# MODULE 4 GUIDANCE NOTE: SUPPORTING NATURAL ASSETS THROUGH VLRS

What are natural assets and why are they important?

More and more local governments are recognizing local natural resources as municipal assets that deliver services for their community, much like built assets do. Local forests, lakes, rivers and streams, aquifers, wetlands, shorelines and embankments, and public green spaces, each deliver important ecosystem services that can achieve targeted infrastructure outcomes.

For example, lakes, rivers and aquifers are often a source of drinking water for communities. Local forests and wetlands often serve as filters that protect local water sources, as well as providing opportunities for local recreation and ecotourism. Shorelines and embankments can provide protection to communities from flooding and storm surges, while public green spaces help enhance both physical and mental wellbeing of local residents and even increase the value of nearby property.

Nature-based solutions and natural infrastructure are a form of engineered or modified natural asset that deliver a specific service or multiple co-benefits to a community. Engineered wetlands and ponds for stormwater management and flood protection are one example, as are green roofs and walls and urban forests for reducing heat stress in cities. Other solutions such as bioswales, rain gardens, and permeable pavements help to manage stormwater runoff. And rooftop rain collection and rain barrels help manage stormwater while also providing a source of water for building sanitation and irrigation systems.
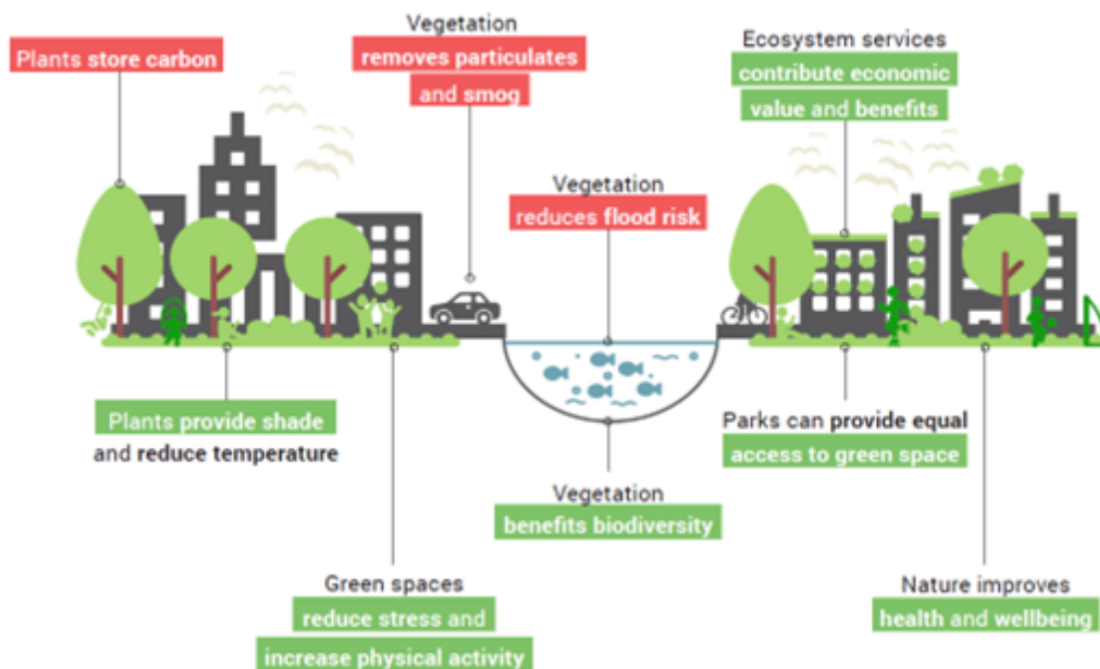
"Ecosystems and their services not only support cities' day-to-day functions, but they can also reduce risks from hazards and the effects of climate change. Innovative design and planning strategies including ecosystem protection and restoration, the use of green and blue infrastructure, and changes in urban morphology, can reduce the risk from various hazards such as heat waves, floods, or landslides".

How can local governments support natural assets at the local level?

Local governments can support natural assets through a range of actions. The first of which is to **take inventory** of the natural assets that provide services and benefits to their community, including the condition of the assets and the potential risks to them (i.e., development, climate change, etc.).

