

PROTECTING NATURAL AND HUMAN WONDERS FROM URBANIZATION AND CLIMATE CHANGE

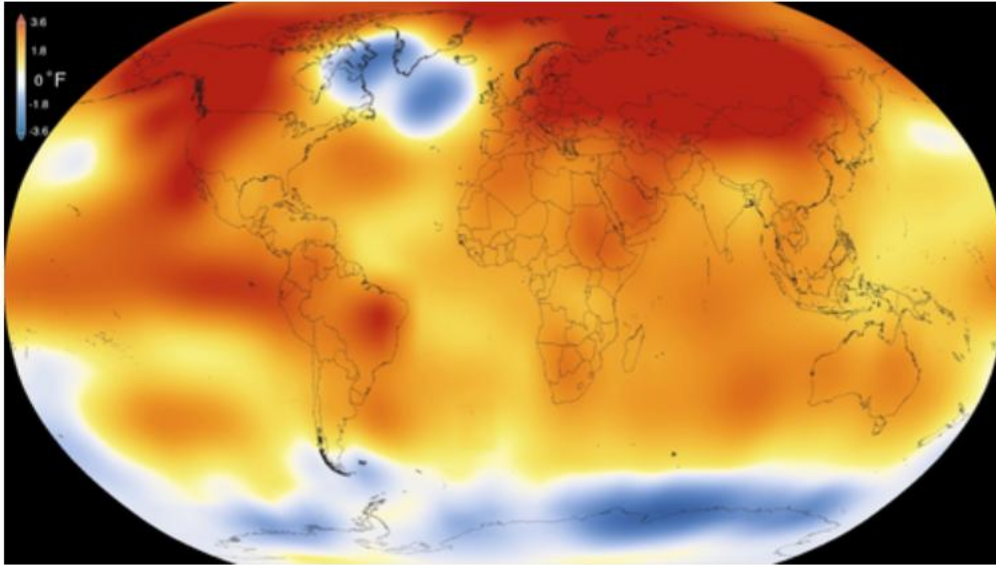
Written in English (US) by Pascaline Bello, co-chair of UNESCO

The consequences of today's major issues are countless: climate change and urbanization have modified and will continue to modify the marvelous natural or human masterpieces of our world; which UNESCO is wanting to save since 1972. Our cultural heritage; paintings, sculptures, monuments, sites and our natural heritage are both part of our history, common to everyone and precious to anyone, reflecting human progress and natural change.

One of the major issues for natural heritage stands in Africa, where is situated almost half of the heritage considered in danger. Its wonderful biodiversity is now threatened by climate change. On the other hand, Europe and America are mostly menaced by the uncontrolled urbanization.

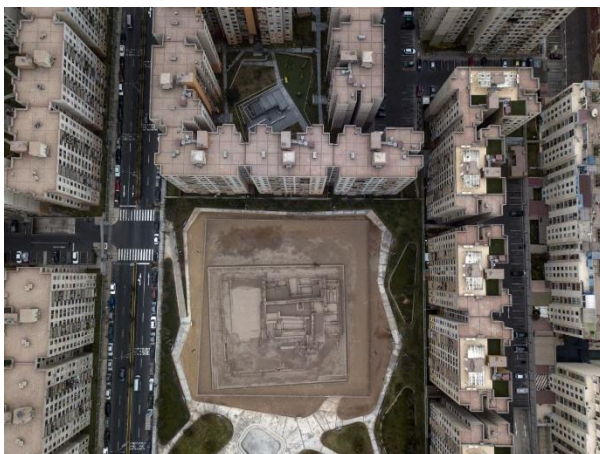
Urbanization and climate change threatening the world's wonders

Climate change is now a part of our historical context, mainly due to internal variability and human activities. We talked about the "greenhouse effect" in 1827, considering the problem for the first time. Global warming arose and the gradual increase in warmth worried the population that took the first initiative for climate change in 1985, on March 22nd at the Vienna convention, aiming to protect the ozone layer. The consequences are now more than visible: new weather patterns have appeared, along with changes of vegetation, changes in the timing of life cycles. The effect on the diversity of composition or distribution of species of the forests' genetic resources, or the impact on animals such as the abnormal abundance or extinction of species is the most important threat to our heritage, altering the ecosystems of the 213 natural heritages and deteriorating the 859 cultural heritages. Thus, climate change impacts both human and natural systems, on all continents and in every ocean.



