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CHINA'S APPROACH TO THE ENVIRONMENTAL CIVILIZATION[1]

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Abstract: This study examines the origins and main aspects of the Chinese concept of ecological civilization. Originally a philosophical concept, it was later developed into a political and constitutional principle and became the basis of several public policies of the Chinese government. The author also draws attention to several contradictions and weaknesses in the concept, which has been seen as a Chinese version of sustainable development and ultimately as a Chinese concept of global civilization.

Keywords: climate change; sustainable development; ecological civilization; China

Introduction

China's unprecedented economic and social development since 1978 (Wei, 2010) has contributed to the eradication of hunger in the world's most populous country, raising more than 700 million people out of poverty. However, the consequences of such rapid development have inevitably manifested in the degraded state of the environment, both within China and at the global level, with China having overtaken the United States of America as the largest producer of greenhouse gases by 2007. At the same time, China is among the countries most vulnerable to the effects of climate change (Sun et al., 2018), the main cause of which is the greenhouse gases produced primarily from the production of energy from fossil fuels such as coal, oil, and natural gas. The sharp deterioration in the quality of the environment (Myllyvirta, 2018) and consequently the health and even cognitive abilities of the Chinese population (Zhang, Chen, & Zhang, 2018) in addition to the increasing damage caused by climate-change induced extreme weather phenomena challenging the legitimacy of the economic and political regime in China. Indeed, climate change undermine many of the successes of the 40-year transition—the raising of more than half a billion people out of poverty and improved access to food, water, housing and other

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social services.[2] In this respect, it is not surprising that China has become a signatory to the Paris Climate Agreement (UN, 2015)[3] and has already launched its own extensive policies and programs to mitigate the consequences of climate change, including by adapting cities and the country to its consequences and, last but not least, addressing the emissions problem (Basso & Viola, 2014).

The signing of the Paris Climate Agreement in December 2015 is seen as a major breakthrough in the effort to mitigate the effects of climate change and the resulting socio-political conflicts. It is the most significant climate change agreement and it will replace the Kyoto Protocol in 2020. The importance of this agreement lies primarily in the fact that 196 countries have recognized anthropogenic climate change is real, deemed it a threat, and agreed on the need to counter it. The aim of the agreement is to avoid a global temperature increase of more than 2 °C, and preferably to limit warming to less than 1.5 °C. Despite this, record increases in the amount of carbon dioxide (CO^2) in the atmosphere[4] have been recorded each year since the agreement was approved, which means that global temperatures may rise by 3–5 °C by the end of this century if this trend continues, well above the level at which civilization can be preserved.[5]

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[2] Many of the densely populated areas of south-east China are already regularly threatened by an increasing number of hurricanes and are located in climate zones where, if the global warming trend continues, the combination of high temperatures and humidity will after only a few hours become incompatible with human life. These conditions can occur for several weeks in a year (Im, Pal, & Eltahir, 2017).

[3] However, the weakness of this Agreement is that countries set their greenhouse gases reduction targets individually; moreover, the targets are not binding and there is no mechanism for their enforcement. It is also unclear whether the agreement will ultimately be ratified by all countries. This is despite it having been ratified by 2016 by the EU, but also by China, India and even the USA, countries that are among the largest emitters of greenhouse gases. However, in early June 2017, the US President announced his country's withdrawal from the agreement and lifted restrictions on oil and coal extraction in the US, continuing the preference for a fossil-based economy. Therefore, it is not clear whether other countries will enforce implementation of the agreement; nor is it clear when and how they will do so. Indeed, around the world the subsidies for the extraction and consumption of coal and other fossil fuels are still several times higher than subsidies for the use of renewable energy sources, Harris (2011); Harris (2014); Harris (2016). Coal burning is still one of the largest sources of greenhouse gas emissions and other types of pollution, and coal remains China's primary energy source.

[4] The amount of carbon dioxide in the atmosphere was 400 ppm (parts per million) in 2015, rising to 403.3 ppm in 2016, 405.5 ppm in 2017 and 407.8 ppm in 2018. Compared to the concentration level before the industrial era, around 1750, this represents an increase of 147%. Such a concentration of carbon dioxide, according to a report by the World Meteorological Organization (WMO), occurred in the terrestrial atmosphere three to five million years ago, when the air temperature was about three degrees higher and the sea level 20 meters higher than today. WMO (2018). The problem, however, is not only the high concentration of greenhouse gases in the atmosphere, but also the fact that the rapidity of the increase is unprecedented both in geological and climatic terms.

