United Nations University (UNU) Summary Input
for 2024 High-level Political Forum on Sustainable Development (HLPF) and ECOSOC

(a) Impacts of multiple crises on the implementation of SDGs 1, 2, 13, 16 and 17 from the vantage point of your intergovernmental body.

The occurrence of multiple crises significantly impedes the realisation of Sustainable Development Goals (SDGs). For example, economic downturns, environmental threats, and the COVID-19 pandemic simultaneously exacerbate poverty (SDG 1) and hunger (SDG 2), disproportionately affecting vulnerable populations. Food crises can also undermine peace, justice, and strong institutions (SDG 16). Climate change (SDG 13) amplifies these challenges, posing threats to food security and exacerbating socio-economic disparities.

Amidst the many crises confronting our world, UNU remains steadfast in its commitment to addressing global challenges by promoting integrated approaches to sustainable resource management and identifying interlinkages between multiple crises and SDGs.

No poverty (SDG 1)

The COVID-19 pandemic resulted in setbacks to achieving SDG1 and pre-existing economic inequalities have widened. The disruptions witnessed in global food supply chains due to crises have amplified existing challenges, particularly in ensuring food security, which stands as a cornerstone in the fight against poverty. By prioritising policies and interventions that promote sustainable livelihoods, equitable access to resources, and social protection mechanisms, nations can lay the groundwork for lasting poverty eradication. Additionally, fostering resilient food systems, strengthening social safety nets, and investing in education and skills development are essential components of a holistic approach to achieving SDG 1 in the post-pandemic world. UNU's research project on Urban and Peri-urban Agriculture (UPA) and Climate Change exemplifies efforts to address these challenges, exploring sustainable solutions to urban food security amidst crises.

Zero hunger (SDG 2)

Extreme weather events, conflicts, and crises disrupt food production and access, leading to food insecurity, particularly among vulnerable populations. The COVID-19 pandemic and other crises have highlighted the fragility of global food systems, exacerbating food insecurity in many regions. For instance, disruptions in commodity value chains and price hikes further exacerbate food insecurity, creating a vicious cycle that perpetuates hunger and poverty.

In the midst of large-scale trends like population expansion and urbanisation, the world is projected to accommodate a population of 9.7 billion by 2050 and 10.9 billion by 2100 (Source: World Population Prospects, 2019). It is anticipated that over two-thirds of this population will reside in urban areas (Source: UN DESA). UNU's research projects such as Vertical Farming for Urban Food Security aim to address these challenges by exploring innovative solutions to ensure food access and affordability, especially in densely populated urban areas.

Climate action (SDG 13)

Climate-resilient development pathways are crucial for sustainable development amidst crises. Ineffective management of finite resources, such as water, exacerbates hunger, poverty, and the effects of climate change, undermining peace and stability. To address this, UNU's research project Climate Change and Water Availability in Data Scarce Regions focuses on modelling a region's hydrological resources to establish appropriate adaptation methods and sustainable water management policies, contributing to climate action efforts.

UNU's research on urban and peri-urban agriculture (UPA) serves as a crucial component in mitigating environmental impacts and fostering resilience. By analysing UPA as a resilient solution, particularly in fast-growing cities with high natural resource usage, UNU aims to address the challenges posed by climate change. Urban and peri-urban agriculture initiatives promote sustainable practices such as small food gardens and vertical farming, which contribute to reducing carbon footprints by minimising transportation-related emissions. These localised agricultural efforts align with the objectives of SDG 13 by promoting climate-resilient communities and reducing reliance on resource-intensive food production systems.

Peace, justice and strong institutions (SDG 16) & Partnerships for the goals (SDG 17)

In the context of SDG 16 (Peace, Justice, and Strong Institutions), the insufficient progress in global energy transition poses significant challenges. The reliance on fossil fuels perpetuates environmental degradation and exacerbates socio-economic inequalities, ultimately undermining peace and stability. UNU projects like Resource Nexus for Sustainability Transformations (NEXtra Core) play a crucial role in addressing these challenges by analysing environmental legacies and energy transition obstacles, particularly in coal regions. By identifying sustainable alternatives to fossil fuels, such projects contribute to building resilient institutions and promoting social justice, essential components of SDG 16.

Furthermore, the interconnectedness of global crises underscores the importance of partnerships for achieving SDG 17 (Partnerships for the Goals). The impacts of events like the conflict in Ukraine on European energy security highlight the need for collaborative efforts at regional and international levels. Partnerships facilitate knowledge-sharing, resource mobilisation, and collective action towards common goals,

such as transitioning to renewable energy sources. Through partnerships, stakeholders can address the complex challenges posed by multiple crises more effectively, promoting peace, justice, and strong institutions as outlined in SDG 16, while advancing progress towards all SDGs. Therefore, initiatives like NEXtra Core not only contribute to SDG 16 directly but also demonstrate the significance of partnerships in achieving all the SDGs.

To achieve SDGs 16 and 17, UNU collaborates with financial sector actors to combat modern slavery and human trafficking. Through partnerships with institutional investors, banks, and regulators, effective solutions are implemented. UNU also promotes public-private partnerships in the water sector to optimise urban water management, accessing resources, expertise, and new technologies.

(b) Three key areas where sustainable, resilient and innovative solutions for achieving the SDGs are being effectively delivered, especially related to the cluster of SDGs under review in 2024, bearing in mind the three dimensions of sustainable development and the interlinkages across the Goals and targets.

1. Integrated landscape approaches and urban agriculture

Integrated landscape approaches and urban agriculture are interconnected strategies that address the three dimensions of sustainable development—society, economy, and environment. This socio-ecological systems approach identifies underlying drivers of environmental and societal changes, advancing progress on income security, food and health, and resilience to climate-related disasters, while promoting collaborative partnerships. Landscape approaches, respectful of bio-cultural diversity, offer effective solutions by managing landscapes and seascapes, compiling diverse case studies globally for science-based policy recommendations. Through engaging diverse partners (e.g., infrastructure builders) at various intergovernmental forums (such as the recent UNFCCC COP 28 Summit), UNU has contributed to increasing awareness and adoption of the concept of socio-ecological resilience. Recent UNU outputs on the topic include publications concerning landscape approaches for ecosystem restoration and biodiversity strategy and action planning.

Urban and peri-urban agriculture (UPA) promotes sustainable development by repurposing urban spaces for food production, thereby reducing ecological footprints and enhancing local food security. Through innovative practices like city gardens, vertical farming, and aquaponics, UPA showcases technological solutions tailored for urban settings. By diversifying food sources and fostering self-sufficiency, UPA contributes to resilient communities, particularly during crises such as economic downturns or disruptions in global supply chains. Additionally, the integration of green spaces in urban planning not only enhances local business integration but also preserves biodiversity, further enriching urban ecosystems.

Both approaches align with SDG 2 by addressing food security challenges. Furthermore, they encompass broader SDG 1 (No Poverty) through enhancing income security, SDG

13 (Climate Action) by mitigating environmental degradation, and SDG 16 (Peace, Justice, and Strong Institutions) through fostering inclusive decision-making processes. Additionally, urban agriculture integrates innovative approaches that intersect with SDG 11 (Sustainable Cities and Communities) by incorporating green spaces into urban planning.

Through its research projects, UNU aims to bolster collaborative partnerships and stakeholder engagement, aligning with SDG 17 (Partnerships for the Goals). Integrated landscape approaches engage diverse stakeholders in decision-making, fostering peace and justice within communities, while urban agriculture encourages partnerships among local communities, governments, and private sectors to enhance food security and build resilient urban ecosystems.

