

GLOBAL LAND OUTLOOK

Working Paper



United Nations
Convention to Combat
Desertification

URBAN–RURAL LINKAGES AND ECOSYSTEM RESTORATION



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We imagine a world with an integrated governance and participatory planning approach to design cities and territories, as reflected in the New Urban Agenda, the Sustainable Development Goals, the Paris Agreement on Climate Change and other global agendas... This new approach is necessary to strengthen human rights, inclusiveness, gender equality, environmental protection and restoration, with a particular emphasis on climate adaptation and mitigation, the green recovery, biodiversity, disaster risk prevention, and will multiply the benefits of interlinkages between urban and rural areas.

From Visioning Report UN75: The role of local and subnational governments in the future global governance of the international system, Global Taskforce for Local and Regional Governments, on the occasion of the 75th Anniversary of United Nations, September 2020, New York.

Urban–Rural Linkages and Ecosystem Restoration

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Acronyms

CBD	United Nations Convention on Biodiversity
CIRAD	Agricultural Research Centre for International Development, France
COBIOCOM	Bio-Cultural Corridor of West Central Mexico
FAO	United Nations Food and Agriculture Organization
GIZ	German Agency for International Cooperation
NGO	Nongovernmental organization
OECD	Organisation for Economic Cooperation and Development
RUAF	Resource Centres for Urban Agriculture and Food Systems
UNCCD	United Nations Convention to Combat Desertification
UN-Habitat	United Nations Human Settlements Programme

Key messages

Urbanization and ecosystems are profoundly intertwined. As urbanization takes over more land and has greater impacts on ecosystems, and as towns and cities of all sizes demand ecosystem services (food, fiber, water, energy, etc.), flows of people, goods, services, information, capital, etc. define and drive urban–rural linkages in complex and intricate patterns.

Local and subnational governments are at the frontline of land and ecosystem conservation, rehabilitation and restoration. They can deliver nature-positive solutions to development challenges, starting from locally relevant entry points.

Complex, multi-dimensional challenges cut across the urban–rural continuum. These challenges are identified by global agendas such as the Sustainable Development Goals in the 2030 Agenda, the New Urban Agenda, the Global Biodiversity Framework, the Ecosystem Restoration Agenda. Solutions are needed that build synergies and coherence while using scarce resources more effectively.

“Reciprocal mainstreaming,” or recognizing priorities at both local and national or global levels, is a critical approach. One-size-fits-all, national approaches may not address contextual heterogeneity and the real needs of communities. Solutions should start from the priorities, knowledge and experience of local and subnational actors and Indigenous Peoples.

Local governments can rapidly transform their governance practices when conditions are favorable, or in crisis situations. They can do this by supporting concrete interventions, operationalizing policy in programs, and managing trade-offs between competing interests, either between urban and rural communities or between the private sector and civil society.

Land- and ecosystem-related issues are closely related to the needs and livelihoods of both urban and rural communities. However, institutional mandates and political priorities may start from different technical sectors and entry points. They often reflect different perceptions of the same complex reality.

Pathways for operationalizing the restoration agenda span policy and practice. They include the mitigation of urban sprawl, support for social protection and territorial food systems, promotion of sustainable diets, and integrated urban and rural development. These may be implemented at local and subnational levels if they further the larger restoration agenda.

Elected local leaders and officials play a vital role. Short and long-term success depends on integrating economic and social priorities with environmental conservation and restoration goals. Broad support and participation of local actors and sectors is necessary.

Innovation in cross-sector and cross-agency collaboration and coordination is stimulated by crisis management and recovery (for example from Covid-19). Such innovation should be supported and institutionalized.

The “restorative continuum” has a spatial dimension across the urban–rural interface. The steps to progressive restoration (from reducing societal impacts to recovery of ecosystems) meet UN-Habitat’s Urban–Rural Linkages Guiding Principles and Framework for Action.



1. INTRODUCTION TO URBAN–RURAL LINKAGES AND RESTORATION

This working paper proposes an urban–rural linkage perspective in relation to land and ecosystem restoration at a time of heightened urgency on multiple fronts at local, national and international levels. The combined impacts of climate change, biodiversity loss land degradation and conflict are increasing at alarming levels. These biophysical transformations are themselves the product of human activities and population growth, and urbanization imposes enormous pressures on terrestrial and marine ecosystems. The United Nations estimates that 68% of the world will be living in cities by 2050. The most rapid growth between 2020 and 2050 will be in those cities under 500,000 in population. The 2018 UN World Urbanization Prospects report states that:

integrated policies to improve the lives of both urban and rural dwellers are needed, strengthening the linkages between urban and rural areas and building on their existing economic, social and environmental ties.¹

New opportunities are emerging from a variety of entry points. They converge in a focus on urban–rural linkages that are critical to making progress during the Decade of Action on the Sustainable Development Goals and the Decade of Ecosystem Restoration (both of which run until 2030). Efforts to strengthen linkages between urban and rural areas must confront deep social and political divisions that are place-, context- and culture-specific. Urbanization has dramatically accelerated the loss of biodiversity, fertile croplands and natural unbuilt landscapes, especially in larger mega-urban regions in Asia and Africa where lands lost to urbanization used to produce a lot of food and fiber.² Rapid urbanization and rural transformation, coupled with inappropriate food and agriculture policies, are associated with increased social and economic inequalities, especially for women and youth. These aggravate poverty, hunger, malnutrition and disease in every region of the world.

Each of these interlinked trends has been further exacerbated by the social, economic, environmental and political impacts of the COVID-19 pandemic. The pandemic has given greater urgency to calls from countries, civil society and the private sector for integrated local and national, urban and rural solutions, as well as to calls from UN treaty bodies and agencies for nature-based, ecosystem-positive, or ecological transitions and solutions.

Land and ecosystems underlie and connect most of the world's past, present and future challenges, and indeed are the basis for most services and goods that provision, shelter and clothe humanity. The scientific understanding of complex ecosystem functions that are essential to human well-being have advanced considerably in the three decades. The analytical frameworks and policy direction from the three Rio Conventions (the UN Framework Convention on Climate Change, the UN Convention on Biodiversity [CBD], and the UN Convention to Combat Desertification [UNCCD]) are fundamentally interrelated and stand firmly on this foundational scientific understanding of the need to restore and protect ecosystems.³

The UN Convention to Combat Desertification

underlines the importance of integrated land use planning that navigates trade-offs, takes account of the evolving urban–rural dynamic and encourages local, circular, production and consumption wherever possible.⁴

Land degradation neutrality is defined as

a state whereby the amount and quality of land resources necessary to support ecosystem functions and services and enhance food security, remains stable or increases within specified temporal and spatial scales and ecosystems.⁵

Global agendas such as the Sustainable Development Goals concentrate on national solutions for achieving a sustainable and resilient future. The sheer magnitude and complexity of coordinated, comprehensive and systems-based approaches for addressing these challenges have led to renewed interest from development actors in local, subnational or territorial approaches to sustainable development.⁶ This working paper will concentrate on selected local and subnational approaches that have galvanized action and are important to mainstreaming restoration even when the challenges and resulting priorities are understood in different terms. Solutions and pathways for localization from the case studies examined for this paper address restoration as a dimension of sustainable territorial development either directly or indirectly. Experiences from different levels of governance or parallel communities of practice that begin with different priorities, challenges and solutions converge around urban–rural linkages and restoration. This convergence is partly because needs and solutions are often closely intertwined across the urban–rural continuum.

Ensuring effective interlinkages has been a standard recommendation for follow-up and review of implementation of the Sustainable Development Goals. Nonetheless, the heterogeneity of the diverse geographical, political, economic and cultural settings for national implementation has made progress difficult at national levels. Bringing these different agendas together and operationalizing acceptable trade-offs is often easier at local and subnational levels, and in most countries one-size-fits-all national approaches cannot adequately address complexity.⁷ The failures of past development approaches, the aggravation of social and economic disparities and the multi-dimensional complexity of today's challenges have spurred new governance initiatives in many countries. A growing and promising number of these initiatives include a new emphasis on local, or territorial approaches and on subnational action for sustainability, including priorities related to restoration.⁸ Despite this emphasis, there are widespread gaps in knowledge, information management, and human and financial resources at the local and subnational levels. This is why addressing challenges of capacity at the local level requires support at national and international levels, beginning with acknowledging the importance of integrating urban and rural solutions to shared challenges.

UN agencies and treaty bodies that previously did not explicitly address or prioritize the actions of local and subnational governments have

increasingly begun doing so, often in partnership with city and regional government networks, academia and NGOs. Examples include local and regional government stakeholders who have been active in all three Conferences of the Parties of the Rio Conventions, and in most of the major sustainable development forums and summits. UN-Habitat is the one UN agency with a mandate to address the challenges of all human settlements, from villages to large cities. In addition to the subnational attention to sustainable urbanization, UN-Habitat has added an important spatial dimension to implementation of global agendas, adding “leave no space behind” to the call to “leave no one behind.”

Alongside the elevation of sustainable urbanization as one of the Sustainable Development Goals (Goal 11, sustainable cities and communities), UN agencies – including UN-Habitat, UN Development Programme, FAO, UN Environment Programme, CBD, the UN Framework Convention on Climate Change and UNCCD – and their partners have developed research, technical and financial support programs addressing cities and subnational regions or territories. The restoration agenda has begun to take on higher priority beyond UNCCD in these efforts, but unevenly across this institutional landscape. In the larger context of the turn to localization of global agendas, this paper will examine development pathways where the restoration agenda is less explicit but nonetheless emergent. An important addition to the paper's conceptual framework – linking urbanization and rural transformation to ecosystem restoration – is the theory of change to achieve land degradation neutrality, including the restorative continuum. The restorative continuum for improving biodiversity, ecological integrity and ecosystem services has important spatial and functional correlations to the urban–rural continuum.⁹ The correlations between these two continuums will become evident in later sections of the paper.

In 2019 UNCCD affirmed the importance of subnational leadership to address land and ecosystem restoration with the adoption by the Conference of Parties of the Delhi Declaration at COP 14. The Delhi Declaration

encourages local governments to adopt integrated land use management and enhanced land governance to rehabilitate the natural resource base that makes cities sustainable, taking into consideration the New Urban Agenda, including by reducing rates of land consumption and soil sealing along with biodiversity and ecosystem loss.¹⁰

This working paper will address the three dimensions of this Declaration:

- Integrated management approaches by local governments;
- Enhanced governance of urban rural linkages; and
- Rehabilitation of resources that make cities sustainable.

The cases examined for the working paper demonstrate that local governments are increasingly using governance tools to develop a comprehensive approach to land and ecosystem restoration. Resources for integrated territorial planning available to local authorities include a wide range of tools for policy, planning, zoning, regulation, public finance, taxation and procurement, among others, depending on the degree of authority conferred on local and subnational authorities by central governments.¹¹ For example, in the New Urban Agenda national governments commit to supporting cities' efforts to protect and restore ecosystems essential to the sustainability of urban and rural areas.¹²

In most countries, the structure of local governments reflects the structure of national governments, making it equally siloed, with issues of planning, health, environment and economic development housed in different departments. Municipal agencies with sectoral mandates are often more linked to their national ministries than to other municipal agencies, reinforcing the vertical silos between agencies.¹³ This is particularly the case in major cities with significant budgets and staffing resources. It is much less so in small and intermediate cities where smaller and shorter distances, and closer links between urban and rural populations, facilitate joint action-learning.

The other scale issue is geography: the jurisdictions of local and subnational governments cover a smaller land area. Even with the smaller scale, local and subnational governments usually include both urban and rural communities with significant heterogeneity and complexity.¹⁴ Small and intermediate cities and rural areas provide lessons in many cases that are useful for both larger cities and national governments. Their good restoration practice around integration can travel up and down the levels of governance.

This paper will review and analyze how selected cities and subnational governments have cultivated entry points or pathways to restoration through, for example, land-use planning, biodiversity protection, urban forestry, open-space conservation and

food-systems and economic development. This progressive engagement with restoration has been assisted by city networks, research institutions, donors and nongovernmental organizations. Examples include:

- ICLEI's Cities Biodiversity Centre and CitiesWithNature Initiative.¹⁵
- Regions4, a global network of subnational governments focused on biodiversity action planning.¹⁶
- The RUAF Global Partnership on Sustainable Urban Agriculture and Food Systems. This brings together cities, research institutes and civil society organizations with a recognized track record in urban and peri-urban agriculture and urban food systems, therefore combining technical and policy expertise, scientific research and practical knowledge. One of its focus areas is to support cities in integrating (peri-)urban agriculture and forestry in local and national climate change plans, policies and disaster-risk-reduction strategies.¹⁷

These thematic pathways embrace different facets of the restoration agenda and have helped shape international debate on the role of local and regional governments in localization of ecosystem restoration. Efforts to create spatial and functional mosaics of restorative landscapes linking rural to peri-urban and urban areas reveal the need for multi-level policy coherence, good practice learning and exchange, and investment in solutions that will bring short- and long-term results.¹⁸

Although both national and local governments can be characterized as siloed structures, the pace of institutional change varies according to scale. For example, progress of policy implementation related to restoration that begins at national levels may stall or be subverted at legislative or executive levels. Or a multi-actor, multi-sector assessment or priority-setting process may take longer and be more complicated or controversial at the national level. As the case studies show, being smaller and closer to the ground than national governments, subnational governments can take action in less time, even with high participation levels.¹⁹ Except in the small number of countries that are essentially city-states, local governments can transform their governance practices faster than most national governments, if the conditions are right. In addition to these governance-related impediments, the urban/rural divide also hinders progress of policy implementation that supports the restoration agenda.

2. CONCEPTUAL FRAMEWORK

UNCCD has articulated a theory of transformative change to achieve land-degradation neutrality targets, defined as profound and enduring nonlinear systematic changes, typically involving social, cultural, technological, political, economic, and/or environmental processes. This inherent complexity applied to land restoration is compounded by a recognition that transformative changes in land and ecosystem restoration must be aligned and integrated with other development efforts and climate action to ensure maximum impact. This thematic and transdisciplinary diversity can be addressed by linking a variety of short-term pathways,²⁰ or entry points, that, given certain conditions, can lead to large-scale ecosystems restoration to achieve land-degradation neutrality. Subnational and local approaches to systemic transformative change are gaining increased attention as actors at these levels demonstrate the ability to manage complexity and to adapt quickly to changing conditions.²¹

2.1 Objectives

The **first objective** of this working paper is to understand how local and subnational governments are approaching land and ecosystem conservation, rehabilitation, and restoration across the urban–rural continuum. Cases have been examined from selected communities of practice that address restoration through the lens of urban–rural linkages and integrated territorial development. Urban settlements at different scales, together with neighboring territories, address urban–rural linkages from local and territorial perspectives and priorities.²² Many of these priorities align with, and are also entry points for engaging the restoration agenda.

The **second objective** is to propose a set of recommended principles and actions that are grounded in evidence from cities (including small and intermediary cities) and other subnational governments that address the reversal of land

degradation through preventative and restorative practices, while overcoming the disciplinary/thematic silos and spatially divided (urban/rural) approaches. Concluding findings will be offered to manage integrated urban–rural ecosystems across governance levels.

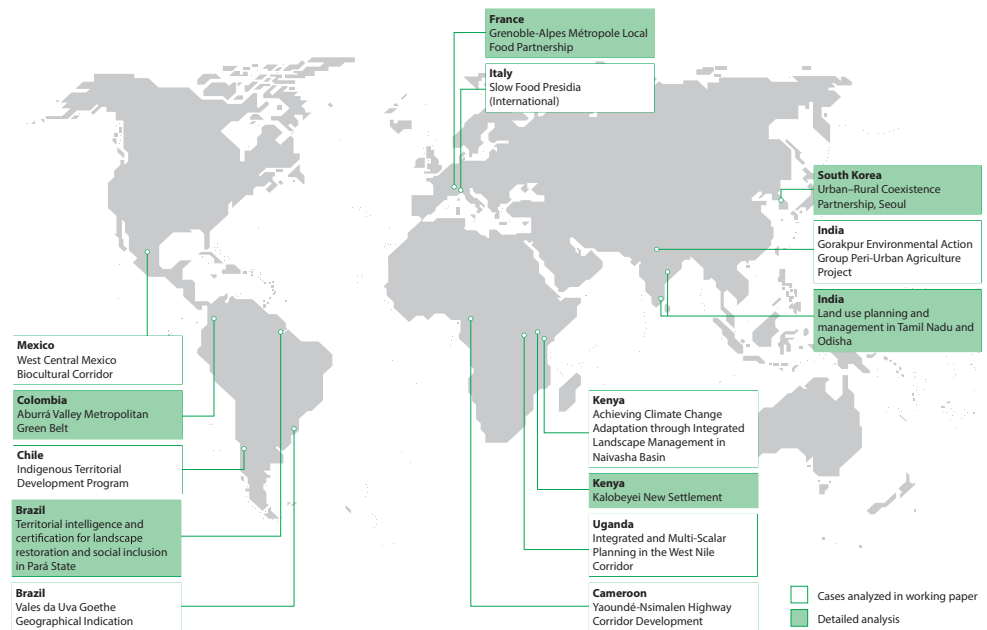
The cases present concrete pathways to restoration that are being implemented together with local and subnational governments in urban–rural interfaces. Based on an analysis of the operational convergence of sustainable development priorities with the restoration agenda across the urban continuum, the concluding sections of the paper aim to provide answers to the following questions:

- What are the enabling political and economic factors within the policy and implementation environment, including land administration, tenure and spatial planning approaches?
- What are the most common restorative pathways or nature-based solutions for enhancing the resilience of cities and territories?
- What are the lessons learned from the work of local and regional governments (including from the impacts of COVID-19)?
- What is the set of principles that provides a unified understanding and coherent framework for multi-functional land and ecosystem restoration in urban–rural interfaces?

