



MICRO-CREDENTIAL

LAND MANAGEMENT IN CENTRAL ASIA

5.- Land Use Concept and Forms

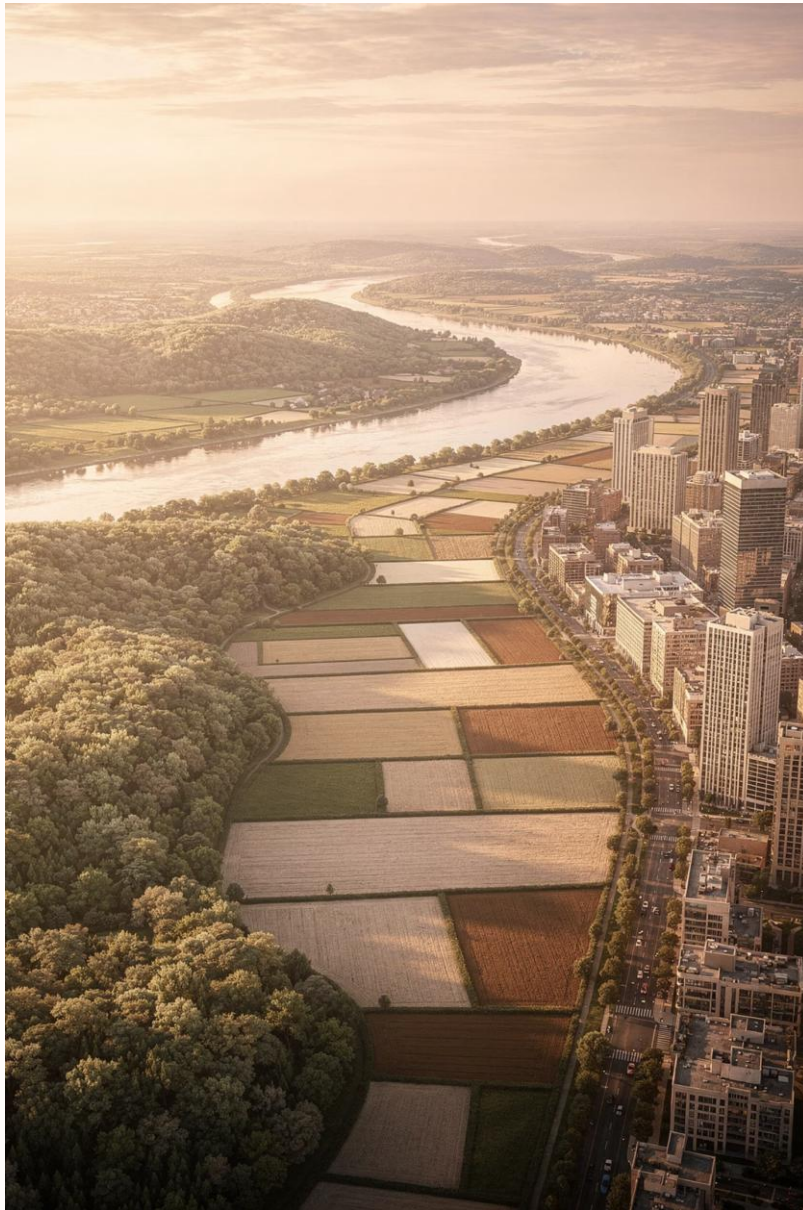
Definition of Land Use

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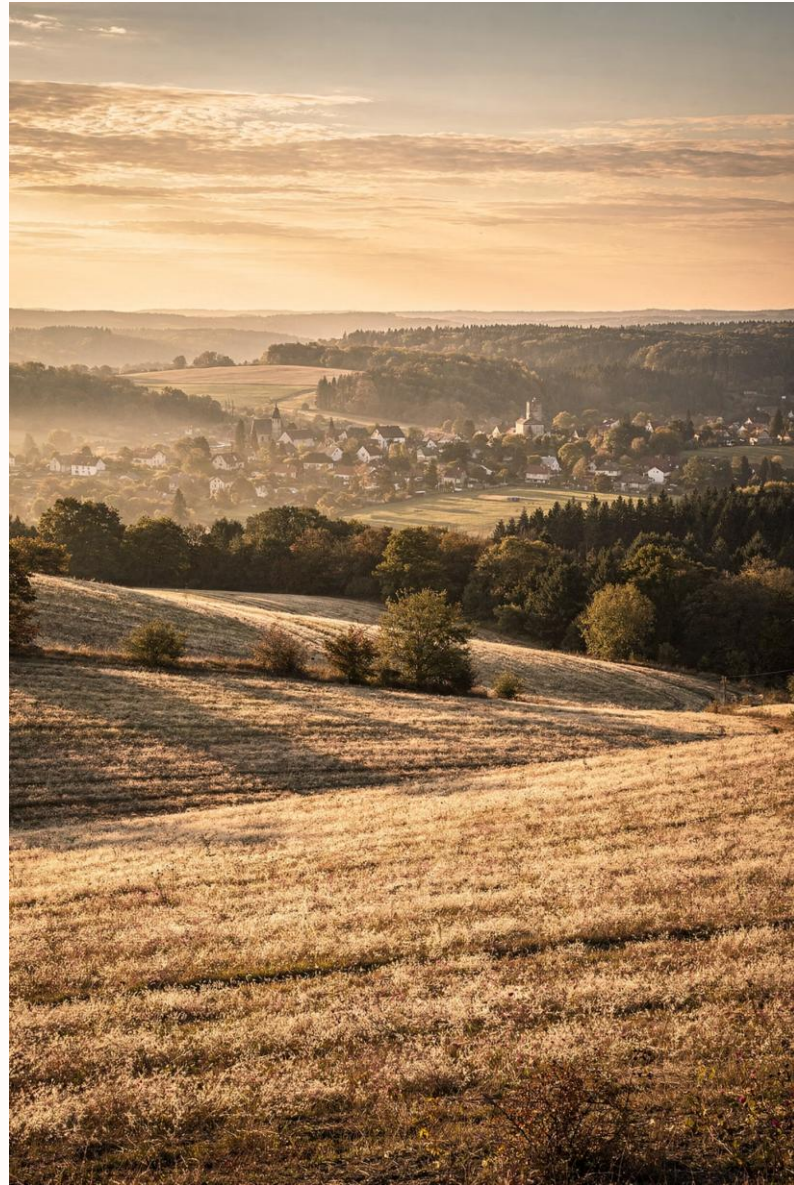


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How humanity chooses to use the land beneath our feet defines the health of our planet, the strength of our economies, and the quality of our lives. This presentation explores the definition, categories, impacts, and future of land use — one of the most consequential decisions we make as a society.



Before we can manage, protect, or improve our landscapes, we must first understand what land use means — and why it matters more than most people realize.

The Core Idea

Land use describes the **human activities and purposes** for which a parcel of land is utilized. It encompasses the benefits derived from land and the management actions humans undertake to shape and maintain it.

- Land use is a **human construct** — it reflects decisions, values, and priorities as much as physical geography.

Purpose Over Appearance

Land use is fundamentally about the *purpose* of the land — not just its current physical state. A plot of land may look green and natural, yet serve radically different human functions depending on how it is managed and what goals it serves.

Land Use vs. Land Cover: A Crucial Distinction

These two terms are often confused, but they describe fundamentally different things. Understanding the difference is essential to any serious conversation about land management.

