WE NEED A GLOBAL DISCUSSION ON NATURAL RESOURCE MANAGEMENT

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I. Message from IRP Panel Co-Chairs: It is time to start the global conversation on the options for the sustainable management of natural resources.

The triple planetary crisis of climate change, biodiversity loss and pollution threaten our ability to enjoy a clean, healthy and sustainable environment. The United Nations General Assembly has recognized this ability as a human right now and for future generations. Perversely, these crises are driven by the way we extract, use, and eventually dispose of natural resources[1] in our efforts to deliver prosperity and wellbeing for all. The exploitation and use of natural resources are also characterized by deep inequalities. Ignoring natural resources and their intrinsic link to wellbeing has in the past led to negative outcomes, including for human rights. These inequalities and injustices are eating away at global confidence and trust in the multilateral system.

Improving the effectiveness of multilateral governance, particularly in relation to natural resource management, is an important element to realizing the 2030 Agenda, the Sustainable Development Goals and climate, biodiversity and waste related agreements. That is why in this paper, we call for a global discussion on the options for the sustainable management of natural resources. Such a discussion could be a first step to more deliberate forms of engagement on these issues between science, policy makers and key stakeholders. They can build up the current understanding of how policy can affect production and consumption systems that then in turn reduce impacts to climate change, biodiversity loss and pollution.

Multilateralism matters enormously on many issues: climate, oceans, sustainable development, responses to global pandemics and more. These big global environmental challenges require a global solution. The United Nations Conference on Environment and Development in 1992 was seen as a breakthrough in multilateral consensus on sustainable development. Now, in 2022, several multilateral environmental agreements (MEAs) and negotiations are operational, yet a global response to facilitate the sustainable use of natural resources in the service of the required systems transformations to achieve these goals, have, to date, been lacking.

Natural resources are the bridge between economy and competitiveness on one hand and climate change, biodiversity loss, pollution and health implications on the other. Strengthening multilateralism through a science-based natural resource and systems perspective is one critical element in bringing diverse actors across country contexts together on equal footing around just, pragmatic and solution-oriented pathways. These pathways can not only address global short-term crises of vulnerable supply chains and energy, food and financial insecurity, but are also fit for purpose to address the long-term emergencies of the triple planetary crisis of climate change, biodiversity loss and pollution and waste. They are a central element of protecting and ensuring equitable access and benefit sharing derived from the global commons, now and in the future.

This paper draws on the research of the International Resource Panel to explain why natural resources must be a global priority. It outlines the benefits that global cooperation on natural resources could have. Most importantly, we hope this paper is the beginning of a global conversation on the options for the sustainable management of natural resources.

KEY INSIGHTS

1 What are the areas of global concern where governance improvements are most needed?

- The root cause of the climate, biodiversity and pollution and health crises is the seemingly insatiable and growing extraction, processing, consumption and disposal of our natural resources in the service of socio-economic development.
- To address the challenges posed by the triple planetary crisis and to achieve all Sustainable Development Goals, a fundamental change is needed in how natural resources are produced, distributed and consumed to meet human needs.
- Strengthening multilateralism through a natural resource perspective is among the critical elements in bringing diverse actors across country contexts together around pragmatic, solution-oriented pathways.

2 What governance improvements could be achieved?

- Multilateral efforts so far have not been in vain: every ton of carbon emissions mitigated; every species protected and hectare of land restored; and every man, woman and child torn from the grips of poverty and insecurity are of the utmost importance.
- But, without institutional support for a global coordinated effort to understand, set priorities and facilitate changes to the way natural resources are produced and consumed, the many existing and often disjointed policy efforts are proving insufficient.
- Barriers to effective global cooperation on the sustainable use of natural resources have included:
  - ✘ a lack of prioritization on root drivers of the planetary crisis;
  - ✘ a lack of adequate information about current and future trends and impacts and transparent monitoring;
  - ✘ a siloed approach, dealing with challenges individually leading to missed opportunities and unintended consequences;
  - ✘ and a lack of coordination and unifying vision for action.
- Global collaboration and coordination on natural resources can:
  - ✓ Raise the profile of natural resource management as a global priority;
  - ✓ Inform decisions with comprehensive and transparent scientific data on trends, impacts and outlooks for resource use;
  - ✓ Develop a unifying vision for action, and use this to shape definitive priorities;
  - ✓ Provide a platform to facilitate international collaboration and partnership on natural resource management.