[5] Even an increase of 1.5 °C in global temperature will entail a high risk of desertification (Park, et al., 2018) and extreme weather events, which, together with ocean elevation, will result in huge material damage and the need to relocate tens of millions of people from densely populated coastal areas (Hansen, et al., 2015).

The environmental consequences of growth

China has been the largest emitter of greenhouse gases for several years, but it is also the country with the largest investment in renewable technologies (Chen & Lees, 2016; Harris, 2019, pp. 355-362). Given the size of its population, its growing economic power, and the fact its development model provides an inspiration to many developing countries, it can be argued that China's politics will decide the extent of the ongoing devastation of the planetary ecosystem and preserving the environmental preconditions for the continued existence of global civilization. There are many indications that the country's leadership is fully aware of this responsibility and is integrating this understanding into a number of its policies. These moves are based on the concept of ecological civilization (Pan, 2014) which has several forms—it first emerged as a philosophical concept,[6] understood as a paradigm shift in understanding the relationship between man (or human society) and the world (nature or environment). It was then transformed into a new development strategy, a Chinese version of sustainable development (Goron, 2018), and later became a public policy imperative. It has even become one of the fundamental principles of the Constitution of the People's Republic of China (PRC).[7] It is part of the ideology of the Communist Party of China[8] and is both a state policy and a vision of future society, to be achieved through China's development and ideally global civilization. From this point of view, the concept of ecological civilization is also an alternative model of globalization and a purposeful attempt at replacing the type of globalization underpinned by the so-called Washington Consensus.

China is the world's largest polluter because it has undergone unprecedented economic and social development in the past 40 years. The key processes of this development were industrialization and urbanization. The speed of urbanization in China is unprecedented in human history;[9] in 1978, China's urbanization rate was 19.72%, in 2015 it was 56.1%, and in 2016 it rose to 57.35%. The urban population has grown from 170 million to 770 million people and the number of cities has increased from 193 to 656, with more currently under construction. In 1981, the urban areas occupied 7,000 km² of Chinese territory, a figure which had risen to 49,000 km² by 2015. Between 2010 and 2015, the urban population increased by 101.37 million. By 2030, China's urbanization rate is expected to have reached 70%.[10] Currently up to 80% of Chinese economic production is located in cities. These processes have led to a marked increase in quality of life, for example through households

[6] In China, the concept of ecological civilization was first formulated in 1984 (Pan, 2014, p. 35).

[7] It has been part of the PRC's constitution since 2012. In 2013, the acting president confirmed it was the main framework for state environmental policies and legislation. In 2018, ecological civilization was given greater emphasis in the constitution, and it is now a fundamental constitutional principle.

[8] In 2002, the 16th Congress of the Communist Party of China (CPC) declared the goal was to transform society by building an "ecological civilization". Since November 2007, the concept of ecological civilization has been part of official government policy and Communist Party ideology. In 2012, it was integrated into the 5-point strategy underpinning China's 13th Five Year Plan.

[9] On the scale of investments in urbanization and transport infrastructure and the associated huge consumption of building materials and energy, see Allison (2018).

[10] These processes mean, among other things, that China's traditional rural and agrarian culture has transformed into an urban and industrial culture within a few decades. This has also prompted the need to formulate completely new rules governing interpersonal and social relations.

being connected to public water supplies, sewerage and electricity distribution networks, but paradoxically this has also affected the quality of the environment. There is also much greater access to education and health care (Xie & Pan, 2018, pp. 85-98).

The unprecedented growth in the economy and living standards is largely the result of extensive industrial and urban development, a process which is extremely resource-intensive. The cost of this rapid economic growth has been widespread environmental devastation, the intensive exploitation of all available natural resources and pollution resulting from production, transport and consumption. Many Chinese scholars and the Chinese authorities openly admit that China has fully applied the so-called western model of development; that is, coupling economic growth with development for at least the first 30 years of the transformation that began with the 1978 reforms. "First pollution, then control; first damage then recovery, seems an unavoidable established law and vicious circle in the industrialization process of all countries and regions" (Xie & Pan, 2018, p. 11). In terms of industrialization and urbanization, but also environmental pollution and devastation, China has accomplished in 40 years something that took Western countries at least 200, sometimes 300 years.