With knowledge of the stock and state of local natural assets, local governments can take steps to **manage their assets** to help ensure that they continue to deliver services and benefits to the community. **Using nature-based solutions and natural infrastructure** can help augment the services and benefits provided by existing natural assets, as well as deliver new targeted infrastructure outcomes including water and wastewater filtration, stormwater management, while at the same time reduce greenhouse gas emissions and provide opportunities for storing carbon.

To help make the business case for investment and financing, new approaches for **valuing the services** provided by natural assets and nature-based solutions can be used alongside traditional benefit-cost analysis.

How can a VLR help?

A Voluntary Local Review (VLR) can help a community manage natural assets by providing information that is relevant for local government planning & policy, budgeting & finance, and reporting & assessment. A VLR can also help mainstream and catalyze efforts within local governments toward measuring the state of natural assets and assessing the risks that natural assets are exposed to. More insight into how VLRs can help achieve circularity at the local level is provided at the end of this document.

A first practical step, as officials preparing a VLR or experts providing assistance, is for you to have a general understanding of all the potential leverage points that local governments can use to support natural assets and nature-based solutions. Such is the purpose of the sections that follow.

Taking Inventory of Natural Assets, Conditions, and Risks

The European Union strategy on Green Infrastructure "promotes the use of green and blue infrastructure and nature-based solutions for the benefit of EU citizens and biodiversity" (EU 2013). The strategy describes how "a network of healthy ecosystems provides alternatives to traditional 'grey' infrastructure, often at a fraction of their cost" and provides the following examples (EU 2013):

- Diverse mixed forests, absorb large quantities of water and protect the soil, preventing and reducing the impacts of floods and landslides. They also provide important habitats for animals, recreation, and contribute to carbon sequestration.

- Well-designed urban green spaces, (parks, gardens, green roofs, allotments…) can contribute to protecting biodiversity, while helping to tackle climate change, keeping cities cool, reducing flood risks and enhancing the health and well-being of urban residents.

- Restoring wetlands is a suitable, often cheaper, alternative to building a new water treatment plants, that can also provide many other natural services, including space for migrating birds, and for pollinators to thrive;

- Restoring floodplains is also much cheaper and often much more effective at preventing floods than building new, higher dykes.

Furthermore, UN Habitat surveyed the range of nature-based solutions that exist for deployment by cities and observed 35 unique interventions (UN Habitat, 2022) as illustrated below.

Taking inventory of local natural assets and managing the assets in the same manner that local governments do for built assets, is an emerging practice that not only makes sense from an operational and cost savings perspective, the practice of asset management applied to natural assets helps local governments identify and manage risks and opportunities that exist or may develop in the future (Global Association of Risk Professionals, 2022).

Such is the practice now in Canada, where over 100 local governments across the country now consider natural assets and nature-based solutions within their broader asset management functions. The interest has even catalyzed the development of a National Standard for Natural Asset Inventories (see box below) and launched advocacy efforts with the country's Public Sector Accounting Board to allow local governments to reflect the value of natural assets and nature-based solutions on their balance sheets, to better represent a community's full asset inventory and reflect any undocumented liabilities (i.e., risks to natural assets that provide critical services to a community, like water quality) (Intact Centre on Climate Adaptation, 2022).

Local Leverage Points

Among the governance leverage points that a local government can take advantage of to help ensure that natural assets continue to provide critical levels of service to their community are:

- **Develop a natural asset inventory**. UNDESA and the United Nations Capital Development Fund (UNCDF) issued its handbook for local governments on "Managing Infrastructure Assets for Sustainable Development" in the context of both built and natural infrastructure (UNDESA and UNCDF, 2021). This guidance begins by emphasizing that "a critical first step in the asset management journey is for governments to take stock of the assets they own and/or manage". Canada's National Standard for Natural Asset Inventories is a good practice example and provides insight into specifications for identifying and assessing the condition of natural assets (see the box example below).

- **Assess and manage risks**. Understanding risks and how to mitigate risks is a key component of life cycle asset management (UNDESA and UNCDF, 2021). Risks are financial, given the significant capital cost of most assets, and also service related. Such risks to assets must be assessed and managed on a continual basis. Natural assets and natural infrastructure can provide "an effective complement or substitute for traditional built infrastructure", and in the context of climate-resilient infrastructure, "can deliver equivalent service to traditional approaches while also generating co-benefits such as amenity value, biodiversity conservation, and climate change mitigation" (OECD, 2018).