3 How can these be tailored to meaningfully support gender equity, youth, and needs of future generations?

- Science-based information on the sustainable management of natural resources can form the basis of inclusive conversations to identify solutions that have direct and positive impacts on social, economic and environmental outcomes.
- Such solutions can address short-term crises of energy, food and financial insecurity, and can also address the long-term emergencies of the triple planetary crisis.

4 How could the international community seek more equity, fairness and effectiveness in multilateral decision-making?

- Natural resource management must be a global priority, supported by deliberate forms of engagement between scientists, policymakers and key stakeholders. Inclusive and coordinated action must be guided by world-class science.
- Global coordination and collaboration on natural resources can promote and support stakeholders at all levels to identify (or design) implementation strategies and tools for the sustainable management of natural resources. These include policies and tools that can incentivize sustainable consumption and production, implement circular economy models and others.

These different aspects call for a global discussion, one which the International Resource Panel is committed to supporting.

II. Why does the sustainable management of natural resources matter, and why now?

What do the climate change, biodiversity loss and pollution and health crises have in common? Their root cause: a seemingly insatiable and growing extraction, processing, consumption and disposal of our natural resources in the service of social and economic development. Global resource extraction and processing is responsible for 50 per cent of total global GHG emissions; more than 90 per cent of land-related biodiversity loss and water stress; and one-third of health-related pollution impacts.[2]

These crises are so severe, and so global in scope, that they have recently been recognized by the General Assembly as 'the most pressing and serious threats' for the effective enjoyment of all human rights, now and in the future[3]. Which is why the General Assembly has recognized the right to a clean, healthy and sustainable environment as a human right.[4]

An estimated 1.2 billion jobs rely on ecosystems and 70 per cent of people living in poverty depend on natural resources for their livelihoods. The reliance on natural resources makes impoverished populations more vulnerable to environmental degradation and climate change.[5] The tragedy of this situation is that global efforts to improve wellbeing and prosperity for all, which have so far depended on an increasing use of natural resources, are intensifying the negative impacts to people and planet of that use. The IRP's analysis reveals that global material extraction is on a dangerous trajectory: it has tripled since 1970, while global material productivity has mostly declined during the last two decades and has lately stagnated. This means that we are now deriving less economic output and less value from each ton of material extracted. And without transformative change, material extraction will double again by 2060.[6] This negative spiral is aggravated by the fact that the extracted resources are used in an almost entirely linear – and therefore inherently inefficient and wasteful – global economic system.

The way we use our resources is leading to increased insecurity, decreased resilience, and worsening socio-economic and environmental outcomes in a vicious cycle. Energy insecurity resulting from the ongoing conflict between the Russian Federation and Ukraine is leading some countries back to the use of coal, and to try to secure new sources of oil and gas, when science[7] clearly tells us new reserves must be kept in the ground. Meanwhile, deadly heat, wildfires, floods and sandstorms are ravaging the globe, bringing to the present the dire scientific warnings about the future, and leading to loss of life today.

Distrust in the multilateral system has grown because of the inability of nations to agree on pathways to compensate for maintaining environmental integrity in the service of the global good. A lack of agreement on how to support developing and emerging economies battling already devastating impacts felt from a climate that is 1.1 degrees hotter than pre-industrial levels adds to this polarization. It has also led to the continued destruction of natural ecosystems in pursuit of the economic means deemed necessary to deliver basic services and wellbeing. These circumstances are leading countries to repeat the mistakes of the past, instead of embracing opportunities for the future.