By the end of the 20th century pollution of various types—primarily air, water and soil—and the widespread devastation of nature and land had reached such levels in many areas of China that they became a matter of public interest and ultimately public policy. Public pressure to tackle environmental pollution and devastation has led to the issue being taken more seriously not only by the sections of the academic community monitoring the quality of the environment, but also by the country's political leaders. This has led to a shift towards "green development", not only at the theoretical, institutional, political and economic levels[11] but also at the constitutional level. Increasingly, various policies began to target qualitative growth at the expense of quantitative economic growth. Government policies have also sought to "decouple" economic growth from rising energy consumption and pollution, as well as decelerating growth rates and transitioning from extensive to intensive economic development (Xie & Pan, 2018, pp. 16-17).

Following its transformation from an agrarian to an industrial civilization, China's ambition is to transform further into an ecological civilization, a concept which goes far beyond sustainable development. Ecological civilization is a new developmental paradigm that sets limits to development, so called red lines (Jiang et al., 2019), for example through stipulations on the areas of arable land, pasture, wetland, forest or protected areas that have to be preserved in their totality or that cannot be used for industrial, transport or residential infrastructure but must be retained for food production (arable land, pasture land) or set aside for conservation

[11] One of the most noticeable manifestations of this changed approach was the blanket ban on imports of plastic waste to China in 2017, a decision which had an immediate effect on plastic waste separation and its processing worldwide. It has been shown that many developed countries do not actually have the capacity to recycle plastic waste because they have relied on plastic waste being processed by plants in China or the South-East Asia region. At the same time, the carbon balance of such waste management did not include the emissions of greenhouse gases and other pollutants which result from the shipment of waste from Europe, North America or Australia to China. If it had, this kind of plastic waste management could be considered neither ecological, nor sustainable. The decision of the Chinese government also showed that China's efforts to improve the quality of its own environment can have an immediate impact on the environmental practices and policies of the rest of the world.

or regeneration (Xie & Pan, 2018, pp. 30-36) (wetlands, nature reserves and other areas important to biodiversity). The key criterion here is sustainability, rather than GDP growth. On an economic level, the ecological civilization is about achieving a stable state economy (Pan, 2014, pp. 147-164) a high level of recycling (the "circular economy") and a low-carbon economy. It also ties in with the concept of ecological security, a national security policy priority (Pan, 2014, pp. 124-127). Overall, the ecological civilization is aimed at resolving the contradiction between development and further pollution and environmental degradation.

Ecological civilization as a philosophical concept

Philosophically, this concept contains elements of several "western" concepts (sustainable development, eco-Marxism), but also integrates a number of traditional concepts in Chinese philosophy concepts. It can even be seen as part of the renaissance in traditional Chinese ways of thinking and of interpreting the world, especially the conscious allusion to several concepts in Confucianism,[12] Taoism and Chinese Buddhism (see e.g. Lu, 2017). It has been noted that the western concept of anthropocentrism which posits man against nature has never been popular with traditional Chinese philosophical movements, where the emphasis has been on the image of man as part of nature[13] and the search for harmony—harmony between mankind and nature and between the individual and society.[14] However, criticism has been voiced about the philosophical foundations of ecological civilization, noting that this interpretation of the Chinese philosophical tradition ignores the extent of environmental devastation associated with the Chinese agrarian civilization (see also Elvin, 2004; Roetz, 2013; Hansen, Li, & Svarverud 2018; Ponting, 2008).

Notwithstanding this, the ecological civilization "is defined by its aim of making civilization, as a social formation, consistent with the repair and ongoing renewal of the biosphere" (Mathews, 2013, p. 2). It is not the end of the existing civilization but its continuation, to one that is more developed than the industrial civilization, just as industrial civilization continued and superseded the agrarian civilization. Unlike in the agrarian and industrial civilizations, it is assumed that in the ecological civilization—paradoxically—there will be some kind of a "return" to the cosmology and anthropology of hunting and gathering societies.[15] In these societies humans and human communities saw themselves

