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The Relationship between Sustainability and Creativity

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Abstract

To achieve long-term sustainability, it is necessary to strive for a green economy and come up with solutions to address limitations to resource footprints. This will require innovations across the board and creativity in all fields. Creativity and sustainability are closely linked. The UN's Agenda 2030 with its 17 SDGs sets out the economic, social and environmental dimensions of a sustainable world. This requires concerted efforts towards building an inclusive and resilient future for the planet. Innovation, the business of ideas, is increasingly seen as the key to future societal prosperity and business success. Innovation includes not only ingenuity and imagination, but even more so new processes, new technologies, and new ways of using existing technology. Innovations need to overcome the hurdles of affordability, adaptability, scalability, replicability and sustainability. Any new technology or process that does not create a positive change in the lives of people does not really qualify as innovation. The Industrial Revolution 4.0 will open up new avenues for science-driven creativity and innovation. The world must resort to the ultimate renewable resource: human ingenuity and creativity. Creativity is at the heart of sustainability, rooted in sustainable social, economic, environmental and cultural practices. It is a special kind of renewable resource and human talent. Creativity and sustainability can be approached from different disciplinary and thematic perspectives as well as from trans-disciplinary and intercultural perspectives. The soft power elements of creativity, ingenuity, innovation and imagination are playing an important role in the development process at all levels. Creative intelligence has become a new form of cultural literacy which harnesses the power to create, connect and inspire. Creativity and artistic expressions provide energy and inspiration as well as empowerment. Design is a key dimension of creativity and a major component of culture. Increasingly, design has become a channel to achieve transformation and integration of scientific and technological achievements, including infrastructure development and digitised manufacturing and production. Cities have become platforms and architects for positive change. The creative industries have become one of the world economy's most dynamic growth poles. The creative economy is the most modern phase of economic development. Cultural and creative industries have produced and distributed cultural goods, services or activities with cultural content that convey ideas, symbols and ways of life. Increasingly, knowledge, culture and creativity have become new keywords in understanding the speedy urban transformations, coinciding also with the emergence of knowledge societies. Rising inequality and migration make cities the focal points for new social cleavages, exclusion and discrimination. Cities have the capacity to magnify creativity and accelerate innovations. The UNESCO Creative Cities Network (UCCN) is seeking to leverage the ability of cities to bring creative people together,

to spark economic growth, to foster a sense of community and to preserve urban identities and heritage. UCCN cities have chosen creativity as a strategic factor for their sustainable development. They also subscribe to the recognition that culture is both an enabler and a driver of development. Network cities exchange experiences and knowledge, draw on best practices and inspiration from other urban centers, and promote cross-fertilization. The International Center for Creativity and Sustainable Development (ICCSA) in Beijing is a new international think tank for creativity development. It has launched CREATIVITY 2030 (C2030), a new global initiative which seeks to stimulate, mobilise and exchange creative solutions, tools and approaches in all walks of life. Today, the pace of technological change continues to accelerate. Creativity and sustainable development will henceforth be influenced by the dominant drivers and enablers of our age—globalization, urbanization and megacities, the internet and the internet of things (IoT), digitization, artificial intelligence, robotics and big data.

“Agenda 2030 is based on systems-thinking and emphasizes that the SDGs are indivisible. A major challenge for governments today is to ensure that goals are not addressed in isolation and effects are not measured against single indicators alone.”

1. From Sustainability...

Today, our world is on an unsustainable track. The global population is currently consuming over 2.5 times the amount of resources required for just one single planet Earth. This puts in question the **sustainability** of our living conditions and livelihoods under stress from climate change, water scarcity, pollution, and waste accumulation. To ensure the survival of the present and future generations, we must reduce our ecological and carbon footprints significantly.

We must act *now* to eliminate poverty and bring about more social inclusion, to enhance educational and health levels, to mitigate the pace and effects of climate change and environmental as well as ecological degradation, and to prevent the loss of biodiversity. All pose threats for every country and every person in developed and developing countries alike. To achieve **long-term sustainability**, we must strive for a green economy, and come up with solutions to address limitations to resource footprints.

All this will require coherent policies, structural changes, new solutions, **innovations across the board and creativity in all fields**. For the paradigm of sustainability, the role of creativity is of growing significance. **Creativity and sustainability are two important features for mankind**, with creativity considered as a self-actualizing process, fulfilling human basic needs.

Sustainability refers to the maintainability of development itself; or to the ways in which certain practices or policies may be conducive to a better and stable quality of life; or to

the viability of a project or institution, in particular, its financial soundness. There is also environmental sustainability and the trope of cultural sustainability, inspired by traditional cultures and their practices. But there is no fixed path to achieve sustainability.

“Given the limits to planetary resources, we should resort to the ultimate renewable resource: human ingenuity and creativity.”