Global temperature anomalies for 2015 compared to the 1951–1980 baseline. 2015 was the warmest year in the NASA/NOAA temperature record, which starts in 1880. It has since been superseded by 2016 (NASA/NOAA; 20 January 2016).^[82]

The percentage of people living in an urban area is increasing every day: now almost 55% of the worldwide population is living in a city. We characterize the phenomenon of migration from a rural area to an urban area “urbanization”. Cities offer more opportunities, social and economic benefits through industrialization, commercialization and modernization. The rapid growth of cities presents better living standards and a better economy, but the overcrowding, the poverty leading to slums, and the pollution change the landscape. Urbanization is nowadays a threat to natural and cultural wonders, as the cities nibble them to provide space for their growing population, to enhance their trade or the pollution damaging the historical architectures.



UNESCO's world heritage and 10 criteria

Regarding these two issues, to protect our natural and cultural UNESCO introduced in 1972 the World Heritage Convention and points out the impact of the greenhouse gas on our culture. The convention is the result of many efforts from scientists and states to encourage international cooperation and thus to protect global natural and cultural heritage “for the benefit of the future generations and for all humankind” (*World Heritage and Tourism in a Changing Climate*, Adam Markham, 2016).

The concept of World Heritage itself is about maintaining the balance between natural and human systems, the convention helped bring attention to the issue and thus the concept was understood and supported worldwide. With the manifestation of the World Heritage convention, support for management planning implementation and monitoring the state of conservation of the properties on the list.

The list of world heritage protects 1121 cultural and natural sites all over the world. In order for a site to be on that list, the site has to meet 10 criteria, intending to protect natural and cultural wealth transcending national boundaries.

Selection criteria

(i)

to represent a masterpiece of human creative genius;

(ii)

to exhibit an important interchange of human values, over a span of time or within a cultural area of the world, on developments in architecture or technology, monumental arts, town-planning or landscape design;

(iii)

to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared;

(iv)

to be an outstanding example of a type of building, architectural or technological ensemble or landscape which illustrates (a) significant stage(s) in human history;

(v)

to be an outstanding example of a traditional human settlement, land-use, or sea-use which is representative of a culture (or cultures), or human interaction with the environment especially when it has become vulnerable under the impact of irreversible change;

(vi)

to be directly or tangibly associated with events or living traditions, with ideas, or with beliefs, with artistic and literary works of outstanding universal significance. (The Committee considers that this criterion should preferably be used in conjunction with other criteria);

(vii)

to contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance;

(viii)