2. Integrated water management

Water management projects present ample opportunities for implementing sustainable and innovative solutions that contribute to the attainment of multiple SDGs. Over the past decade, UNU has operated various initiatives focusing on sustainable water management across different regions and contexts. For instance, the UNU's Water for Sustainable Development (WSD) project tackles water resource challenges through developing Sustainable Water Management Indicators and proposing optimal wastewater management systems. Through comprehensive research outcomes, the project supports the transition of target societies towards sustainable urban development in Asia and facilitates the local implementation of SDGs related to water and beyond.

UNU's exploration of water reuse in industries aims to bolster urban system resilience against water scarcity and supply disruptions while mitigating overuse of natural resources. By ensuring a reliable water source for industrial operations, this initiative promotes economic stability and sustainability, aligning with SDG 8 - Decent Work and Economic Growth.

While focusing on water accessibility and sanitation (SDG 6), integrated water management directly contributes to poverty alleviation (SDG 1), sustainable agriculture (SDG 2), and public health (SDG 3). Moreover, by advocating for hydropower and renewable energy sources (SDG 7) and mitigating water-related climate risks (SDG 13), it promotes resilience and sustainability across diverse sectors. Similarly, the water management in industries allows to develop evidence-based water environment policies conducive to circular societies, aligning with various SDGs.

3. Advancing sustainable transformation in coal regions of the Global South

Initiating a sustainable transformation in coal regions of the Global South serves as a multifaceted strategy addressing various challenges while contributing to the achievement of multiple SDGs. Moreover, the unexpected geopolitical crisis, such as the

war in Ukraine and subsequent sanctions against Russia, put into question the energy security of large parts of Europe and significantly changed global energy markets. This underscores the importance of fostering resilience and adaptability in energy systems. By addressing the implications of such crises on global energy markets and coal-producing regions, it is important to prevent fossil fuel lock-ins and mitigate the risks of stranded assets, thereby contributing to the timely achievement of SDG 13.

Advocating for the phaseout of coal contributes directly to SDG 13 (Climate Action) by mitigating greenhouse gas emissions and fostering a transition to cleaner energy sources. Additionally, it aligns with SDG 7 (Affordable and Clean Energy) by promoting the adoption of renewable energy alternatives in coal-dependent regions. For example, the NEXtra Core project, spearheaded by UNU, focuses on providing comprehensive scientific analyses of environmental, social, economic, and political drivers and implications related to coal phaseout in selected countries of the Global South. Originally designed to support the transition away from coal, the project aims to address the intertwined challenges of environmental degradation, economic stability, and social well-being.

(c) Three examples of specific actions, policies and measures that are most urgently needed to effectively deliver sustainable, resilient and innovative solutions to eradicate poverty and reinforce the 2030 Agenda, building on interlinkages and transformative pathways for achieving the SDGs.

To effectively deliver sustainable, resilient, and innovative solutions for eradicating poverty and reinforcing the 2030 Agenda, building on interlinkages and transformative pathways for achieving the SDGs, the following three examples of specific actions, policies, and measures are identified as most urgent:

1. ***Integrated Socio-Ecological Systems and Landscape Approaches:*** This approach requires policy coherence and alignment across different sectors, ensuring that planning and implementation processes incorporate the priorities of marginalised peoples through participatory processes. It emphasises the protection and restoration of natural capital as a foundation for sustainable development, recognising the significant role of ecosystems in providing essential services and reducing threats to human security. Implementing landscape approaches can drive progress across multiple SDGs by fostering ecological restoration alongside adaptive social protection, skill diversification for livelihood resilience, and enhancing digital inclusion.

2. ***Investing in Natural Capital and Expanding Access to Clean Water:*** Prioritising investments in natural capital, such as restoring habitats, protecting forests, and

creating green spaces, alongside expanding access to clean water through innovative technologies like desalination and wastewater treatment, addresses critical environmental and societal needs. These measures support sustainable agriculture, improve food and water security, and contribute to economic growth by valuing ecosystem services. Such investments align with efforts to develop conducive environments for entrepreneurship in green sectors, particularly for youth and women, and promote knowledge-based solutions to environmental challenges (e.g., see the Youth and Women Green Entrepreneurship in Africa project).

3. ***Policies Promoting Water-Energy-Food Technology and Integrated Urban Planning:*** Adopting a holistic approach to the sustainable use of natural resources, such as through water-energy-food technologies, facilitates the development of innovative technologies like agrivoltaics that integrate sustainable water use, energy production, and food security. Coupled with integrated urban planning which incorporates green infrastructure, community gardens, and promotes water reuse in industries, these actions create resilient, sustainable urban environments. Policies should incentivise the integration of urban agriculture and efficient resource use in city designs and industrial operations, fostering inclusivity and sustainability in line with SDGs related to clean water and sanitation, responsible consumption and production, and sustainable cities and communities (e.g., see UNU-EHS's policy brief on Nature-based Solutions for integrated planning and implementation of disaster and climate risk management).

These examples demonstrate the urgent need for actions that are interlinked and capable of driving transformative change towards achieving the SDGs, focusing on ecosystem restoration, resource efficiency, and inclusivity in development planning.

(d) Follow-up actions and measures being undertaken by your intergovernmental body or forum to support implementation of the Political Declaration of the SDG Summit.

UNU is committed to supporting the implementation of the Political Declaration adopted at the High-level Political Forum on Sustainable Development (HLPF) under the auspices

of the General Assembly in September 2023. It has undertaken various initiatives in this regard, particularly through its institutes such as UNU-EHS[1] and UNU-IAS[2].

UNU-EHS has taken on a number of follow-up measures focused on enhancing risk information and early warning systems, researching climate-resilient recovery pathways, and conducting comprehensive assessments to support climate-resilient development planning. As such, its projects are particularly relevant to supporting item 19 of the Political Declaration. Its efforts emphasise equitable risk reduction, early funding release mechanisms, and the implementation of gender-responsive early warning systems that incorporate Indigenous Knowledge Systems and local cultural practices support a number of the shared commitments.

Initiatives by UNU-IAS have specifically aimed to addresses both items 18 and 37(f) of the Political Declaration. These efforts have included developing local models for ecosystem restoration as part of the UN Decade on Ecosystem Restoration, as well as advancing research in sustainable management of landscapes and seascapes, water management, and urban planning. This has included close collaboration with local government and stakeholders in developing local models for ecosystem restoration through the UNU-IAS Operating Unit Ishikawa/Kanazawa (OUIK). UNU-IAS has also published significant research, collaborated on nature-based solutions for ecosystem restoration, and contributed to international policy discourse on water sustainability. The institute has taken notable steps to advance SDG 6 and the 2030 Water Agenda, including through the events examining global water security and the "Partnership for Urban Water Sustainability in Asia" launched in April 2023.

Together, these initiatives illustrate UNU's commitment to supporting the SDG Summit's Political Declaration through climate resilience, ecosystem restoration, sustainable water management, and the integration of traditional knowledge into development planning.

(e) Recommendations and key messages for inclusion into the Ministerial Declaration of the 2024 HLPF.