Good practice example:

Canada's National Standard for Natural Asset Inventories
"Natural assets like grasslands, forests and wetlands contribute to the delivery of ecosystem services, including many essential public services ranging from the provision of clean water, flood management, improved air quality and increased biodiversity. Unlike engineered assets, these natural assets are often excluded from asset management plans and financial reports leading to their mismanagement and the deterioration of the services that they provide.

To address this need, CSA Group has published *CSA W218:23: Specifications for natural asset inventories*. This National Standard of Canada defines minimum requirements for the development and reporting of a natural asset inventory. *It provides definitions, guidance and helps bridge the gap for local governments looking to begin accounting for their natural assets, while also providing consultants and practitioners with expert-developed best practices to apply in their work.*

The standard will not only help support the development of effective natural asset inventories, but also help to *make collaboration between communities easier, help attract diverse funding, and connect natural asset inventories to broader climate and natural based solutions and reporting.*

The new standard will be of particular benefit to:

- **Consultants and practitioners** that conduct natural asset inventories, as they could use CSA W218:23 to help them apply the best practices that experts and industry leaders have developed.
- **Local governments** and conservation authorities that will be able to work more transparently with industry practitioners to conduct natural asset inventories and determine the services their natural assets provide and compare the results with other communities.
- **The public**, which would benefit from knowing local governments are effectively managing and protecting their communities' natural assets and risks.
- **Education and institutions** and providers who would have an authoritative basis for training and professional development in the natural asset management field."

Source: Canadian Standards Association – CSA Group (2023)

Managing Natural Assets and City Services Solutions

Sustainable Development Goal (SDG) #15 calls on all nations to "protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss" (United Nations, n.d.). Furthermore, among the specific targets of SDG #15 established in 2015 was to "by 2020, integrate ecosystem and biodiversity values into national and local planning, development processes, poverty reduction strategies and accounts."

The Kunming-Montreal Global Biodiversity Framework ratified in 2022 brings renewed clarity on the interaction of people and nature. Specifically, Goal B states the following:

> Biodiversity is **sustainably used and managed** and nature's contributions to people, including ecosystem functions and services, are **valued, maintained and enhanced**, with those currently in decline being **restored**, supporting the achievement of sustainable development for the benefit of present and future generations by 2050.

Furthermore, Target 11 of the GBF calls on all nations to:
Restore, maintain and enhance nature's contributions to people, *including ecosystem functions and services, such as the regulation of air, water and climate, soil health, pollination and* **reduction of disease risk,** *as well as protection from* **natural hazards and disasters,** *through* **nature-based solutions** *and/or ecosystem-based approaches for the benefit of all people and nature.*

The UNDESA and UNCDF Asset Management Handbook recommends that assets "be **managed adequately over their entire life cycles to ensure that initial investments in new infrastructure are sustained for present and future generations"** and that each phase of an asset's life cycle, including planning, acquisition, use and disposal, should be supported by coherent policies that draw on a unique set of human, material and financial resources.

Public assets are defined as including **buildings, equipment, natural resources, and infrastructure**. Furthermore, as part of asset management for sustainable development, UNDESA and UNCDF define natural infrastructure as "**existing, restored, enhanced or simulated combinations of land, water and vegetation**" (UNDESA and UNCDF, 2021).

From an implementation perspective, a local government asset management framework includes an asset management policy and a strategic asset management plan (including demand management, life cycle management and financial management) with operational actions of planning, acquiring, using, and disposing, all informed by an asset management information system and asset register database (see figure below; UNDESA and UNCDF, 2021).