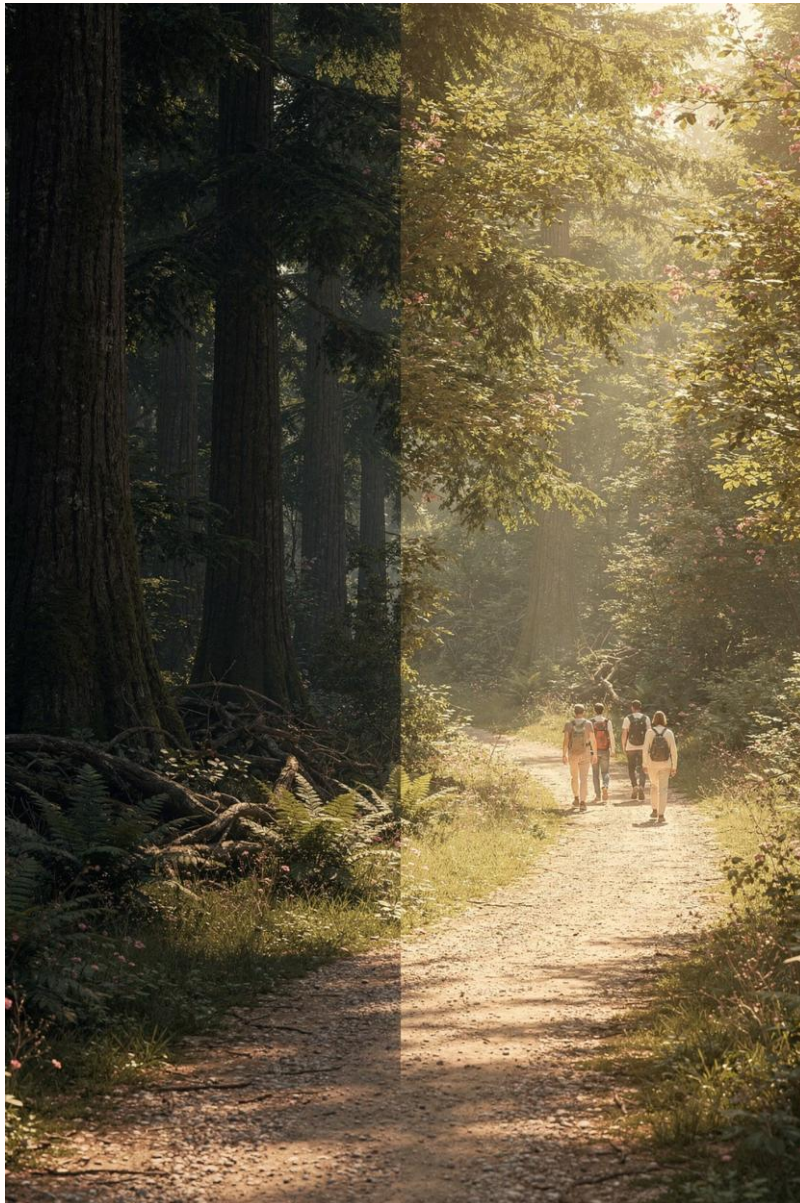
Land Cover

Refers to the **physical characteristics** of the land's surface — what you can observe or measure. Examples include forest, grassland, bare soil, wetland, and open water.

Land Use

Refers to the **human purpose or activity** associated with that land cover — how people are using and managing it. Examples include forestry, agriculture, conservation, and recreation.

 **Key Example:** A forested area can be managed for **timber production** (forestry) or designated for **hiking and recreation** — same cover, entirely different land use.



The same forested landscape can serve entirely different human purposes. Whether it is managed for commercial timber, protected as a wildlife sanctuary, or opened for public recreation — the **cover** remains a forest, but the **use** tells a very different story.

The Diverse Categories of Land Use

Land use is not a single category — it is a rich spectrum of human activities, each with its own ecological footprint, economic value, and social role.



Forest Land

Areas managed for timber production, biodiversity conservation, or public recreation.

Wetlands

Water-saturated areas supporting unique and vital ecosystems.

Grassland

Land managed for livestock grazing or forage production.

Other Lands

Mining operations, transportation networks, and recreational open spaces.

Settlements

Residential, commercial, industrial, and institutional human infrastructure.

Cropland

Land used for growing food crops, hayland, and horticultural production.

Agricultural Land: Feeding the World

Cultivated Cropland

Row crops, close-grown crops, and land in active rotation — the backbone of global food supply.