Based on comprehensive input from its institutes (UNU-EHS, UNU-IAS, UNU-ViE[3], and

[1] The UNU Institute for Environment and Human Security (Bonn. Germany)
[2] The UNU Institute for the Advanced Study of Sustainability (Tokyo, Japan)
[3] The UNU Vice-Rectorate in Europe (Bonn, Germany)

UNU-FLORES[4]), UNU proposes the following recommendations and key messages for inclusion in the Ministerial Declaration:

1. ***Embrace Multi-Risk Adaptation and Systemic Resilience:*** Adopt an approach which views adaptation from a multi-risk perspective in order to identify systemic resilience leverage points, ensuring the effectiveness of interventions. This includes integrating justice in adaptation planning, acknowledging the importance of local grounding of actions, and leveraging digitalisation for transformative climate action. A holistic approach to risk assessment and management which considers the interconnections between sectors and borders is essential to strengthen systemic resilience against multiple and concurrent crises.

2. ***Adopt Socio-Ecological Resilience and Integrated Approaches:*** Implement socio-ecological resilience and integrated landscape approaches which involve all relevant stakeholders in solution development. The whole-of-government and whole-of-society concepts are crucial for achieving the SDGs, necessitating a clear recognition of the roles of both state and non-state actors. This includes promoting participatory processes, enabling accessible finance, and fostering regional cooperation to enhance disaster risk reduction (DRR) capabilities and multi-hazard early warning systems.

3. ***Prioritise Investment in Natural Capital and Access to Clean Water:*** Highlight the importance of investing in natural capital and expanding access to clean water as foundational elements for sustainable development. Advocate for the natural capital approach to inform economic growth and decision-making, alongside innovative technologies for clean water provision to address food and water security in a comprehensive manner.

4. ***Promote Science, Technology, Innovation, and Digitalisation:*** Encourage the global sharing of science, technology, innovation, and digitalisation, particularly through North-South and South-South cooperation, in order to bridge development gaps and support equitable progress towards the SDGs. This includes improving climate risk insurance and investment for farmers in vulnerable regions, supported by partnerships between banks, funding partners, and governments.

5. ***Support Urban and Peri-Urban Agriculture (UPAs) and Water Reuse in Industries:*** Underscore the significance of promoting UPAs for poverty alleviation

[4] The UNU Institute for Integrated Management of Material Fluxes and of Resources (Dresden, Germany)

and sustainable development in rapidly urbanising contexts. Advocate for public-private partnerships (PPPs) in water reuse initiatives and the establishment of regulatory frameworks and incentives for industries to adopt water reuse practises, contributing to SDG 6 (Clean Water and Sanitation) and SDG 12 (Responsible Consumption and Production).

Key Messages for the Ministerial Declaration:

- Addressing adaptation and resilience requires a comprehensive, multi-risk approach which integrates social justice, leverages digitalisation, and promotes systemic recovery.
- Strengthening socio-ecological resilience through integrated landscape approaches and enhanced cooperation can accelerate progress towards the SDGs.
- Investments in natural capital and innovative solutions for clean water access are essential for sustainable development and poverty eradication.
- Fostering global cooperation in science, technology, innovation, and digitalisation is vital to bridge development gaps and ensure equitable progress.
- Promoting UPAs and water reuse in industries through PPPs and regulatory incentives can significantly contribute to achieving the 2030 Agenda's goals.

Annex I

UNU Institute for Environment and Human Security (UNU-EHS), Germany

Institute Input for 2024 HLPF and ECOSOC

Impacts of multiple crises on the implementation of SDGs 1, 2, 13, 16 and 17:

In our highly interconnected world, the impacts of climate change, hazards, human-generated shocks and other crises are increasingly felt across sectors and borders, challenging progress towards the implementation of many of the SDGs. In particular, UNU-EHS has observed the following impacts on SDGs 1, 2, 13, 16 and 17:

- SDG 1 (no poverty): The COVID-19 pandemic resulted in setbacks to achieving SDG1 (no poverty) and pre-existing economic inequalities have widened. Climate change, shocks and disasters have also contributed to further exacerbating inequalities, posing significant risks to the achieving progress in SDG1.
- SDG 2 (zero hunger): Evidence shows that extreme weather events, conflict and wars disrupt food production, as well as the distribution and access to food. This is often exacerbated by inflation, increasing the risk that (nutritious) food becomes unaffordable or difficult to access for vulnerable populations (in particular, those living in poverty). These crises can create a vicious cycle, as food insecurity and malnutrition can in turn exacerbate conflict and social instability, further impeding progress toward SDG2.
- SDG 13 (climate action): Taking a systems approach in risk assessments supports identifying key (vulnerable) leverage points, where targeted adaptation interventions can create positive cascading effects, strengthening systemic resilience. Approaching adaptation through risk assessment opens up the adaptation space by explicitly considering the root causes of vulnerability next to exposure and hazards. Climate-resilient development pathways are one recognised practice of decision-making that aims to identify, consolidate and implement climate action and development decisions towards sustainable development.
- SDG 17 (partnerships for the goals): Emerging partnerships at the regional level have the potential of providing new policy arenas suited to tackle multiple crises. However, there is no assurance that alignment with global goals (i.e., the SDGs) will be observed. Moreover, complex crises can strain existing partnerships and endanger well-established collaborative efforts.

Three key areas where sustainable, resilient and innovative solutions for achieving the SDGs are being effectively delivered, especially related to the cluster of SDGs under review in 2024, bearing in mind the three dimensions of sustainable development and the interlinkages across the Goals and targets:

UNU-EHS works on risk assessment methodologies to understand and characterise how multiple hazards and crises show the systemic nature of risks. Approaching risk assessment from a systemic perspective identifies risk management and adaptation strategies that can support addressing multiple crises to create resilience across multiple sectors and systems.

UNU-EHS endeavours to leverage the potential of digitalisation in fostering transformative climate action. The application of emerging technologies in making communities and settlements more sustainable, particularly by achieving universal digital connectivity, just digitalisation, building capacities, protection of human rights in the digital age, enhancing global cooperation on the usage of AI, promoting trust and security in the digital age, can help in leveraging this potential.

Healthy ecosystems, which provide livelihoods for people and basic services for all three dimensions of sustainability, are an underlying basis to end poverty, ensure food security, and address disaster risk, while also accelerating adaptation to climate change. UNU-EHS has developed evidence and capacity building material for countries to plan and implement Nature-based Solutions for Comprehensive Climate and Disaster Risk Management.

In our increasingly interconnected world, the compound, cascading, and systemic nature of risks takes on a new dimension and meaning. State-of-the-art people-centred, impact-based Multi-Hazard Early Warning Systems (MHEWS) and Anticipatory Action (AA) have to address this growing complexity. While these approaches are widely recognised, implementation of such systems at different scales (from local, national to regional levels) is still impeded by gaps in knowledge and capacities to act on such knowledge. As part of the larger Early Warnings for All Initiative (EW4ALL), one initiative of UNU-EHS is to consolidate and accelerate the Network of Centers of Excellence (NoE) in support of Disaster Risk Reduction, Early Warning and Anticipatory Action (AA) in Africa in order to support the coordinated use of AA throughout Africa. This initiative is aimed at reducing disaster risk effectively and equitably, as well as providing sustained technical-scientific assistance to African DRR and DRM institutions at the level of AUC, RECs and Member States, strengthening their capacities for Disaster Risk Reduction (DRR) and Disaster Risk Management (DRM), including trans-boundary risk management.