For a sustainable world, the transition from a linear to a circular economy is a necessary precondition. A circular economy aims at decoupling economic growth from the use of natural resources and ecosystems by using those resources more effectively and efficiently and through the introduction of recycling infrastructure. The circular economy is a driver of innovation in the areas of material-, component- and product reuse, as well as new business models.

2. ...To Sustainable Development...

The international community has increasingly highlighted the **social, economic, and environmental dimensions of sustainability**. To that end, in 2015, world leaders adopted at the United Nations General Assembly the Agenda 2030 with **17 Sustainable Development Goals (SDGs) and a broad-based set of 169 quantified and measurable targets** aimed at transforming the world. This new agenda set out the core elements of sustainable lifestyles for all. However, thus far no country has yet achieved patterns of consumption and production that could sustain global prosperity. **Sustainable development* calls for concerted efforts towards building an inclusive, sustainable and resilient future for people and the planet.** Since then, a new academic discipline known as “**sustainability science**” has emerged, which is focused on examining the interactions between humanity and the environment in an eco-civilizational approach.

Agenda 2030 is based on systems-thinking and emphasizes that the **SDGs are indivisible**. A major challenge for governments today is to ensure that goals are not addressed in isolation and effects are not measured against single indicators alone.

3. ... To Innovation, Ingenuity and Imagination ...

All countries must foster new technologies and make progress in reducing unsustainable consumption. Many of the world’s private sector companies are engaged in green innovation—driven by research and development of new generations of green products, technologies and jobs—and followed by the inclusion of green elements in the supply chains and the social dimensions of products. **Only when we mobilize social, economic and environmental action together, there is a prospect of eradicating poverty and meeting the aspirations of a world population of eight billion people by 2030.**

* The term ‘sustainable development’ was initially put forward by the World Commission on Environment and Development (WCED) in its 1987 report *Our Common Future*. It stands for “the development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” – *Report of the World Commission*, page 41

Doing things better, faster, higher, cheaper and more effectively has for long constituted the model of success for economies worldwide. In recent years, another mantra has been on the rise: **Doing new things in new ways is tantamount to the quest for innovation and creativity. Innovation, the business of ideas, is increasingly seen as the key to future societal prosperity and business success.**

Can **innovation** help attain the new global development agenda and address humanitarian needs worldwide? Innovation includes not only ingenuity and imagination, but even more so new processes, new technologies, and new ways of using existing technology. Innovations need to overcome the hurdles of affordability, adaptability, scalability, replicability and sustainability. No matter what the innovation is, it must add value for the end user. Any new technology or process that does not create a positive change in the lives of people does not really qualify as innovation.

High expectations are related to digital and nature-based innovation, science-policy interfaces, institutionalized mechanisms for sharing and exchanging information, knowledge, best practices and expertise. The arrival of industrial revolution 4.0 with its internet of things, virtual reality, big data, robotics, blockchain and artificial intelligence will open up new avenues for science-driven creativity and innovation.

4. ... To Creativity ...

Given the limits to planetary resources, we should resort to the ultimate renewable resource: **human ingenuity and creativity**. Agenda 2030 must make the most of education, health, the sciences, culture, communication and information in order to attain the SDGs. This necessitates the **promotion of creativity, the brokering and sharing of knowledge and the crafting of innovative policies and procedures as well as the mobilisation of digital tools**.

Creativity is at the heart of sustainability. Creativity is rooted in sustainable social, economic, environmental and cultural practices. It can mean anything from humanity's ability to transform itself to tackling specific problems.

Creativity is a special kind of renewable resource and human talent. It involves transforming ideas, imagination and dreams into reality, often blending tradition and innovation. The creative ability depends on creative thinking, that is the ability to generate or recognize ideas, alternatives, or new possibilities that may be useful in solving problems, communicating with others, and also entertaining ourselves and others. If measurable and quantifiable, one could assess creativity's contribution toward a sustainable future.

Creativity drives society toward sustainability through its capacity for imagining and visioning. Vice versa, efforts to promote the sustainable development pillars are a trigger for unleashing creativity. Creativity and sustainability can, therefore, be approached from different disciplinary and thematic perspectives as well as from trans-disciplinary and intercultural perspectives. Creativity is an ability that exists not just in the arts and culture. There is technological creativity, scientific creativity, social creativity, political creativity, and not least business creativity.

The soft power elements of creativity, ingenuity, innovation and imagination are playing an important role in the development process at all levels and in the quest for equitable prosperity. **Creativity has also become a major driver in the present era of the knowledge and learning economy.**

“Holistic and integrated development will only be achieved when the values of culture, creativity, heritage, knowledge and diversity are considered as the key factors in all approaches to sustainable development.”