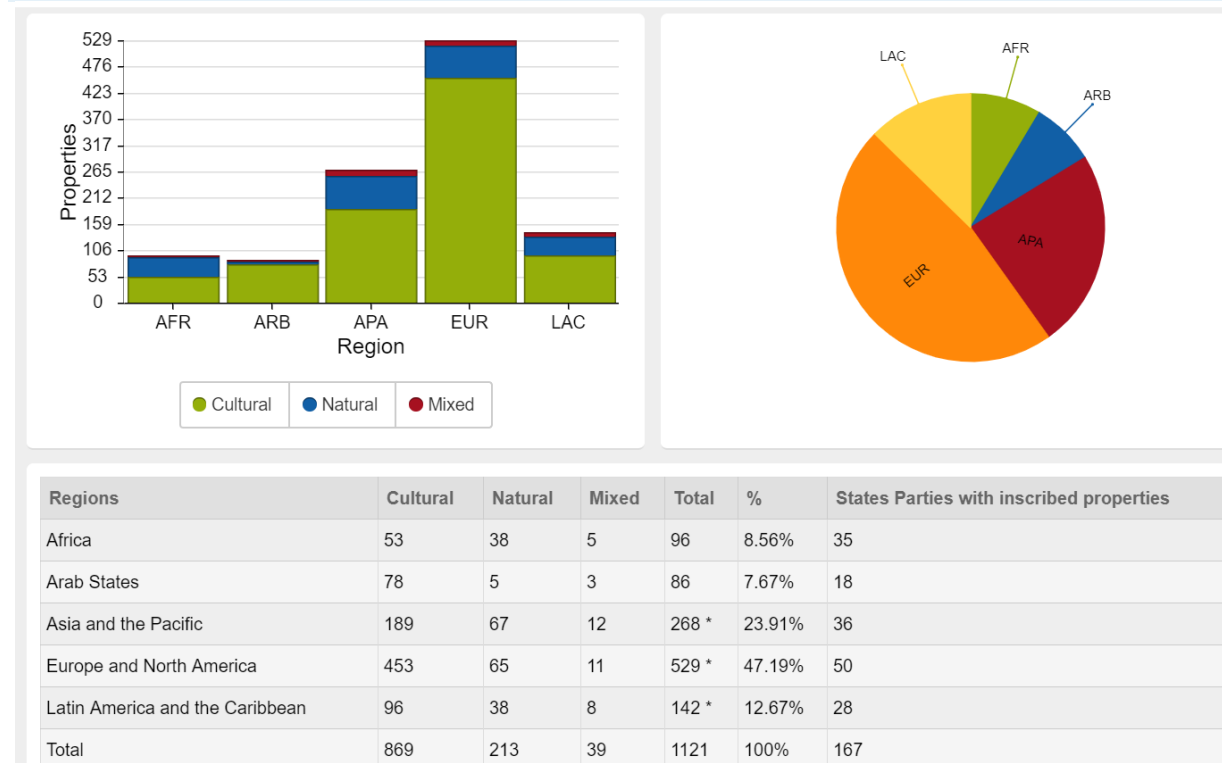
to be outstanding examples representing major stages of earth's history, including the record of life, significant on-going geological processes in the development of landforms, or significant geomorphic or physiographic features;

(ix)

to be outstanding examples representing significant on-going ecological and biological processes in the evolution and development of terrestrial, fresh water, coastal and marine ecosystems and communities of plants and animals;

(x)

to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation.



Solutions

UNESCO has taken many initiatives in order to solve the numerous problem our patrimony is facing. For instance, the UN Environment's Principles for Sustainable Insurance Initiative (PSI), a collaborative initiative between the UN and the insurance industry, with the partnership of WWF and UNESCO, is the first-ever global insurance industry statement of commitment protecting our World Heritage Sites. This statement is the most central and concrete of all solutions, as it covers the insurances' risk management, insurance and investment activities and with signatories the risk of insuring and investing in companies, the World Heritages Sites are prevented, thus reduced worldwide. Yet, UNESCO associate many crucial actors of today's world to protect the same way as the PSI does.

Conclusion

The region of Kotor in Montenegro was seriously damaged by an earthquake in 1979, and with the help of UNESCO, was restored. However, the urban transformation in the area is currently an important threat: the construction of tourism centers, roads and buildings are overlaying the historical landscape. Its integrity being threatened, UNESCO, with the Montenegrin government in 2011 intends to manage the property in order to maintain its unique cultural landscape and patrimony. UNESCO has achieved and will continue to achieve comparable actions all over the globe to strive against urbanization and climate change, for the sake of our future.

We hope that this study guide will help you through your researches, however we strongly recommend you to check the links in the bibliography and wander on Google to make your own pile of knowledge concerning this issue. We hope you will have fun during the debates, if you need anything, please email us at pascalinebello@gmail.com!