Another approach of UNU-EHS, in close collaboration with the United Nations Office for Disaster Risk Reduction (UNDRR), the Indian Ocean Commission (IOC), and the Indian Ocean Regional Intervention Platform (PIROI) is to improve DRR understanding and governance capacities of four island states (Comoros, Madagascar, Mauritius, and Seychelles) through activities that aim to improve the national institutional and operational preparedness on DRR, including assessing and testing existing early warning/early action systems at national level.

Three examples of specific actions, policies and measures that are most urgently needed to effectively deliver sustainable, resilient and innovative solutions to eradicate poverty and reinforce the 2030 Agenda, building on interlinkages and transformative pathways for achieving the SDGs:

- Adaptive social protections (enhanced safety nets for financial inclusion) combined with ecological restoration;
- Skill diversification for livelihood support/resilience (adaptation and recovery);
- Digital inclusion (access to information); and
- Land reforms and tenureship.

Follow-up actions and measures being undertaken to support implementation of the Political Declaration of the SDG Summit:

UNU-EHS seeks to:

- Pay special attention to the actionability of risk information;
- Advance impact-based early warning systems;
- Research climate-resilient recovery pathways from water-related extreme events;
- Conduct a pre-implementation assessment of potential interventions to avoid response risks;
- Conduct a comprehensive assessment of diverse values of nature for consideration in climate-resilient development planning;
- Support the generation and communication of user-focused risk-information and knowledge that enables equitable risk reduction;
- Further scientific development of triggers and coordination structures that enable the early release of funds in anticipation of impact; and
- Enhance the implementation of gender-responsive and inclusive end-to-end multi-hazard early warning systems and anticipatory actions that interlink with existing local approaches (particularly Indigenous Knowledge Systems) and initiatives led by women as custodians of traditional knowledge and local culture.

Recommendations and key messages for inclusion into the Ministerial Declaration of the 2024 HLPF:

- Approach adaptation from a multi risk perspective to identify leverage points for systemic resilience and ensure the effectiveness of interventions.
- Adaptation planning can benefit from a justice dimension. Implementing adaptation equitably benefits everyone and helps avoid maladaptation.
- Local grounding of actions is important: acceptance of people and their contribution should be considered.

- Approaching adaptation through risk assessment opens up the adaptation space by explicitly considering the root causes of vulnerability next to exposure and hazards.
- Leveraging digitalisation to foster transformative climate action through participation.
- The impacts of multiple crises are felt across sectors and borders, highlighting the systemic nature of risks. To strengthen resilience, risk assessments and risk management should not only consider single hazards or sectors, but also their interconnections.
- Multiple and concurrent crises reinforce inequalities. This underscores the need to consider differential vulnerabilities in policies and actions.
- Systemic risks generated from multiple crises create setbacks for multiple sectors and groups. Recovery plans and efforts are often organised in siloes. Next to building back better sectorally from disasters, systemic recovery is recommended as a catalyst of positive system change.
- Facilitate risk knowledge exchange: create opportunities for the exchange of best practices, lessons learned, and innovative approaches of risk knowledge and information in order to strengthen DRR capabilities and to provide timely and accurate information to communities at risk.
- Foster regional cooperation: Establish formal mechanisms for collaboration between regional mechanisms (for instance, the Caribbean Disaster Emergency Management Agency (CDEMA) and the Indian Ocean Commission (IOC)) and their Member States, which often have similar and comparable risk profiles, in order to promote joint research and training programmes.
- Strengthen multi-hazard early warning systems and anticipatory action: a stronger integration of MHEWS and AA into national DRM frameworks, as well as advocacy and policy-level initiatives, could be a strategic approach to ensure continuity and effectiveness and to reinforce the importance and implementation of MHEWS and AA in disaster preparedness and response.

Annex II

UNU Institute for the Advanced Study of Sustainability (UNU-IAS), Japan

Institute Input for 2024 HLPF and ECOSOC

Impacts of multiple crises on the implementation of SDGs 1, 2, 13, 16 and 17:

The world's ecosystems are being damaged at an increasing rate, undermining progress across the 2030 Agenda. Ecosystem integrity underpins the effective and sustained availability of various contributions from nature – food security, good quality of health at affordable cost, and other material requirements for a decent life including income, livelihood security, and respect for cultural practices. Ecosystem integrity is further determined by different anthropogenic actions that affect climate impacts, environmental conditions, and the resilience of socio-ecological systems to various environmental and economic shocks. It requires collaborative and equitable partnerships that understand the priorities of different actor groups — especially vulnerable and marginalised communities — and enable them to engage fully in planning and decision-making processes related to their contexts.

Water-related challenges also play a key role in the complex web of issues driving poverty, hunger, climate change, conflict, and injustice. These challenges have far-reaching consequences. The restricted availability of uncontaminated water has a widespread impact on communities, leading to the spread of waterborne diseases, reducing agricultural productivity, and undermining sanitation, all of which contribute to economic difficulties. The combination of water scarcity and mismanagement poses significant risks to food production. Insufficient irrigation water directly affects the number of crops that can be grown, which in turn can perpetuate poverty and food insecurity. Moreover, climate change exacerbates these water-related difficulties, leading to alterations in precipitation patterns, severe weather occurrences, and increasing temperatures that result in droughts, floods, and interruptions in water supply. These all adversely affect both ecosystems and human societies. In this context, the struggle for water resources can lead to conflicts between communities or nations, highlighting the importance of fair water access and strong water management for promoting peace and stability. To effectively tackle these water-related concerns, a united global effort and strategic alliances are necessary. Acknowledging that shared water resources often extend across multiple nations, joint efforts are needed to ensure sustainable and equitable water management.

Three key areas where sustainable, resilient and innovative solutions for achieving the SDGs are being effectively delivered, especially related to the cluster of SDGs under review in 2024, bearing in mind the three dimensions of sustainable development and the interlinkages across the Goals and targets:

1. Landscape Approaches

The Satoyama Initiative of UNU-IAS has been working over a decade to foster inclusive and equitable processes that enable better implementation of multiple global goals, including the SDGs, through integrated landscape approaches that both addresses the well-being needs of stakeholders at the level of implementation and enhances and sustains the resilience capacities of the environment. Through this initiative, UNU-IAS fosters a socio-ecological systems approach, identifying and addressing the underlying drivers of changes to the environment and societal well-being in a manner aligned with the SDGs. It advances progress on income security (SDG 1), food and health (SDGs 2 and 3), resilience to disasters aligned with climate action (SDG 13), and collaborative partnerships with partners internal and external to their contexts (SDGs 16 and 17). The institute's research compiles diverse case studies from across the globe to provide valuable knowledge and science-based policy recommendations.

Landscape approaches have proven to be effective solutions for advancing multiple SDGs. They involve planning and management of landscapes and seascapes in a manner that is respectful of bio-cultural diversity and the priorities of all relevant stakeholders in a given context. Integrated landscape approaches address the well-being needs of stakeholders at the level of implementation, while also enhancing and sustaining the resilience capacities of the environment. Recent UNU-IAS outputs include:

- Landscape Approaches to Ecosystem Restoration: Lessons Learned from Managing Socio-Ecological Production Landscapes & Seascapes (UNU-IAS Policy Brief No. 44, 2023);
- Ecosystem Restoration through Managing Socio-Ecological Production Landscapes and Seascapes (Open-access book by UNU-IAS, 2023); and
- Using Landscape Approaches in National Biodiversity Strategy and Action Planning (Guide for policymakers published by UNU-IAS, 2023).