Culture is pervasive in all our lives. We are shaped by culture. It conditions our thoughts and behaviour, eating and dressing habits, our musical and artistic preferences. Culture, creativity and artistic innovation are drivers and enablers of development. Over time, **creative intelligence has become a new form of cultural literacy.** It harnesses the power to create, connect and inspire.

Creativity and artistic expressions are important because of the way in which they bring about something universally human, defining our identity and sense of belonging. While cultural expression has an intrinsic value, it also provides energy and inspiration as well as empowerment. It builds better ways of living together in a world of increasingly diverse societies. Intercultural dialogue can lead, both within and among societies, to the development of greater comity rather than exclusion or conflict.

Design is a key dimension of creativity and a major component of culture. Design is not only beauty and functionality. It is also innovation—and it is driven by and depends on innovation. The demand for creative design, design services and products is increasing. Innovation has opened up not only new perspectives for design, but also for sharing, exchange and cooperation that help consolidate science, aesthetics, other technologies and art—all of which reflect cultural diversity. Increasingly, design has become a channel to achieve transformation and integration of scientific and technological achievements, including infrastructure development and digitised manufacturing and production.

Creativity plays a distinct role in strengthening communities. Cities have become *platforms* and architects for positive change. They are serving as incubators for designing creative solutions, for widening options and for renewing civic aspirations.

5. ...To the Creative Economy ...

Cultural industries form the core of a city. A city without culture is a city without soul. Driven by technology and innovation, the creative industries in virtually all countries have become one of the world economy's most dynamic growth poles. Progressively, the global economy is ever more influenced by the power of creativity. Indeed, we have begun to speak of the **creative economy**—which is the most modern phase of economic development.

After the agricultural, industrial and service economy, we are right now in the middle of the ascendancy of the creative economy—in individual countries and worldwide.

“Without a strategic approach to integrate, coordinate and organize solutions, smart cities may never reach their full potential.”

Technology has powered much of the convergence in the world’s economies. It has provided access to global markets for those moving from feudal and agricultural economies to the more valuable industrial, service and intellectual property economies.

The **rise of the cultural and creative industries** has produced and distributed cultural goods, services or activities with cultural content that convey ideas, symbols and ways of life, irrespective of the commercial value they may have.

Over the past two decades, the cultural and creative industries have evolved dramatically—moving from a situation of scarcity to an age of mass online access to cultural goods. In 2018, the cultural and creative industries generated annual global revenues of USD 2,350 billion. These sectors currently provide nearly 30 million jobs worldwide and employ more people aged 15-29 than any other sector. The internet has expanded to reach 2.1 billion people today and is expected to reach five billion people across the planet by 2020.

Governments at all levels are called to devise policy strategies and initiatives responding to the artistic, cultural, social and physical fabric so as to bolster the development of local, urban and national creative economies. This process must uphold the diversity of individual and community culture and identities—all of which are key to the quality of life. Cultural innovations and creative expressions equally drive development processes that contribute to the promotion of the universal values of peace, democracy, human rights, fundamental freedoms, gender equality and the rule of law—which are also part of the SDGs.

The 2013 **UN/UNESCO Creative Economy Report** demonstrated for the first time the promise of cultural and creative industries to enable and drive sustainable development. The development of cultural and creative industries facilitates the close integration of economies with technologies and culture. They play a significant role in promoting social cohesion, economic growth, trade, and employment, especially for women and youth. Unfortunately, Agenda 2030 **falls short of a full understanding and affirmation of the importance of culture as a driver and enabler of sustainable development**. Holistic and integrated development will only be achieved when the values of culture, creativity, heritage, knowledge and diversity are considered as the key factors in all approaches to sustainable development.

6. ...And to Creative Cities...

Cities have historically advanced human development, serving as melting pots for people of diverse backgrounds. A city is a crossroad where the local interacts with the global, it is

an intersection where tradition dialogues with modernity. **The rapid expansion of cities in the age of globalization is not only a process of economic and social development that is called to respect cultural diversity, but also a challenge and opportunity for sustainable development.** Increasingly, knowledge, culture and creativity have become new keywords in understanding the speedy urban transformations, coinciding also with the emergence of knowledge societies. Cities have been of great significance for the promotion of trade and employment, especially the employment of women and young people.

Cities are at the heart of development and innovation. Yet the **cities of today and tomorrow are facing new, unprecedented challenges. Home to half the world's population today, cities are expected to shelter two-thirds of it by 2050.**

Although occupying only two per cent of the world's landmass, cities consume sixty per cent of global energy, release seventy-five per cent of greenhouse gas emissions and produce seventy per cent of global waste. As cities expand, they threaten biodiversity, and place urban infrastructure and resources—from water to transport to electricity—under enormous strain. Unchecked development and mass tourism place cultural heritage sites and living heritage practices at particular risk. Rising inequality and migration make cities the focal points for new social cleavages, exclusion and discrimination.