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RAISING AWARENESS ON CLIMATE CHANGE

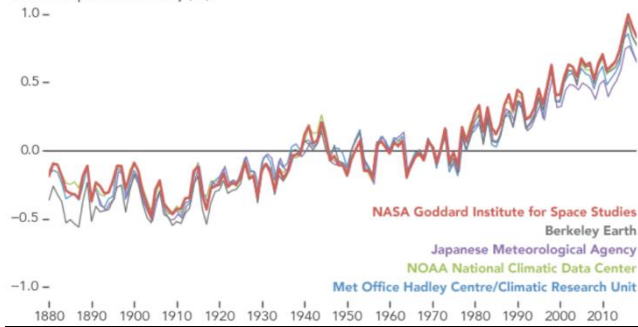
This issue has been for a decade one of the most discussed topic, and this through all generations. We see it with Greta Thunberg: a controversial young girl fighting for everyone's future, now in the same room as Donald Trump. Today's first threat is climate change. While education is the first step to a eco-friendly population, we aim to have the world understand global warming to provide better solutions against it. Education, whether formal or informal is crucial to young or older people, as they are the ultimate solution to save our planet.

How is climate change altering the Earth?

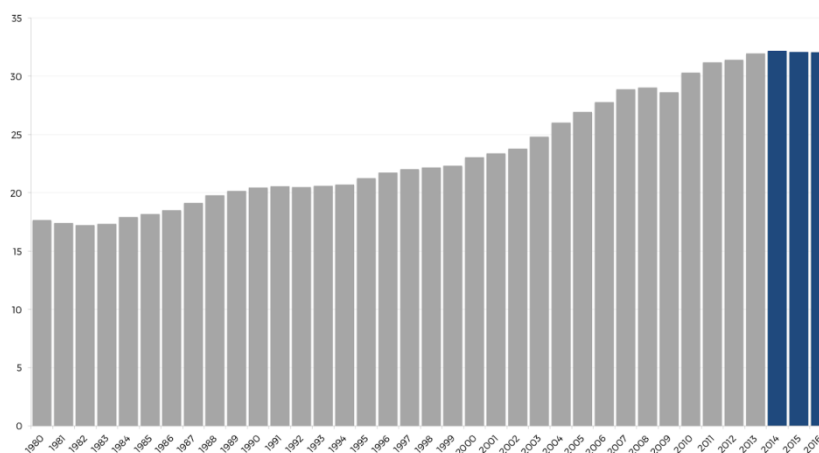
Nowadays, it is well-known that the Earth we have been living on, adapting to our needs, and slowly consuming is dying. Science has proven it, and we have only a little time to reverse its faith. Humans have been impacted by climate change, as well as wildlife. It is now the main cause of species extinction and raising temperatures will soon attack most of the Earth's ecosystems, as this phenomenon is happening too fast for species to adapt. Climate changes also threatens the polar regions, forests and oceans, which have global consequences on wildlife, and on humanity as well. It impacts our economy, health, and culture. However, people's effort have paid off : the CO₂ emissions are finally starting to level off. Thus, with the help of every generation, we know the Earth's condition can improve.

A World of Agreement: Temperatures are Rising

Global Temperature Anomaly (°C)



Gigatonnes



CO2 emissions

UNESCO's response to climate change

Many discussions have been held on that subject, and while our planet is dying, solutions have been found to preserve it as much as we can. UNESCO's first weapon is education. With the introduction of the

Climate Change Education for Sustainable Development programme in 2010, the goal of having more and more population understanding and responding to climate change is achievable. “Climate literacy” is most importantly needed among young people and the Member States are thus engaged to provide this kind of service. Enhancing the non-formal education such as media, networking and partnerships. Today’s resources are the main key to spreading and alerting the world. Communication reinforces counterattack on climate change. Concerning all of the actions taken by UNESCO’s means, the most important and impacting one are : the GAP (Global Action Programme; <https://en.unesco.org/gap>). Any programme made is entirely based on the seventeen Sustainable Development Goals (SDGs), adopted in 2015.