Through these knowledge products and the broad stakeholder engagement of practitioners and academics, UNU-IAS is fostering peer learning and greater understanding across different viewpoints related to the management of landscape and seascapes. The institute promotes self-assessment and participatory community-based monitoring indicators that strengthen the capacity of sub-national actors to assess, strategise and plan actions to build socio-ecological resilience and well-being. Through engaging diverse partners (e.g., infrastructure builders) at various intergovernmental forums (such as the recent UNFCCC COP 28), UNU-IAS has contributed to increasing awareness and adoption of the concept of socio-ecological resilience.

2. Integrated Water Resource Management

The UNU-IAS Water for Sustainable Development (WSD) project provided solutions for achieving multiple SDGs by addressing the nexus between water, society, economy, and

the environment. Specifically, its focus on improving access to clean water and sanitation (SDG 6) has direct benefits for poverty alleviation (SDG 1), improved nutrition and sustainable agriculture (SDG 2), and good health and well-being (SDG 3). Furthermore, by promoting hydropower and renewable energy sources (SDG 7) and addressing water-related climate risks (SDG 13), the project has fostered resilience and sustainability across various sectors.

Water for Circular Societies (WCS) is an ongoing project which is providing scientific evidence to develop water environment policies that contribute to circular societies, addressing multiple SDGs. By developing a comprehensive Sustainable Water Management Indicators (SWMI) system, the project is measuring progress towards water quality improvement and sustainable practices, thereby facilitating evidence-based decision-making and policy formulation to achieve the SDGs.

Three examples of specific actions, policies and measures that are most urgently needed to effectively deliver sustainable, resilient and innovative solutions to eradicate poverty and reinforce the 2030 Agenda, building on interlinkages and transformative pathways for achieving the SDGs:

1. Landscape Approaches

As detailed above, integrated socio-ecological systems approaches are needed to address the underlying drivers of changes to the environment and societal well-being, as well as accelerate progress across the SDGs.

Specific priorities include:

- Mandating policy coherence and alignment of policies across different sectors;
- Mandating reporting by countries on participatory processes, and incorporating the priorities of marginalised peoples in different contexts; and
- Enabling accessible finance at appropriate scales of operation.

2. Investing in Natural Capital

Studies have found that existing natural capital is responsible for a majority of all preventive measures and decreases in threats to human water security — 67% in 2005, and projected to be 56% in 2050 (Vorosmarty et al., 2021). Moreover, the natural capital approach (i.e., restoring coastal habitat, protecting upland forests, and creating open green space) can have multiple benefits. For instance, former rice fields in Kumamoto, Japan, have been utilised to recharge local groundwater sources, resulting in the establishment of a payment for ecosystem services (PES) programme, and significant groundwater users compensate farmers on a regular basis for their natural assets (OECD, 2020). A natural capital strategy considers the economic benefits that natural resources and services could bring for economic growth. Additionally, measuring and valuing the

natural capital may assist decision-makers in understanding the trade-offs associated with planning decisions.

3. Expanding Access to Clean Water

Access to clean water is crucial for food systems. Yet a lack of coordination between efforts on food and water security is holding back progress towards achieving SDG 2 (zero hunger). For example, desalination is one of the many innovative technologies that exist to provide clean and potable water, which can be adopted to treat groundwater (particularly in small island developing states) with excessive amounts of salt or silt. Similarly, wastewater treatment technologies can be used to produce clean water that can be released back into the environment.

Follow-up actions and measures being undertaken to support implementation of the Political Declaration of the SDG Summit:

UNU-IAS focuses on addressing the shared commitments outlined in the Political Declaration adopted at the High-level Political Forum on Sustainable Development (HLPF) under the auspices of the General Assembly in September 2023, with special attention to item 18, while also aligning with the call to action articulated in item 37(f).

UNU-IAS is leading UNU's contribution to the UN Decade on Ecosystem Restoration — a broad-based global movement launched in 2021 to protect and revive ecosystems. The institute has been advancing research and capacity development on sustainability in production landscapes and seascapes, water management, and integration of conservation and biocultural values into urban planning in large metropolitan areas. In 2023, UNU-IAS published an open-access book that provides valuable insights on how to prevent loss and degradation of ecosystems and ensure their recovery. Ecosystem Restoration through Managing Socio-Ecological Production Landscapes and Seascapes (SEPLS) presents successful approaches from 12 case studies across the globe (Springer, 2023). The cases offer rich evidence to guide restoration efforts and advance scientific knowledge.

UNU-IAS has also been developing local models for ecosystem restoration through research and policy engagement through its unit located in Kanazawa, Japan. The UNU-IAS Operating Unit Ishikawa/Kanazawa (OUIK) works closely with the governments of Kanazawa City and Ishikawa Prefecture, together with other local stakeholders, on nature-based solutions such as sustainable green infrastructure. These efforts contributed to UNEP selecting Kanazawa as one of 11 Role Model Cities under its #GenerationRestoration initiative on 31 October 2023, recognising the city's successful efforts to restore its relationship with nature. UNU-IAS is supporting the project by mobilising this knowledge to support the restoration of urban ecosystems worldwide.

UNU-IAS actively contributed to the UN 2023 Water Conference through the following side events, advancing policy discourse surrounding water management and sustainability:

- The "Valuing Urban Water in Asia for Achieving Sustainable Development" event served as a platform for cross-disciplinary dialogue on the International Decade for Action on Water for Sustainable Development.
- The event titled "Global to Local Water Security Assessment: How Do We Measure Up and How Close Are Our Targets Mid-way To SDG 6?" examined the status of water security worldwide, with a particular focus on indicators and data metrics. Through panel sessions and interactive discussions, participants deliberated on the challenges and gaps associated with measuring progress toward SDG 6 (clean water and sanitation) and the objectives of the UN Water Action Decade. Key topics included integrated monitoring approaches for SDG 6, the role of civil society in evidence-based policymaking, water accessibility issues in regions like East Africa, and strategies for reducing water inequalities.

UNU-IAS is also committed to concrete SDG actions aimed at advancing the 2030 Water Agenda. In April 2023, the institute launched the Partnership for Urban Water Sustainability in Asia, an initiative which fosters collaboration between academic institutions and Asian governments to enhance water quality management in urban areas. Central to this partnership is the development of comprehensive Sustainable Water Management Indicators, which will be applied to multiple cities across Asia to assess progress toward sustainable water practices and identify pathways for improvement amid socio-economic growth. These indicators will play a pivotal role in facilitating the transition to sustainable urban environments in Asia and promoting the local implementation of SDG targets related to water and other interconnected goals.

Recommendations and key messages for inclusion into the Ministerial Declaration of the 2024 HLPF:

Socio-ecological resilience and integrated landscape approaches should be adopted — the capacity to adapt and involve all relevant stakeholders in identifying and developing solutions to address various social and ecological challenges is crucial.

The concepts of whole-of-government and whole-of-society are critical for achieving the SDGs. They involve enlisting the support of multiple state and non-state agencies, including interest group representatives. It is important to clearly recognise the role that each party can play in the solution space and enable non-state actors to also report on the state of play of actions and outcomes.

A holistic approach is necessary for a comprehensive understanding of the water situation, incorporating the impact of human activities, land use, and economic factors on water quality. This should include comprehensive water quality indices to track progress towards sustainable water practices and enable data-driven decision making.