Information and the asset management framework
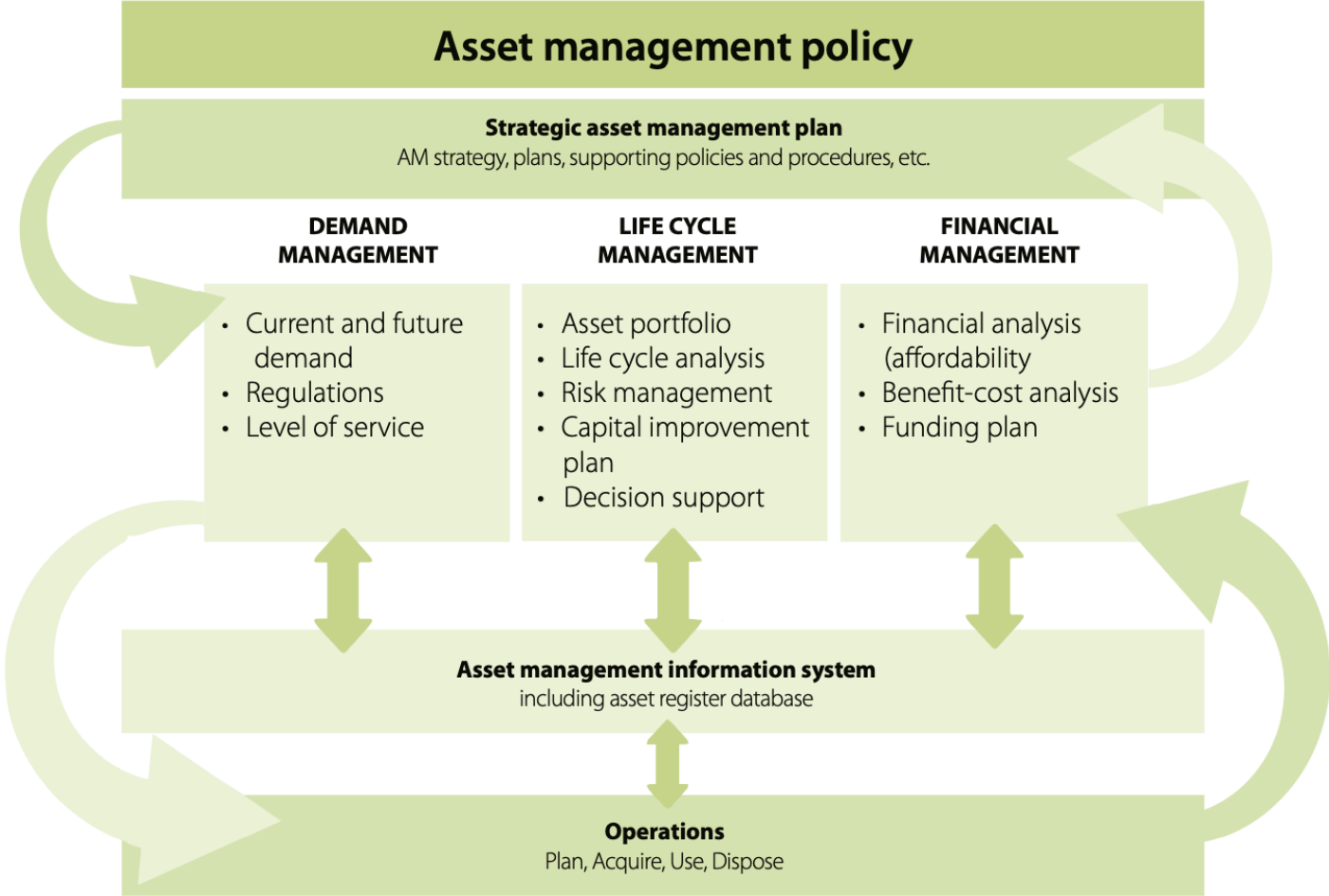
Source: UN DESA

Local Leverage Points for Managing Natural Assets and Infrastructure

The aforementioned global goals and targets, together with the handbook an infrastructure asset management, provide critical insight into leverage points for local governments in the use of nature to help deliver necessary services to their communities. Among these are the following:

- **Creating an assessment management policy and strategic plan**. An asset management policy sets out the objectives and principles that guide asset management for a local government. A strategic asset management plan includes a strategy to guide how assets will be managed over time to meet objectives in a manner that is coherent with other local economic, land use, and development goals (UNDESA and UNCDF, 2021). The asset management plan further details the necessary actions to manage the assets, typically organized by service area or asset type.

- **Establishing levels of service**. Level of service (LOS) defines the scale of service provided by an asset and can be government mandated (i.e., a water quality standard). LOS can also be customer-based to address how the community receives or experiences a service or technical, as a measure of how the local government delivers the service (UNDESA and UNCDF, 2021). The Municipal Natural Asset Initiative has published *A Guidebook for Local Governments for Developing Levels of Service for Natural Assets* (MNAI, 2022).

- **Valuing natural assets and nature-based solutions** for benefit-cost analysis and financial planning. UNDESA and UNCDF (2021) describe multiple approaches for determining asset value for built assets, including depreciated book value, replacement cost, and market value. For natural infrastructure assets, The Economics of Ecosystems and Biodiversity (TEEB) initiative, launched in 2008 by the European Commissioner for the Environment and the German Environment Minister, describes a range of approaches that can be used for valuing natural capital within a Total Economic Value (TEV) framework, including market prices, replacement cost, avoided cost, mitigation cost, hedonic pricing, contingent valuation, choice modelling and benefit transfer (Pascual and Muradian, 2010).