UNESCO and Sustainable Development Goals



Conclusion

Nowadays, we possess mass-media, and a growing population, more inventive, and most of all, more concerned by the issue. As climate change is itself, becoming a growing threat, we must open up our people to protect and love our planet by unifying and educate.

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Enhancing sustainable development in cities

Written in English (UK) by Nathan Besch, co-chair of UNESCO

“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.” This quotation from the UN report *“Our Common Future”* perfectly defines sustainable development, in other words sustainable development is based on having a flourishing economy while respecting both environmental and social aspects of the society. According to the UN, more than a half of the world population live in cities, putting them at the centre of the sustainable development progress. It is well-known that cities have a great impact on climate change since at least 70% of the carbon emitted in atmosphere is due to them: that’s why solutions need to be found in order to reduce these emissions, although the other environmental problems should not be forgotten. As previously said, sustainable development takes in account economic and social aspects which both bring their very own issues that need to be solved too: for instance, poverty and discriminations. Today’s cities are living a tough challenge to change their current way of developing into a more sustainable one as it will be seen throughout this study guide.

Origins of the sustainable development, a series of world conferences and publications

The concept of “sustainable development” was born during the second half of the 20th century. It is more or less back at that time when mankind realised the serious effects human activities had on the environment, as shows Rachael Carson’s *Silent Springs* published in 1962. Ten years later, the sustainable development concept was for the first time internationally recognised during the United Nations Conference on the Human Environment which took place in 1972 in Stockholm, the capital city of Sweden. At the end of the conference, the 115 governments gathered adopted the Stockholm declaration which lists 26 principles concerning the environment and development. On the same year, the Club of Rome commissioned *Limits to Growth*, which used for the first time the word “sustainable” as we know today in the expression “sustainable development”. In 1987, the *Brundtland Report* (also known as *Our Common Future*) was published by the UN and gave the first definition of sustainable development which was quickly considered as the most complete and explicit one. The report claimed that poverty reduction, gender equity and wealth redistribution

were the keys to environmental preservation, while also stating the fact that industrialised societies, along with industrialising ones, will see their economic growth limited at some point because of the environment: an unlimited-based management of resources cannot work in a planet where natural resources are fundamentally limited. Besides, the report declares that ecology and economy need to be balanced since poverty drastically reduces sustainability while enhancing environment degradation. 1992 marked the first United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, and with it, the beginning of sustainable development on a worldwide scale.

SDGs, or the objectives for worldwide sustainable development

The Sustainable Development Goals (SDGs) were adopted by the UN General Assembly in 2015. They represent everything that need to be achieved in order to have sustainable development all around the world. They are setting a list of 17 objectives that are meant to be reached in every country by 2030, the necessary work in order to complete them was supposedly launched in 2016 by every country.



These goals are somewhat representing the UNESCO principles since they consist in improving education and environment (goals 4, 7, 11, 12, 13, 14 & 15), and in reducing inequalities as the 10th goal proves. The well-being of the people is also a concern of the SDGs since both health and living conditions are being taken in account (goals 1, 2, 3, 5, 6, 9 & 16). Economy is also not to be forgotten, as the 8th goal proves, besides the 17th goal implies a cordial relationship between countries in order to keep moving forward.

The most relevant goal for our topic is the eleventh one, fully named “Make cities and human settlements inclusive, safe, resilient and sustainable”. This goal by itself rises a lot of issues that eventually need to be solved if it is to be achieved one day. Here is a selection of the 4 main issues:

habitation: According to the UN, more than one billion people live in slums, however the proportion of the global urban population living in such conditions was divided by two (between 1990 and 2016 it went from 46 per cent to 23). In other words 1 person out of 4 living in a city today, lives in a slum. This evolution shows that the proportion of people living in slums are reducing quite quickly which is positive, even though there are still a lot of inequalities in urban areas. The most famous example is this striking picture of two neighbourhoods in Sao Paulo, where extreme poverty meets wealth



with a wall for only separation.

