

For this new agenda to take hold and generate impacts at the scale needed, rights and rewards must be underpinned by responsibility. Security of tenure and appropriate incentives and rewards are needed to enable producers to adopt and scale up more responsible land management practices. Ultimately, how can we ignore the moral and ethical obligation to safeguard and preserve the land for future generations?

Part One of this *Outlook* takes a broad brush in painting the big picture while Part Two discussed some of the most pressing global issues that impact land use, demand, and condition as well as the responses needed to achieve the target of Land Degradation Neutrality, and the related objectives of poverty reduction, food and water security, biodiversity and soil conservation, climate change mitigation and adaptation, and sustainable livelihoods.

Part Three highlights six response pathways that producers and consumers, governments and corporations can follow to stabilize and reduce pressure on land resources as well as illustrative case studies and key tools to help achieve success.

**1. Multifunctional landscape approach:** prioritizing and balancing different stakeholder needs at a landscape scale while incorporating site-level specificity on land use, demand, and condition so that a full range of goods and services are produced. Land use planning helps identify those land uses that best meet the demands of people while safeguarding soil, water, and biodiversity for future generations.

**2. Resilience building:** enhancing the adaptive capacity of communities and ecosystems through a mix of conservation, sustainable management, and restoration of land resources. There are many tools and practices to safeguard healthy, well-functioning, and diverse natural and managed lands that can help to mitigate and adapt to climate change and other natural resource pressures.

**3. Farming for multiple benefits:** optimizing the most desirable suite of ecosystem services from food production activities. This requires a fundamental shift in agriculture practices to support a wider array of social, environmental, and economic benefits from managing land-based natural capital.

**4. Managing the rural-urban interface:** framing a new approach to spatial planning to minimize the impacts of urban sprawl and infrastructure development. Cities designed for sustainability in the wider landscape can reduce environmental costs of transport, food, water, and energy, and offer new opportunities for resource efficiency.

**5. No net loss:** providing incentives for the sustainable consumption and production of natural resources. Land degradation neutrality or no net loss of healthy and productive land means more services onsite and less negative environmental or social impacts offsite. For consumption, it means significantly reducing the current levels of food waste and loss.

**6. Creating an enabling environment:** providing the conditions necessary in order to scale local successes into large-scale, transformative initiatives. This includes fostering the underlying social and economic conditions and institutions, particularly those relating to stakeholder engagement, land tenure, gender equality, and the availability of sustained investment and infrastructure.

The numerous practices and progressive approaches highlighted in this Outlook serve as a timely reminder of proven, cost-effective response pathways that will shape a prosperous and more sustainable future based on rights, rewards, and respect for our precious land resources.



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# GLOBAL LAND OUTLOOK

## KEY MESSAGES

### THE BIG PICTURE: LAND UNDER PRESSURE

**The current pressures on land are huge and expected to continue growing:** there is rapidly escalating competition between the demand for land functions that provide food, water, and energy, and those services that support and regulate all life cycles on Earth.

**A significant proportion of managed and natural ecosystems are degrading:** over the last two decades, approximately 20 per cent of the Earth's vegetated surface shows persistent declining trends in productivity, mainly as a result of land/water use and management practices.

**Biodiversity loss and climate change further jeopardize the health and productivity of land:** higher carbon emissions and temperatures, changing rainfall patterns, soil erosion, species loss and increased water scarcity will likely alter the sui ability of vast regions for food production and human habitation.

**Land degradation decreases resilience to environmental stresses:** increased vulnerability, especially of the poor, women and children, can intensify competition for scarce natural resources and result in migration, instability, and conflict.

**Over 1.3 billion people are trapped on degrading agricultural land:** farmers on marginal land, especially in the drylands, have limited options for alternative livelihoods and are often excluded from wider infrastructure and economic development.

**The scale of rural transformation in recent decades has been unprecedented:** millions of people have abandoned their ancestral lands and migrated to urban areas, often impoverishing cultural identity, abandoning traditional knowledge, and permanently altering landscapes.

### AN EMERGING CONSENSUS: A BROKEN SYSTEM

**Our inefficient food system is threatening human health and environmental sustainability:** along with other degrading and polluting land uses focused on short-term returns, the current patterns of food production, distribution, and consumption largely fail to tackle these global challenges.

**The widening gulf between production and consumption, and ensuing levels of food loss/waste, further accelerates the rate of land use change, land degradation and deforestation:** in poor countries, food loss is primarily due to the lack of storage and transport while in wealthy nations, food waste is a result of profligacy and inefficiencies towards the end of the food supply chain.

**The current agribusiness model benefits the few at the expense of the many:** small-scale farmers, the essence of rural livelihoods and backbone of food production for millennia, are under immense stress from land degradation, insecure tenure, and a globalized food system that favors concentrated, large-scale, and highly mechanized farms.