2.2 Cases

Certain international communities of localized practice²³ have come to learn from and support cities and territories, building on urban–rural linkages and pursuing integrated territorial development. Some that are associated with ecosystem restoration are well known to the restoration community. They include:

FIGURE 1
Locations of cases used as the basis for this working paper



- The ICLEI-Cities Biodiversity Centre’s work on mainstreaming biodiversity in cities, along with the CitiesWithNature Initiative.²⁴
- EcoAgriculture Partners and the 1000 Landscapes for 1 Billion People initiative, which includes tools, services and resources for landscape partnerships in the urban-rural interface.²⁵

Cases that integrate biodiversity and landscape management through integrated urban and rural planning and development are important contributions to pathways for urban and territorial engagement with ecosystems restoration.

Notwithstanding these and other important contributions, this paper concentrates on lessons from communities of practice that may be less well known to the restoration community, and which focus primarily on the integrated urban and rural governance to respond to priorities seemingly distinct from restoration but that come to progressively address the restoration continuum. The cases in the working paper are drawn from:

- UN-Habitat’s compendia of good practices
- FAO’s Urban Food Actions Platform
- Milan Urban Food Policy Pact (MUFPP) signatory cities
- Territorial Perspectives for Development stocktaking of territorial approaches to sustainable development

They include networks and associations of cities and regions,²⁶ UN agencies,²⁷ international financial institutions²⁸ and development actors including donor and nongovernmental organizations.²⁹ Figure 1, Box 1 and the Annex provide details.

From these primary collections of experiences, five cases are expanded upon for the analysis in later sections of the paper.

The foundation for this analysis of emerging restoration practices of local and subnational governments is thus both the actual experiences of subnational governance processes as represented in cases found in all regions, *and* the emerging international consensus on the importance of integrating urban and rural approaches to sustainable development.

The restoration agenda is closely related to a variety of challenges and needs of both rural and urban communities. Institutional mandates and political priorities in the cases start from different sectors and entry points but often reflect different dimensions of the same complex reality. The concept of **reciprocal mainstreaming**, developed to articulate the convergence or overlap between different points of entry (for example between ecosystem restoration and public procurement policy to support carbon-friendly farming) as well as alignment across levels of governance, is a useful tool for aligning the restoration agenda with parallel communities of practice detailed in this paper.³⁰

BOX 1

Communities of practice selected for urban–rural linkages and restoration cases



UN-Habitat

Urban–rural linkages. Compendium of inspiring practices on urban–rural linkages: Implementation of the guiding principles and framework for action to advance integrated territorial development (1st edition: 9 cases)

unhabitat.org/sites/default/files/2020/06/compendium-of-urban-rural-linkages-case-studies-web-vers_.pdf

(2nd edition: 17 cases to be published in late fall, 2020)



FAO

City-region and territorial food systems. Urban Food Actions Platform: Collection of cases and reports (more than 150 total cases on platform)

www.fao.org/urban-food-actions/en/



Milan Pact Secretariat/ESTa/FAO

Urban food governance. Good practice cases from Milan Pact Awards 2016–2018 submissions

www.milanurbanfoodpolicypact.org/50-selected-practices-2/

104 cases from 2019 MPA submissions

www.milanurbanfoodpolicypact.org/104-practices-submitted/



GIZ/Territorial Perspectives for Development partners

Territorial planning and development. Territorial approaches to sustainable development: Stocktaking and synthesis report including 15 cases

<https://www.giz.de/en/downloads/Territorial%20Approaches%20for%20Sustainable%20Development.pdf>

For details on these policy and practice communities see Annex.

2.3 Dimensions of operationalizing restoration

The next section of the paper examines restoration pathways derived from cases related to the restorative continuum in the urban–rural interface. Particular dimensions of these pathways are critical to operationalize, scale and configure to be more directly applicable to ecosystems restoration in the urban–rural interface. These include four dimensions to operationalize land and ecosystem restoration:

- Demonstrating **proven and cost-effective restoration pathways** in the context of urban–rural linkages;
- **Highlighting different roles** that individuals, local communities and organizations can play across the urban–rural continuum;
- Presenting a positive and convincing **narrative on the potential and opportunities** for integrated urban and rural ecosystem restoration; and

- Using the **COVID-19 pandemic as a lens** on this vision, as well as a learning opportunity in which integrated urban–rural response and recovery have been documented.

2.4 Urban–rural linkages

Urban–rural linkages and territorial approaches have come to center-stage globally, as an expression of spatial and functional relations between more urbanized communities and more rural communities. While the terms have been in use for decades, and over the years have had consistent definitions, urban–rural linkages are newly enshrined in Goal 11.a of the 2030 Agenda for Sustainable Development, and more extensively in the New Urban Agenda.

Urban–rural linkages are the reciprocal and repetitive flow of people, goods and financial and environmental services... between specific rural, peri-urban and urban locations.³¹

BOX 2
Guiding principles for urban–rural linkages



This definition is rooted in the flows across the urban–rural continuum. Ecosystem functions and their benefits for finalized services – including food, energy and water, health and social services such as housing and sanitation, transportation and mobility, disaster prevention and response, among other issues – are all dependent on functional flows across the continuum.

There is a mutual dependency between urban–rural linkages and **ecosystems**. Ecosystems are the basis for the flow of resources (through informal and formal channels) across the urban–rural continuum. It is important that the flows that constitute urban–rural linkages also support ecosystems, and this does not happen automatically. Urban–rural linkages, conceived narrowly as flows of resources, do not necessarily support ecosystems and in fact more often degrade ecosystems. **Urban–rural linkages have to be managed** to support ecosystems through functional and spatial management approaches to ecosystem restoration. Urban–rural flows can bring an important spatial dimension to the restorative continuum for ecosystems. This in turn helps in understanding the entry points of different communities of practice in both spatial and functional terms.

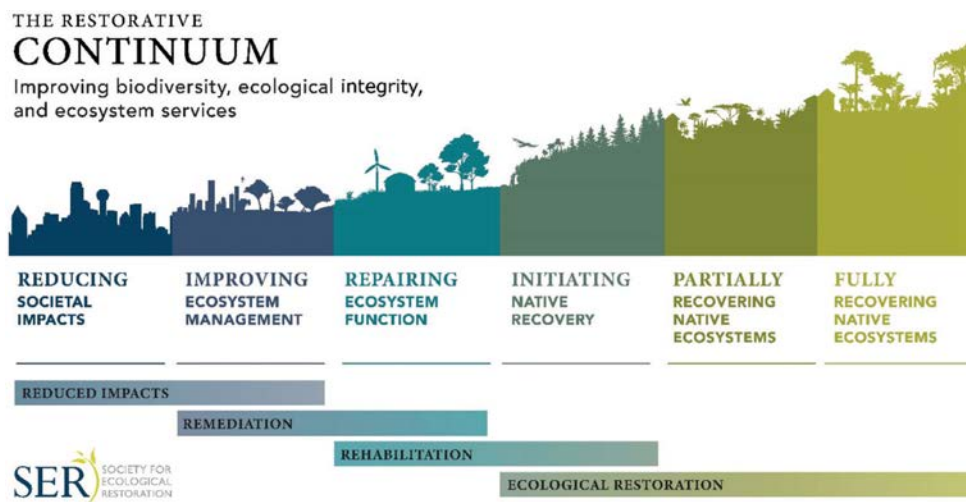
A multi-sector approach to providing governments and non-state actors with guidance for ensuring more functional urban–rural linkages and addressing the many thematic priorities of local and subnational governments was convened by

UN-Habitat after the 2016 launch of the New Urban Agenda. The resulting “Urban–rural linkages: Guiding principles and framework for action to advance territorial development”³² was developed with broad multistakeholder input and launched at the UN-Habitat Assembly in May 2019. It provides a set of principles that are examined in the context of the restorative agenda in the cases reviewed for this paper. The Guiding principles are discussed in further detail in the Annex, which presents the four communities of practice from which cases are drawn for this review.

The cases reviewed in the next section incorporate many of the Guiding principles. These are summarized in Table 3 (see Section 4). The principles are listed in Box 2.

The driving forces creating pressure to integrate urban and rural planning and development are not derived from policy encouragement or from the mandates of government agencies, but come from challenges of urbanization and rural transformation themselves.³³ As cases across scales and across regions demonstrate, challenges are often interconnected and multifaceted, and their impacts are clustered. Solutions that address challenges across multiple dimensions are needed. Solutions to poverty, hunger and urbanization’s impacts on land and environmental degradation can be integrated in ways that cut across sectors, departments and across jurisdictions administering urban and rural spaces.

FIGURE 2
The restorative continuum spatially links to the urban–rural continuum



Source: Society for Ecological Restoration. International principles and standards for the practice of ecological restoration. 2nd ed.

This interrelation of challenges requiring interconnected solutions typifies the four communities of practice (Box 1) from which the cases are drawn for analysis. Table 1 presents clusters of challenges and associated solutions.³⁴

Similar challenge/solution clusters are found in the results of participatory assessment of needs and priorities in specific places in both developed and developing countries.³⁵ Participatory or multi-stakeholder assessment is a crucial first phase in identifying location-sensitive and culturally appropriate solutions. Assessment methodologies that privilege local knowledge in efforts to understand the challenges for urban–rural linkages, city-region food systems,

and territorial planning and development, are more likely to reveal the most critical stresses and challenges. Issues related to land and ecosystem restoration cut across these and other formulations of challenges that demand collective response. However, the connections are not automatic. The challenges of food insecurity, malnutrition, biodiversity loss, entrenched poverty, inequity and climate change are all rooted in ecosystem and planetary health and have all been exacerbated by the COVID-19 pandemic. Concrete solutions to interlinked challenges will be examined across diverse political, administrative and cultural contexts from a variety of entry points, or pathways that address restoration through integrated urban and rural strategies and interventions.

TABLE 1
Clusters of challenges and solutions relating to restoration

Challenge clusters at subnational levels	Solution clusters related to restoration
a. Poverty, inequality and mobility/migration	Inclusive access to public and private services provided by different agencies and actors that mitigate pressures on land and ecosystems
b. Hunger, food insecurity, health and malnutrition	Improved food systems that address challenges a, c, and d across sectors and agencies
c. Expansion of urban agglomerations and conflict over land and natural resources	Policy support for better planning and management for sustainable land use and development alignment with restoration goals
d. Land degradation, biodiversity loss, threats to water supply and climate change impact	Integrated natural resource management at the territorial or landscape level addressing mandates across agencies at different governance levels directly addressing restoration

Adapted from “Territorial Perspectives for Development: Stocktaking and synthesis report: Territorial Approaches for Sustainable Development” (GIZ: 2021)

3. PATHWAYS TO LAND RESTORATION

3.1 Overview

The challenges facing local and subnational governments enumerated in the previous section are most often prioritized according to levels of urgency by different levels of government. These priorities fall into economic, social and environmental areas. For example:

- In Paragominas (**Brazil**) the priority was economic development in the face of deforestation.
- In the Aburrá Valley (**Colombia**) the priority was the impact of urbanization on biodiversity and natural resources.
- In Tamil Nadu and Odisha (**India**) it was poor capacity at local and subnational levels to conduct planning to manage urban sprawl.
- In Kalobeyei Settlement (**Kenya**), the socio-economic pressures from a massive refugee influx were the highest priority.

Responses or interventions are made based on territorial priorities in specific pathways that are organizationally, operationally and politically practicable. The cases documented from the four communities of practice listed in Box 1 suggest eight pathways or entry points for local and subnational governments in addressing land and ecosystem restoration at the urban–rural interface.³⁶ These eight pathways are:



1. Indigenous peoples and civil society. Protection of ecosystem functions and service provision led by indigenous peoples and civil society



2. Ecosystem stewards. Empowerment of ecosystem stewards in urban and peri-urban forestry and agriculture



3. Territorial planning. Integrated territorial planning response to urbanization's ecosystem impacts



4. Inter-jurisdiction integration of food, climate change, biodiversity and ecosystem services



5. Markets and regulations. Municipal initiatives to create a brand/regulation for biodiversity-related products



6. Procurement policy and legislation linking rural production to urban consumption






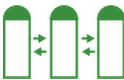




7. Circular economy. Initiatives promoting circular food economies and short value chains



8. Crisis management advancing integrated urban–rural land use.

These pathways are derived from the cases reviewed in this section. They are not the only ways to characterize pragmatic approaches to operationalize restoration coming from outside the current conventional discourse of ecosystem restoration. The detailed cases represent the dimensions to operationalize restoration (Section 2.3). These thematic approaches are illustrative and are not meant to be exhaustive. Generalized lessons from the pathways for urban–rural linkages and restoration and recommended actions follow in the next section. A summary of findings is presented in Table 3 in Section 4. Each of the eight pathways is further analyzed on the basis of the cases reviewed in this section.

TABLE 2
Location and titles of cases reviewed

Pathways for urban–rural restoration	Country	Cases reviewed (Bold = Analyzed in detail in this section)
 <p>1. Protection of ecosystem functions and service provision led by indigenous peoples and civil society</p>	Brazil	Territorial intelligence and certification for landscape restoration and social inclusion in Pará State
	Chile	Indigenous Territorial Development Program
 <p>2. Empowerment of ecosystem stewards</p>	Kenya	Achieving Climate Change Adaptation through Integrated Landscape Management in Naivasha Basin
	India	Gorakpur Environmental Action Group Peri-Urban Agriculture Project
 <p>3. Integrated territorial planning response to urbanization's ecosystem impacts</p>	Cameroon	Yaoundé-Nsimalen Highway Corridor Development
	India	Land use planning and management in Tamil Nadu and Odisha
 <p>4. Inter-jurisdictional integration of food, biodiversity and ecosystem services</p>	Colombia	Aburrá Valley Metropolitan Green Belt
	Mexico	West Central Mexico Biocultural Corridor (COBIOCOM)
 <p>5. Initiatives to create markets or regulations</p>	Brazil	Vales da Uva Goethe Geographical Indication
	Italy	Slow Food Presidia (International)
 <p>6. Procurement policy and legislation linking rural production to urban consumption</p>	South Korea	Urban–Rural Coexistence Partnership, Seoul
 <p>7. Circular food economy and short value chains</p>	France	Grenoble-Alpes Métropole Local Food Partnership
 <p>8. Crisis management advancing integrated urban–rural land use</p>	Uganda	Integrated and Multi-Scalar Planning in the West Nile Corridor
	Kenya	Kalobeyei New Settlement, Kenya

3.2 Indigenous peoples and civil society

Protection of ecosystem functions and service provision led by indigenous peoples and civil society



Indigenous peoples and civil society – including farmers, fishers, forest dwellers, pastoralists, and all rural and urban dwellers – are the primary custodians of soil, flora and fauna. They are the foundation for planetary ecosystem management.

But their relationships to the public and private sectors are often as “targets,” “recipients,” “consumers,” or “beneficiaries” of humanitarian, development and commercial services. Smallholders, especially women farmers and youth, are primary producers and purveyors and stewards of ecosystem services.

But the rights, dignity and standing of these people are threatened in most countries. They suffer the most in those parts of the world where urbanization and extractive industries such as

mining, industrial agriculture and forestry are in conflict with traditional lands and practices.³⁷ As a 2015 FAO Policy on Indigenous and Tribal Peoples states:

*The adversities faced by indigenous peoples have grown in the last few decades, but so too have the recognition of and appreciation for their potential contributions to sustainable development and natural resources management.*³⁸

There are numerous examples where efforts are made to protect the rights, lands and practices of people who possess a deep, multi-generational understanding of the flora, fauna and native culture of a place, or what has been termed “territorial intelligence.”³⁹ The examples of government agencies or local authorities inviting territorial or local actors to co-design and co-manage programs that relate to ecosystem restoration and conservation are rarer but relevant.