- **Informing asset management**. UNDESA and UNCDF (2021) emphasize that asset management is not static and that information plays a core role in informing policy and adapting strategy and direction. Strategic goals and performance targets for customer and technical levels of service must be measured and monitored over time to inform continuous improvement (UNDESA and UNCDF, 2021). In the specific context of natural assets, the Municipal Natural Asset Initiative's *Guidebook for Local Governments on Developing Levels of Service for Natural Assets* provides a comprehensive list of performance measures that can be used to track the level of service contribution of natural assets to stormwater management, wastewater, drinking water, biodiversity,

climate resilience, transportation, public health, recreation, culture and heritage, and local economic development. ([MNAI, 2022](#)).

Good practice example:

EcoPark Project, Bishek, Kyrgyzstan
Bishek's EcoPark project began in 2010 with a field study carried out by 2,800 residents to better understand community needs and expectations. The project has evolved every year since 2010 and to date, approximately 10,000 trees have been protected, increasing carbon storage and restoring native species in the unique forest of Bishkek referred to as the Karagachevaïa Rocha ("grove of elms"). The project redeveloped the forest into an environmental education centre, the first of its kind in Kyrgyzstan.

Eco Park is jointly supported by the American University of Central Asia, the Town Hall of Bishkek, the French-Kyrgyz Ecotourism Association (Association Franco-Kirghize d'Ecotourisme AFKE), the German Federal Ministry of Foreign Affairs, and community volunteers from Bishkek.

Source: [Urban Nature Atlas (n.d.)](#)

Tips for Supporting Natural Assets through Strengthened VLRs

As an official of a local government or organization tasked with preparing a Voluntary Local Review (VLR), or as an expert assigned to assist a local official prepare a VLR, being aware of all the potential ways in which a community can support natural assets and natural infrastructure is the first and most important step in supporting local recovery and transitions that are sustainable, green and resilient.

Your next steps are to find practical ways to use the content and process of a VLR to support local government planning, budgeting and reporting, and the means of local implementation, as well as to inform your country's Voluntary National Review (VNR) when it is submitted and presented to the United Nations High-level Political Forum. In this regard, below is a listing of the top strategies to use to enhance your VLR to support circularity at the local level.

1. Informing local government and the means of implementation:

I. *Planning & Policy*
   A. Identify and communicate local success stories in supporting natural assets and natural infrastructure solutions
   B. Assess and identify missed local leverage points for supporting natural assets and natural infrastructure solutions, including if the local government has conducted a natural asset inventory and risk assessment, and has included natural assets and city services solutions in its asset management policy, strategy and plan.
   C. Make coherent policy recommendations to the local government to address gaps
   D.

II. *Budgeting & Finance*
   A. Assess public budget expenditures allocated to natural assets and nature-based solutions and report key gaps
   B. Make coherent recommendations for addressing expenditure gaps, including all potential financing sources and instruments
   C. Identify and communicate local success stories in financing natural infrastructure solutions and conserving, restoring, and maintaining natural assets
   D.

III. *Reporting & Assessment*
   A. Provide data and stories relevant to key performance indicators (KPIs) reported by local government, including by asset managers
   B. Identify KPI gaps and make recommendations for additional indicators for local government to use

2. Informing your country's Voluntary National Review (VNR):

I. *Content*
   A. Align the structure of your VLR with that of your country's VNR, to the extent possible
   B. Include success stories, barriers to implementation, and lessons learned towards managing natural assets and nature-based solutions
   C. Include recommendations for how national governments can support local efforts toward managing natural assets and nature-based solutions

D. Highlight innovative local sources and instruments of finance for natural assets and nature-based solutions

E. Promote utilization of local data and provide disaggregated data, aligned with indicators reported in the VNR, to the degree possible

F.

II.*Process*

A. Time your VLR with the preparation cycle of the VNR

B. Inform your intent to prepare a VLR to the national government's VNR staff

C. Ask VNR preparers at the national level to review and comment on your VLR

D. Volunteer to provide local content and indicators to ensure the VNR captures local efforts toward managing natural assets and nature-based solutions

E. Volunteer to be part of the VNR presenter's panel at the UN High-level Political Forum.