These crises are threatening the very foundations of the world as we know it. They demand of us nothing less than a system overhaul of the production and consumption patterns driving the increasing unsustainable use of natural resources to the detriment of people and planet.

III. A systems overhaul is needed to achieve our sustainability goals.

To address the challenges posed by the triple planetary crisis, and to achieve all global sustainability goals equitably, a fundamental systemic change is needed in how natural resources are produced, distributed and consumed to meet human needs.

Solutions that ensure that resources are produced and consumed in a more sustainable manner and that reduce the need for overall resources will have exponential benefits for environmental, social, and economic goals. Modelling carried out by the IRP demonstrates that policy interventions can slow the growth of resource use by 25 per cent. This can happen while incomes and other well-being indicators including those related to nutrition improve, and key environmental pressures fall. This boosts economic growth by 8 per cent by 2060, especially for low-and-middle income countries, outweighs the near-term economic costs of shifting to a 1.5 degree climate pathway and delivers more equal distribution of income and access to resources.[8]

IRP modelling shows that by 2060, with the right resource efficiency and sustainable consumption and production policies in place:

Growth in global resource use can slow by 25%

Global GDP could grow by 8% - especially for low - and middle-income nations

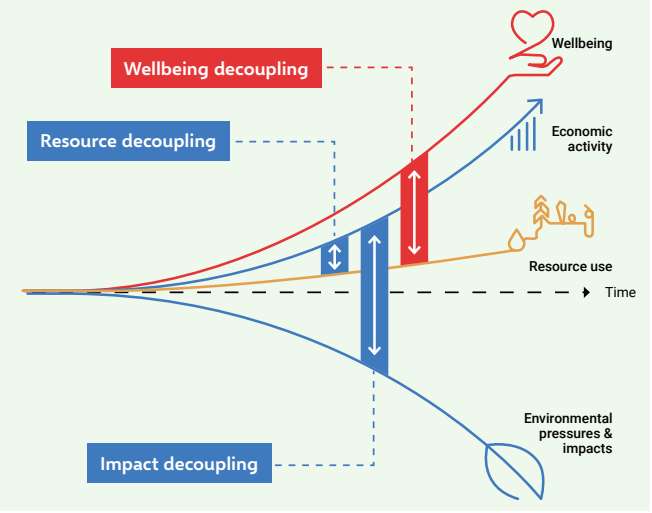
Global greenhouse gas emissions can be **cut by 90%**

…as compared with projections for continuing along historical trends.

Such projections are based on the understanding that growth rates in emerging and other developing economies must be balanced by absolute reductions in resource use in developed countries.

IRP (2019) Global Resources Outlook 2019: Natural Resources for the Future We Want.

An absolute reduction in resource use is crucial to meet our societal, economic, environmental and human needs, now and in the future. This does not translate into blanket reductions in all global contexts: instead, high-income countries should – through strategies including for example making economies more circular - reduce their resource use while aiming to maintain or increase wellbeing ("absolute decoupling"). Because low and middle-income countries are building up the necessary infrastructure and economic foundations to increase wellbeing and prosperity, their aim should rather be an increase in resource use, though at a comparatively slower rate as compared to today ("relative decoupling").



The concept of relative decoupling does not seek to set limits or set unfair standards. Rather, the aim is to open conversations about how countries can leapfrog their development outcomes and maximize the benefits through efficient and sustainable resource use, while minimizing the attendant environmental and health impacts so closely tied with historical growth trajectories. The overall aim should be a global decrease in the use of natural resources, decreasing environmental impacts, while maintaining, or even growing, well-being and economic benefits derived from that use in an equitable and just manner.