One such example is found in **Chile’s** Indigenous Territorial Development Programme,⁴⁰ which grew out of long-term conflict between Indigenous communities’ development needs and intensive extractive mining and logging in their territorial lands. A distinction in this case is that national enabling conditions at a ministerial level brought Indigenous actors into the design of land-use policy and planning to honor their rights. The program builds territorial understanding at the national ministry level while enabling full

participation and capacity building of indigenous peoples in Chile to engage effectively in policy formation, program implementation and data management within an institutional environment dominated by national and private-sector interests.

In northeast **Brazil’s** Parà State, the municipality of Paragominas legislated a set of interventions in 2019 designed to reduce soil degradation, limit forest fires and promote local development, all through supporting alternatives to extractive management of natural resources (Box 3). Building on its “Green Municipality” policy, a territorial certification program was launched to implement landscape restoration through promoting intensification of ecological farming practices. The Paragominas strategy combined the commitment of local authorities with support from both federal and state agencies, and participation of smallholder farmers and private companies. The strategy aims to secure livelihoods in terms of jobs and revenue from agroecological production while supporting a more sustainable landscape.⁴¹ It includes a participatory process that puts the small farmers’ need for markets and economic viability at the center of a participatory certification scheme that combines roles of local government, farmers and businesses. The potential for ecosystem restoration is strengthened by having all these sectors work in collaboration at the urban–rural interface, and with a shared commitment to halt deforestation and increase opportunities for local farmers.

BOX 3

Territorial intelligence and certification for landscape restoration and social inclusion, Brazil

Location: Paragominas, Pará State, Brazil

Primary implementing partners: CIRAD, Paragominas municipality, Brazilian Agricultural Research Corporation (Embrapa), unions of farmers and smallholders

Source: GIZ. 2020. Territorial approaches for sustainable development: Stocktaking and synthesis report. Annex of case studies (published in December 2020)

Primary characteristics

This project in the Brazilian Amazon is a territorial strategy for a cross-sector and jurisdictional approach to address deforestation through sustainable development in an area of 20 000 km². Paragominas is an urban area adjacent to a deforested region that has been turned into small farms. The jurisdiction has been a regional model for tackling deforestation and for starting a post-frontier development trajectory. Intact forests still cover 54% of the territory, with secondary forest growth in another 18%. Deforestation has been halted since 2008. The innovative Green Municipality policy was successful for building a local governance capacity and for engaging farmers in assuming new environmental liabilities. If deforestation had been quickly reduced without such capacity, other key aspects of sustainability would have worsened, requiring new institutional arrangements. Both the regulation and supply of ecosystem services are still very low, restrained by advanced soil degradation, frequent fires, forest degradation and fragmentation. Local development has been stagnant, with risks of growing regression, especially for small-scale farming. In this transition period, actors and policies need to implement a new strategy not only to protect primary forests, but also to build effective alternatives to extractive management of natural resources.

BOX 3**Territorial intelligence and certification for landscape restoration and social inclusion, Brazil** *(continued)***Strategy**

The landscape level for intervention is appropriate for ecological and agronomic reasons, such as restoration of soil fertility and forest regeneration. A jurisdiction level is necessary to improve governance, enable adapted institutional arrangements and develop innovative tools. The challenge for local actors is to build and apply both landscape and governance levels together in a multi-level strategy. Local commitment is the first condition for success. The project has four specific goals:

- To develop a mid-term strategy for local development (territorial certification)
- To implement tools for landscape restoration and monitoring (landscape design for efficient ecosystem services)
- To reinforce the institutional capacity especially for smallholders (quality of life in rural communities)
- To generate ecological intensification practices at the farm level.

The institutional environment for these interventions is composed of local public and private institutions including city hall, civil society, smallholders and community institutions, medium and large farmers' institutions, and private companies.

Governance and stakeholders

Specific interventions related to the institutional environment have included:

- Support to city hall to build a jurisdictional certification system
- Support to local institutions to define sustainability values and criteria
- Support to smallholders' institutional development to organize representation, participation and autonomy
- Landscape cartography, land-use scenarios and evaluation to build public and private convergencies for efficient land use policies
- Farm experimentation and evaluation of innovative management or low intensification practices
- Technical and scientific partnership at national and international level to support and evaluate the territorial policies.

Outcomes and lessons

As a result of the administrative interventions, new municipal policy defines sustainability values, strategic activities, and innovative tools. Local institutions agree with promoting a landscape model to restore soils and forests, and to improve ecosystem services for regulation and supply. The local legislature has approved a set of recommendations and demands from smallholders to promote and improve social inclusion and quality of life in rural communities. On the landscape management side, experimental farms have had success with innovative ecological intensification practices and are disseminating this success through rural social and technical networks. External private actors and supply chains now trust the Paragominas Strategy, and have supported the Verified Source Area IDH, or geographic indication concept. A consortium of eight neighboring municipalities was created to apply the same development model in their own jurisdictions.

Future outcomes are expected to realize further institutional and farmer acceptance of sustainability criteria and practices through creation of a certification label to acknowledge progress in the Paragominas Strategy. Approval and promotion by federal and other state governments is anticipated as Pará State and regional smallholders adopt the Paragominas Strategy and improve social inclusion and the quality of life in rural communities. Prospects are good for public and private banks to offer credit based on the strategy and to attract additional investors supporting the sustainability model for private and public actors. A higher capacity to drive local development towards sustainability is evident. Farm management has begun to shift from extractive to more sustainable resource management, combining production and ecosystem services. This "territorial intelligence" methodology is able to improve both ecosystem and supply services due to integration of both a landscape level methodology and a specific jurisdictional policy. Territorial certification is a way to engage local actors in sustainability commitments, and to engage responsible investors and supply chains. Higher levels of public administration need to devolve more responsibilities to the local level, under specific conditions, in order to enable more integrated and sustainable landscapes.

3.3 Ecosystem stewards

Empowerment of ecosystem stewards in urban and peri-urban forestry and agriculture



The health and resilience of ecosystems is intertwined with the cultural and socio-economic health of the stewards of ecosystems in rural and urban areas. It is becoming increasingly clear to urban communities that “upstream” landscapes to urban areas are managed by rural communities and stewards – who have needs and challenges that are better met when there is coordination through multi-stakeholder, multi-sector processes.⁴² Various factors are making urban–rural interdependence even more apparent and important: the interaction of consumption patterns and practices between urban and rural areas, socio-economic inequalities and related coping mechanisms, migration in both urban and rural areas, challenges from climate change, and health crises such as the COVID-19 pandemic.⁴³ This awareness has translated into political support for sustainable urban and territorial food systems in many Milan Pact cities (see below).

Rural ecosystems of natural areas and watersheds, as well as managed forest, pasture and croplands, are important assets for both rural and urban communities in the same larger landscape or territory. Integrated and sustainable landscape management is therefore both necessary and practicable. The urgency of climate change adaptation and crisis or disaster preparedness has made for new multifaceted coalitions.

For example, in the Lake Naivasha Basin northwest of Nairobi, **Kenya**, deforestation, overgrazing and poor land use (including the over-use of agricultural chemicals) have led to landscape-level degradation and vulnerability to both drought and flooding. The Imarisha Naivasha Initiative is a broad coalition effort that brought together urban and rural actors to align policies for integrated strategies. This resulted in concrete progress on adaptation to climate change through ecosystem restoration in forest, riparian and agricultural areas.⁴⁴

Ecosystems are managed also within urban areas and in adjacent peri-urban areas. Cities from Beijing to Ljubljana to Melbourne have developed policy and programs to support the caretakers of food gardens, small farms, urban and peri-urban forests, or fresh- and saltwater fisheries.⁴⁵ Support of municipalities for urban and peri-urban ecosystem functions in the form of gardens, farms and forests is one of the six categories of recommended action in the Milan Urban Food Policy Pact Framework for Action.⁴⁶ Many of these cities’ practices are documented in the FAO Urban Food Actions Platform and submissions to the Milan Pact Awards.

Progress towards municipal policy and program support for the ecosystem services of urban and peri-urban food providers has been greatly facilitated by two global actors:

- ICLEI – Local Governments for Sustainability: a network of 1,750 local and regional governments
- The RUAF (Global Partnership on Sustainable Urban Agriculture and Food System), now RUAF-HIVOS:⁴⁷ a global nongovernmental organization.

ICLEI has been working with member cities in the CitiesWithNature⁴⁸ program, and through its partnership with RUAF and the creation of a CITYFOOD initiative,⁴⁹ building from support of urban food systems in many different municipalities in all regions.

A seminal example of this work is the Gorakhpur Environmental Action Group in Gorakhpur, **India**, that supports peri-urban agriculture as a flood buffer and a resilience intervention related to climate change while enhancing the income and food security of poor and vulnerable populations.⁵⁰

The FAO Urban Food Actions Platform⁵¹ has numerous examples of cities’ support for ecosystem services. Many organizations and networks are engaged in promotion of urban food systems and greening cities initiatives that are intrinsically about ecosystem restoration and active conservation.

Leading with local farm, forest, and livestock husbandry and knowledge, the needs and challenges of resident populations must be central for successful and sustainable landscape management. Locally grounded, balanced partnerships that honor the rights of vulnerable actors in support of environmentally sensitive and participatory engagement are essential to empower the actors that steward ecosystems. The cases from Kenya, India and others show that investing in processes of participatory assessment with landscape stewards in roles of shared leadership with local government and development support is vitally important – and not just one alternative approach among other methodologies. Building from existing social and landscape infrastructure is both the means to build local support for landscape restoration and often the best and shortest route to long-term sustainable landscape management.

3.4 Territorial planning

Integrated territorial planning response to urbanization's ecosystem impacts



Since land and ecosystem degradation is a result of urbanization the world over, creating an enabling environment for integrated territorial planning is essential.⁵² Restoring ecosystems ultimately requires addressing urbanization, both in its spatial impacts of land conversion and the demands for food, water, fiber and energy consumption by urban dwellers that perpetuate unsustainable farming and forest practices. A full treatment of the issue of urban consumption patterns related to ecosystem restoration is beyond the scope of this paper. But it is nonetheless critical. It requires careful consideration and incorporation in urban–rural restorative agendas. The issue of consumer impacts on ecosystem services through markets is addressed in Section 3.6.

Land-use policy and planning is where many of the spatial impacts of urbanization are acted upon by local authorities, and jurisdiction over land use is usually held by a mix of local, subnational and national government planning agencies. Local-government jurisdiction or influence over land-use zoning can include priorities for ecosystems restoration, including biodiversity, climate resilience, food security and the rights of farmers. However, these priorities can be sidelined by the commercial priorities of landowners, developers, industrial or housing developers, and politicians. The enabling environment for local and subnational governments to elevate restorative ecosystem priorities also requires political will and strong popular support, sometimes with external organizational support. As the World Bank stated in its report, *Food Systems for an Urbanizing World*,

*Innovative partnerships between public agencies, real estate developers, architects and civil society – supported by a catalyzing incentive and regulatory environment – will be needed to ensure the integration of urban and peri-urban agriculture and green food system architecture into future urban housing developments and planning for urban renovation and new construction.*⁵³

Informal and extra-legal occupation in urban and peri-urban areas are a critical part of the restorative agenda in the urban–rural interface, requiring a concerted effort to address cultural, political, economic and social disparities in the most constructive way possible given the particularities of specific locales.⁵⁴

In the cases examined for this report, planning units in local governments are increasingly realizing that efforts to manage previously unplanned urban sprawl requires new and more inclusive ways to meet the needs of both urban and rural communities. Priorities in many developing countries to improve transportation infrastructure does not need to be siloed in top-down planning, economic development and road engineering agencies.

For example, outside **Cameroon's** capital of Yaoundé, a highway corridor project was expanded to address the market access and livelihood needs of smaller towns along the corridor. Agricultural and forest areas with high biodiversity were accommodated through a participatory planning process linked to multiple ministries not usually engaged in transportation planning, such as the ministries of environment, land and water.⁵⁵ The collaboration of sectoral ministries for environmental and natural resource management with transportation ministries is an example of the necessary enabling environment that extends to the local level inclusion of environmental conservation needs balanced with transport and economic development needs.

In the two states of Tamil Nadu and Odisha in **India** (Box 4), such a process of jointly addressing urban and rural needs through strengthening the culture of democratic and integrative spatial planning also had an impact on the conservation of land and natural resources. Driven initially by the need to mitigate against the impact of unplanned urbanization, integrated urban and rural planning has as a by-product helped to protect the farm and forest landscapes of rural areas.

The entry point of integrated urban and territorial planning⁵⁶ for the restorative agenda is reinforced by policy in the New Urban Agenda and the Sustainable Development Goals (especially Goal 11.a). Planning units at different levels of governance, with support of UN agencies, international development organizations, NGOs and donors can support cross-sector and multi-level cooperation. Such cooperation is a prerequisite for combining planning for urban growth, economic development, infrastructure development and public-service provision with ecosystem conservation and rehabilitation priorities. The progressive incorporation of the restoration agenda in spatial planning processes can be seen in many of the cases reviewed, including that in India (Box 4).

BOX 4

Land use planning and management strengthening the culture of democratic and integrative spatial planning in India

Location: Ganjam District, Hinjilicut Municipality and surrounding villages in Odisha State, and Erode, Nilgiris, and Tiruppur Districts, Region of Coimbatore, Tamil Nadu State, India

Primary implementing partners: Deutsche Gesellschaft für Internationale Zusammenarbeit, Department of Land Resources of the Ministry of Rural Development, Government of India, Planning Department, Housing and Urban Development Department, Tamil Nadu, Housing and Urban Development Department, Revenue and Disaster Management Department, Odisha

Source: GIZ. 2020. Territorial approaches for sustainable development: Stocktaking and synthesis report. Annex of case studies (published December 2020)

Primary characteristics

The Land Use Planning and Management project (2015–19) aimed to improve systematic spatial planning, unlocking the potentials of urbanization in rural areas and jointly addressing urban and rural issues. The project was implemented over a period of over three years in two states Tamil Nadu and Odisha, where towns are expanding rapidly into adjacent rural areas. To improve systematic planning, the project enhanced the capacities of state-level planning institutions and community organizations and members to take spatially informed decisions at state, regional and local levels. This enhanced the planning culture, promoting the integration of urban and rural areas. The project showcased the need and importance of public participation at all stages of planning.

Whilst boundaries between urban and rural areas are becoming increasingly blurred, urban sprawl in India causes disjointed areas of human settlements that are often disconnected from essential public infrastructure such water supply, waste management, power supply and educational facilities. Peri-urban areas are often unplanned, and urban areas appear outside the planned boundaries of cities. This reduces the availability of forests and green spaces, grazing and agricultural land and other natural resources by diverting land for urbanization and industrialization. This impacts sustainable and inclusive development and limits livelihood opportunities for the population in affected areas. It is therefore important to address conflicting territorial needs and improve governance functionalities across urban and rural communities.

Strategy

Leading planning experts recommended the district level as the suitable administrative unit to connect the very broad strategic planning at national and state levels with the detailed planning at the very local level. Through the development of integrated district plans, decentralization of planning processes is promoted and decision-making by district planning committees is improved. District plans also inform land-use plans, which balance ecological, economic and social aspects to benefit local populations. Both regional and local plans are linked to the state land-use strategy (which uses a scale of 1:1,000,000), which was formulated as part of the state land-use planning policy. At the district level, preparation of plans – from formulation to final stage – involved a wide range of stakeholders and public participation. At the local level, participatory land-use plans were prepared 14 villages in both states.

Governance and stakeholders

The project aimed to improve systematic spatial planning to both unlock the potential of urbanization in rural areas and address urban and rural issues. After the analysis of various existing land-related policies and guidelines in the two states, a multi-sectoral working group was set up for each state to start a consultative process of weighing the interests of the economic, social and environment sectors. The consultations were structured under the three fundamental themes of sustainability: environment, economy and society. After consultation and deliberation, the working groups drafted holistic state land-use planning policies for each state. These policies are accompanied by a set of norms (e.g., mapping standards, zoning regulations, planning processes and land-use standards) as well as institutional frameworks for district regional planning, coordination mechanisms and mandates, which are published as manuals.⁵⁷

BOX 4

Land use planning and management strengthening the culture of democratic and integrative spatial planning in India (continued)

Outcomes and lessons

The state land-use planning policies lay a foundation for regional planning rules to be replicated in other regions. Particularly, the regional/district spatial plans (which use a scale of 1:50,000) were shown to be a tool for enhancing the spatial planning culture at the regional level, where planning for both urban and rural areas are integrated and considered equally by all participating parties. Plans at the local level showcased the process, need and importance of public participation at all stages of planning. The entire planning process for the two demonstration areas capacitated and empowered both government planners on one hand and community organizations and members on the other to take spatially informed decisions at the community level. Moreover, state officials in relevant agencies at the territorial, village and urban levels have been trained on topics of land-use planning, regional planning, environmental impact assessment and participatory village planning. Capacity-building measures were linked to the demonstration areas and to the outcomes of the consultations at the state level. The trainings were crucial to facilitate a better application of policies, norms and demonstration plans and will be continued in different forms in the two states.⁵⁸

3.5 Inter-jurisdiction integration



Inter-jurisdiction integration of food, biodiversity and ecosystem services

The commitment of local and subnational governments to larger-scale ecosystem restoration can accompany inter-jurisdictional administrative or intergovernmental arrangements to address common priorities at a territorial or subnational level. The entry point may be at the level of a city-region food system, with agreements between cities and towns in a metropolitan area.

