

ST.GALLEN SYMPOSIUM

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Navigating Natural Resource Scarcity: Bridging Perspectives Between Developed and Developing Nations

Introduction

In the global discourse on natural resources, the challenge of scarcity presents complex dynamics for both developed and developing countries. Developed nations are marked by advanced industrialization and grapple with the paradox of resource scarcity amid opulence. According to data from the Food and Agriculture Organization, developed nations comprise only 25% of the global population but consume more than 75% of the world's natural resources (Food and Agriculture Organization, 2016).

On the other hand, developing nations are often characterised by exponential population growth, thereby facing the intersection of economic development and heightened resource demand. As these countries strive for economic advancement, the strain on resources is palpable, with projections from the International Energy Agency indicating that the energy demand in developing regions will double by 2050 (International Energy Agency, 2021). This increasing demand not only accentuates the complexity of the resource dilemma, but also highlights the imperative for sustainable development strategies to navigate the delicate balance between progress and natural resources stewardship in the years to come.

This essay explores the converging and diverging points between these two narratives, underscoring the critical need for a collaborative and holistic approach to sustainable resource management. I will focus on the main challenges that both developed and developing countries face in terms of scarcity in natural resources, and also provide practical solutions to these problems.

Balancing Prosperity and Sustainability

In the landscape of advanced industrialization, developed countries find themselves facing a unique challenge—a paradoxical situation of resource scarcity coexisting with opulence. A report by Climate Watch reveals that industrialised nations are responsible for a substantial portion of global carbon emissions, with the United States and European Union accounting for nearly 27% of the total in 2020 (Climate Watch, 2023). There is a pressing need for sustainable practices and a paradigm shift in consumption patterns. Advanced industrialization has led to resource depletion, habitat destruction, and pollution, creating a stark contrast to the image of abundance associated with developed nations.

On the other hand, developing countries find themselves at the nexus of economic development and heightened resource demand. As of 2021, over 80% of the global population were living in developing countries (Bavel, 2021) which emphasises their significant demographic role. The surge in per capita consumption levels, which is driven by the quest for improved living standards, places immense pressure on essential resources such as water, energy, and raw materials.

According to the US Energy Information Administration, developing nations accounted for over 65% of the global increase in energy demand in 2021 (US Energy Information Administration, 2021). A paramount challenge for the developing nations will be balancing economic growth with sustainable resource utilisation.

Pressing Challenges in the Face of Scarce Natural Resources

Institutional Framework

While the institutional framework in developed countries is robust, it faces resistance to radical change. Vested interests and a reluctance to deviate from established norms hinder the swift implementation of policies. A study published in the Harvard Business Review revealed that major industries in developed nations often resist adopting eco-friendly practices due to concerns about short-term financial impacts (Clarke, 1994), highlighting the tension between economic interests and sustainability goals. Equally important, transforming deeply ingrained economic structures also faces opposition. A survey conducted in the USA found that 60% of surveyed companies cited concerns about potential disruption to existing operations as a primary barrier to adopting sustainable practices (Purwandani, 2021).

While developed countries have robust institutional frameworks that suffer from rigidity, developing countries have inadequate institutional frameworks. The World Governance Indicators report reveals that, as of 2021, only 23% of low-income countries and 53% of lower-middle-income countries have effective governance structures in place. This poses significant hurdles to effective resource management in developing countries. According to Transparency International's Corruption Perceptions Index 2022, many developing nations continue to grapple with corruption, with more than two-thirds of countries scoring below 50 out of 100 on the index (Transparency International, 2022).

Global Resource Competition

In pursuit of sustained economic growth, developed nations often engage in global resource competition, characterised by alliances, trade negotiations, and resource extraction. This geopolitical dance amplifies the challenges of resource scarcity. For instance during the Cold War, natural resources became focal points in the global power struggle between superpowers. While the Cold War "ended" in the 1990s, its legacy is still alive at the present.

The International Energy Agency highlights that developed countries, on average, import over 75% of their oil, leaving them vulnerable to geopolitical tensions that can disrupt energy supplies. Renowned environmentalist Lester Brown once remarked, "The geopolitics of oil presents both a national security risk and a climate risk." This sentiment emphasises the dual challenge faced by developed nations, balancing the need for resource security with the imperative to address scarcity concerns. A case in point is the increasing demand for rare earth elements, critical for advanced technologies. As reported by the U.S. Geological Survey, China dominates the production of these elements, and any disruption in the supply chain could have far-reaching consequences for developed nations heavily reliant on technological innovation (U.S Geological Survey, 2023). These intricate interconnections bring attention to the delicate balance developed countries must navigate in securing scarce resources while managing geopolitical risks.

Developing nations, on the other hand, are often ensnared in the global resource competition, where geopolitical factors influence access to essential materials and energy sources. The Resource Governance Index indicates that, in some developing countries, less than 30% of revenues from resource extraction reach the public. According to a report by the Extractive Industries Transparency Initiative, over 50% of the world's poorest people live in resource-rich countries. This highlights the paradox of plenty where resource wealth does not always translate into improved living standards.