This will need a fundamental reorientation of infrastructures, investments, technologies, and policies to incentivize sustainable consumption and production which must become the norm. It also needs innovations in technology and governance systems that integrate the global, national and local levels to achieve the sustainable management of natural resources.[9]

Value-retention processes (VRPs) extend products' lives through:

Reuse Repair Refurbishment Remanufacturing

The IRP looked at three industrial sectors (industrial digital printers, vehicle parts, and heavy-duty and off-road equipment parts) in the United States, China, Brazil and Germany. It found that extending the life of products through VRPs could:

Reduce raw materials by **80-99%**

Decrease GHG emissions in some sectors by **79-99%**

Generate green jobs, redude costs, and stimulate innovation

IRP (2018) Re-defining Value - The Manufacturing Revolution. Remanufacturing. Refurbishment, Repair and Direct Reuse in the Circular Economy

While reducing future resource demand through decoupling and circular economy strategies can have positive outcomes, it is nonetheless important to consider the implications for low-income or resource-dependent economies, for example in terms of lost export earnings.[10] Governance strategies are important

to ensure fair and equitable value and benefits sharing, and to support countries to diversify their economies, including into emerging sectors such as recycling and renewables. An example of improved governance instruments could be the leveraging of trade agreements to aid in reducing the environmental impacts associated with resource extraction, while mitigating any negative spillover effects resulting from transitions.[11] Low-income and emerging economies must also have sufficient policy space to use a wide range of policy instruments to achieve sustainable resource-based industrialization at the local level.[12]

IV. Global responses have been lacking.

Multilateral efforts so far have not been in vain: every ton of carbon mitigated; every species protected and hectare of land restored; and every man, woman and child brought out of poverty, food and energy insecurity are of the utmost importance.

> "From the climate crisis to our suicidal war on nature and the collapse of biodiversity, our global response has been too little, too late."
>
> Secretary-General's remarks to the General Assembly presenting "Our Common Agenda"

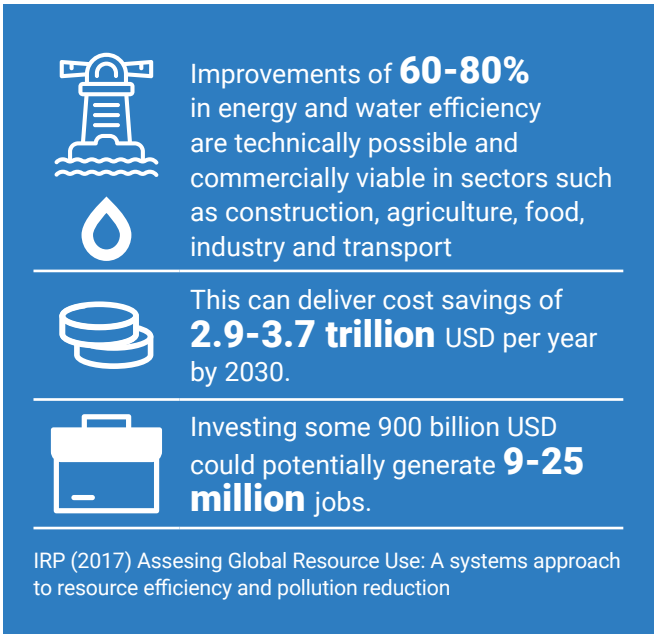
But incremental piecemeal change has so far not been sufficient to meet the SDGs[13]. Many gains that have been made have also proven to be highly tenuous, and prone to reversal by system shocks.[14]

Decarbonization alone is not going to be enough. Protecting and restoring natural areas alone is not going to be enough. Delivering economic growth is certainly not going to be enough.

What we need now is guidance on the massive, systems wide transformations that will achieve our climate, biodiversity, and sustainability ambitions for all – and achieve them together.

International policy instruments – such as the 2030 Agenda - have rallied around calls for transitions and transformations to achieve fundamental, systemic changes in the way humans interact with nature. At the centre of these transformations is how we, as a global community, manage our natural resources. Importantly, any global responses to facilitate the sustainable use of natural resources must respect the principle of national sovereignty, in alignment with Rio Declaration on the Environment and Development[15] Principle 2.