[12] On the relevance of Confucianism in contemporary Chinese philosophical thinking and understanding China's ongoing social processes, see Bell (2008); Dunaj (2017) and Kögler & Dunaj (2018).
[13] There is not enough space here to compare the Western and Chinese approaches in any detail and nor is that the aim of the study. At the risk of greatly simplifying the issue, it can be argued that the difference between the two approaches can be traced back to the ontological or cosmological basis of both narratives.
[14] The social (or rather socio-political) dimension of ecological civilization is as important as the economic and environmental dimension. Ecological civilization is both a critique of the existing global economic and political system and an effort to formulate a vision of a social order that could replace the current one, described by some Western scholars as a "corporatocracy", Gare (2014a); Gare (2014b); Ahearne (2013); Gare (2019). The ecological civilization therefore has much in common with political ecology and social ecology.
[15] If, however, both the traditional Chinese ontology and current Chinese image of the world had not distinguished so sharply between man and nature, as seen in the basic spiritual sources of western

as being part of nature not in contradistinction to it—they were aware of their existential dependence on the state of the ecosystems in which they lived. Reflecting current knowledge of the Earth and evolution, the concept of ecological civilization entails a cosmology based on ecological (evolutionary, symbiotic) concepts, not economic, theological or geopolitical thinking. This understanding is based on the ways in which communities (not exclusively human) transform their environment to extend the preconditions of their existence, but also takes into consideration the limits which these environments place on such communities (Gare, 2017, p. 141). In other words, individual entities (physical, economic, political) are inseparable from the (planetary) environment, both theoretically and practically. However, in traditional concepts of civilization, man was distinct, or separate, from nature and civilized citizens were to be contrasted with wild barbarians, walls were erected, and boundaries and spheres of influence created.

However, the concept of ecological civilization implies a paradigmatic change in how science, or the sciences, or at least the sciences of man and society, are understood. Ecology will replace physics (and its application in mechanics) as the model of science (and the interpretative frameworks of society, politics and economics). This is based on the understanding that the evolution of the ecosystem is based on symbiosis rather than the struggle for survival.[16] Therefore the determining principle is not competition or even (competitive) struggle, but mutually beneficial cooperation. This applies to ecosystems and to every single organism. The human organism is the result of the symbiosis of billions of cells and bacteria, not of any mechanical connection, nor of individual cells and bacteria behaving selfishly to the detriment of others. It therefore requires a complex regulatory system, and any organism lacking such a system would quickly experience internal disruption. From this perspective, society—including the economy—should then be seen as a series of highly integrated organisms operating within the planetary ecosystem. No society, not even one of its subsystems such as the economy, can function or even compete with ecosystems in the long run. The idea that man is juxtaposed to nature (i.e. the environment), the basis of the current industrial civilization paradigm, is therefore a key problem that the concept of ecological civilization seeks to overcome.

Contradictions and weaknesses in the concept

Despite its apparent clarity, the concept nonetheless suffers from a number of contradictions and weaknesses. Firstly, the dominant version of the concept of ecological civilization does not question the need for continued economic growth and global trade. In other words, ecological civilization is not meant to replace the current world of commerce, but should be a commercial civilization as well (Hansen, Li, & Svarverud, 2018, p. 196). It thus assumes

civilization such as the Homeric epics or Old and New Testaments, then the "return" thesis is not adequate. It would be an extension or updated version of the motif that has always been at least implicitly present in the Chinese image of the world and man. However, this raises the question of how we might apply or at least accept a concept based on such a different ontology in western civilization.

[16] This is one of the fundamental hypotheses in J. Lovelock's concept of Gaia (Lovelock, 2006; Lovelock, 2014).

that the eternal contradiction between economic development and socio-environmental sustainability can be overcome.[17] It relies on the idea that global civilization is based on growth, production and trade, all of which are dependent on finite natural resources. The ecological civilization will be born out of technological and scientific development, political planning and implementation, and out of a deepening ecological awareness among the population. This raises the question as to whether the concept of ecological civilization is not just another version of technological optimism or utopianism. Most western environmental concepts are limited to the idea that all industrial, commercial and consumer activities should be curtailed, as they are the primary cause of the exploitation and processing of raw materials that causes pollution and environmental degradation.[18]

The concept of ecological civilization also recognizes the need for a conscious change in consumption habits and for individuals and society to reduce their "ecological footprint" encouraged through a combination of systematic education, public policies and information and media campaigns promoting environmentally sustainable patterns of consumption (Pan, 2014, pp. 165-179).[19] But here we come up against another of the key problems or contradictions in the concept of ecological civilization. China is trying to reduce its dependence on exports by promoting domestic consumption. The growing purchasing power of the Chinese population can already be seen in the fact that the Chinese market is becoming increasingly important to the automobile industry, luxury goods manufacturers and services, such as those related to the tourism industry. But tourism already accounts for 8% of global greenhouse emissions and is linked to much of the environmental degradation and social disruption in mass tourism destinations. The tourism industry also has the fastest growing greenhouse gas emissions (Lenzen et al., 2018), and the rising demand for travel among China's growing middle class will only exacerbate this.