rate of urbanisation: The rate of urbanisation is considered too high by the UN; between 2000 and 2014, urban areas grew 1.28 faster than their population. This high rate causes the densities to decline and so, environmental sustainability is severely affected on every scale (local, regional and global). For example, water quality is critically affected by urbanisation since raining water going underground is full of greenhouse gases such as CO₂, accelerating the acidification of the rivers, streams and oceans.

waste collection: Now, waste collection worries very much considering that 3 billion people do not have access to controlled waste facilities, including 2 billion who do not have access to waste collection services at all. Whereas the proportion of people living in slums was divided by two, the worldwide waste will double due to the consumer-oriented economies, the 2016's 2 billion tons of waste will become 4 billion tons by 2050. It is much more concerning when we know that only 81% of global waste was collected between 2010 and

2018, letting the other 19% untouched in the cities and in the nature, especially in oceans where “plastic continents” are currently forming.

air pollution: The last issue that will be studied may be seen as the worst one, since it directly kills people. 7 million deaths every year are caused by air pollution since 91% of the world population is still breathing dangerously polluted air, sometimes exceeding by 5 times the World Health Organisation’s (WHO) guideline levels for air quality. With its 4300 cities in 108 countries, WHO’s data ambient quality air database is the most comprehensive one on this matter, worldwide. However, the organisation says being positive for the years to come: *“While the latest data show ambient air pollution levels are still dangerously high in most parts of the world, they also show some positive progress.”*, while also stating some examples such as Mexico City who decided to make the use of private diesel cars forbidden by 2025.

Enhancing sustainable development

Cities along with UNESCO are well-aware of all these issues and thus, decide to counter them by taking measures that are enhancing and will continue to enhance sustainable development.

transport: 41 cities in France have started to make their public transports completely free; however, Luxembourg takes an incredible step on this matter since it will become in 2020, the first country in which all public transports will be free. In 2019, the most efficient eco-friendlier transport is still the good old bicycle. 90% of the Danish people possess a one, and in Copenhagen, the bicycle paths are as much sophisticated as the road networks, if not more. The creation of a 17-kilometer bicycle highway proves it, everything was thought to give the priority to the cyclists, they arrive quicker and in better conditions at destination than they would have if they were using a car.

eco-neighbourhood: Cities have also seen the multiplication of eco-neighbourhoods in their landscape. The goal of these neighbourhoods is to be self-sufficient and to pollute and waste as less as possible: everything is made to be sustainable, from water consumption and usage, to energy production. These parts of cities are also more inclined to be highly eco-friendly and to encourage the creation or regeneration of green spaces and to promote environmental education. People living in these neighbourhoods say having a quality of life improved, mainly due to the calm of the streets since

they host less traffic and thus, less pollution than the main streets.