Annex III

UNU Vice-Rectorate in Europe (UNU-ViE), Germany

Institute Input for 2024 HLPF and ECOSOC

Impacts of multiple crises on the implementation of SDGs 1, 2, 13, 16 and 17:

1. The aftermath of COVID-19 pandemic and the conflict in Ukraine have a cascading negative effect on budget dedicated to development cooperation in the Global North.
2. Food insecurity increase, owing to disruption of commodity value chains, fuel, fertiliser, wheat and palm oil price hikes.
3. Conflicts in Sub-Saharan Africa undermine the developmental gains and pose risks to livelihoods in the agriculture-based economies.
4. Acute challenge of hunger and malnutrition in fragile and conflict-affected settings.

The compounding crises have significantly impacted the implementation of SDGs 1, 2, 13, 16, and 17. These crises have led to a surge in food insecurity, driven by disruptions in commodity value chains and price hikes in essential resources such as fuel, fertiliser, wheat, and palm oil. Particularly in Sub-Saharan Africa, conflicts have emerged, reversing developmental gains and threatening livelihoods, especially in agriculture-based economies. Additionally, fragile and conflict-affected settings face acute challenges of hunger and malnutrition, exacerbates the situation.

Three key areas where sustainable, resilient and innovative solutions for achieving the SDGs are being effectively delivered, especially related to the cluster of SDGs under review in 2024, bearing in mind the three dimensions of sustainable development and the interlinkages across the Goals and targets:

- SDG 2 and SDG 13 through digital and green innovative technologies, e.g., Agrivoltaics, solar-powered smart irrigation.
- SDG 1, 2 through the training of women and young professionals in climate action and incubation of green solutions.
- SDG 1, 2 and 17, through sustainable intensification of agriculture, increasing productivity without expanding the area under cultivation, with digital technology solutions across crop value chains and identifying joint mechanisms for sustainable land management and livelihood improvement, e.g., SRI (system of rice intensification).
- SDG 13 and 16 through capacity development of institutional actors using technology enhanced learning.

UNU-ViE has identified three key areas where sustainable, resilient, and innovative solutions are effectively driving progress towards achieving the SDGs, especially those under review in 2024. These areas include leveraging digital and green technologies for sustainable agriculture as well as capacity development of institutional actors using technology enhanced learning (SDG 2, SDG 13 and SDG 16), empowering women and youth in climate action through training and incubation of green solutions and promoting digital solutions across crop value chains to enhance food security and livelihoods (SDG 1, 2, and 17).

Three examples of specific actions, policies and measures that are most urgently needed to effectively deliver sustainable, resilient and innovative solutions to eradicate poverty and reinforce the 2030 Agenda, building on interlinkages and transformative pathways for achieving the SDGs:

- Water-Energy-Food concept or technology, e.g., Agrivoltaics.
- Conducive enabling environment (policies and financial initiatives) to support and accelerate youth and women entrepreneurship in green sectors.
- Promote knowledge based innovative solutions by youths and women in green sectors in response to climate crisis.
- Development and dissemination of educational content and programmes to key actors.

To effectively deliver sustainable, resilient, and innovative solutions aimed at eradicating poverty and reinforcing the 2030 Agenda, our unit emphasises the urgent need for specific actions, policies, and measures. These include implementing concepts like Water-Energy-Food technology, creating conducive environments for youth and women entrepreneurship in green sectors, and promoting knowledge-based innovative solutions by youths and women to address the climate crisis. All these activities must go hand in hand with development and dissemination of educational content and programmes to key actors.

Follow-up actions and measures being undertaken to support implementation of the Political Declaration of the SDG Summit:

N/A

Recommendations and key messages for inclusion into the Ministerial Declaration of the 2024 HLPF:

- Sharing science, technology, innovation, and digitalisation North-South and South-South to bridge the widening gaps and ensure global progress in meeting SDGs.
- Improved climate risk insurance and investment for farmers through developing tailored business models supported by partnerships between by banks, funding partners and governments in Global South.
- In terms of recommendations and key messages for inclusion into the Ministerial Declaration of the 2024 HLPF, UNU-ViE emphasises the importance of sharing science, technology, innovation, and digitalisation globally to bridge widening gaps between countries in the Global North and Global South and ensure equitable progress towards meeting the SDGs. Furthermore, to advocate for improved climate risk insurance and investment tailored to support farmers in vulnerable regions, facilitated through partnerships between banks, funding partners, and governments in Global South countries.

Annex IV

UNU Institute for Integrated Management of Material Fluxes and Resources (UNU-FLORES), Germany

Institute Input for 2024 HLPF and ECOSOC

Impacts of multiple crises on the implementation of SDGs 1, 2, 13, 16 and 17:

The occurrence of multiple crises significantly impedes the realisation of the SDGs. Economic downturns, environmental threats especially climate change, and pandemic emergencies exacerbate poverty (SDG 1) and hunger (SDG 2), disproportionately affecting vulnerable populations. Climate change (SDG 13) amplifies these challenges, posing threats to food security and exacerbating socio-economic disparities. Food crises can also undermine peace, justice, and strong institutions (SDG 16).

UNU-FLORES is actively engaged in numerous projects and initiatives aimed at advancing the Sustainable Development Goals (SDGs) through the Resource Nexus lens. The Institute recognises the interconnectedness of water, soil, and waste management in achieving sustainable development. Amidst the myriad crises confronting our world, UNU-FLORES remains steadfast in its commitment to addressing global challenges by promoting integrated approaches to sustainable resource management. Pertinent projects, outlining the designated SDGs to which the efforts of UNU-FLORES contribute to and may be affected by multiple crises:

Project Title	**Impacts of the multiple crises on the implementation of designated SDGs**
Climate Change and Water Availability in Data Scarce Region - Advancing the Nexus of Water, Soil and Atmosphere through Remote Sensing and Modelling	In arid and semi-arid locations, modelling the hydrological resources during extreme climate events and climate change is still difficult. Ineffective management of finite resources, such as water, exacerbates hunger (SDG 2), poverty (SDG 1), and the effects of climate change (SDG 13), all of which eventually undermine peace (SDG 16). Therefore, it is essential to model a region's hydrological resources at fine spatial and temporal resolutions to establish appropriate adaptation methods and sustainable water management policies. Sparse gauge networks in arid regions of the world can be supplemented by improved availability and quality of long-time series of gridded precipitation data derived from remote sensing satellites and reanalysis technologies.
Urban and Peri-urban Agriculture (UPA) and Climate Change: Impacts, Mitigation, and Adaptation	The disruptions of global food supply chains by the COVID-19 pandemic and other crises negatively impacted food security. Urban and peri-urban agriculture (UPA) has been widely discussed and considered one of the potentials to address the challenges revealed by multiple crises and climate change. UPA can increase the food security of the urban population (SDG 2)