To date, such global responses have been lacking. Natural resource use is predominantly regulated at the national level, based on property rights and ownership. Responsibility for natural resources is often governed by voluntary standards and variable local or regional requirements.[16] These frameworks are supported by regulations to mitigate potential negative impacts, especially of emissions and waste, at the local to regional scale.[17]



National programmes for the efficient and sustainable use of natural resources seem to be particularly effective when they: have frameworks in place to monitor resource use; provide orientation by target setting (such as increasing resource productivity and reaching more sustainable levels of resource consumption); communicate inclusively with stakeholders on how to improve; enable innovation and skills building; and incentivize actions for change through legal, voluntary or financial signals.[18]

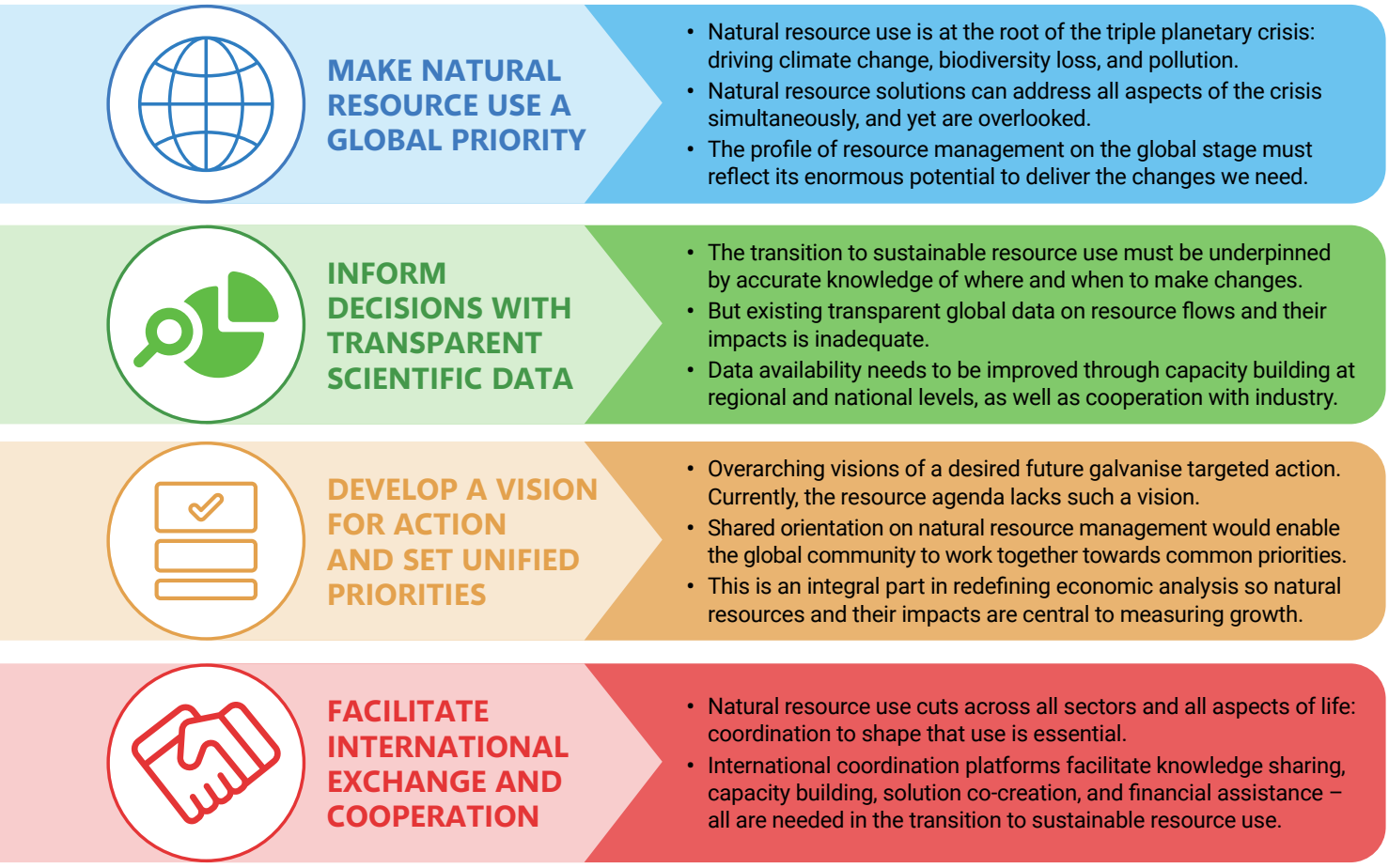
While many lessons can be drawn from successful national approaches, as the use of natural resources has become increasingly global, these approaches are proving insufficient to address the global scope of the challenges faced by decision makers today.[19]