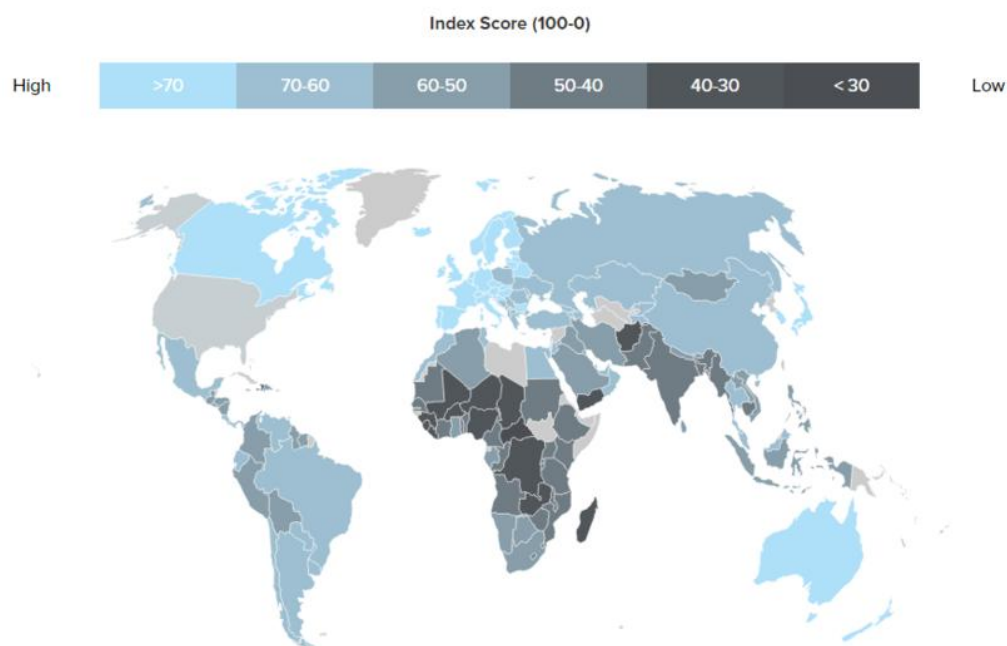
ESD: Education for Sustainable Development is part of the SDGs and was an initiative by the UNESCO. The goal of this program is to promote sustainability on all its scales by teaching a different approach to the economic, social and environmental aspects of sustainable development. Climate change, disaster risk reduction, biodiversity and poverty reduction are examples of topics mentioned during these lessons. The whole concept is based on changing the knowledge, skills, values and attitudes of what an average education usually delivers, in order to create a more sustainable and just society. If such an education were spread on a worldwide scale, it would eventually change people's mind on sustainability and encourage it widely.

Science: Another topic that would enhance sustainable development is indeed science. According to UNESCO, "science, technology, research and development capacities for sustainable development must be strengthened". They claim that crises concerning topics about and around climate change would find their solutions in scientific researches and experiments. By putting science at the centre of the climate crisis, UNESCO promotes an open access to scientific information, hence people and governments can make crucial choices based on scientific facts in order to keep sustainable development growing. Encouraging more young people to study into scientific disciplines also figure among UNESCO's projects, making a direct link between science and ESD since it would be in these types of programs that climate science would be reviewed.

Culture: Last but not least, culture is a significant matter to consider in development, especially in a sustainable one. By not taking in account the different cultural aspects of our civilisation, sustainable development would not thrive completely. It has been proven that culture enables and drives every aspect of sustainable development with the help of different means such as cultural heritage or cultural industries. Cultural differentiation is often considered as a weak point of our global society, whereas it is in reality one of our strongest advantages.

Advancement of SD worldwide (map)

The NGO Bertelsmann Stiftung along with the UN Sustainable Development Solutions Network created an index which the score represents the advancement of the SDGs in each country. (the lighter the blue the better)



The twelve first countries are European ones, top 3 being Sweden, Denmark and Norway, whereas the five having the lowest score belong to Africa, the last being the Central African Republic. Poor countries have a lot trouble to have high scores in this index since turning into sustainability requires a lot of resources and demands to eradicate food- and education-related problems.

Conclusion

Cities play key roles in today's world, and constantly need to adapt to their new issues. The contemporary world brings its very own issues, all being major obstacles to sustainable development. In 21st century, turning sustainable is not only a fashion, it is an absolute necessity, the UN SDGs are here to remind that. Some cities are already on their way to full sustainability and it is in them that the living conditions are the world's better along with the environment, social and economic aspects. It has been proven that branches of companies including sustainable development in their programs were the ones that flourished the most. Sustainable development already proved its worth in companies, now it must do it within cities.

I hope that this study guide helped you through your researches, however I strongly recommend you to check the links in the bibliography, and to make your own specific researches depending on what country you have in order to have a better point of view on the issues and solutions of the enhancement of sustainable development in cities.

If you need more information or if a point wasn't clear enough, please e-mail me at nathanbesch27@gmail.com

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