Developing nations must prioritise diversifying their economies, investing in technology, and fostering innovation to enhance resilience.

Environmental Legacy:

The environmental legacy of exploiting natural resources casts a long shadow over developed countries, pointing to the urgency of a profound transformation in environmental stewardship. Developed nations account for a substantial share of the world's historical carbon emissions, with a collective responsibility for over 79% of the cumulative total emitted since the onset of the Industrial Revolution (Center for Global Development, 2023). Unstrategic harnessing of natural resources usually leads to waste and pollution. Developed countries are responsible for approximately 75% of the world's plastic waste, which is a byproduct of oil. This is due to a consequence of decades of single-use culture and excessive consumption.

For developing nations, the imperative to industrialise rapidly is rooted in the pursuit of economic progress and improved living standards. This urgency, however, often comes at a significant cost — the unsustainable exploitation of natural resources, environmental degradation, deforestation, and pollution. As these nations embark on the journey of industrialization, they face intricate challenges in managing the delicate balance between development aspirations and the finite nature of their environmental resources.

Wherein Challenges Lies Opportunities

Circular Economy Initiatives

Circular economy initiatives stand at the forefront of sustainable resource management, presenting a paradigm shift in how societies approach consumption and waste. By transitioning from the traditional linear model of "take, make, dispose" to a circular one, where resources are reused, recycled, and repurposed, nations can significantly alleviate the strain on raw materials and mitigate the environmental impact of waste production.

The Ellen MacArthur Foundation estimates that by adopting circular economy principles, the global economy could gain a financial benefit of USD 700 billion annually, through reduced material costs and waste management expenses (Ellen MacArthur Foundation, 2016). This points out the economic viability of circular practices, making the system not just environmentally responsible but also economically sound.

The concept of a circular economy is encapsulated in the words of architect William McDonough, who envisioned a world where "waste equals food." Cities like Amsterdam are pioneering circular initiatives by embracing this philosophy. For instance, Amsterdam's Circular Program aims to halve the use of primary resources by 2030, showcasing the potential impact of such initiatives on a city-wide scale (City of Amsterdam, 2020). Developing a circular economy model represents a tangible and pragmatic approach to natural resource scarcity. By promoting resource efficiency, reducing waste, and fostering innovation in product design and material use, nations can embark on a path where economic prosperity is intertwined with natural resource management, ensuring a more sustainable and resilient future.

Transfer of Sustainable Technologies from Developed to Developing Nations

A crucial strategy to ensure sustainable consumption of natural resources is through facilitating the transfer of technologies from developed to developing nations. Initiatives like the Technology Needs Assessment process, conducted under the United Nations Framework Convention on Climate Change, enable developing countries to identify and prioritise sustainable technologies suited to their specific needs. This tailored approach ensures that technology transfer is not a one-size-fits-all solution but a customised strategy aligned with the unique challenges of each nation. By leapfrogging

to cleaner and more efficient technologies, developing countries can bypass the environmentally detrimental stages of industrialization experienced by their developed counterparts.

The success story of India's transition to LED lighting illustrates this potential, with the country becoming a global leader in energy-efficient lighting adoption (Khosla, 2018). Through strategic technology transfer, developing nations can not only advance their economic growth but do so in an environmentally conscious manner, contributing to a global paradigm shift towards sustainability. A study by The Intergovernmental Panel on Climate Change concluded that access to advanced energy technologies could cut global energy-related carbon dioxide emissions by more than 70% by 2050 (Intergovernmental Panel on Climate Change, 2022).

Fair Trade Agreements and Fostering Equitable Partnerships

A pivotal strategy to alleviate geopolitical pressures on developing nations is by encouraging fair trade agreements and fostering equitable partnerships in global resource competition. According to the Global Hunger Index, unfair trade practices contribute significantly to unsustainable resource exploitation in developing countries, exacerbating resource-related challenges. Embracing fair trade principles can thus become a potent tool in addressing not only economic disparities but also resource imbalances. For instance, initiatives like the Extractive Industries Transparency Initiative emphasise transparency in the extraction of natural resources, fostering fair practices. By ensuring transparency, nations can curtail corrupt practices and ensure that resource wealth translates into tangible benefits for their citizens

In the realm of energy, a shift towards renewable sources becomes imperative. The International Renewable Energy Agency (IRENA) reports that prioritising renewable energy can enhance energy security and reduce dependence on geopolitically sensitive fossil fuel sources. This transition aligns with the goals of equitable partnerships, providing developing nations with more autonomy in their energy strategies.

Conclusion

As nations grapple with diminishing natural resources, the immediate instinct may be to focus on exploiting more natural resources to meet the rising demand. However, nations need to recognize that infinite growth of material consumption in a finite world is an impossibility (E.F. Schumacher). Instead we need to manage the delicate balance between development aspirations and the finite nature of natural resources.

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