Society, economy or environment – Which dimension counts most in China's sustainable development?

By Benjamin Steuer

For China's future development, the United Nations' sustainable development (SD) concept and its respective goals (SDGs) play a crucial role. The reason is founded in the country's fast economic modernisation, which has since the early 1980s taken an enormous toll on natural resources and the environment. When assessing the current status of China's SD, the environmental record is quite dramatic: Consuming 50% of global coal, China has become the single largest generator of air pollutants in the world (Ahlers and Hansen, 2017, 84), with air pollution in 254 of 293 prefecture-level cities exceeding the already relatively low domestic PM2.5 standards (Zhang et al., 2019). Key water reservoirs and rivers are severely polluted with 60% of groundwater in China having deteriorated below benchmarks considered fit for human consumption in 2013 (Zhu et al., 2015, 26). Furthermore, the country suffers from a shortage of energy carriers as well as mineral resources. Measured in relative, per capita average, China only enjoys 43% of global mineral reserve availability (Zhu, 2008, 13). This in turn explains the need for such large material import volumes of cement, coal, aluminium and copper, which in 2013 amounted to 61%, 53%, 49% and 44% of global consumption, respectively (Zhu et al., 2015, 24).

To counter these challenges, the central government has gradually adjusted its developmental model: Partly in alignment with and drawing inspiration from international concepts, partly via innovating domestic environmental governance concepts. So while China actively engaged with the United Nation's programme towards SD since 1992 (Yi and Liu, 2015, 13), the country's leadership formulated its own sustainability governance concepts: the Harmonious Society (hexie shehui和谐社会) stresses the role of policy to address conflicts emerging between society and the environment (Heilmann, 2016, 33f); the Ecological Civilisation (shengtai wenming 生态文明) strives to shift society's development on a resource-saving and environment-friendly path (Zhu and Gao, 2014, 873f); and the Green Transformation (Lüsehua 绿色化) strives to redirect economic growth towards a sustainable trajectory (SC, 2016, art.1, sect.1). In terms of actual policy programs that directly impacted China's SD, the Circular Economy (CE) is the most outstanding project up to date. The CE, conceptualised in the West, aims at a "realization of [a] closed loop material flow in the whole economic system" (Geng and Doberstein, 2008). Therefore products, components, and materials need to be kept in use as long as possible for extending their value (Albuquerque et al., 2019), whereas waste and resource use are to be minimized. However convincing the concept may appear, there is substantial criticism regarding its complete realisability as well as its environmental and social sustainability (Korhonen et al., 2018; Giampietro and Funtowicz, 2020): Ultimately, the CE continues committing to the idea of economic growth as key element propelling the development of national systems. Nevertheless, or possibly because of this logic, the CE and its central principles reduce, reuse, recycle have found their way into China's policy framework. As early as 1992, the concept was used to initiate an overhaul in industrial operations particularly aimed at raising the resource efficiency in the economy. The strong economic orientation of the concept became codified in China's very own CE law, categorising the CE as principally economic and only secondary environmental in nature (Zhu, 2008, 2; NPC, 2008, art.3). This not only differentiates China's CE from applications in the west, but also underscores China's determined hierarchy of the SD dimensions: Environmental and social sustainability are clearly subordinated to economic sustainability.

Achievements and shortcomings of sustainable development in China

To evaluate SD achievements in China two basic views are feasible. Firstly, from a regulatory perspective, the number of laws, regulations and directives is indicative of national ambitions towards a systemic transformation. Here, legal developments at the national level have sent strong signals in environmental protection. Since the early 1990s, the number of issued regulations has grown significantly with over 600 legal stipulations being issued in 2014 alone (www.pkulaw.com). This figure yet excludes an additional 50 rules issued in the same year on matters pertaining to resource conservation, waste management and the CE. While these numbers impress, they come with two caveats: Firstly, there were no codified legal efforts to protect the environment before the late 1980s, which renders the recent institutionalisation as a catching up process. Secondly, the proper implementation of regulations is crucial and has in the field of environmental protection too often been superseded by local, GDP oriented interests. The second approach for assessing China's SD is to look at official figures and data. This perspective is however tainted by reliability issues and inaccuracies inherent in official statistics on the economy (Orlik, 2014, 307f) as well as domains of the environment (Geng et al., 2012, 222f).