Where global frameworks for the management of natural resources have been considered, for example, under the United Nations Framework Convention for Climate Change, the United Nations Convention to Combat Desertification and the Convention on Biological Diversity, many gaps remain: a lack of focus on the root drivers of environmental problems, in particular the unsustainable patterns of consumption and production[20]; a lack of adequate information to identify critical entry points for action and transparent monitoring[21]; a siloed approach, dealing with challenges individually leading to missed opportunities and unintended consequences[22]; and a lack of coordination and unifying vision for action that has created an unequal playing field and stifles innovation[23].

To achieve our sustainability and environmental ambitions, identifying ways to strengthen multilateral responses to how we manage our natural resources must become a global priority.

V. Strengthened multilateral responses to natural resource management can offer countries many benefits beyond those achieved by national and regional models.

There are several areas in which global coordination and collaboration could significantly support the necessary transitions to the sustainable use and management of natural resources. The figure below summarizes the benefits of such an approach, and the subsequent sections elaborate.



MAKE NATURAL RESOURCE USE A GLOBAL PRIORITY:

Issues of global concern, such as climate change, biodiversity loss and land degradation, have benefitted from dedicated international platforms to coordinate global efforts in achieving shared objectives. Despite their critical influence across sustainability and socio-economic development issues, natural resources so far have not. As such, far too many policies and strategies to redress the triple planetary crisis do not incorporate the sustainable management of natural resources. By 2020, only Japan, India, China, and Turkey referred to resource efficiency, resources management, material efficiency, circular economy or consumption side instruments in their Nationally Determined Contributions.[24]

> "Addressing risks to our planet needs to be part of every decision, every policy, every investment and every budget."
>
> Our Common Future

Without institutional support for a global coordinated effort to understand, set priorities and facilitate changes to the way natural resources are produced and consumed, the many existing and often disjointed policy efforts are proving insufficient. Making natural resources a global priority can help us to understand how countries can work together on these issues in the most effective manner and potentially unlock opportunities to deliver solutions which address all aspects of the triple planetary crisis and the 2030 Agenda together. This includes, among other approaches, looking into options to enhance and support compliance and enforcement of existing multilateral environmental instruments, particularly those related to natural resource management. Proposed measures for improving and enhancing the means of implementation for sustainable resource management, particularly for developing countries, as articulated in SDG 17, is an important area that requires further attention.

INFORM DECISIONS WITH ACCURATE AND TRANSPARENT SCIENTIFIC DATA:

Transparent, science-based data on resource flows provide a common science-based 'baseline' from which all countries and stakeholders can come to the table to identify solutions. Science-based data on the impacts of resource flows can be used to diagnose specific intervention points where action would be most impactful. Crucially, this data can also be used to project future scenarios and outcomes of different policy solutions to guide decision makers to the best short-and-long term outcomes.