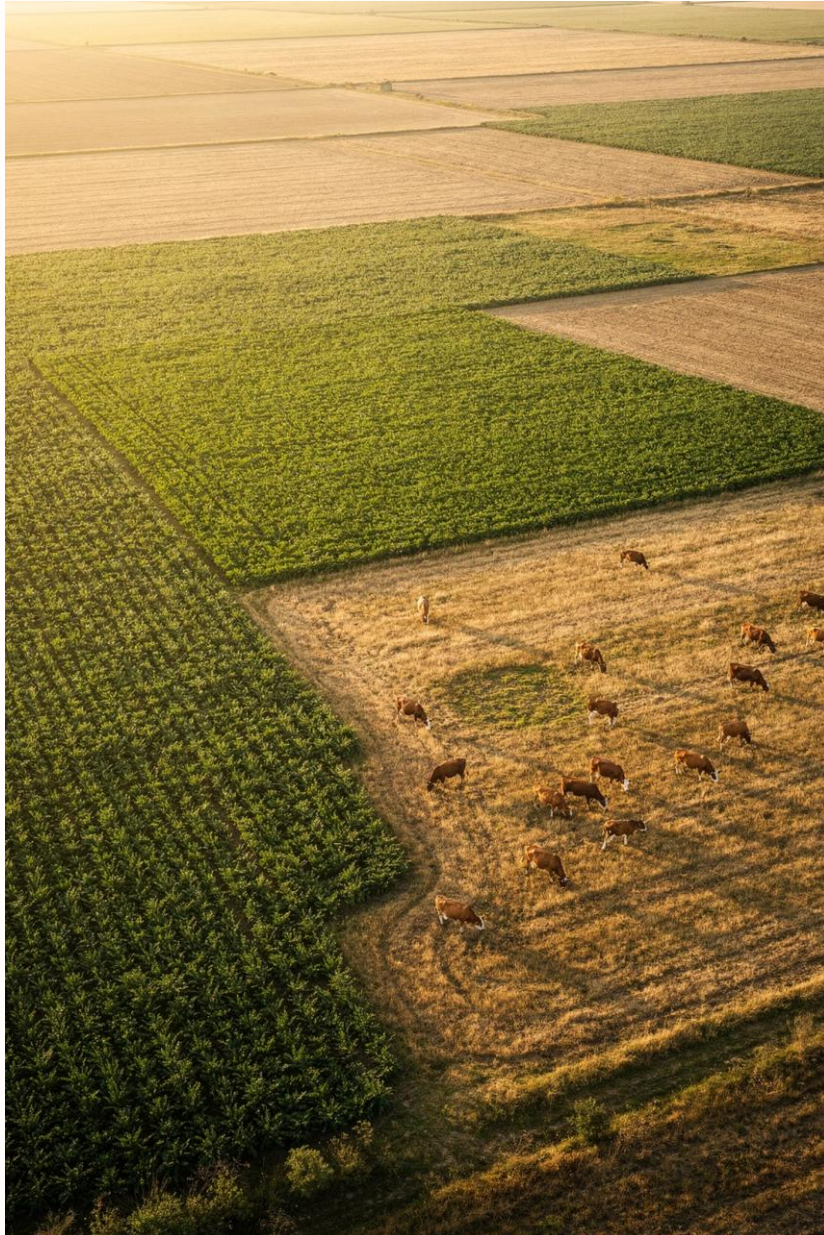
Noncultivated Cropland

Permanent hayland and horticultural cropland including fruits, nuts, and berries — often perennial and intensively managed.

Pastureland

Managed grasslands featuring grasses, legumes, or forbs, used to sustain livestock through direct grazing.

A Mosaic of Agricultural Purpose



From above, agricultural land reveals its stunning complexity — a mosaic of cultivated rows, lush pastures, and orchards stretching across the countryside. Each patch of color represents a distinct human decision about how best to use the soil beneath.

Urban and Built-Up Areas: The Landscape of Human Settlement

Core Urban Functions

Cities and towns concentrate a vast range of land uses into a compact footprint.

Residential, industrial, commercial, and institutional areas each serve distinct functions — from housing families to powering economies and delivering public services.

Infrastructure & Recreation

Transportation facilities — roads, railroads, and airports — form the connective tissue of urban life. Embedded within these systems are **recreational areas** such as parks, greenways, and golf courses that provide vital green relief within the built environment.

→ Defined by Size and Density

Forest land must cover **at least 1 acre** with **at least 10% tree canopy cover** — a precise threshold that distinguishes managed forests from scattered woodlands.

→ Includes Transition Zones

Strips of trees along roadsides, streams, and field edges qualify as forest land, recognizing the ecological value of these corridor habitats.

→ Notable Exclusions

Tree-covered areas in **agricultural production** (orchards, nut groves) and **urban settings** (city parks, street trees) are explicitly excluded from this classification.