Around Medellín, **Colombia**,⁵⁹ a sophisticated legal and institutional environment promotes agroecological production by smallholder farmers for local markets. The surrounding metropolitan region of the Aburrá Valley has also a set of inter-jurisdictional agreements with 11 municipalities to conserve ecosystems and biodiversity through a Metropolitan Green Belt (Box 5).⁶⁰ The common priorities (food systems, ecosystems and biodiversity conservation) are compatible if protocols are agreed to that support farm-management practices that also support biodiversity of flora and fauna. This requires cooperation between different agencies, within different jurisdictions, and with different private sector and civil society groups.

The inter-jurisdictional agreements found in cases reviewed for this report span a range of instruments. These include memoranda of understanding; contractual or cooperation agreements signed by government representatives; budget, financial or procurement mechanisms; legislation; and regulations. The mechanisms may include private-sector or civil-society organizations

and research or academic institutions, depending on the purposes they address.

At a larger subnational scale, examples exist of inter-jurisdictional frameworks in which ecosystems cross subnational administrative boundaries. In **Mexico**, the Biocultural Corridor of West Central Mexico, or COBIOCOM, is such a multi-state agreement. This brings together eight subnational governments, two central government ministries related to biodiversity and protected areas, civil-society organizations and local communities to preserve biodiversity and ecosystems through the promotion of agroecological farming methods adjacent to protected areas.⁶¹

Both of these cases are representative of inter-jurisdictional management approaches that seek to balance socio-economic and ecosystem restoration deliberately and inclusively with territorial actors and local authorities in smaller towns and cities. The benefits from such comprehensive approaches meet interests and diverse values of environmental conservation, economic and tourism development, and improved public services and infrastructure.

The Aburrá Valley Metropolitan Green Belt is an example of comprehensive inclusion of strategies that are the result of a strong participatory process. The privileging of community needs in planning and implementation will contribute to long-term success and ecosystem maintenance that provides many services to the nearly 5 million inhabitants of the valley. The City of Medellín also has a model city–region food–system plan, under the auspices of the city government and the provincial government of Antioquia, that directly benefits from and is a vital part of the Metropolitan Green Belt.⁶³

BOX 5

Metropolitan Area of Aburrá Valley: Metropolitan Green Belt, Colombia

Location: Metropolitan Area of Aburrá Valley (Medellín, Envigado, Itagüí, Sabaneta, La Estrella, Caldas, Bello, Barbosa, Girardota, Copacabana)

Primary implementing partners: Metropolitan Area of Aburrá Valley – AMVA (lead role), Medellín, Envigado, Itagüí, Sabaneta, La Estrella, Caldas, Bello, Barbosa, Girardota, Copacabana, National University, EAFIT University

Source: UN-Habitat. 2020. Compendium of inspiring practices on urban–rural linkages: Implementation of the URL-GP. Second edition. Case study 13

Primary characteristics

Medellín, the second biggest city in Colombia, is located in the north-west of the country. It lies in the Aburrá Valley, through which the Medellín River runs, and is bordered by mountains and hills to the east and west. The municipalities of Envigado, Itagüí, Sabaneta, La Estrella, Caldas, Bello, Barbosa, Girardota, and Copacabana also lie in the valley, and together with Medellín form the Metropolitan Area of Aburrá Valley. The population of the Metropolitan Area is around 4,800,000, some of whom live on the surrounding slopes. Planned and unplanned settlements have grown on the slopes, forming neighborhoods inhabited by different socioeconomic groups. These communities are exposed to various hazards, such as landslides and flooding caused by heavy rain and influenced by climate change. The Metropolitan Area and researchers regard low-income communities as increasingly vulnerable. The expansion and creation of new settlements on these risk zones is blurring the line between “urban” and “rural” areas.

Strategy

The Metropolitan Area designed the Metropolitan Green Belt planning strategy in 2013. This has a holistic approach that seeks to preserve the natural ecosystems of the hills while improving the quality of life of their residents, prioritizing vulnerable populations. It has a 12-year implementation horizon and is founded on three pillars: environmental restoration, habitat and housing improvement, and pedagogical education and urbanism.

The environmental restoration pillar seeks to initiate restoration of the ecosystem, protection of archaeological heritage, and risk mitigation in the conservation of green spaces, recovery of the streams, solid waste management, among others.

The habitat improvement pillar seeks to advance different housing processes, such as the relocation or construction of houses and the definition of management and uses of the land, in order to “consolidate a balanced and equitable territory in the area of encounter between the urban and the rural and its area of influence.”⁶² This pillar also includes the construction of infrastructure, such as schools, sports scenarios, transport and mobility that would help to break the isolation between the rural communities and the city.

The civic and pedagogical urbanism pillar involves a strategy of “interaction and social cohesion to promote culture in the territory through urban interventions.” It is implemented through education, workshops, processes of participatory construction between actors, sensibilization with communities, and cultural and recreational days.

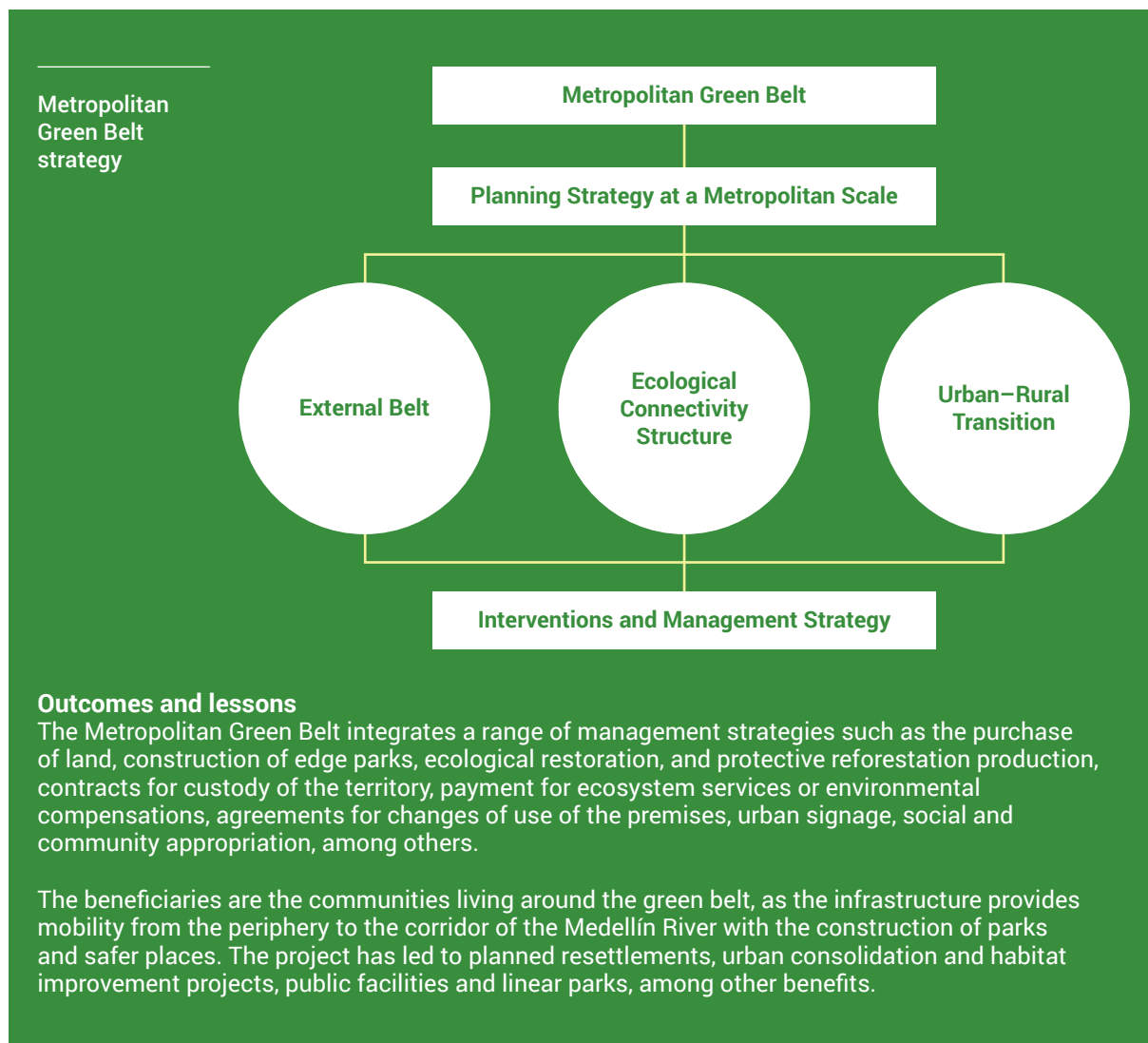
Governance and stakeholders

The Metropolitan Green Belt covers three different planning areas where these pillars are deployed according to the local situation:

- **External belt.** Structure of ecological protection for the rivers and basins of the Valley. The wood cover or forest in this belt conserves species, acts a biological corridor, and mitigates climate change.
- **Ecological connection.** Territorial interventions to connect the external green belt with transition of the urban–rural interface, including managing riverside vegetation to generate additional benefits.
- **Urban–rural transition system.** The transitional strip that incorporates both urban and traditional rural uses such as informal settlements, agricultural and livestock, extraction of materials, and others.

BOX 5

Metropolitan Area of Aburrá Valley: Metropolitan Green Belt, Colombia (continued)



3.6 Markets and regulations

Initiatives to create markets or regulations for biodiversity and climate-friendly products

Local authorities and subnational governments have an array of tools and market-based approaches to support the restorative agenda that can complement marketing approaches such as fair trade, organic or agroecological practices and other labelling. The tools range from conventional public-sector ownership or regulation of market infrastructure, to protecting or revitalizing small and medium scale family farming, forest and fisheries management to promote ecosystem-positive services. They can convene public and private actors (including investors) in promoting markets that feature the products of local biodiverse landscapes. Such promotion can be



a mix of technical, financial and business support, tax incentives and packaging services that include health, housing and education together with market protection, design or development.

Municipalities (often with subnational or national governments), together with primary producers and manufacturers, can designate geographic indications or territorial labelling of indigenous or local food and forest products. Many partnerships exist between private-sector interests, producers and local authorities that link the commercialization of particular products to landscape integrity.

One example is the Vales da Uva Goethe Geographical Indication for Wine Production, in the metropolitan region of Florianópolis, Brazil.⁶⁴ Here a partnership of winemakers, local municipalities, Santa Catarina State and the federal ministry of agriculture helps to preserve a regional landscape organized around a production system.

Another privately led ecosystem and biodiversity protection framework for commercialization is the Slow Food Presidia⁶⁵ – a curation of artisanal traditional value chains in 78 countries designed to also protect the ecosystems that the products depend upon to survive. In previous “cause-marketing”⁶⁶ models (such as Slow Food), an intermediary organization is the custodian or certifier of product quality and relationships between producers, distributors, processors and market buyers. In cases such as Vales da Uva, local authorities take on the role of guarantor of quality and origin.

The attention of national and international media and policymakers is on larger private-sector actors with significant impacts on ecosystems and on their commitments to nature-positive business practices.⁶⁷ However, small- and medium-scale smallholders, including farmers and food enterprises, are much more numerous. They can also work towards restoration. They can do so with the support of local and subnational governments. This is a new field of attention for local authorities. The cases show that such initiatives are islands of good practice, and are not yet at the scale needed.

The complex interactions of thousands of producers and food outlets in cities and the many public, private and community interests involved make it difficult to understand through conventional data collection in disconnected agencies. Even the largest and wealthiest cities in the global north have only begun to integrate the assessment of both supply and access sides of their city–market systems. Rapidly urbanizing low-income countries, with their big conurbations, megacities and metropolitan regions, smaller municipalities and surrounding rural areas may have even greater complexity. Mapping market systems can embrace both food and non-food products of natural ecosystems. Such mapping is made far more complex by the existence of large, informal market systems that are not included in formal market data. In African cities, the informal sector makes up a majority of market systems and is vital to the livelihoods of most rural people. A newly-released study on the role of African cities in strengthening food systems explores the prominence of the informal sector, but it does not address the cities’ role in restoring ecosystems.⁶⁸

City markets are primary locations where urban–rural linkages occur and where values and practices are transmitted. This happens most directly in open informal markets. The role of a wet market in China in spreading coronavirus illustrates this intersection of urban and rural landscape.

Market systems need to be better understood and better supported beyond the market actors and consumers, but also including the role of governments and policy, according to a global

Market Cities Initiative launched at the 10th World Urban Forum in February 2020.⁶⁹ This initiative plans to develop methods to map the complexities of market systems in cities, starting from pilot projects in North America.⁷⁰ Many urban consumers in high-income countries choose to purchase healthy local food at public and farmers’ markets. Consumers in low- and middle-income countries rely on informal markets more out of necessity. Regardless of income levels, the values and transactions that connect rural to urban, and nature to culture, are present. Consumers are able to embrace a territorial or landscape level of farm and forest conservation in their purchase of food and other commodities in such markets. Local authorities can promote such trends through product or geographic certification, public-awareness campaigns, events such as territorial fairs and festivals, and through procurement policy, infrastructure investments and land-use policy.

Various private-sector initiatives exist to create cause-marketing tools for ecosystem services,⁷¹ but public-sector procurement explicitly supporting ecosystem services is still in the early stages. Such marketing is very important for restoration, as consumer choices can, in the aggregate, shift practices to those that are more restorative (as they already have for organic fair trade and anti-biotic-free products). Consumer choice, manifested in buying products whose production regenerates soils, requires heightened agrobiodiversity. Support for landscape stewards (for example indigenous farmers, forest dwellers, fisherfolk) can be a powerful driver and enabler of the restoration agenda. Together with other enabling factors (public-sector support, investment and policy) this private-sector and consumer-driven pathway for restoration can be readily branded and made popular via celebrity chefs, TV cooking shows, and food media.

3.7 Procurement policy

Procurement policy and legislation linking rural production to urban consumption



Many local authorities fund or operate canteens and food-service operations in schools, humanitarian feeding centers, social restaurants, hospitals, jails, etc. They administer social-protection programs with financial support from national governments or international aid organizations. The rules and regulations for public food procurement are often governed by a combination of subnational and national policy and programs. Over the past 20 years, movements to connect local and regional agriculture to institutional food services at the territorial level (farm-to-school, farm-to-college, farm-to-hospital, etc.) have been established.⁷²

Most of these programs combine goals of providing low-cost, healthy and sustainable diets to the poor while supporting local farm and food economies. They strengthen urban–rural linkages and allow social and environmental policy to be combined with economic development policy.

More recently, public procurement has gone beyond healthy food and economic support for local and regional agriculture to include provisions for reduced greenhouse-gas emissions and support for regenerative, agroecological and carbon-friendly farm and forest practices.⁷³ Restoration is not often articulated as a justification for or analysis of changing procurement policies for large-scale institutional food service. But it is not a big step

from the food systems approach that is advancing in procurement strategies to a broader restoration/ climate change agenda. Some municipalities in Europe and Asia have expanded from school feeding to developing long-term agreements with food-producing regions, turning procurement into an instrument for ecosystem restoration. For example, they may incorporate agroecological or carbon-friendly farming practices in their contracting criteria.

Box 6 gives an example of a city-region agreement that combines public food-procurement and inter-jurisdictional agreements: the Urban–Rural Coexistence Public Meal Service program in Seoul, **South Korea**.

BOX 6

Urban–Rural Coexistence Public Meal Service: Connecting city, rural communities, food and people, South Korea

Location: Seoul, Korea

Primary implementing partners: Seoul Metropolitan Government (lead role), District-level local governments in Seoul (25 districts within Seoul), District-level public meal service centers in Seoul, Local governments in rural towns in partnership, Public meal service centers (or food hubs) in rural towns, Grassroots food organizations

Source: UN-Habitat. 2020. Compendium of inspiring practices on urban–rural linkages: Implementation of the URL-GP. Second edition. Case study 2

Primary characteristics

Rapid urbanization since the 1960s has left South Korea with wide gaps between urban and rural areas and shrinking farming towns. In efforts to re-localize food systems and revitalize rural economies, the Seoul government launched a public food-procurement program aiming to connect the city and rural towns by establishing direct, short food-supply chains. The one-to-one pairing system of urban districts and rural towns in the public food procurement program allows public institutions in Seoul to source healthy local food at more affordable prices and expands markets for small-sized and family farms in rural areas.