**Large-scale land acquisitions have increased dramatically in the last two decades:** domestic elites and food-importing countries grab large tracts of arable land, usually with water rights and access to transport infrastructure, as a hedge against future price volatility and food insecurity.

**It is the sum total of our individual decisions that is fueling a global land crisis:** whether we act as consumers, producers, corporations, or governments, a business-as-usual approach will be insufficient to address the magnitude of this challenge.

## EXECUTIVE SUMMARY

### A MORE SECURE FUTURE: RESPECT FOR LIMITS

**Land is finite in quantity, however:** the evidence presented in this Outlook suggests that, with changes in consumer and corporate behavior, and the adoption of more efficient planning and sustainable practices, we will have sufficient land available in the long-term to meet both the demand for essentials and the need for a wider array of goods and services.

**We need to think in terms of respect for limits, not limits to growth:** we can take immediate action without compromising the quality of life today or our aspirations for the future; informed and responsible decision-making, along with simple changes in our everyday lives, can help promote economic growth while at the same time reverse the current trends in land degradation.

**To advance a new global land agenda, rights and rewards need to be underpinned by responsibility:** increased security of tenure, gender equity, and appropriate incentives and rewards are essential enabling factors to help producers adopt and scale up more responsible land management practices. Our ability to manage trade-offs at a landscape scale will ultimately decide the future of land resources: integration of conservation, land and water management, and restoration, the core pathway to achieve the target on Land Degradation Neutrality, is also acknowledged as an important accelerator for achieving most of the Sustainable Development Goals.

**Smart land use planning is about doing the right thing in the right place at the right scale:** a multifunctional landscape approach advocates for more rational land use allocations that lead to greater resource use efficiency and the reduction of waste; it is based on the principles of participation, negotiation, and cooperation.

**Bold decisions and investments made today will determine the quality of life on land tomorrow:** the numerous approaches, technologies, and practices highlighted in this Outlook serve as a timely reminder of proven, cost-effective pathways that will shape a prosperous and more secure future based on rights, rewards, and respect for our precious land resources.

Land is an essential building block of civilization yet its contribution to our quality of life is perceived and valued in starkly different and often incompatible ways. A minority has grown rich from the unsustainable use and largescale exploitation of land resources with related conflicts intensifying in many countries. The world has reached a point where we must reconcile these differences and rethink the way in which we plan, use, and manage the land. Our ability to manage trade-offs at a landscape scale will ultimately decide the future of land resources – soil, water, and biodiversity – and determine success or failure in delivering poverty reduction, food and water security, and climate change mitigation and adaptation. Indeed, integrated land and water management is recognized as an accelerator for achieving most of the Sustainable Development Goals.

While we are at a critical juncture, fast approaching and in some cases surpassing planetary boundaries, the evidence presented in this first edition of the Global Land Outlook demonstrates that informed and responsible decisionmaking, improved land management policies and practices, and simple changes in our everyday lives, can if widely adopted help to reverse the current worrying trends in the state of our land resources.

### THE BIG PICTURE

**The pressures on global land resources are greater than at any other time in human history.** A rapidly increasing population, coupled with rising levels of consumption, is placing ever-larger demands on our land-based natural capital. This results in growing competition among land uses and its provisioning of goods and services.

**In basic terms, there is increasing competition between the demand for goods and services that benefit people, like food, water, and energy, and the need to protect other ecosystem services that regulate and support all life on Earth.** Terrestrial biodiversity underpins all of these services and underwrites the full enjoyment of a wide range of human rights, such as the rights to a healthy life, nutritious food, clean water, and cultural identity.

**A significant proportion of managed and natural ecosystems are degrading and at further risk from climate change and biodiversity loss.** From 1998 to 2013, approximately 20 per cent of the Earth's vegetated land surface showed persistent declining trends in productivity, apparent in 20 per cent of cropland, 16 per cent of forest land, 19 per cent of grassland, and 27 per cent of rangeland. These trends are especially alarming in the face of the increased demand for land-intensive crops and livestock.

**Land degradation contributes to climate change and increases the vulnerability of millions of people, especially the poor, women, and children.** Current management practices in the land-use sector are responsible for about 25 per cent of the world's greenhouse gases, while land degradation is both a cause and a result of poverty. Over 1.3 billion people, mostly in the developing countries, are trapped on degrading agricultural land, exposed to climate stress, and therefore excluded from wider infrastructure and economic development.

**Land degradation also triggers competition for scarce resources, which can lead to migration and insecurity while exacerbating access and income inequalities.** Soil erosion, desertification, and water scarcity all contribute to societal stress and breakdown. In this regard, land degradation can be considered a “threat amplifier,” especially when it slowly reduces people's ability to use the land for food production and water storage or undermines other vital ecosystem services. This in turn increases human insecurity and, in certain circumstances, may trigger or increase the risk of conflict.