	by providing more sustainable food production than global supply chains, as well as provide important ecosystem services contributing to SDG 13.
Flexible Office: Concept for Resource Optimisation (FLORES)	The pandemic disrupted the implementation of the new office concept by necessitating sudden shifts to remote work, altering the intended dynamics of the physical workspace. Additionally, health and safety concerns forced revisions to the office layout and policies, impacting social interactions and the overall user experience envisioned in the original concept (SDG 17). Climate change and rising energy costs due to war, while posing a challenge to implementing the project, present opportunities for innovation and adaptation (SDGs 13, 16).
Vertical Farming for Urban Food Security: Social Acceptance and Policy Recommendations for Building Communities (VerFarming Social)	The implementation of SDGs 2 and 13, concerning zero hunger and climate action, faces challenges exacerbated by multiple crises such as population growth, urbanisation, and the COVID-19 pandemic. These crises highlight the urgent need for resilient solutions to food security, particularly in densely populated urban areas like Singapore and Jakarta, where innovative approaches like vertical farming are being explored. However, the success of such initiatives relies heavily on social acceptance, emphasising the importance of understanding various stakeholders' perceptions and ensuring the viability of sustainable food production methods amidst global challenges.
The social dimension of sustainability in agricultural systems	With global environmental, economic, social changes, and political conflicts, the poorest communities (SDG 1) in developing countries are increasingly vulnerable to food insecurity (SDG 2). For instance, in 2022, hunger affected between 691 and 783 million people globally, with over 280 million in Africa. According to FAO, the COVID-19 pandemic has exacerbated this issue, with nearly 57 million more Africans becoming undernourished. This highlights the damaging impact of macroeconomic shocks from crises like pandemics and conflicts.
Sustainability Assessment for the Resource Nexus	The project emphasises the Resource Nexus Approach within decision-making frameworks and contributes to SDG 2 indirectly through the facilitation of sustainable resource management. As SDG 2 heavily relies on primary environmental resources like water, soil, and space, their judicious allocation and planning are vital for attaining food security, and this is being facilitated by the Resource Nexus approach.

Integrating the Resource Nexus in Payments for Watershed Ecosystem Services: Conception and Application	The existing Payments for Watershed Ecosystem Services (PES) schemes primarily focus on optimising the performance of specific resources, inadvertently leading to compromises in other essential aspects, such as the impact on climate. Economic downturns or political uncertainties can divert resources away from climate action initiatives within PES schemes, leaving climate-related goals (SDG 13) vulnerable to compromise. In our project, we emphasise a paradigm shift by integrating a resource nexus approach, where the influence on climate change is a central consideration in the creation of PES schemes. This innovative strategy aims to move beyond traditional models, ensuring a more comprehensive and sustainable framework that addresses the interconnected dynamics of watershed ecosystems, while actively accounting for and mitigating climate-related impacts.
Global Water and Climate Adaptation Center - Aachen, Bangkok, Chennai, Dresden and NASCENT - Nexus Approaches to Address Water Security and Climate Change Adaptation	Crises such as the COVID pandemic and recent wars and civil wars (e.g. the armed conflicts in Ukraine, Sudan and Myanmar) have shifted focus away from efforts to advance climate change mitigation and adaptation. Other crises, such as forest fires of unprecedented magnitude in countries such as Greece, Hawaii and across parts of the Amazon Basin and Siberia, are clearly caused by climate change. The geopolitical crises have negatively affected SDG 17, counteracting the need for a broad international coalition to combat climate change and advancing climate resilience. Longer travel routes due to closed air space in several countries (most notably Russia) lead to a higher climate footprint of project related student and staff exchanges.
Resource Nexus for Sustainability Transformations (NEXtra)	The NEXtra project supports doctoral students from the Global South, and two of the five students funded under the first cohort are from countries afflicted by armed conflict (Myanmar and Sudan). The fact that the UN system in the two countries does not operate normally (there is no up-to-date Common Country Analysis and no Sustainable Development Cooperation Framework) serves as a good example how profoundly conflicts impact sustainable development and the work of the UN system. Even when the ongoing conflicts are resolved, peacebuilding will have to be prioritised over other SDGs, including SDG 2 and SDG 13.

Sustainable Transformation in Coal Regions of the Global South: Challenges from a Resource Nexus Perspective (NEXtra Core)	This project revealed the impacts of the invasion of Ukraine, and subsequent sanctions against Russia which drastically affected European energy security. In turn, new markets for Russian coal, gas and oil have developed while European countries have increased fossil fuel imports from countries such as Colombia, Indonesia, and South Africa (and the US for oil and gas). The increasing demand has created the risk of "fossil lock-ins" in exporting countries, jeopardising previous advances towards SDG13. At the same time, the COVID-19 pandemic created the wrong impression that the global community has started decarbonising. After some pandemic-related declines, new all-time peaks in the combustion of coal, gas, and oil in 2022 and 2023 underline that the global energy transition is yet to take off.

Among the various projects the Institute is involved in, UNU-FLORES will highlight an urban and peri-urban agriculture project in Colombia.

Urban and peri-urban agriculture (UPA) in Colombia analyses UPA as a resilient solution to counter these challenges and facilitate SDG implementation in cities which are fast growing and responsible of high natural resource usage to compel with city's needs. These UPA contribute directly to poverty reduction (SDG 1) by creating space and opportunities, for marginalised communities, and ensuring a more equitable distribution of food as well as a space meant for recreation but also a stem for vulnerability reduction of communities who see available a span of resources normally accessible for urban areas. Moreover, by enhancing local food production, urban and peri-urban agriculture directly addresses hunger (SDG 2) during times when traditional food supply chains may be disrupted by crises, foster biodiversity conservation in urban area and becomes a vehicle for sustainable food diet promotion in urban contexts.

In the context of climate change (SDG 13), urban and peri-urban agriculture mitigates environmental impacts by promoting sustainable practices such as small food gardens and vertical farming. The on-spot nature of these initiatives minimises transportation-related emissions and builds climate-resilient communities. Socially, urban agriculture fosters social cohesion, thereby contributing to the promotion of peace, justice, and strong institutions cooperation (SDG 16).

Lastly, urban and peri-urban agriculture exemplify the principles of collaboration and partnerships (SDG 17) by bringing together local communities, governments, and private sectors to create a sustainable and inclusive urban environment. By integrating these agricultural practices into urban planning, we can foster a resilient and interconnected approach to addressing the challenges posed by multiple crises and advancing the collective pursuit of the SDGs.

Three key areas where sustainable, resilient and innovative solutions for achieving the SDGs are being effectively delivered, especially related to the cluster of SDGs under review in 2024, bearing in mind the three dimensions of sustainable development and the interlinkages across the Goals and targets:

At UNU-FLORES three key areas investigated and considered to be sustainable practices are urban and peri-urban agriculture (UPAs), Smart Water Management in Industries for Water Reuse and integrated Waste Management for single use Plastic.

Such practices can showcase how the use of such integrated approaches can address multiple goals simultaneously, fostering thus resilience and innovation for sustainable development.

1) Urban and Peri-Urban Agriculture:

From a sustainability point of view, urban and peri-urban agriculture promotes sustainable development by making use of underutilised urban spaces for food production and it reduces the ecological footprint associated with traditional agriculture. Additionally lower transportation-related emissions and promote local food security. Additionally, the integration of green spaces in urban planning enhances the integration of local business and preserves biodiversity.

UPA therefore contributes to resilient communities by diversifying food sources, reducing dependency on external markets, and fostering self-sufficiency. In times of crisis, such as economic downturns or disruptions in global supply chains, local agriculture ensures a stable and accessible food supply, directly addressing SDG 2 (Zero Hunger).

Innovation and Interlinkages: Urban agriculture integrates innovative approaches such as city gardens, vertical farming, and aquaponics, showcasing the potential for technological solutions within urban settings. Moreover, it intertwines with various SDGs, such as SDG 1 (No Poverty) by creating employment, SDG 11 (Sustainable Cities and Communities) through urban planning, and SDG 13 (Climate Action) by contributing to carbon reduction and resilient local ecosystems.

2) Water Management in Industries for Water Reuse:

From a sustainability point of view water reuse in industries fosters the promotion of SDG 6 (Clean Water and Sanitation) by reducing overall water consumption and pollution and especially the 6.3 and 6.2. By treating and reusing water in industrial processes and in public private partnership with municipalities, this practice minimises the strain on freshwater resources, reduces energy costs aligning with the goal of sustainable water use.