The Urban-Rural Coexistence Public Meal Service (UCPMS) in Seoul, the capital city of South Korea, is a city-led effort to address spatial inequality between urban and rural areas. Multiple food scandals in the early 2000s motivated the national government and the Seoul government to launch food policies supporting and scaling up alternative local-level food initiatives. Seoul signed the Milan Urban Food Policy Pact in 2015. In June 2017, the Seoul government announced the Seoul Food Master Plan 2030 to address five goals: healthy food, food security, urban–rural coexistence, food safety, and governance building. During 2 years of policy formulation, a task force of civic experts and public hearings ensured public input into the program.

Strategy

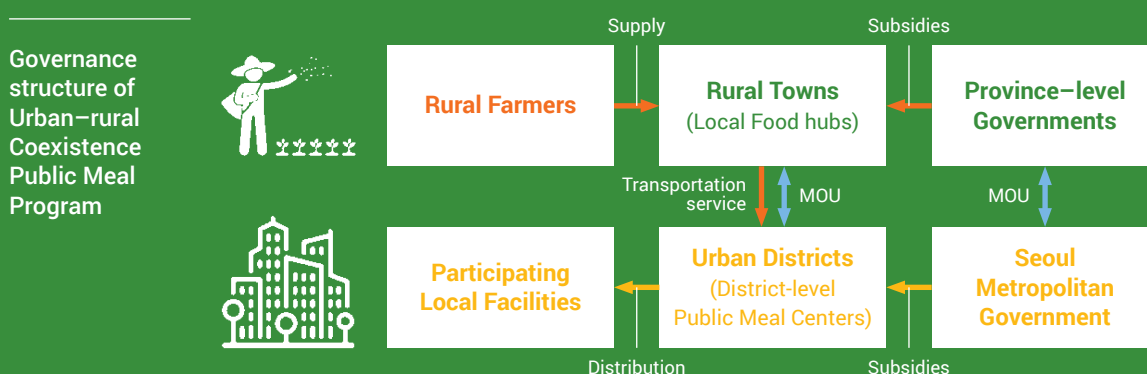
The Urban–Rural Coexistence Public Meal Service, launched in May 2017, is a core project in the Seoul Food Master Plan. It is a city-led effort to address spatial inequality between urban and rural areas. The Meal Service aims to source healthy local food from small-/mid-size and family farmers for urban facilities. It aims to establish short, direct supply chains by pairing 25 districts within Seoul with a similar number of rural towns. Participating rural towns are chosen based on their food supply capacity, local food infrastructure, and local governments. As of December 2019, 13 pairs of districts and rural towns had joined the program.

BOX 6

Urban–Rural Coexistence Public Meal Service: Connecting city, rural communities, food and people, South Korea (continued)

Governance and stakeholders

To build governance across different levels of urban and rural administration, the Seoul government and the governments of the provinces where the rural towns are located sign a memorandum of understanding (Figure 1). The Seoul government then provides overall policy guidelines and subsidies to district-level governments to implement the program, especially to equip local food-procurement infrastructure such as public-meal centers and delivery trucks. Operating the meal centers is outsourced to grassroots organizations with previous experience in agri-food distribution. Local food hubs in rural towns run by local governments or farmers' cooperatives collect food from farmers and transport it each day to the meal centers.



The Meal Service has criteria to encourage the production and consumption of sustainably grown, healthy food. For example, food should be all homegrown and non-genetically modified. Produce with organic certification is preferred. Local food hubs in rural towns and the meal centers in Seoul are responsible for inspecting for residual chemicals. The meal centers act as distribution hubs, managing supply and demand between the rural and urban actors and delivering the food to the participating institutions.

Outcomes and lessons

As of June 2019, the number of people obtaining food from the meal centers had risen more than fivefold since the start of the program (from 7,844 to 44,328). The consumption of sustainably grown food rose from 22% (March 2016, before the program), to 67% (December 2017, after the program start), to 85% (June 2019). On the rural side, the final farm shares available through the Meal Service (69.8–95%) are significantly higher than ones through the conventional wholesale market (32.6–61.5%). Participating rural towns are currently capable of meeting 73% of the demand for food from institutions in Seoul, while the meal centers obtain the rest at alternative grassroots food markets.

The meal service offers lessons on the contributions that an integrated, place-based approach to local food systems innovations can make to revitalizing shrinking rural communities based on multifaceted aspects of agriculture. Understanding spatial and functional interlinkages between urban and rural areas in regional food systems is the key to the success of public food procurement. For this policy to be more sustainable, developing the long-term capacity of involved stakeholders and providing legislative support are necessary.⁷⁴

The Seoul Urban–Rural Coexistence program goes beyond the market and regulatory incentives exemplified in geographic indicators or curated value chains to an entire municipality committing to a region of productive landscapes and their ecosystem services. While the Korean example (Box 6) and the following example from France (Box 7) focus on food, it is important to note that when the restoration agenda is brought

to movements for healthy, sustainable food systems, the upstream non-food priorities of reducing poverty and inequality, improving working conditions and economic development are often interwoven in food-system planning. In addition, food-systems approaches bring along forests, fisheries and livestock systems and beneath all these, the regeneration of healthy soil.

3.8 Circular economy

Initiatives promoting circular food economies and short value chains



Various initiatives in Europe (and emerging in North America) aim to integrate issues such as biodiversity conservation, economic development, territorial planning and public procurement into a comprehensive territorial system. The “greening” of cities involves the creation or preservation of green open space and urban forests. This approach has now embraced urban–rural linkages under the mottoes of “circular” and “solidarity economies” in Europe and a “new green deal” in the United States.

The metropolitan region of Grenoble in the southern Alps in France has developed a Local Food Partnership (Box 7). This includes local authorities surrounding Grenoble, a medium-sized city. While the initiative focuses on the food system, a broad range of indicators have been developed that go well beyond food to include a circular economy, climate-change adaptation, biodiversity, landscape and soil health.

A participatory governance council, planning tools for land protection, and financial support for processing, marketing, training and education are all part of the program. Food procurement for public catering, mobilization of civil society, and tourism developed around themes of agricultural heritage are extensions of the program.

The Grenoble Metropolitan Local Food Partnership program illustrates the powerful role that a local government can play in convening other local administrations, national government agencies and other actors to address restoration via an inclusive, multi-actor urban and rural planning process. The idea of circular green economic development is gaining ground in Europe and in other regions. But for many governments and civil-society organizations, the “green agenda” is not sufficiently rights-based nor does it address the roots of inequality and challenges that face low-income countries and vulnerable populations. For the restoration agenda to be meaningful, it must also address human rights, inequality and the root causes of hunger and poverty.

BOX 7

Local Food Partnership, France

Location: Grenoble Alpes-Métropole, France

Primary implementing partners: Grenoble-Alpes Métropole, Pays Voironnais, Le Grésivaudan and Trièves communities, Vercors and Chartreuse regional parks, Grenoble, Seyssins, Seyssinet-Pariset, Proveysieux/Quaix-en-Chartreuse municipalities, National services and agencies

Source: UN-Habitat. 2020. Compendium of inspiring practices on urban–rural linkages: Implementation of the URL-GP. Second edition. Case study 5

Primary characteristics

The Local Food Partnership is an integrated, inclusive governance project that involves local authorities, consumers and producers’ organizations, professionals, and other actors. It encompasses the urban area of Grenoble and its surrounding territories, which consist of mountains and valleys with great cultural diversity. This sub-region is organized around the city of Grenoble, whose population and expansive dynamics exert significant pressure on the surrounding territories due to urban expansion. Rural land is being transformed into urban areas, and urban growth is pushing up prices for agricultural land. At the same time, Grenoble itself is a major consumer of agricultural products from the region.

Challenges include the need to adapt the current food and agricultural policy to climate change, deliver healthy diets, and reduce land speculation in the surrounding municipalities. Local food production must be diversified and strengthened, stimulating re-localization of the regional economy. Health, environmental issues and farming policies must be aligned. The awareness and practices of consumers and other stakeholders must be raised.

Strategy

After continuous, longstanding cooperation, the partners decided to combine their efforts and respond to a national call for local food partnerships with the objective of creating a coherent food project for the sub-region. In 2019, the Local Food Partnership was established, including local authorities in the sub-region, and organizations of consumers, producers, professionals and workers, such as farmer unions, chambers of agriculture, pastoral and herders’ groups, research institutions and citizens.

BOX 7

Local Food Partnership, France (*continued*)

Governance and stakeholders

Six main approaches are used.

- 1. Food Council.** This is composed of local authorities, professionals, civil society organizations, citizens and researchers. It accompanies, connects and coordinates the actors in the food system, sharing data and resources. It has established a common vision on the local food system and an understanding of the Local Food Partnership and other food projects as a social policy. The council also shares experiences by setting up an Urban and Peri-Urban Agriculture Resource Center and fostering inter-territorial cooperation. It supports the emergence of new local food projects. It represents the sub-region partnership in national and international networks such as Terres en Villes, France Urbaine, Eurocities, and the Milan Urban Food Policy Pact.
- 2. Environment and health.** This includes addressing environmental and health dimensions in the food transition, i.e., energy-climate, living soils, biodiversity, waste and health issues through a range of activities.
- 3. Land protection and strategic farm products.** This includes assistance with farm and business plans, land acquisition, preservation, mobilization, development, fight against land clearing, support for processing facilities, communal farms, and implementation of compensatory agricultural measures to balance trade-offs.
- 4. Support for key projects.** This covers the range from production to processing, distribution and marketing through blended financing, matching investors to projects and providing technical assistance.
- 5. Support for food practices.** These promote healthy, responsible and supportive practices by focusing on the youngest and most vulnerable people. Efforts include:
 - Training and raising awareness on the right to healthy, just and sustainable food
 - Consumer education, information and awareness to change of practice
 - Access to product knowledge, gastronomy and food education for young people and future parents
 - Promotion of solidarity for local and quality food procurement (health and nutrition issue)
 - Promotion of local purchasing (local brands) and collective catering: support for the use of local products, organic products and vegetable proteins
 - Guidance for significant reduction in the number of plastic food containers, awareness and training of restaurateurs with healthy food and the use of local products
 - Mobilization of civil society (events, cultural demonstrations and festivities).
- 6. Tourism.** This involves enhancing knowledge and products in relation to tourism, focusing on agricultural heritage in connection with natural heritage and landscapes.

Outcomes and lessons

In 2019, the Local Food Partnership finished its inception phase for a new governance framework, following extensive planning and stakeholder participation across associated municipalities.

The implementation phase began in 2020. Through the partnership, natural and agricultural land is protected in planning documents; local facilities (slaughterhouse, vegetable processing plant) are financed; short food-supply chains will be organized; and the awareness from consumers and producers about sustainable food practices has been raised through the design of a food and agricultural strategy and the elevation of the status of the agricultural and food community.

3.9 Crisis management

Crisis management as an accelerator for integrated urban–rural land use



Emergency management and humanitarian response in crisis often require improved inter-governmental and inter-agency communication, as well as better communication and data monitoring. Citizen groups can often provide these more rapidly and with greater detail than government agencies. Emergency cross-sector and multi-stakeholder collaboration is often similar to the comprehensive, “whole-of-government” and inclusive approaches called for in sustainable development.⁷⁵ The lessons from crises can lead to the institutionalization of practices that were essential during the crisis itself.

Three examples present three types of crisis that generated responses in the functional governance and spatial integration of urban and rural areas.

In **Colombia**, 50 years of armed conflict resulted in large-scale displacement of hundreds of thousands of people from their rural lands and the loss of over one million lives. The peace agreement of 2016 laid a foundation for recovery and the transformation of territories that suffered from the conflict. As a product of the peace negotiation, all levels of government committed to territorial development. Since then, participatory governance from territorial to national levels has advanced the peace-building and recovery efforts. This process has proven critical to maintain and restore the breadth of ecological diversity across the country, where previous efforts had been only partially successful.⁷⁶ The territorial perspective in the national development-planning process has allowed the acknowledgment and inclusion of protected areas and biodiversity in ecosystems in policy instruments. Territories where ecosystem protection is most needed are those where conflicts and environmental degradation are more severe. The peace agreement and the territorial development program recognize that territorial equality cannot be achieved without addressing development and environment together.

In **Uganda**’s West Nile region of Arua, an influx of refugees has placed enormous pressure on resources and basic social services, creating conflict between host and migrant communities. Starting in 2015, an integrated Multi-Scalar Planning Programme has developed a network of three neighboring municipalities that include both migrant and host residents. Inclusive decision-making in integrated urban and territorial planning has allowed a shared mapping of areas for development and areas for environmental protection by building capacity for legislation, planning, design and finance meeting both urban and rural needs.⁷⁷

In New York City in the **United States**, the health crisis of Covid-19 was also a food-security crisis. Emergency stay-at-home orders in spring 2020 led to the collapse of the restaurant sector and institutional food services, including feeding over one million children a day when schools shut down. The municipal government brought together agencies that had never worked together to home-deliver meals and create meal pick-up sites across the city of eight million people. The experience of vulnerable food supply chains and struggling regional farmers brought about a process of city and regional food security planning with significant new policy proposed for strengthening the regional food economy and farm landscape.⁷⁸ Before Covid-19, the main regional ecosystem service that had received policy, investment and ongoing financial support was the New York City watershed that supplies the city’s water and addresses farm and forest practices in relation to water quality.

While these crises had different causes – conflict, humanitarian need and a health emergency – all three led to the integration of governance across urban and rural spaces and communities. The initial emergency integration of needs and solutions is an important step towards incorporating into the responses environmental issues that may in fact be root causes of the crisis.

The case of Kalobeyi New Settlement in Kenya (Box 8) builds from the socio-economic needs of a refugee crisis to include green and blue infrastructure. It starts from a situation that does not involve restoration but progressively comes to include the ecosystem in concrete interventions.

BOX 8

Strengthening the integration of hosts and refugees in Kalobeyi New Settlement, Kenya

Location: Turkana County, Kenya

Primary implementing partners: UN-Habitat, United Nations High Commissioner for Refugees (UNHCR), Turkana County Government, Government of Kenya

Source: UN-Habitat. 2020. Compendium of inspiring practices on urban–rural linkages: Implementation of the URL-GP. Second edition. Case study 8

Primary characteristics

The rise of global conflict has led to increased migration trends and refugee crises, posing challenges to host countries. In recent years, Kenya has experienced an increasing influx of refugees. To effectively attend to refugees, a short-term emergency humanitarian approach is not sufficient. A shift to a more sustainable and long-term development approach is needed. The Kalobeyi New Settlement project is part of the Kalobeyi Integrated Socio-Economic Development Programme, which approaches refugee assistance from the perspective of long-term development and sustainability of interventions. The Programme uses an area-based approach and seeks to create direct and indirect benefits for 186,000 refugees in Kalobeyi settlement and Kakuma camps, and a host population of 320,000 in Turkana West. It implements an integration model between the hosts and refugees, with the aim to empower both communities and achieve economic and social sustainable development.

Strategy

The Advisory Development Plan has four phases and a timeframe of 15 years. The preparatory phase (2016–17) focused on engagement with partners and establishment of the New Settlement and the provisions of basic services to the incoming refugee population. Phase one (2018–22) aligns the development approach to the local policy/development framework in order to strengthen the humanitarian-development nexus and scale up innovation in delivery modalities such as cash-based interventions in permanent shelter construction. Phase two (2023–27) consists of ensuring sustainable economic opportunities, and phase three (2028–30) focuses on building solutions for social and economic infrastructure, thereby creating an economic hub within the county and the Kakuma-Kalobeyi area.

Governance and stakeholders

The Advisory Development Plan was elaborated during a preparatory phase in 2016 via a multi-layered, collaborative and participatory process. This included surveys, community planning and design workshops, map-reading exercises and focus-group discussions in Kalobeyi and Kakuma. An integrated planning approach was devised to establish the Kalobeyi settlement such that both refugees and the host population could live together, rather than in separate areas. An incremental planning approach of short-, medium- and long-term planning for infrastructure and social services was also adopted. Furthermore, the project has used a sound and inclusive approach that ensures social and economic growth. This has been done through the development of an economic hub within the region and shifting from traditional perspectives of conceiving urban and rural areas as separate to considering spatial and sectoral interlinkages between both. The plan aims to enhance urban–rural linkages through infrastructural development and ensuring growth in sectors like agriculture, industry and services.

Outcomes and lessons

The implementation of the Kalobeyi New Settlement has showed significant opportunities within the settlements, neighboring towns and within the region contributing to rural-urban linkages in the aspects of social enterprise growth, communications, infrastructural development and economic growth. The increased role of the private sector and the government, through the multi-agency collaboration, has improved the social economic inclusion of both communities, while also ensuring sustainable growth. The project is mindful of the fact that durable interventions should conform to integrating the landscape as a key spatial component with green and blue infrastructure by having a land-use framework with an environmental management strategy that advocates for ecological conservation and protection. The Advisory Development Plan allocates land use for green networks/belts within the area to protect ecological corridors, while development in flood-risk areas is avoided, and pastoralist retain access to their migration routes. These corridors for biodiversity, flood protection and pastoral migration may not be the first priorities for the humanitarian-development nexus, but they are nonetheless critical dimensions of planning for resilience and sustainability.