> "The war on science is killing people. It must end."
>
> Secretary-General's remarks to the General Assembly presenting "Our Common Agenda"

Our globalized world necessitates an increasingly transnational use of natural resources, one in which nationally based accounting metrics are proving insufficient to track and measure. To capture resource use across borders, transboundary footprints, which represent global resource use and the associated impacts, are a critical tool in a systems and value-chain approach.[25] Transboundary footprints could also capture a country's true climate or biodiversity impact - so far, the transboundary effects of resource use are not fully captured in global political and legal instruments of climate and biodiversity protection.

The Value Chain Approach: The International Resource Panel and its partners advocate the use of the 'Value-Chain Approach' as a methodology for catalyzing science-based policy action on sustainable consumption and production. By applying a systems lens, the value chain approach identifies and prioritizes key points of intervention within economic systems to reduce natural-resource use and environmental impacts caused by production and consumption, and engages all actors along the value chain to define a common agenda for action. A science-based analysis can assist policymakers in identifying where the greatest opportunities for improvement occur and shape policy action accordingly.[26]

Data availability across countries is variable. National accounting capacities need to be supported. Multilateral efforts could have a leading role in developing statistical capacities, including at the national level, thereby improving the quality of data collection and the creation of decision support tools suited to all country contexts.[27] Data and indicators combined, for example on land, water, GHG emissions and materials footprints, and which are measurable across scales, could provide the knowledge base and the tools to monitor progress at all levels.[28] The IRP is contributing to this effort with our online and free access Global Material Flows Database, covering four decades of material extraction and trade and providing direct and consumption-based material flow indicators for more than 185 countries.[29]

GUIDING AND COORDINATING CHANGE:

To date, no country can claim to be sustainably managing its resources holistically. Nor are there internationally identified and agreed upon metrics to measure the important indicators for what countries would wish to achieve vis-à-vis resource efficiency. Collectively set and shared priorities help to guide change by signaling and providing an orientation to policymakers, stakeholders and global markets. Especially when policy formulation and implementation must cut across complex and multi-sectoral issues, coordination across systems and across levels is an important element to success. Such approaches have been used at the global scale to coordinate global action on issues such as climate change, biodiversity loss, land degradation neutrality, and even socioeconomic aspects of sustainability aspirations.

At the international level, a voluntary national monitoring process to assess and benchmark the resource use and resource efficiency of countries, with harmonized metrics and results published at regular intervals, could raise the profile of natural resource management and lead to greater ambition.[30] "Resource-efficiency targets are the first step forward, while national and international targets for sustainable levels of global resource consumption will also be needed".[31] Each national situation is unique with respect to resource access and resource use, which is why national resource efficiency targets are an essential element of global resource management approaches. [32]

Such efforts are an integral part in efforts to shift away from traditional economic analyses that view natural resources and their impacts as external to growth and success. The Dasgupta Review[33] recommended that we measure economic success using an inclusive measure of wealth – one that includes human, produced *and* natural capital assets. The Stockholm+50 President's Final Remarks to Plenary called for "defining and adopting new measures of progress and human wellbeing, supported by economic and fiscal policies that account for the value of the environment".[34] When analysing the progress of the global economy, what really needs to be monitored is how well, and how resource-efficiently, societal and human needs are being fulfilled by that economy. Human rights should be the lens through which this vision is shaped.

> "All these efforts and initiatives require economic analysis based on today's realities, rather than outdated ideas of economic success.... My report calls for new metrics that value the life and wellbeing of the many over short-term profit for the few"
>
> Secretary-General's remarks to the General Assembly presenting "Our Common Agenda"

INTERNATIONAL EXCHANGES AND COOPERATION:

Because transforming the way global societies produce and consume natural resources cuts across almost all sectors of economic activity and all aspects of people's lives, international coordination is an essential ingredient for success. International coordination promotes synergies and avoids environment development trade-offs by facilitating comprehensive analysis and knowledge sharing about natural resources and socio-economic system interactions.[35] As with other international coordination mechanisms, such platforms can also serve as strategic and coordinated funnels for financial assistance to countries and sectors that must be supported as they transition. Collaboration is also necessary to create a level playing field.[36] It is also a key mechanism to equitable burden-sharing.[37]