Environmental Impacts: A Global Concern



Climate Change

Land-use change alters Earth's albedo and releases stored carbon through deforestation and soil disturbance.



Water Quality

Impervious surfaces limit soil filtration, dramatically increasing runoff pollution into waterways.



Biodiversity

Habitat loss and fragmentation from land conversion are primary drivers of global species decline.

Soil Health

Intensive agriculture and unchecked development drive erosion, compaction, and long-term soil degradation.

The Consequences of Land Use Choices



The contrast between a thriving forest ecosystem and a degraded, eroded landscape tells a powerful story. Land use decisions made today determine the ecological legacy inherited by future generations — making informed, responsible choices more critical than ever.

Resources & Recreation

How land is used affects access to **clean water**, fertile soil, and natural resources essential for survival. Equally important, designated **recreational and natural lands** provide spaces critical for physical activity, stress reduction, and mental well-being — benefits that are increasingly backed by scientific research.

Air & Water Quality

Land use practices — from industrial agriculture to urban expansion — directly determine the pollutants present in our air and water. The proximity of people to contaminated land has measurable health consequences.

Property Rights & Regulations

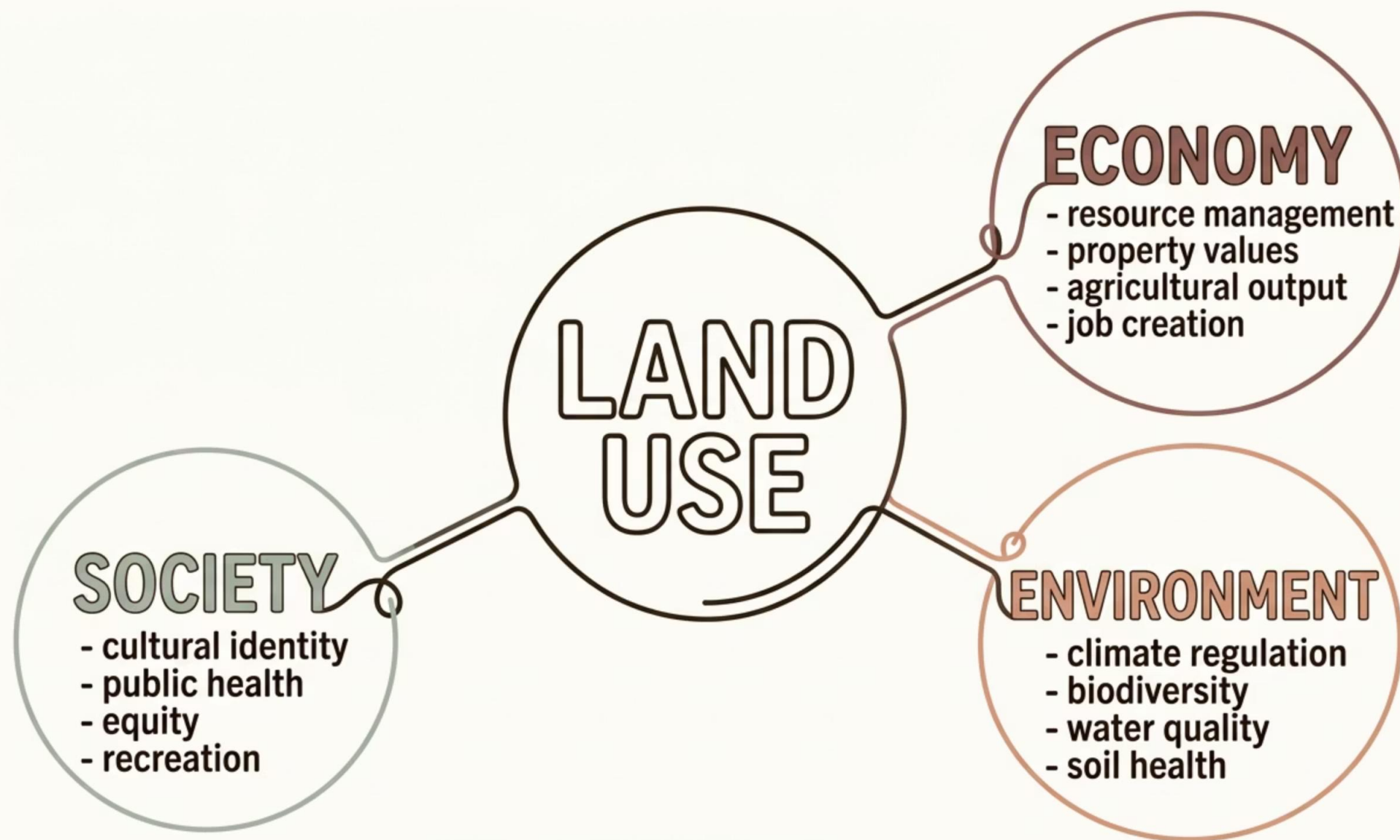
Zoning laws, easements, and private covenants form the legal architecture that governs how land can be used — protecting both individual rights and community interests.