4. FINDINGS FROM CASES

The principles for strengthening urban–rural linkages related to restoration are derived from the cases analyzed. The primary authors of some of the cases were well aware of the Urban–Rural Linkages Guiding Principles (URL-GP) and the associated framework for action.⁷⁹ But the Guiding Principles are relatively new (2019), and some of the cases that have shown results for restoration related outcomes over a period of time predate the URL-GP.



The principles for strengthening urban–rural linkages related to restoration are derived from the cases analyzed. The primary authors of some of the cases were well aware of the Urban–rural linkages guiding principles and the associated

framework for action.⁷⁹ But the Guiding principles are relatively new (2019), and some of the cases that have shown results for restoration related outcomes over a period of time predate them. The same can be said for the phases of the Restorative Continuum (Figure 2), which have yet to be fully incorporated into the normative tools of the communities of practice listed in Box 1.

In the future, the principles that guide the governance of urban–rural linkages and territorial approaches to progressive phases of restorative practice would ideally precede and accompany the design, planning and implementation of the restorative agenda in the urban–rural interface.



TABLE 3
Urban–rural linkages and restoration: Case analysis
 Highlighted cases are those in boxes in Section 3.

Cases	Enabling factors	Pathways to restoration	Key lessons	Stakeholder roles	Convincing narrative?	Principles (Box 2) ^a										Restorative continuum (Figure 2)	
						1	2	3	4	5	6	7	8	9	10		
 <p>Indigenous peoples and civil society. Protection of ecosystem functions and service provision led by indigenous peoples and civil society</p>																	
Brazil	<p>Territorial intelligence and certification for landscape restoration</p>	<p>Municipal leadership linking economic development to reforestation and small farming</p> <p>Territorial certification program for agroecological practices as a path to ecosystem sustainability</p>	<p>Local authorities may mediate diverse interests and trade-offs of economic, environmental, and agriculture groups</p>	<p>Multi-level governance and multi-actor participation</p>	<p>Win–win–win narrative for economy, environment and agriculture</p>	•	•	•	•	•	•	•	•	•	•	•	•
Chile	<p>Indigenous Territorial Development Program</p>	<p>National ministry opening to indigenous peoples' engagement in planning</p> <p>Participatory planning with full inclusion of territorial actors</p>	<p>It is possible to engage powerful and opposing interests directly and fully with territorial approaches</p>	<p>Territorial indigenous peoples, national agencies, private sector</p>	<p>Incorporating territorial intelligence in land-use policy and planning</p>	•	•	•	•	•	•	•	•	•	•	•	•
 <p>Ecosystem stewards. Empowerment of ecosystem stewards in urban and peri-urban forestry and agriculture</p>																	
Kenya	<p>Kavaisha Basin integrated land management for climate adaptation</p>	<p>Coalition of rural and urban actors united in a common agenda with policy and capacity development</p> <p>Integration of land and ecosystem management strategies and actions on the ground</p>	<p>Dialogue and consensus building are critical for success</p>	<p>Landscape managers/ stewards and their development partners and local authorities</p>	<p>Integrated landscape management is critical for sustainable development</p>	•	•	•	•	•	•	•	•	•	•	•	•

^a 1. Locally grounded interventions, 2. Integrated governance, 3. Functional and spatial systems-based approaches, 4. Financially inclusive, 5. Balanced partnership, 6. Human rights-based, 7. Do no harm, and provide social protection, 8. Environmentally sensitive, 9. Participatory engagement, 10. Data-driven and evidence-based

TABLE 3
Urban–rural linkages and restoration: Case analysis (continued)
Highlighted cases are those in boxes in Section 3.

Cases	Enabling factors	Pathways to restoration	Key lessons	Stakeholder roles	Convincing narrative?	Principles (Box 2) ^a										Restorative continuum (Figure 2)								
						1	2	3	4	5	6	7	8	9	10									
India Peri urban agriculture and resilience to climate change	Urban and peri-urban agricultural producers are recognized by local gov as assets to increase resilience to climate change	Harnessing and supporting existing social, environmental infrastructure of peri-urban gardens and small farms for resilience	Support for producers can meet multiple social, economic, environmental and challenges	Successful conservation of urban/peri-urban landscapes starts with local stewards but requires support of community organizations and municipal governments	Growing food for nutrition, income and maintaining healthy soils is a unifier across urban–rural linkages and sectors	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Reducing, Improving, Repairing		
Territorial planning. Integrated territorial planning response to urbanization’s ecosystem impacts																								
Cameroon Yaoundé – Nsimalen Highway	National and subnational priorities related to transport infrastructure with ministerial leaderships and international support	Infrastructure planning and implementation that includes restoration objectives incorporated into development	Cross-sector collaboration at national ministerial level with local authorities and community groups and other stakeholders is key	National ministries, local governments, UN-Habitat as financial and capacity development support	Improving urban–rural linkages and economic opportunities with support for transportation and economic and environmental benefits for local communities	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	Reducing, Improving, Repairing

^a **1.** Locally grounded interventions, **2.** Integrated governance, **3.** Functional and spatial systems-based approaches, **4.** Financially inclusive, **5.** Balanced partnership, **6.** Human rights-based, **7.** Do no harm, and provide social protection, **8.** Environmentally sensitive, **9.** Participatory engagement, **10.** Data-driven and evidence-based

TABLE 3

Urban–rural linkages and restoration: Case analysis (continued)

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							1	2	3	4	5	6	7	8	9	10				
India Tamil Nadu – Odisha land use planning	Priority to better manage urban growth through improved policy and planning for land use, leading to public and external support for integrated multi-level approaches	Integrated planning as an entry point for progressive incorporation of the restorative agenda	Participatory rural and urban planning integrating community needs can improve capacity and empowerment at state and territorial levels	National and state government actors with municipalities and external donor support	Mitigating unplanned urban growth to address rural and urban poverty and improve public services while protecting access to land for farming, forests and grazing														Reducing, Improving, Repairing	
																				●
 Colombia Aburra Valley Green Belt	Metropolitan and municipal political leadership together with strong civil society mobilization and international support	Greenbelt planning, strategy surrounding large and small urban centers and connecting high biodiversity ecosystems, agroecological farming and forestry	Multiple benefits across both urban and rural communities result from comprehensive management strategies	Diverse and deep stakeholder engagement with local and subnational governments	The multiple benefits of a greenbelt for recreation, conservation and sustainable food systems are compelling															Reducing, Improving, Repairing, Initiating, Recovering

^a **1.** Locally grounded interventions. **2.** Integrated governance. **3.** Functional and spatial systems-based approaches. **4.** Financially inclusive. **5.** Balanced partnership. **6.** Human rights-based. **7.** Do no harm, and provide social protection. **8.** Environmentally sensitive. **9.** Participatory engagement. **10.** Data-driven and evidence-based

TABLE 3

Urban-rural linkages and restoration: Case analysis (continued)

Highlighted cases are those in boxes in Section 3.

Cases	Enabling factors	Pathways to restoration	Key lessons	Stakeholder roles	Convincing narrative?	Principles (Box 2) ^a									
						1	2	3	4	5	6	7	8	9	10
<p>Mexico</p> <p>Bio-Cultural Corridor of West Central Mexico</p> <p>COBIOCOM</p>	<p>Subnational state departments of environment with support of national and international NGOs and local municipalities</p>	<p>Multi-level governance strategy from national to subnational and local collaboration to protect cultural and biodiverse landscapes while promoting agroecological farming</p>	<p>Territorial conservation at large scale is feasible with adequate coordination across governance levels</p>	<p>Agencies from different levels of government and representative of farming and indigenous communities</p>	<p>Scaling up biodiversity conservation to a large-scale regional level is supported by environmental and sustainable agriculture advocates</p>	<p>1</p> <p>2 ●</p> <p>3 ●</p> <p>4 ●</p> <p>5 ●</p> <p>6</p> <p>7</p> <p>8 ●</p> <p>9</p> <p>10 ●</p>	<p>Reducing, Improving, Repairing, Initiating, Recovering</p>								
<p>Markets and regulations. Municipal initiatives to create a brand/regulation for biodiversity-related products</p>															
<p>Brazil</p> <p>Vales de Uva Geographic indicator</p>	<p>Producers' market interests and supportive public agencies at local, state and national levels</p>	<p>Certification scheme to ensure continuity of practices supportive of ecosystem preservation</p>	<p>Market incentives for private actors can link positively to the restoration agenda</p>	<p>Private actors (growers and wineries), state and national agencies with local government</p>	<p>Premium products giving consumers greater understanding of the importance of the geography</p>	<p>1</p> <p>2 ●</p> <p>3 ●</p> <p>4 ●</p> <p>5</p> <p>6</p> <p>7</p> <p>8 ●</p> <p>9 ●</p> <p>10</p>	<p>Reducing, Improving</p>								
<p>Italy</p> <p>Slow Food Presidia</p>	<p>NGO and producers' common interests to preserve artisanal foods and processes</p>	<p>Contractually binding instruments to conserve processes and products between producers, processors and buyers</p>	<p>Curating practices supporting diverse ecosystems needs legally binding instruments</p>	<p>Artisanal producers, intermediaries and buyers facilitated by NGO</p>	<p>High value given to traditional practices and conserved knowledge needed to sustainably manage ecosystems</p>	<p>1</p> <p>2</p> <p>3 ●</p> <p>4 ●</p> <p>5 ●</p> <p>6</p> <p>7</p> <p>8 ●</p> <p>9 ●</p> <p>10</p>	<p>Reducing, Improving, Recovering</p>								

^a 1. Locally grounded interventions, 2. Integrated governance, 3. Functional and spatial systems-based approaches, 4. Financially inclusive, 5. Balanced partnership, 6. Human rights-based, 7. Do no harm, and provide social protection, 8. Environmentally sensitive, 9. Participatory engagement, 10. Data-driven and evidence-based

TABLE 3
Urban-rural linkages and restoration: Case analysis (continued)
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Cases	Enabling factors	Pathways to restoration	Key lessons	Stakeholder roles	Convincing narrative?	Principles (Box 2) ^a										Restorative continuum (Figure 2)											
						1	2	3	4	5	6	7	8	9	10												
Procurement policy and legislation linking rural production to urban consumption 																											
South Korea Seoul Urban-Rural Partnership	Metropolitan government food policy and master plan driven by food safety and food security concerns	Legal agreements with financial support from city to surrounding rural prefectures to supply healthy food to schools in urban districts	Combination of official policy agreement and operational support for food hubs and transportation helped	City government, district and smaller municipal governments, urban consumers, rural producers	Healthy locally produced food for schoolchildren linked to the rural revitalization and restoration agenda	●	●	●	●	●	●	●	●	●	●	●	●										
Circular economy. Initiatives promoting circular food economies and short value chains 																											
France Grenoble Metropole	Metropolitan efforts to address urbanization and rural transformation through an integrated governance approach	Established a multi-actor food-governance council to coordinate across sectors, establish a common vision and plan to address health and a transformation of the food system to conserve the natural landscape	Planning resulted in preservation of natural and agricultural lands, new investments in processing and short value chains and raising of consumer awareness and status of farmers and food workers	Metropolitan government, municipalities, consumer and producer organizations, business community, research and civic institutions	Building on consumer awareness of healthy food, reducing waste and sustainability values, a more comprehensive partnership for a green circular economy is not difficult	●	●	●	●	●	●	●	●	●	●	●	●										

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TABLE 3

Urban–rural linkages and restoration: Case analysis (continued)

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Cases	Enabling factors	Pathways to restoration	Key lessons	Stakeholder roles	Convincing narrative?	Principles (Box 2) ^a										Restorative continuum (Figure 2)
						1	2	3	4	5	6	7	8	9	10	
Crisis management advancing integrated urban–rural land use																
 Kenya Kalobeyei Settlement	Humanitarian-development nexus and socio-economic pressures of large refugee population required an integrated planning approach	Migration and refugee crisis humanitarian entry point but solutions to the urban and rural integration of refugee and resident populations started with economic development but include planning for blue-green infrastructure as a foundation for development	New planning led to improved urban–rural linkages with growth of social enterprise, communication, infrastructure and integration of landscape and land management for ecological conservation, protection from floods and retention of pastoral migration	Government agencies, humanitarian NGOs and development actors, refugee communities all participated in the planning process	For the humanitarian-development nexus to succeed there must be a landscape and territorial approach that includes the restoration agenda including stewards of natural resources to achieve long-term sustainability	●	●	●	●	●	●	●	●	●	●	●

^a **1.** Locally grounded interventions, **2.** Integrated governance, **3.** Functional and spatial systems-based approaches, **4.** Financially inclusive, **5.** Balanced partnership, **6.** Human rights-based, **7.** Do no harm, and provide social protection, **8.** Environmentally sensitive, **9.** Participatory engagement, **10.** Data-driven and evidence-based

As seen in the last two columns of Table 3, the *Urban–rural linkages guiding principles* in relation to the restoration agenda may be useful to articulate a general narrative. A majority of the principles apply in many of the cases. Most are locally grounded (principle 1), have integrated governance (2), include balanced partnerships (5), seek to do no harm (7), are environmentally sensitive (8), prioritize participatory engagement (9) and are data-driven and evidence-based (10). Furthermore, the restorative continuum phases (final column) are evident in the strengthening of urban–rural linkages in all the cases.

Operationalizing ecosystem restoration in specific territorial contexts builds on the 2017 UNCCD Science-Policy Interface report⁸⁰ on the *Sustainable land management contribution to successful land-based climate change adaptation and mitigation*. This addresses the localization

of the restoration agenda. This working paper adds a range of pathways to sustainable land management in the urban–rural interface that integrate biophysical, sociocultural and economic needs and values in both urban and rural areas in service to locally determined priorities. The UNCCD report recognized key aspects to create enabling environments for successful design and adaptation including:

*Institutional, policy, and legal frameworks; awareness, capacity building, training; cross-sectoral collaboration; financial or material support; appropriate stakeholder participation at all levels of the decision-making process.*⁸¹

These critical elements are listed in the rows of Table 4. This shows that all the elements were present in all the six detailed cases in this paper.

TABLE 4
Critical elements in six detailed cases

Critical elements for restoration	Brazil Paragominas territorial certification	India Tamil Nadu-Odisha land use planning	Colombia Aburrá Valley green belt	Korea Seoul urban–rural partnership	France Grenoble Metropole local food partnership	Kenya Kalobeyei Settlement
Institutional frameworks	✓	✓	✓	✓	✓	✓
Awareness	✓	✓	✓	✓	✓	✓
Capacity building	✓	✓	✓	✓	✓	✓
Training	✓	✓	✓	✓	✓	✓
Cross-sectoral collaboration	✓	✓	✓	✓	✓	✓
Financial support	✓	✓	✓	✓	✓	✓
Stakeholder participation	✓	✓	✓	✓	✓	✓

The literature on urban–rural linkages for integrated territorial development and the cases examined here suggest a combination of additional factors (dependent on conditions in each local context) necessary to engage land and ecosystem restoration. As one goal for all eight pathways is to integrate urban and rural needs and interests, the dynamic relationship between production and consumption across the urban–rural continuum has profound implications for land-based jobs and consumer choice. Taking these considerations into account, the factors or conditions for an enabling environment to advance ecosystem restoration in the urban–rural interface can be summarized in five core requirements:

- **Incorporating ecosystem intelligence.** Most of the cases underscore the necessity for actors with ecosystem intelligence (or deep knowledge of the natural and cultural characteristics of places) to be fully engaged in central design and decision roles. This is, for example, called “territorial intelligence” in the territorial certification program in **Brazil** and the indigenous territorial plans in **Chile**. These actors may be indigenous peoples, farmers, managers of forest or pasturelands, community organizations, representatives of local or regional governments, private enterprise, nongovernmental organizations, research organizations, etc. In this way ecosystem

intelligence will be brought into different levels of governance and decision making.

- **Building an inclusive narrative.** Construction of an inclusive narrative should reciprocally honor priorities of local or territorial actors and organizational/political actors as well as being inclusive of different sectoral perspectives. This was termed “reciprocal mainstreaming” in the conceptual framework, and in most cases required careful trust-building through dialogue and participatory design and decision making. The Aburrá Valley Metropolitan Green Belt in **Colombia**, for example, was a product of extensive participatory priority sharing and consensus building between diverse urban and rural communities. Most of the cases also required consensus building for common priorities across different government agencies and sectors. For example, linking policy in public procurement to carbon-friendly farming and forestry requires working across disciplines, ministries, agencies, private sector, NGOs and producer communities.
- **Institutionalizing ecosystem practices.** Institutionalization of practices that have positive ecosystem impacts is critical for the longevity of restoration efforts, whether such institutionalization is through political initiative, legislation, regulation or inter-jurisdiction arrangements. All the focus cases and most of the cases in the four communities of practices examined have some form of public-policy ratification. Policy examples in the cases included codified master and territorial plans, certification schemes, interjurisdictional agreements, procurement policy, and emergency response and recovery interventions. Institutionalization processes also require adapting existing mechanisms or creating new ones that allow for ongoing inter-agency, inter-sectoral and inter-jurisdictional collaborations over time.
- **Practicing multi-dimensional implementation.** Organizational, operational and political dimensions are all needed and must be aligned for long-term success. The actors who “know how to get the job done” (operational) are not the same as the expert or academic designers of the frameworks for successful buy-in from donors, investors or politicians (organizational). These two are not the same as the policymakers and their staff (political).⁹² These different forms of agency, both in and out of government, are needed. Their alignment is one of the challenges that need attention for each phase of the restorative continuum. In many of the cases, bringing government, research and civil-society organizations together at the subnational or territorial level was an essential component in mobilization and planning efforts.