This creates a further contradiction, as there is a strong assumption that reducing greenhouse gas emissions and the overall level of environmental degradation cannot be achieved without constraining or perhaps even radically restricting consumption, including the freedom to travel, which is a very important aspect of the acceptance and legitimacy of the existing economic and political system (and not just in China), as well as the freedom to conduct business. Assuming that the ecological civilization will lead to more freedom, it is perhaps somewhat overoptimistic to expect decentralization and the greater participation of all sections of society in the decision-making processes (Gare, 2017). Even the increasing disparity between the growing population and the dwindling resources and increasingly severe consequences of climate change will lead to restrictions on consumer freedom if basic needs – water, food, clothing and shelter – are to be met for all (see Sťahel, 2016). According to M. Beeson, the continued degradation of the environment will increasingly jeopardize

[17] For more on this contradiction, see the issue of *Civitas* (v. 19, n. 2, 2019) edited by M. Hrubec (2019b).

[18] For one of the most radical concepts, which questions the very purpose of the concept of sustainable development see Lovelock (2014). For a critique of sustainable development concept, see also Sklair (2019); Suša (2019); Sťahel (2019) and also Maxton (2019).

[19] M. Hrubec (2019b) also points out the need to identify potential ways out of the global environmental crisis, including via an environmentally sustainable society.

the stability of the existing political regimes. As food and water shortages caused by climate instability begin to take effect, Beeson argues that increasing numbers of regimes will resort to environmental authoritarianism (Beeson, 2010) in an attempt to maintain at least some degree of public order. B. Gilley argues that China's policy to mitigate the effects of climate change and prepare for the far more serious environmental and social consequences of climate change bear all the hallmarks of what Beeson terms environmental authoritarianism (Gilley, 2012). It is also evident that China is trying to steer urbanization processes by building cities designed with climate change in mind. However, this often requires the forced resettlement and control of the population through a series of commands and prohibitions (Chen & Lees, 2018). However, it is also clear that if the Chinese population demands the same level of consumption or consumer freedom as the populations of Europe and North America, the global ecosystem will collapse within a few decades at the earliest.

Conclusion

China's approach to the environmental crisis will undoubtedly be crucial for coping with the issue, both in terms of China's population and the size of its economy. China's concept of ecological civilization is a subtle theoretical and practical attempt to solve the problem of environmental devastation. It is unique in that, unlike many Western environmental concepts, it has already become a constitutional principle and been incorporated into several public policies in China. From this point of view, the key question is not whether the main premise of the concept of ecological civilization can be found in China's classical thinking, as some Chinese scholars have suggested, but whether it can be put into practice in China. The example of the impact of the ban on importing plastic waste on the worldwide system of waste separation and processing shows that national environmental restrictions on some types of business can have global consequences. At the same time, it is obvious that implementing policies inspired by the ecological civilization concept requires a certain level of administrative capacity and strong political will if environmental protection is pursued over other interests. However, the contradictions in this concept discussed in the last section of this study raise doubts as to whether this concept will enable us to resolve the contradiction between economic and social development and the increase in pollution and environmental degradation.

References

Ahearne, G. (2013). Towards an ecological civilization: A Gramscian strategy for a new political subject. *Cosmos and History: The Journal of Natural and Social Philosophy*, *9*(1), 317-326.

Allison, G. (2018). *Destined for war. Can America and China escape Thukidide's Trap?* New York: Mariner Books.

Basso, L., & Viola, E. (2014). Chinese energy policy progress and challenges in the transition to low carbon development, 2006–2013. *Rev. Bras. Polít. Int. 57* (special edition), pp. 174-192. Retrieved from http://dx.doi.org/10.1590/0034-7329201400211

Beeson, M. (2010). The coming of environmental authoritarianism. *Environmental Politics*, *19*(2), 279-294.