Resource Management

Societies must continuously balance the drive for **economic development** with the imperative to conserve natural systems for future generations — a tension that defines modern land governance.

Cultural Significance

For many communities, land is not merely an economic asset — it is deeply tied to **cultural identity, heritage, and traditional practices** that span generations and deserve recognition in land policy.





Human societies have developed increasingly sophisticated systems to govern land use — from informal customs to comprehensive legal frameworks that shape the character of cities and regions.

Colonial Era

Early American settlements operated with minimal formal land regulation. Land was abundant, and use was largely determined by individual need and informal community norms.

1

Urbanization

The shift from rural to urban societies created densely packed cities with conflicting uses — spurring demands for public land-use regulation to manage growth and protect residents.

2

1916: NYC Zoning

New York City's 1916 Zoning Ordinance became a landmark in urban planning — the first comprehensive zoning law in the U.S., separating incompatible land uses across the city.

3

1930s Expansion

By the 1930s, most U.S. states had adopted zoning laws, establishing a nationwide framework for managing land development that persists — and evolves — to this day.

4

Federal Oversight

National laws set the foundational framework. The **National Historic Preservation Act** safeguards culturally significant sites, while the **National Environmental Policy Act (NEPA)** requires environmental review of major federal land-use decisions.

State & Local Zoning

States and municipalities craft tailored **zoning ordinances** that reflect the specific needs, values, and growth patterns of their communities — allowing for local flexibility within broader legal guidelines.

Private Agreements

Beyond public regulation, **private contracts and covenants** between landowners govern land use at the parcel level. These legally binding agreements can restrict or require specific uses — adding another layer of governance beneath the public zoning system.



Zoning maps translate policy into place. By assigning distinct use categories to specific parcels of land, municipalities shape the physical character of neighborhoods, protect property values, and guide long-term growth — making zoning one of the most powerful tools in the land-use planner's toolkit.



As climate change, population growth, and resource constraints intensify, the way we plan and manage land is undergoing a profound transformation. New paradigms are emerging to meet the challenges of the 21st century.

Smart Growth

A planning philosophy that promotes compact, connected, and walkable development — minimizing sprawl, reducing environmental impact, and building more livable communities.

Sustainable Agriculture

Farming practices that balance productive food output with soil health, water stewardship, and reduced chemical inputs — ensuring agricultural land remains viable for future generations.

Urban Planning Innovation

Designing cities for resilience, efficiency, and livability — incorporating green infrastructure, mixed-use development, and data-driven planning to meet evolving needs.

Conservation Easements

Legal agreements between landowners and conservation organizations that permanently protect natural areas, farmland, and open space — even as surrounding land develops.



The future of land use is not just about restriction and regulation — it is about imagination and intention. Progressive urban design integrates nature, technology, and community to create places where both people and ecosystems can flourish side by side.



Our Choices Define Our World

Every decision about land — what to build, what to protect, what to farm — shapes the environment, the economy, and the fabric of society for generations to come.



Understanding Is the First Step

Grasping the definitions, categories, and consequences of land use empowers citizens, planners, and policymakers to make more informed and responsible decisions.



The Dialogue Never Ends

The tension between human needs and ecological limits is not a problem to be solved once — it is an **ongoing negotiation** that demands continuous attention, creativity, and commitment from all of us.



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