- **Securing human and financial resources:**

Early and continuous attention to human and financial resource needs must be fit-for-purpose or appropriate for the kind of process and the character of participation across sectors and levels of governance, as well as for the different phases of planning and implementation in the short and long terms. None of the cases reviewed could have matured without targeted capacity development and financial resources. Especially important is the balance of public and private financing and the strategy for short-, medium- and long-term economic viability of ecosystem restoration as a direct benefit or by-product of development efforts.

Even when these five factors are incorporated, there may be institutional barriers that are challenging and hard to overcome. The realities on the ground may change abruptly with a new environmental, economic or political crisis. There may be a change of administration in a key level of governance that stalls progress, or there may be a change in the financial or organizational support. The availability and continuity of financial and material support from national or international levels is critical for long-term success, as is multi-level governance across sectors and jurisdictions.

All the cases for territorial-scale approaches to restoration depend on resources, including capacity development and financial support. Many sources of financing and capacity development exist. The entry points or pathways for approaching the restoration agenda will provide options for the best kinds of support from local, national or international organizations and donors.

The cases represent a number of finance options. For multi-level cooperation to build capacity for planning processes at local levels, national sectoral budgets (**Chile**) or international donors (**India, Brazil**) are important. For geographic indications (or territorial product labels) and certifications of ecosystem supportive practices, a blend of private investment and public financing for social protection is common. For public food procurement, a combination of social protection and public finance at municipal or national levels are common (**France, South Korea**).

While the financing and other resource options are varied, **Guiding Principle 4 (from the URL: GP)** of being “financially inclusive” applies in most of the cases, whether the source of funding is public or private, local, national or international. As this is such an important dimension of national enabling support to local and subnational levels, it is worth stating the full text of this principle:

Secure and prioritize sustainable public and private investment to balance and strengthen urban–rural linkages. Where possible, adjust funding to meet objectives for integrated rural and urban economic, social and environmental development. Investment must not be limited to larger or capital cities, but should also include smaller settlements, including villages, towns, intermediate cities and peri-urban areas. Pay close attention as well to the diverse formal and informal economic actors needing financial support, including smallholder associations and new entrepreneurs. Promote fiscal strategies to address unequal access to public services and infrastructure investment.⁸³

The question of what are the convincing or more popular narratives addressing the restoration agenda in the urban–rural interface depends on context and the restoration pathway. For example, what may be a win–win–win narrative for the economy, the environment and agriculture in the **Brazilian** territorial certification for landscape restoration will be different than the narrative in **India** that proposes to mitigate against urbanization to address rural and urban poverty and promote access to land for smallholders. There are, however, benefits to both urban and rural communities in most of the cases, and these benefits can be crystalized in narratives for each context.

Ideally the strength of coalitions mobilized to address the five factors for successful incorporation of restoration into sustainable territorial development will be capable of weathering and adapting to changing conditions. Indeed, the expectation that changes on the ground are likely and planning for flexibility should be incorporated in the inclusive narrative that brings all relevant actors into constructive working relationships. Unexpected impacts of the Covid-19 pandemic have been weathered in different ways in different locations in proportion to the strength of prior relationships between actors across sectors and across urban and rural spaces.

4.1 Overcoming competing mandates, frames of reference and power imbalances

The cases revealed challenges that are cross-cutting, for which strategies can be shared and lessons learned. Most governing bodies, whether they are neighborhood councils, municipalities, metropolitan, provincial or subnational states, have charters or formal mandates tied to particular geographic and administrative jurisdictions. Policy goals that stem from the mandates of local authorities are driven at least in part by the

residents who elect leaders. The agencies of local and subnational governments implement policy and programs on behalf of the elected leaders or appointed authorities in the geographic area of the jurisdiction (town, city, subnational region). This is the case even if the services, people or goods come from outside the jurisdiction, for example from rural areas outside cities, or are imported from afar. Services such as housing, transportation or ecosystem services such as municipal water or food supply are usually planned with the priorities of urban centers in mind, even if public services extend to, or come from, peri-urban or even rural areas outside the jurisdiction.

The priorities of neighboring towns or intermediary cities and smaller villages rarely align perfectly with those of the urban centers. Often there is competition for resources and services (land, water, funding, etc.) resulting from conflicting mandates or even from duplication of services in neighboring jurisdictions instead of unified or collaborative approaches across administrative boundaries. Women, indigenous peoples, smallholder farmers, small and medium enterprises and rural communities in general are on the weaker side of power imbalances that are central to most conflict. This is one important reason that including those populations that are usually excluded from policy, planning and implementation is integral to urban–rural restoration.

In many countries, including in our cases, these conflicts are entrenched, with histories that vary depending on the political economy of a country. Differences between rural and urban communities, cultures and the character of local government vary, depending for example on the history of colonial rule and racial or caste segregation across the urban–rural continuum. The priorities from an urban or rural community or from one authority to another may be framed in very different ways, representing different lifestyles, needs or levels of dependencies on ecosystems. The differences may be more than just rural vs. urban or agricultural vs. non-agricultural, but also in language, religion, political persuasion or party affiliation.

The impacts of these differences vary widely, but there are two interrelated impacts:

- Economic and social disparities can become entrenched inequalities between and within communities across the urban–rural continuum
- Widespread power imbalances can result in the exclusion of people from decision making at best. At worse, they can work to reinforce class, ethnic, caste, race, gender and other barriers that leave large numbers of people behind in all regions and countries.

In the arena of governance, the administrative, cultural and spatial disparities make the work of building trust and faith in policy and planning processes difficult. It can take patience and more time than expected, but the focus cases in this paper show how different kinds of barriers have been surmounted and present lessons that are relevant to the governance of urban–rural restoration.

There are experiences in every region around the world where such barriers are overcome and trust is built or recovered. Different pathways for engagement exist, and different actors may initiate, convene or facilitate the process of dialogue, assessment and planning. Sometimes it is the mutual aid and solidarity of practitioners and community organizations who become ambassadors for inclusion. Prominent examples of such ambassadors are John Liu's Ecosystem Restoration Camps⁸⁴ or the Foundation for Ecological Security, led by Jagdeesh Rao.⁸⁵ Sometimes it is the professionals, leaders and process managers charged with equal provision of services who facilitate dialogue and consensus between urban and rural actors. This was the case in the examples of [South Korea](#), [Colombia](#) and [Kenya](#). In the cases in [India](#) and [France](#), the implementation of normative or legislated policy for inclusive sustainable development brings a rights-based approach with a commitment to leave no one behind that is enshrined in the 2030 Sustainable Development Agenda.

4.2 From emergency management to new systems integration

This working paper is being written as the Covid-19 pandemic continues to wreak enormous economic, social and environmental havoc, and as crisis management is ongoing. We therefore summarize some emerging lessons for land restoration from crisis management at different levels of governance. The pressure to find solutions to new challenges in urban and rural communities may lead to bridging social and economic disparities. Such disparities may result from climate change, extreme weather, floods, drought, wildfires, biodiversity loss, ecosystem collapse, soil and land degradation, civil unrest, conflict, health crises, economic disruptions, and migration flows. Local and regional governments are operationally on the front lines of managing crises and recovering from them, even when humanitarian or recovery assistance comes from outside the impacted communities.

Ecosystem functions that provide water, food and fiber from managed or natural landscapes may be harmed by the problems listed in the previous paragraph.⁸⁶ Rehabilitation and restoration after a

disaster, starting with emergency humanitarian assistance, also provide opportunities to rebuild social, economic and ecosystem services in ways that are more resilient, inclusive and sustainable. Innovative approaches to recovery, rehabilitation and restoration are emerging at local and territorial levels, and need recognition and support from national governments and international organizations. The Covid-19 crisis has demonstrated the importance of integrated urban–rural and territorial response to the pandemic's economic, social and environmental impacts, especially on health, livelihood and food sectors.⁸⁷

The restorative continuum for land and ecosystems is spatially relevant for crisis management and recovery from which more comprehensive cross-sector, cross-agency collaboration can develop. The issues that crises bring into stark relief are often found across urban and rural communities. Natural disasters, human-generated crises and problems that combine natural and human causes are likely to affect both rural and urban communities, crossing jurisdictional and administrative boundaries. Some crises may affect urban areas severely but have consequences for rural areas, and vice-versa. A sudden collapse in urban demand for products from rural areas is an example of the former. Conversely, severe weather or transport dislocations in rural areas may interrupt the supply of food to urban markets. In all of these cases, land and ecosystem functions affect the challenges and solutions and have spatial impacts on urban, peri-urban and territorial spaces.

In the Kalobeyei Settlement, [Kenya](#), we have an example of what can become a general good practice: to include in the humanitarian-development nexus the ecosystem restoration agenda as well as socio-economic improvement across the urban–rural continuum. This is important for long-term resilience as ecosystem degradation becomes increasingly linked to the severity and frequency of crises.

Indeed, all regions and all communities, both rural and urban areas face combined and more frequent nature-based crises, including related (and sometimes violent) conflicts. This is driving the discourse on resilience and policy responses from global to national and local levels. At the global level there is normative guidance to countries for crises of health, climate, food, biodiversity, forests, oceans, soil degradation and water. There is an urgent need to break through a siloed, sectoral approach to these crises. This must be accompanied by efforts to enable, support and empower local and regional governments. Cities, towns and villages, rural and urban communities must co-create and co-implement solutions at the urban and territorial scale, across administrative

jurisdictions. It is not an either/or, bottom-up or top-down choice, but a fully transversal, vertical alignment behind the need for shared priorities, integrated narratives and operational strategies to adapt to rapid change and crisis, with pre-crisis planning and strengthening of the social fabric and civic institutions at the community level.

Urban–rural linkages are essential for the future of ecosystem restoration and for both mitigation of risk and adaptation to rapid change. Covid-19 has been the most recent global crisis that proves the need for such strengthening urban–rural relations for crisis response and recovery.

Land and ecosystem degradation, as well as urbanization, are both driven by political and economic processes that translate into unsustainable exploitation of natural resources and people. The pressures from urban sprawl on natural resources and land access, tenure and the rights of family farmers (especially women and smallholders) are universal where the economic value of land for development transcends all other social, cultural and environmental values. The monetized value of land for development can be a barrier to ecosystem protection and restoration when, for example, the value of land for housing and commercial development displaces uses for agriculture, forest or open space, or when tenure agreements prevent land users from enhancing sustainability. Urban, metropolitan and regional plans that protect land and ecosystems for natural resources, biodiversity and agriculture are only partial solutions. Secure tenure for smallholders is vital for long-term ecosystem health to both mitigate and adapt to crises both natural and human-caused.

Territorial planning requires the involvement of all actors: government, civil society, private sector and academia. It requires multi-level governance to share and learn from experience, identify win–win interventions, address environment challenges (water scarcity and quality, land grabbing and degradation, desertification, erosion of biodiversity), and strengthen resilience to crisis (e.g., climate change, pandemics or conflicts). Cities and local governments are in close contact with local realities and have a key role to play to address environmental challenges at territorial levels. Their convening and coordination role at local levels as well as their role in multi-level governance can enhance synergies and accelerate planning and implementation of pragmatic local responses in alignment with national policy and support.

A balance of power is needed where civil society, local authorities, significant private-sector actors and other external actors and donors share a vision and action plan for integrated socio-economic development and ecosystem health through progressive restoration supported by changes in production and consumption. Only if such a balance exists will land degradation neutrality be achievable across the urban–rural continuum. It is not just the land-based actors but all people across the urban–rural continuum that have a stake in restoring and maintaining healthy ecosystems. The cases reviewed here and others around the world are showing how.



5. RECOMMENDATIONS

Addressing the convergence of ecosystem restoration challenges and urban–rural linkages will become increasingly imperative in both the short- and the long term. However, many problems exist: conflicting mandates, competing frames of reference, conflict between national and local governments, insufficient financing, low capacity, historic conflict and power imbalances between urban and rural populations in many parts of the world (including the consequences of colonial and racial oppression). These slow the convergence of ecosystem restoration and more functional urban–rural linkages. Nonetheless, progressive transformation of governance structures to integrate urban and rural development is essential. This is because the economic, social and environmental drivers outlined earlier, coupled with the systems-jarring impacts of crisis management, also may move the world towards implementation of more integrated governance models. Inclusive urban–rural linkages can help to generate the policy instruments and governance approaches for addressing ecosystem restoration challenges. In doing so, they can also address biodiversity, climate change challenges, and the underlying foundation for a healthy and resilient society.

The cases summarized in this paper depict restoration initiatives across the urban–rural continuum within the framework of sustainable territorial development. The Covid-19 pandemic, the challenges of biodiversity loss, climate change and land degradation, and exacerbated socio-economic and health challenges, have heightened the urgency of action. Inclusive digital connectivity to harness the collective agency and power of local and subnational governments in coalitions with non-state actors can make rapid progress on multiple fronts.

The evidence shows that balanced and inclusive urban–rural linkages, combined with a commitment to restore and protect ecosystems, are applicable and adaptable in all regions and at different scales. The 2019 UNCCD Delhi Declaration⁸⁸ encourages local governments to rehabilitate the natural resource base that sustains

human settlements. This paper has documented the progressive integration of urban and rural interventions, showing how to address pressing challenges in specific communities of policy and practice. Interlinkages of socio-economic and bio-physical solutions are found in cases of progressive integration of urban and rural needs. Approaching the restorative continuum from different entry points or pathways is important to strengthen urban–rural linkages.

The convening power and policy purchase of local and regional subnational governments is central to translating narrative visions into operational actions, interventions and ongoing programs. The implementation of integrated urban–rural ecosystem restoration faces many challenges, only some of which are covered in this paper.

The following recommendations build on what the UNCCD Science Policy Interface Sustainable Land Management report describes as

Crucial aspects for creating the enabling environment(s) necessary for the successful design, adoption and implementation of [sustainable land management] technologies and practices.⁸⁹

Adapt and adopt operating principles from existing frameworks. These frameworks include the *Urban–rural linkages guiding principles*, the restorative continuum from the Society for Ecological Restoration, and the Milan Pact. There is not as much a need for a new set of global free-standing principles for local and subnational actors pursuing restoration in the urban–rural interface. What is needed is multi-actor appropriation and adaptation of existing principles and frameworks.

Utilize participatory assessment methods to assess challenges. Participation should include actors across the urban–rural interface. Methods need to be carefully designed and refined to reflect culture, language, gender, and local or subnational history and political economy. Normative and

interactive tools are available to adapt the urban–rural linkages principles for integrated territorial development to the phases of the restorative continuum appropriate to given sociocultural landscapes.

Institute multi-actor planning and co-management.

This should cover different dimensions of organizational, operational and political processes to bring an urban–rural approach to ecosystem management. The planning and management of processes inclusive of ecosystem intelligence at territorial levels and organizational and technical experts on a multi-scale governance axis must be designed with care.

Advance urban–rural ecosystem governance systems. These systems may involve institutional, policy, and legal frameworks, awareness, capacity building and training, cross-sectoral collaboration, financial or material support, and appropriate stakeholder participation at all levels of the decision-making process. This will require an inclusive narrative that links the

organizational, operational and political narratives of different actors: civil servants representing local governments, researchers, and civil society organizations and business communities.

The destiny of urbanization and planetary ecosystems are profoundly intertwined. Global discourse and commitments of national governments recognize this, but local and subnational communities, territories and governments are where transition to a more balanced interaction of nature and culture will be operationalized. National and international enabling support is vital, as are capacity development and finance. But unless urban and rural divides are bridged and transformed in a more united approach to ecological restoration, the intertwined destiny will be far less positive. Effective, inclusive and integrated governance of ecosystem restoration across the urban–rural continuum will bring multiple benefits that both urban and rural dwellers need for sustenance, for sustainability and for resilience.



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ANNEX

Communities of practice related to urban–rural linkages

Box 1 lists four communities of practice from which cases were drawn for this paper. All are closely interrelated but have different thematic, sectoral and policy entry points. Details are given here.

