processes. The needs of women and vulnerable groups must be given special consideration. At the same time, it is important to strengthen local autonomy so that communities can continue to cultivate the land while achieving compliance with land use plans.

3. Linking land use plans with follow-up measures: For land use plans to have a sustainable effect, development cooperation should link implementation with accompanying measures such as land registration, the granting of titles, forest conservation, agricultural extension or investment. In this way, positive effects on income and the environment are created at the local level. Knowledge-sharing and capacity-building are key levers here.





Learn more

German Environment Agency (UBA) (2015): Resource-Efficient Land Use – Towards a Global Sustainable Land Use Standard (GLOBALANDS)

Institute of Applied Ecology (2024): Land Transition Strategies and Solutions for Sustainable Land Use

OECD (2020): Towards Sustainable Land Use: Aligning Biodiversity, Climate and Food Policies

UNCCD (2024): Sustainable Land Use Systems: The Path to Collectively Achieving Land Degradation Neutrality. A Report of the Science-Policy Interface

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