Implementing water reuse in industries enhances resilience of urban systems to water scarcity and disruptions in water supply and overuse of natural resources. It ensures a consistent and constant water source for industrial activities, contributing to economic stability and sustainability (SDG 8 - Decent Work and Economic Growth).

Innovation and Interlinkages: Water reuse involves innovative technologies for efficient treatment and recycling. By addressing SDG 9 (Industry, Innovation, and Infrastructure), it showcases how technological advancements can support sustainable development across various sectors. Additionally, it interlinks with SDG 12 (Responsible Consumption and Production) by promoting efficient use of resources.

3) Waste Management and Single-Use Plastic Management:

From a sustainability point of view the effective waste management, particularly the reduction and proper disposal of single-use plastics, aligns with SDG 12 (Responsible Consumption and Production) by minimising environmental impact and promoting sustainable waste practices. It contributes to a circular economy, reducing the overall ecological footprint associated with the production and disposal of plastic items.

A robust waste management system enhances resilience by minimising pollution and its associated health and environmental risks. Proper disposal and recycling of waste contribute to clean and healthy communities, supporting SDG 3 (Good Health and Well-being) and SDG 11 (Sustainable Cities and Communities).

Innovation and Interlinkages: Innovation in waste management technologies, such as recycling and waste-to-energy processes, aligns with SDG 9 (Industry, Innovation, and Infrastructure). Additionally, plastic management interlinks with SDG 14 (Life Below Water) and SDG 15 (Life on Land) by mitigating the impact of plastic pollution on marine and terrestrial ecosystems.

The project *Sustainable Transformation in Coal Regions of the Global South: Challenges from a Resource Nexus Perspective (NEXtra Core)* illustrates how a geopoliticial crisis (in this case, the invasion of Ukraine and subsequent international sanctions against Russia) impacted sustainability transformations towards SDG13. When the project was designed and started (in mid-2021), the primary intention was to support the phaseout of coal in four selected countries of the Global South by providing a comprehensive scientific analysis of environmental, social, economic and political drivers and implications. As the project was funded by the German Federal Ministry of Economic Cooperation and Development, a core goal was to contribute to the advancement of coal phaseout in the four partner countries. The severe but unexpected consequences of Russia's invasion of Eastern Ukraine (including the Donezk coal basin) and subsequent sanctions against Russian coal, gas and oil did not only put into question the energy security of large parts of Europe, but significantly changed global energy markets. Countries like Germany which previously supported partners like Colombia or Indonesia with coal phaseout and the energy transition suddenly contributed to a greater demand for fossil fuel imports from these nations, leading to continued investment into coal mining. This created risks for fossil "lock-ins" (counteracting and jeopardising a timely achievement of SDG 13) while at the same time increasing the risk of "stranded assets" in coal-producing countries.

Source: NEXtra Core report

Three examples of specific actions, policies and measures that are most urgently needed to effectively deliver sustainable, resilient and innovative solutions to eradicate poverty and reinforce the 2030 Agenda, building on interlinkages and transformative pathways for achieving the SDGs:

1) For Integrated Urban Planning and Agricultural Zoning:

Action: Implement integrated urban planning that allocates space for urban and peri-urban agriculture, considering NEXUS oriented actions for natural resources management via incorporating green infrastructure and community gardens into city design.

Policy: Develop and enforce policies that mandate the inclusion of agricultural zones within urban and peri-urban areas, ensuring access to land for small-scale farmers and fostering sustainable food production in cities.

Measure: Establish incentives, such as tax breaks or subsidies, for developers and communities that integrate urban agriculture into their urban planning initiatives, encouraging the creation of resilient, sustainable, and food-secure urban environments and inclusion of socially vulnerable groups in the process.

Source: A socio-ecological and economic multiscale sustainability analysis of Urban and Periurban Agriculture and application of Nexus management options to reduce vulnerabilities

2) For Water Reuse Mandates for Industries:

Action: Enforce regulations requiring industries to implement water reuse systems in their operations, promoting efficient water management and reducing overall water consumption.

Inclusion of water use and reuse in non-financial reporting, ESG reporting.

Policy: Develop and implement policies that set clear socio-economic standards that go well beyond the fit for purpose policies in water reuse for various industries, encouraging the adoption of sustainable practices and social responsibilities.

Measure: Institute water management in the ESG as mandatory for industries, monitoring mechanisms and penalties for non-compliance, while also offering financial incentives and recognition for industries that demonstrate exemplary water reuse practices, aligning with SDG 6 (Clean Water and Sanitation) and SDG 12 (Responsible Consumption and Production).

Source: Organisational Decision-Making in Water Reuse for Smart Cities (SMART-WaterDomain)

Follow-up actions and measures being undertaken to support implementation of the Political Declaration of the SDG Summit:

N/A

Recommendations and key messages for inclusion into the Ministerial Declaration of the 2024 HLPF:

a) Urban and peri-urban agriculture

As Member States convene at the High-Level Political Forum (HLPF) to discuss sustainable development, it is imperative to underscore the need of promoting the role of urban and peri-urban agriculture (UPAs) in poverty alleviation. Rapid urbanisation poses challenges, but it also presents an opportunity to leverage the potential of local agriculture for inclusive growth. UPAs is a multifaceted solution to poverty reduction: fostering sustainable farming practices within city limits and surrounding areas can enhance food security, create employment, and empower marginalised communities while also stimulating economic activities that generate income for vulnerable populations. Furthermore, UPAs promotes resilience in the face of economic shocks by diversifying income sources and reducing dependency on external markets. Community gardens and small-scale enterprises in peri-urban areas can also foster social cohesion and environmental sustainability.

b) Water reuse in industries

In the pursuit of sustainable development, water reuse in industries stands as a pivotal solution, echoing through the corridors of SDGs. UNU-FLORES' research emphasises the transformative potential of water reuse and the imperative role of public-private partnerships (PPPs) in eradicating poverty.

<u>Recommendations:</u>

– Promote PPPs for Water Reuse Initiatives:

Advocate for policies that encourage collaboration between governments, private industries, and civil society in the development and implementation of water reuse projects. PPPs can leverage diverse expertise and resources to enhance the scalability and impact of water reuse initiatives.

– Establish Regulatory Frameworks and Incentives:

Call for the establishment of clear regulatory frameworks that mandate industries to adopt water reuse practices. Simultaneously, incentivise compliance through tax breaks, grants, and recognition, fostering a conducive environment for sustainable water management.

Institute water management in the ESG as mandatory for industries, monitoring mechanisms and penalties for non-compliance, while also offering financial incentives and recognition for industries that demonstrate exemplary water reuse practices.

Key Messages:

- Water reuse in industries, facilitated by robust PPPs, is a potent instrument for achieving SDG 1 (No Poverty) by promoting economic stability and creating employment opportunities in the water management sector.
- Encourage governments to view water reuse not only as a sustainable practice but as an integral element in poverty reduction strategies, aligning with the 2030 Agenda's overarching commitment to leave no one behind.
- Push for water management reporting in industries, report and support the development of monitoring mechanisms and penalties for non-compliance, while also offering financial incentives and recognition for industries that demonstrate exemplary water reuse practices, aligning with SDG 6 (Clean Water and Sanitation) and SDG 12 (Responsible Consumption and Production).