UN-Habitat and the Urban–rural linkages guiding principles



After the 2016 launch of the New Urban Agenda, UN-Habitat convened a multi-sector approach to providing governments and non-state actors with guidance for ensuring more functional urban–rural linkages and addressing the many thematic priorities of local and subnational governments. Over two years, 130 stakeholders from 40 organizations agreed upon a set of ten principles (Figure 3) and an action framework of five enabling actions and six thematic actions (Box 9). The result is a guiding framework for governments at all levels and other stakeholders called “Urban–rural linkages: Guiding principles and a framework for action to advance integrated territorial development.”⁹⁰ This framework incorporates many priorities for local authorities that are simultaneously related to the Sustainable Development Goals and targets. Since the launch of the Guiding principles at the UN-Habitat Assembly in 2019 and the accompanying resolution on urban–rural linkages,⁹¹ in-country pilots and tools for adaptive implementation of the principles have progressed.⁹²

Figure 3 shows the 10 guiding principles: (1) locally grounded interventions; (2) integrated governance; (3) functional and spatial based systems approaches; (4) financially inclusive; (5) balanced partnership; (6) human rights based; (7) do no harm and provide social protection; (8) environmentally sensitive; (9) participatory engagement; and (10) data driven and evidence-based.



BOX 9

UN-Habitat framework for action: Enabling actions and thematic actions

Creating an enabling environment for strengthened urban-rural linkages

- A Governance, legislation and capacity development
- B Integrated planning across the urban-rural continuum
- C Investment and finance for inclusive urban-rural development
- D Empower people and communities
- E Knowledge and data management for dynamic spatial flows of people, products, services, resources and information

Sectorial and thematic entry points to promote integrated territorial development

- F Territorial economic development and employment
- G Coherent approaches to social service provision
- H Infrastructure, technology and communication systems
- I Integrated approaches for food security, nutrition, and public health
- J Environmental impact and natural resource and land management
- K The urban-rural continuum in the face of conflict and disaster

Source: UN-Habitat. 2019. Urban-rural linkages: Guiding principles and framework for action.

Land and ecosystem restoration are addressed directly in the Guiding principles, for example in principle 8 (environmentally sensitive), and indirectly in principles 2 (integrated governance), 6 (human rights-based) and 9 (participatory engagement).

In the Framework for Action (Box 9), actions I (Integrated approaches for food security, nutrition and public health) and J (Environmental impact and natural resource and land management) both relate to interventions along the restorative continuum to realize the New Urban Agenda call to “protect and restore ecosystems.” For a unified approach to land and ecosystem restoration in the urban–rural interface, many of the principles, together with enabling and thematic actions, can be and are in fact applied and deployed in context-specific cases at local and territorial levels.⁹³

The policy guidance in the New Urban Agenda and the subsequent crafting of a new consensus narrative on urban–rural linkages convened by UN-Habitat was influenced by, and linked to, other processes focused on local and subnational governance. Among these are three parallel and interrelated processes with associated communities of practice that focus attention on the urban–rural relationship with direct and indirect relevance for the land restoration continuum:

- The emergence between 2015 and 2019 of Framework for an Urban Food Agenda⁹⁴ combining support for city-region food systems⁹⁵ and territorial approaches to rural development.⁹⁶ This was convened by FAO and other stakeholders, and has accelerated over the past 5 years.
- The mayoral protocol convened by the City of Milan, Italy, in 2015. The Milan Urban Food Policy Pact⁹⁷ was launched just weeks after the launch of the 2030 Agenda for Sustainable Development. As of 2020 it had been signed by over 210 mayors.
- Work on a revised framework for integrated territorial development linking socio-economic and biophysical dimensions of territorial planning across the rural-urban continuum and resulting in the Territorial Perspective for Development and a stocktaking of territorial approaches for sustainable development.⁹⁸

City-region food systems and the FAO Framework for the Urban Food Agenda



The city-region approach to food systems evolved from an initial focus on local food systems with urban and peri-urban agriculture in the FAO Food for Cities Interdisciplinary Initiative.⁹⁹ From early efforts to create a city-region food systems approach, a participatory assessment and monitoring framework developed by FAO, RUAF and the Milan Pact Secretariat¹⁰⁰ has been piloted in city regions around the world. FAO hosts the City Region Food Systems toolkit¹⁰¹ and (since 2018) an Urban Food Actions Platform showcasing progress related to city-region food systems around the world.¹⁰² Land and ecosystem restoration issues are prominent in the city-region approach, and figures prominently in many documented cases.

Parallel to the city-region work, other research and technical units work on urban forestry, biodiversity, markets, territorial and landscape approaches. Many of these processes converged in the FAO Framework for an Urban Food Agenda, a flagship initiative launched in 2019. In 2020 a related Green Cities Initiative was launched that expands upon the Urban Food Agenda.¹⁰³

The Milan Urban Food Policy Pact



A food-systems approach to urban food planning and policy was the basis for the Milan Urban Food Policy Pact,¹⁰⁴ launched after more than 6 months of consensus building by 46 cities convened by the mayor of Milan in 2015. The convergence of economic, social and environmental priorities is reflected in the Milan Pact's central tenets and framework for action. The Pact acknowledges that urban and peri-urban agriculture offers opportunities to protect and integrate biodiversity into city region landscapes and food systems, thereby contributing to synergies across food and nutrition security, ecosystem services and human well-being.

The first commitment by 208 mayors as of September 2020 is to

Work to develop sustainable food systems that are inclusive, resilient, safe and diverse, that provide healthy and affordable food to all people in a human rights-based framework, that minimize waste and conserve biodiversity while adapting to and mitigating impacts of climate change.

Existing actions drawn from cities' food work at the time are organized into six categories: governance, sustainable diets and nutrition, social and economic equity, food production, food supply and distribution, and food waste. In the category of food production, one action is directly relevant to land and ecosystem restoration at the urban–rural interface. This provision states:

Apply an ecosystem approach to guide holistic and integrated land use planning and management in collaboration with both urban and rural authorities and other natural resource managers by combining landscape features, for example with risk-minimizing strategies to enhance opportunities for agroecological production, conservation of biodiversity and farmland, climate change adaptation, tourism, leisure and other ecosystem services.¹⁰⁵

Three years after the launch of the Milan Pact, FAO, EStA, and the Milan Pact Secretariat published a report titled “Cities role in the transformation of food systems: Lessons from Milan Pact cities.” This report analyzed 49 practices out of 157 practices submitted to the Milan Pact Awards between 2016 and 2018. One of the key lessons is that

As cities embrace the full breadth and inherent complexity of a food system approach, including primary production, distribution, storage, processing, and marketing and food waste management, local governments increasingly recognize the need to strengthen urban–rural linkages in diverse and synergistic ways.¹⁰⁶

Since this report, over 100 more practices were submitted for the 2019 Milan Pact awards cycle. The strengthening of urban–rural linkages is a prominent aspect for many of the submissions and ecosystem services and land issues related to sustainable food systems are found in many as well.¹⁰⁷

Territorial Perspectives for Development



In early 2018, just as UN-Habitat began work on guiding principles and actions to strengthen urban–rural linkages, the French research institution CIRAD convened a conference on “Living territories” which led to a white paper co-authored by CIRAD, OECD, FAO, GIZ, BMZ, AfD, NEPAD, and FAO. “Fostering territorial perspectives for development: Towards a wider alliance”¹⁰⁸ defined territorial approaches as “a space for human governance” linking socio-political and biophysical interventions in a specific place with the participation of actors from governments, civil society and the private sector. Subsequent to the release of the white paper, these and other like-minded organizations including UN-Habitat, Rimisp and EcoAgriculture Partners contributed to a stocktaking of “Territorial Approaches to Sustainable Development.”¹⁰⁹ Fourteen cases and one country study in this stocktaking managed by GIZ include direct interventions to protect and restore ecosystem functions from different entry points.

These four interrelated, multi-agency and multi-stakeholder efforts to localize systemic solutions to sustainable development challenges are all informed by global sustainable development policy agendas. The same is true for cities’ biodiversity mainstreaming and integrated landscape management approaches. Local biodiversity and landscape approaches are more clearly tied to the restoration agenda than the four communities of practice from which case studies are drawn for this report. All of the approaches are important for their attention to and impacts on natural resources and ecosystems necessary for functional territories or city regions. Finally, all of these approaches are grounded and documented in the actions of relevant communities of practice. These communities of practice have generated case studies including diverse pathways to restoration, a small selection of which are summarized in section 3 of this working paper.



Endnotes

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- 7 The diverse responses in urban governance that need to be understood in terms of systemic approaches to comprehensive solutions to complex challenges are examined in how urban governance encounters and adaptively learns to address and embrace complexity. Muñoz-Erickson, T., Miller, C., and Miller, T. 2017. How cities think: Knowledge co-production for urban sustainability and resilience. *Forests* 8(6): 203-. <https://www.fs.usda.gov/treearch/pubs/54418>
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- 9 The restorative continuum for ecosystem restoration is articulated by the Society for Ecological Restoration as part of Principle 8, "Ecological restoration is part of a continuum of restorative activities". Gann, G.D., *et al.* 2019. International principles and standards for the practice of ecological restoration. *Restoration Ecology* 27(S1). <https://onlinelibrary.wiley.com/doi/10.1111/rec.13035>
- 10 UNCCD. 2019. Text of COP 14 Delhi Declaration. Para 10. <https://www.unccd.int/news-events/new-delhi-declaration-investing-land-and-unlocking-opportunities>
- 11 A sample of tools includes those made available to national and subnational governments by UN-Habitat in the Urban Policy platform, <http://urbanpolicyplatform.org>, and the International Guidelines for Urban and Territorial Planning, <https://unhabitat.org/international-guidelines-on-urban-and-territorial-planning>
- 12 This encouragement can be found throughout the New Urban Agenda for example, in paragraph 69 committing *"to preserving and promoting the ecological and social function of land, including coastal areas that support cities and human settlements, and to fostering ecosystem-based solutions to ensure sustainable consumption and production patterns, so that the ecosystem's regenerative capacity is not exceeded."*
- 13 Donors and financial mechanisms also reinforce sectoral siloes or prioritize one governance level, often leaving unattended the necessary coherence or alignment between levels of local, subnational and national governance.
- 14 See UCLG frame document for intermediary cities: Planning and management of sustainable urban development, https://www.uclg.org/sites/default/files/uclg_frame_document_ic.pdf
- 15 The ICLEI Cities Biodiversity Centre is based in the ICLEI Africa Regional Secretariat and has been helping cities and subnational governments mainstream biodiversity in action plans (see <https://cbc.iclei.org/project/bsap-guidelines/>). CBC works in collaboration with the secretariat of the Convention on Biodiversity and other partners and has been an important community of practice for ecosystem restoration in the urban–rural interface. CitiesWithNature is a platform for shared commitment to integrate nature in an urban world. <https://citieswithnature.org>
- 16 Regions4 is a network of regional subnational governments active in biodiversity, climate change and other issues. <https://www.regions4.org>
- 17 RUAF Foundation has worked in partnership with cities, national governments and international organizations, including UN agencies, on urban, peri-urban and city region food systems. It was part of the technical team that assisted cities draft the Milan Pact and then partnered with FAO to help develop the City Region Food System toolkit. <https://ruaf.org>

- 18 For one example recent example of such shaping of multi-level policy coherence see the Edinburgh Declaration on post-2020 Global Biodiversity Framework. <https://www.gov.scot/publications/edinburgh-declaration-on-post-2020-biodiversity-framework/>
- 19 These positive attributes of greater flexibility and responsiveness to crisis and complexity at local, regional or territorial levels have been the subject of recent publications of United Cities and Local Governments, including “Towards the localization of the SDGs: How to accelerate transformative actions in the aftermath of the COVID-19 outbreak”, https://www.uclg.org/sites/default/files/report_localization_hlpf_2020.pdf
- 20 Pathways are defined here as thematic or sectoral initiatives, policy or programmes with actions that are regulatory or incentive-based through a variety of instruments and mechanisms.
- 21 Muñoz-Erickson, T.A. *et al.* 2017. How cities think: Knowledge co-production for urban sustainability and resilience. See especially the discussion of organizational, operational and political complexity, and Table 3 on page 10. <https://www.fs.usda.gov/treearch/pubs/54418>
- 22 There are numerous hierarchies of settlement geography but for the purposes of this paper the scales of urban settlement range from small villages and towns to intermediary cities, larger cities and metropolitan regions.
- 23 A community of practice is defined for this working paper as a set of actors that includes practitioners at city region and territorial or landscape levels linked to different levels of governance including policy processes, donors and development organisations united in a common narrative with shared priorities.
- 24 Cities Biodiversity Centre, <https://cbc.iclei.org>
- 25 EcoAgriculture Partners and their landscape initiatives, <https://ecoagriculture.org>
- 26 For example, the Global Task Force for Local and Regional Governments, United Cities and Local Governments, ICLEI, Rergions4, Milan Urban Food Policy Pact, Metropolis, ORU-FOGAR, among others at regional or national levels.
- 27 For example, the interdisciplinary and multi-level teams at FAO Urban Food Team, UN-Habitat Urban-Rural Team in the Policy, Legislation and Governance Section, OECD’s Development Centre, the EU Committee of Regions, the Sustainable Cities Programme at the UN Environment Programme, the WHO Healthy Cities Network, the UN Development Programme’s ART initiative, etc.
- 28 For example, the recent work of the World Bank Group on urban food governance, in Teft, J., *et al.* 2017. Food systems in an urbanizing world. World Bank Knowledge Product. Washington. <http://documents1.worldbank.org/curated/en/454961511210702794/pdf/Food-systems-for-an-urbanizing-world-knowledge-product.pdf>
- 29 The list of donors and NGOs engaged in local and territorial development is large, but those working to link and support national and local authorities and non-state actors are a small but growing number of organizations.
- 30 Elaboration of reciprocal mainstreaming from the efforts to mainstream biodiversity in relation to other economic social and environmental priorities is explained in the IIED report, “Mainstreaming biodiversity: Guidance from African experience, 2012–2017.”
- 31 UN-Habitat. 2019. Urban-rural linkages: Guiding principles and framework for action. 2019. Page 1. <https://unhabitat.org/sites/default/files/2020/03/url-gp-1.pdf>
- 32 The text of the *Urban-rural linkages guiding principles* gives more detail on both the principles and the framework for action.
- 33 Two global perspectives on these driving forces in recent years are the working paper from Rimisp (2014), “Inclusive rural-urban linkages,” and the 2017 report “Addressing Food Insecurity and nutrition in the context of changing rural-urban dynamics: Experiences and effective policy approaches. <http://www.fao.org/3/a-mu135e.pdf>
- 34 GIZ. 2021. Territorial approaches for sustainable development: Stocktaking on territorial approaches, experiences and lessons. Bonn, Germany. Page 35. [www.giz.de/de/downloads/GIZ_2020_Territorial%20Approaches%20for%20Sustainable%20Development_Stocktaking_FINAL%20REPORT%20\(1\).pdf](http://www.giz.de/de/downloads/GIZ_2020_Territorial%20Approaches%20for%20Sustainable%20Development_Stocktaking_FINAL%20REPORT%20(1).pdf)
- 35 All four of the collections of cases drawn upon for this paper have many cases of multiple challenges, even if the leading challenge at the urban–rural interface is a single-entry point, for example food insecurity, access to food and water, poverty, natural resource management or land degradation.
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- 40 GIZ. 2021. Indigenous Territorial Development Programme, Chile. Territorial approaches for sustainable development. Annex, Case study 11. <https://www.giz.de/de/downloads/Territorial%20Approaches%20for%20Sustainable%20Development.pdf>
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- 47 <https://ruaf.org>
- 48 <https://citieswithnature.org>
- 49 https://iclei.org/en/CITYFOOD_Network.html
- 50 Meijboom, M., Tiwari, S., and Dubbleling, M. 2016. Enhancing climate resilience of Gorakhpur by buffering floods through climate-resilient peri-urban agriculture. Asian Cities Climate Change Resilience Network. <https://ruaf.org/assets/2019/12/Enhancing-climate-resilience-of-Gorakhpur-by-buffering-floods-through-peri-urban-agriculture-final-1.pdf>
- 51 <http://www.fao.org/urban-food-actions/resources/en>
- 52 For a specific focus on the enabling environment for achieving land degradation neutrality, see UNCCD/Science-Policy Interface. 2019. Shaping an enabling environment for land degradation neutrality. Science-Policy Brief 5. Sep 2019. United Nations Convention to Combat Desertification (UNCCD), Bonn. https://catalogue.unccd.int/1213_UNCCD_SPI_2019_PB_1-2_WEB.pdf. This brief addresses the dimensions for an enabling environment, but there is little specifically addressing the role of local and subnational governments.
- 53 Teft, J., *et al.* 2017. Food systems in an urbanizing world. World Bank Knowledge Product, Washington, DC. Page 59. <http://documents1.worldbank.org/curated/en/454961511210702794/pdf/Food-systems-for-an-urbanizing-world-knowledge-product.pdf>
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