Cities have the capacity to magnify creativity and accelerate innovations. As centres of creativity, cities have combined technology and culture while promoting economic growth through creative and cultural industries. Urban areas are also transforming themselves into eco-cities.

Digital platforms and Artificial Intelligence (AI) have opened up many new opportunities which are hyperlinked, multimedia-based and interactive. New technologies give us access to digital content, reducing production costs and increasing exposure. By harnessing a range of **digital solutions**, city authorities and stakeholders can build resilience and address a panoply of structural challenges, such as congestion, pollution, waste and emissions.

Among the manifold challenges will be the **transition of urban economies progressively to higher productivity** through high-value-added sectors, diversification, scientific and technological upgrading, research, and innovation, including the creation of quality, decent and productive jobs.

The concept of **smart cities** sought to provide answers to these challenges by combining new technologies with humanist ideals, leaving no one behind. Without a strategic approach to integrate, coordinate and organize solutions, smart cities may never reach their full potential. **Planning and managing cities, making them resilient and equipping them to provide resources for residents are key to a city's success.** Digital services and solutions are the latest innovations that benefit citizens, businesses and civil society. Accordingly, **cities across the globe have embraced the necessity of new ways of thinking, citizen engagement and city-to-city cooperation.**

Exploring the linkages between creativity and sustainable development from an urban perspective has been a major focus in promoting international cooperation among cities. Numerous city alliances and networks have been created. Since 2004, the ever expanding **UNESCO Creative Cities Network (UCCN)**, now counting 180 from 72 countries, is working to leverage the ability of cities to bring creative people together, to spark economic growth, to foster a sense of community and to preserve urban identities and heritage.

These cities have chosen **creativity as a strategic factor for their sustainable development**. They also subscribe to the recognition that **culture is both an enabler and a driver of development**. UCCN aims at enhancing the dynamism, power and innovation that have shaped a particular city's development. Under the seven established categories—Literature, Film, Music, Crafts and Folk Art, Design, Media Arts and Gastronomy—any UNESCO creative city can engage with other designated cities, exchanging experiences and knowledge, drawing on best practices and inspiration from other world centers, and promoting cross-fertilization.

Part of creativity is, of course, design. Some of the world's leading cities **have been named by UNESCO as creative cities of design—among them Beijing, Berlin, Brasilia, Budapest, Buenos Aires, Detroit, Istanbul, Mexico City, Seoul, Shanghai, Shenzhen and Torino**. This designation recognizes the dynamism, drive and innovation that have inspired and put their stamp on such cities. As such, these cities are well-placed to engage with each other and other world cities—thereby promoting cross-fertilisation of the best and brightest minds.

7. ...To Creativity 2030 (C2030)...

The **International Center for Creativity and Sustainable Development (ICCS)** in Beijing is a new international think tank for creativity development, and advancement of the 17 SDGs. To this end, ICCSD has launched **CREATIVITY 2030 (C2030)**, a new global initiative which seeks to stimulate, mobilise and exchange creative solutions, tools and approaches in all walks of life. 2030 is reference to the target date for the UN's Agenda 2030. In this context, ICCSD can also focus on creative cities as new and dynamic actors on the international scene. A new quarterly journal, *Creativity 2030*, accompanies the work of this new Center.

As an integral part of C2030, ICCSD will seek to build new international platforms embracing science and technology as well as culture, both of which are lacking in the SDG framework. A new global **science cities network** could arise can focus on the role of science and scientific development in urban sustainable development.

Through its diverse activities, **ICCS is poised to present itself as a leader in sustainable urban development** that catalyses economic transformation, technology, science, job creation and enriches the lives of the communities.

ICCS is committed to working with a **wide range of partners** that can enhance the diversity of cultural expressions, contribute to developing and disseminating knowledge and capacities as well as foster creativity and sustainable development.

These partners include the private sector, public institutions, government and city entities, media, academia and educational institutions, national and municipal governments, non-governmental organizations, scientific organizations, regional and international organizations, and the arts.

Today, the **pace of technological change continues to accelerate**. Creativity and sustainable development will henceforth be influenced by the **dominant drivers and enablers of our age**—globalization, urbanization and megacities, the internet and the internet of things (IoT), digitization, artificial intelligence, robotics and big data.

Advances in areas such as nanotechnology and materials science, smart factories, additive manufacturing, autonomous cars, gene-editing techniques, connectivity, battery technology stand to impact development on Earth for all its inhabitants. All countries will experience the radical transformation that disruptive technologies bring. But technological development and diffusion do not happen at random; geopolitical factors play a determining role in the process.

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