Bell, D. (Ed.) (2008). *China's New Confucianism*. Princeton: Princeton University Press.

Dunaj, Ľ. (2017). The inner conflict of modernity, the moderateness of Confucianism and critical theory. *Human Affairs, 27*(4), 466-484. DOI: 10.1515/humaff-2017-0038

Elvin, M. (2004). *The retreat of the elephants. An Environmental History of China.* New Haven and London: Yale University Press.

Gare, A. (2014a). Deep Ecology, the Radical Enlightenment, and Ecological Civilization. *The Trumpeter*, *30*(2), 184-205.

Gare, A. (2014b). Colliding with Reality. In: *Journal of Environmental Thought and Education*, *7*, pp. 52-59.

Gare, A. (2017). From 'Sustainable Development' to 'Ecological Civilization': Winning the war for survival. *Cosmos and History: The Journal of Natural and Social Philosophy*, *13*(3), 130-153.

Gare, A. (2018). Ethics, philosophy and the environment. *Cosmos and History: The Journal of Natural and Social Philosophy*, *14*(3), 219-240.

Gilley, B. (2012). Authoritarian environmentalism and China's response to climate change. *Environmental Politics*, *21*(2), 276-294.

Goron, C. (2018). Ecological civilization and the political limits of a Chinese concept of sustainability. *China Perspectives, 26*(4), 39-52.

Hansen, J. et al. (2015). Ice melt, sea level rise and superstorms: evidence from paleoclimate data, climate modelling, and modern observations that 2 °C global warming is highly dangerous. *Atmospheric Chemistry and Physics*, *15*, 20059–20179. Retrieved from http://www.atmos-chem-phys-discuss.net/15/20059/2015/acpd-15-20059-2015.pdf

Hansen, M. H., Li, H., & Svarverud, R. (2018). Ecological civilization: Interpreting the Chinese past, projecting the global future. *Global Environmental Change*, *53*, 195-203. Retrieved from https://doi.org/10.1016/j.gloenvcha.2018.09.014

Harris, J. (2011). Going green to stay in the black: Transnational capitalism and renewable energy. *Perspectives on Global Development and Technology*, *10*(1), 41-59. DOI: 10.1163/156914911X555099

Harris, J. (2014). Can green capitalism build a sustainable society? *Perspectives on Global Development and Technology*, *13*, 43-60. DOI: 10.1163/15691497-12341288

Harris, J. (2016). The transformation of capitalism and the limits of democracy. In J. P. Arnason & M. Hrubec (Eds.), *Social revolution and transformation. Reflections and analyses* (pp. 56-75). Edinburgh: Edinburgh University Press.

Harris, J. (2019). Can China's green socialism transform global capitalism? *Civitas*, *19*(2), 354-373. Retrieved from https://doi.org/10.15448/1984-7289.2019.2.31792

Hrubec, M. (2019a). Social and environmental conflicts or sustainable development? *Civitas*, *19*(2), 281-295. Retrieved from https://doi.org/10.15448/1984-7289.2019.2.33782

Hrubec, M. (2019b) (Ed.). Thematic issue: Desenvolvimento sustentável? Conflitos sociais e ambientais. Sustainable development? Social and environmental conflicts. *Civitas*, *19*(2), DOI: http://dx.doi.org/10.15448/1984-7289.2019.2

Chen, G. C., & Lees, C. (2016). Growing China's renewables sector: a developmental state approach. *New Political Economy, 21*(6), 574-586. DOI: 10.1080/13563467.2016.1183113.

Chen, G. C., & Lees, C. (2018). The new, green, urbanization in China: Between authoritarian environmentalism and decentralization. *Chinese Political Science Review*, *3*(2), 212-231. Retrieved from https://doi.org/10.1007/s41111-018-0095-1

Im, E-S., Pal, J. S., & Eltahir, E. A. B. (2017). Deadly heat waves projected in the densely populated agricultural regions of South Asia. *Science Advances*, *3*(8), e1603322. DOI: 10.1126/sciadv.1603322. Retrieved from http://advances.sciencemag.org/content/3/8/e1603322

Jiang, B., Bai, Y., Wong, Ch. P., Xu, X., & Alatalo, J. M. (2019). China's ecological civilization program – Implementing ecological redline policy. *Land Use Policy*, *81*, 111-114.