International exchanges and cooperation could strengthening the implementation of existing strategic efforts including among others the 10-Year Framework of Programmes on Sustainable Consumption and Production, the G7 Alliance on Resource Efficiency and the G20 Resource Efficiency Dialogue. These efforts are ongoing, represent well-advanced multilateral dialogues, and deserve and require additional support, including on the underlying science of natural resource management. Internationally pursued efforts with the involvement of all countries can achieve the goals of decoupling and improving resource efficiency and circularity, and due consideration must be given to different country circumstances. The importance of developed country leadership in promoting sustainability transitions must be recognized and supported.[38] Additional information and analysis are needed to understand how countries could work together most effectively on these issues.

Case Study: Mineral Resource Governance [39]

A well-managed extractive sector can promote delivery of the SDGs and targets, both in relevant countries and globally. More than 80 governance frameworks and initiatives focus on delivering overlapping subsets of this global development vision, but do not currently operate in a sufficiently coordinated or integrated manner. There is a need for a framework that enables, at each level of globalized value chains, all stakeholders in the extractive sector to assess the compatibility of their decision-making with the SDGs.

Key components of international governance architecture for mining and sustainable development could include: Formal negotiation, within existing fora, of an international consensus regarding the normative content and structure of the Sustainable Development License to Operate; New international coordination mechanisms (for example an International Mineral Agency) enabling transparent sharing of relevant geological, social, environmental and economic data.; Bilateral and plurilateral agreements between governments about security of supply of raw materials and resource-driven development; Periodic reporting of progress towards sustainable development, through a Global "State of the Extractive Sector" review or equivalent process.

VI. A Global Discussion is Needed on Options for Sustainable Resource Management

Because the way we use natural resources is central to socio-economic systems at all scales, and because this use is detrimental to climate, biodiversity, and the right to a clean, healthy and sustainable environment for all – the global community must rethink the way these resources are managed. Natural resource management should be among the critical global priorities.

Action at national and regional scales is necessary but not sufficient for guaranteeing the sustainable use of natural resources on a global scale. This in conjunction with an anticipation of needs for sustainability, climate change, and other global priority agendas beyond 2030 highlights that a need for institutional development exists.

Actors at all levels must prioritize and action the sustainable management of natural resources now. Improved, coordinated and transparent knowledge and data for strategic and targeted decision making and action is needed. An improved knowledge base could not only facilitate transformations in the way global economies measure and value natural capital; but could also help to identify clear, science-based guardrails for the sustainable use of natural resources.

The global community must come together inclusively to redress the inequitable outcomes of historical and current resource use practices. We must develop, share and support through finance, capacity and technology, the solutions that ensure no one is left behind. Making our economies and societies more resilient is our best and only defense against current and future crises. We can transform the way we use resources, and benefit human well-being at the same time.

These different aspects call for a global discussion, one which the International Resource Panel is committed to supporting.[40]

The International Resource Panel (IRP) is a science-policy platform created by the United Nations Environment Programme to provide independent, coherentand authoritative scientific assesments on the use of natural resources and their environmental impacts over the full life cycle and contribute to a better understanding of how to decouple economic growth from environmental degradation while enhancing human well being.

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International Resource Panel

Endnotes

1 Resources — including land, water, air and materials — are seen as parts of the natural world that can be used in economic activities to produce goods and services. Material resources are biomass (like crops for food, energy and bio- based materials, as well as wood for energy and industrial uses), fossil fuels (in particular coal, gas and oil for energy), metals (such as iron, aluminium and copper used in construction and electronics manufacturing) and non-metallic minerals (used for construction, notably sand, gravel and limestone).

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