**The scale of rural transformation in recent decades has been unprecedented in its speed and scale.** Millions of people have abandoned their ancestral lands and migrated to urban areas, often impoverishing cultural identity, abandoning traditional knowledge, and permanently altering landscapes.

### AN EMERGING CONSENSUS

**Higher temperatures, changing rainfall patterns, and increased water scarcity due to climate change will alter the suitability of vast regions for food production and human habitation. The mass extinction of flora and fauna, including the loss of crop wild relatives and keystone species that hold ecosystems together, further jeopardizes resilience and adaptive capacity, particularly for the rural poor who depend most on the land for their basic needs and livelihoods.**

**Our food system has put the focus on shortterm production and profit rather than longterm environmental sustainability.** The modern agricultural system has resulted in huge increases while soil, the basis for global food security, is being contaminated, degraded, and eroded in many areas, resulting in long-term declines in productivity.

**Small-scale farmers, the backbone of rural livelihoods and food production for millennia, are under immense strain from land degradation, insecure tenure, and a globalized food system that favors concentrated, large-scale, and highly mechanized agribusiness.** These farmers often have limited options to pursue alternative livelihoods.

**The widening gulf between production and consumption, and ensuing levels of food loss/waste, further accelerates the rate of land use change, land degradation and deforestation.** The rapid expansion of global value chains and associated trade in land commodities (and their “virtual” components) has shifted many natural resource pressures from the developed to developing countries, where the direct effects of land degradation are unevenly distributed, especially when there is excessive speculation and/or weak governance.

**In order to hedge against future food insecurity and price volatility, large-scale land acquisitions or “land grabs” have increased dramatically since 2000, covering more than 42 million hectares dedicated to food, timber, and biofuel crops, primarily in Africa.** About 25 per cent of global cropland area, and its associated use of water and other inputs, now produces commodities that are exported to land-poor but cash-rich countries.

### SCENARIOS OF CHANGE

**Except for some regions in Europe, the human use of the land before the mid-1700s was insignificant when compared with contemporary changes in the Earth's ecosystems.** The notion of a limitless, human-dominated world was embraced and reinforced by scientific advances. Populations abruptly gained access to what seemed to be an unlimited stock of natural capital, where land was seen as a free gift of nature.

**The scenario analysis carried out for this Outlook examines a range of possible futures and projects increasing tension between the need to increase food and energy production, and continuing declines in biodiversity and ecosystem services.** From a regional perspective, these scenarios predict that sub-Saharan Africa, South Asia, the Middle East, and North Africa will face the greatest challenges due to a mix of factors, including: high population growth, low per capita GDP, limited options for agricultural expansion, increased water stress, and high biodiversity losses. The lack of economic and institutional means to cope with these factors will increase the risks of violent conflict and mass migration.

**Other global land use scenarios suggest that management practices in a landscape context, accounting for interdependencies, are more significant determinants of shared environmental and food security outcomes than population and economic growth projections.** These models imply that the perceived trade-offs are not simply a matter of the number of people but rather the predictable consequence of narrowly-focused and unsustainable land use planning, policies, and practices.

**Land is finite in quantity but the evidence presented in the Outlook suggests that with changes in consumer and corporate behavior, and sustainable management policies and practices, we still have sufficient land available to meet both the demand and the need for a wide array of goods and services.** However, difficult choices and trade-offs will be necessary.

**Long-term food and water security will require shifts away from resource-intensive production, carbon-intensive processing and transport, land-intensive diets (primarily from the increased demand for animal products and processed foods), and the current high levels of food waste, including post-harvest losses.**

**Effective response pathways therefore need to address the way we value and manage the quality of the land, striving to balance its biological and economic productivity.** It is the sum total of our individual decisions – as consumers, producers, corporations, and governments – that has created a global land crisis. Like our response to climate change, a business-as-usual approach will be insufficient to address the magnitude of this challenge.

### A MORE SECURE FUTURE

**We already know much of what it takes to build a resilient planet for future generations – to harness the immense opportunities for sustainable growth provided by nature and ensure a more secure future.** The question is: can we catalyze a shift from the current “age of plunder” toward an “age of respect” where we respect biophysical limits?

**A new age of respect would require a transformation in the way we consume, produce, work, and live together to address major pressures on land resources and associated environmental issues.** The condition of land resources is closely bound up with all aspects of human security now and into the future.

**It is clear that the next few decades will be the most critical in shaping and implementing a new and transformative global land agenda.** In much of the developing world, achieving more secure rights in terms of tenure, gender equity, and social justice, will be an essential step to improving the long-term stewardship of land resources.