Kögler, H.-H., & Dunaj, Ľ. (2018). Beyond ethnocentrism: Towards a global social theory. In A. K. Giri (Ed.), *Social Theory and Asian Dialogues* (pp. 69-106). Singapore: Palgrave Macmillan.

Lenzen, M., Sun, Y-Y., Faturay, F., Ting, Y-P., Geschke, A., & Malik, A. (2018). The carbon footprint of global tourism. *Nature Climate Change*, *8*, 522-528. DOI:10.1038/s41558-018-0141-x

Lovelock, J. (2006). *The revenge of Gaia: Why the Earth is fighting back – and how we can still save humanity*. Santa Barbara (California): Allen Lane.

Lovelock, J. (2014). *A rough ride to the future*. New York: The Overlook Press.

Lu, Sh. (2017). *The ecological era and classical Chinese naturalism: A case study of Tao Yuanming*. Singapore: China Academic Library, Springer.

Mathews, F. (2013). Can China lead the world towards an ecological civilization: A Manifesto. *Journal of Nanjing Forestry University*, *2* (in Chinese translation). Retrieved from http://www.freyamathews.net/images/china-lead-world-ecological-civilization.pdf

Maxton, G. (2019). *Change! Why we need a radical turnaround*. Retrieved from http://www.graememaxton.com/admin/resources/MaxtonChangeJulv1.pdf

Myllyvirta, L. (2018). China ozone pollution levels hit record high amid industrial output surge. *Unearthed*, 18.07.2018. Retrieved from https://unearthed.greenpeace.org/2018/07/18/china-ozone-air-pollution-is-getting-really-bad/

Pan, J. (2014). *China's environmental governing and ecological civilization*. Beijing: China Social Science Press and Springer-Verlag GmbH.

Park, Ch-E., Jeong, S-J., Joshi, M., Osborn, T. J., Ho, Ch.-H., Piao, S., Chen, D., Liu, J., Yang, H., Park, H., Kim, B-M., & Feng, S. (2018). Keeping global warming within 1.5 °C constrains emergence of aridification. *Nature Climate Change*, *8*, 70-74. DOI:10.1038/s41558-017-0034-4

Ponting, C. (2008). *A new green history of the world: The environment and the collapse of great civilizations*. Penguin Books.

Roetz, H. (2013). Chinese 'Unity of Man and Nature'. In C. Meinert (Ed.), *Nature, environment and culture in East Asia: The challenge of climate change* (pp. 23-39). Leiden: Brill.

Sklair, L. (2019). The corporate capture of sustainable development and its transformation into a 'good Anthropocene' historical bloc. *Civitas, 19*(2), 296-314. Retrieved from https://doi.org/10.15448/1984-7289.2019.2.31970

Sťahel, R. (2016). Environmental limits of personal freedom. *Philosophica Critica*, *2*(1), 3-21.

Sťahel, R. (2019). Sustainable development in the shadow of climate change. *Civitas*, *19*(2), 337-353. Retrieved from https://doi.org/10.15448/1984-7289.2019.2.31971

Sun, H., Wang, A., Zeng, X., Wang, G., Tao, H., Gemmer, M., Li, X., & Jiang, T. (2018). Drought losses in China might double between the 1.5 °C and 2.0 °C warming. *PNAS*, *115* (42), pp. 10600-10605. Retrieved from www.pnas.org/cgi/doi/10.1073/pnas.1802129115

Suša, O. (2019). Global dynamics of socio-environmental crisis: dangers on the way to a sustainable future. *Civitas*, *19*(2), 315-336. Retrieved from https://doi.org/10.15448/1984-7289.2019.2.31969

UN (2015). *Framework convention on climate change (Adoption of the Paris Agreement)*. Retrieved from https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf

WMO (2019). The state of greenhouse gases in the atmosphere based on global observations through 2018. *WMO Greenhouse Gas Bulletin*, *15*, 25 November 2019.

Wei, X. (2010). *Rethinking China's economic transformation*. Global Scholarly Publications.

Xie, Z., & Pan, J. (2018). *China's road of green development*. Beijing: Foreign Language Press.

Zhang, X., Chen, X., & Zhang, X. (2018). The impact of exposure to air pollution on cognitive performance. *PNAS*, *115* (42), pp. 9193-9197. Retrieved from www.pnas.org/cgi/doi/10.1073/pnas.1809474115

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