Keeping these factors mind, the country has yet mastered significant advancements in various domains. Renewable energy is a notable example, as China's 2018 share was 12.7% in domestic total primary energy consumption, which ranks only slightly below the EU's 14.1% (Hove, 2020). On the broader scale of the SDGs, national measurements between 2000 and 2015 indicated an aggregate improvement in respective index scores of about 21.9% (Xu et al., 2020). While most SDG related performances improved, particularly SDG 9 (industry, innovation and infrastructure – index score increase by 25), SDG 10 (reduced inequalities – index score increase by 25), and SDG 17 (affordable and clean energy – index score increase by 22), some showed a decline or even decreased, i.e. SDG 14 (life below water – index score decrease by 15), SDG 12 (responsible consumption and production – index score decrease by 7), SDG 5 (achieve gender equality – index score decrease by 3) and SDG 13 (climate action – index score decrease by 1). Many of the instances where SD was impaired or stalled can be traced back to low resource efficiency, unsustainable economic activities and severe pollution (Xu et al., 2020). Similar findings are reported at the city level, where a decoupling of economic growth from pollutant emissions has not been achieved despite significant investments above GDP growth rates (Sun et al., 2017). In regard to the CE, macro figures initially point to impressive outcomes. For example, the number of Eco-Industrial Parks (EIPs), industrial estates where companies symbiotically exchange effluents and waste to replace primary resources as feedstock, has grown from zero (2000) to about 160 (2019). This transformational approach to curb energy consumption and greenhouse gases in traditional parks has entailed substantial benefits in resource use savings as well as a reduction in industrial waste per company. However the overall trend still indicates growing levels of resource consumption in EIPs (Hong and Gasparatos, 2020). Worrying in this context is the low resource productivity (the monetary yield per unit or resource consumed) in China. While GDP and raw material consumption have been growing in tandem, the efficiency of material use, i.e. material resource productivity , has hardly improved since 2007 (WU Vienna, 2019). So in order to achieve a certain level of circularity under these conditions, China would need to have a strong resource recovery system. Yet here again official figures only document weak improvements: From 1995 to 2015, the share of recovered materials reprocessed and fed in production merely rose from 2.7% to 5.8% (Wang et al., 2020). What makes matters worse are shortcomings in official policy regarding

pre-existing recovery networks. The informal recycling system, which features an effective division of labour providing a constant supply of post-consumer secondary materials, has mostly been met with official prohibition than with efforts of integration in China (Steuer et al., 2018). This stands in stark contrast to approaches in India, Africa and Latin America, where local governments opted for alternative, more integrative approaches.

A verdict on the political future for sustainable development in China

When taking stock of China's past efforts to promote SD, there is little doubt that the political leadership will further accelerate this program in the near future. At the same time, however, it is unlikely to expect a balanced approach that equally promotes all three dimensions of sustainability. Rather, the China's Communist Party (CCP) will initially continue to promote economic growth and gradually shift the focus to enhancing environmental soundness . While similar approaches are adopted by governments in the West, particularly those in the EU subscribing to the CE, however for the CCP's prioritising growth boils down to safeguarding its political legitimacy and systemic survival. Traditionally, that is since economic reforms in 1978/79, political legitimacy essentially depended on the party's capacity to foster economic growth, thereby improve people's livelihood and, ultimately, social stability. However, China's extremely rapid and simultaneously resource- and pollution-intensive growth has deteriorated its ecosystem to a degree that the prospects for continued socio-economic stability are substantially jeopardised. Weighing political needs against increasing environmental limits, it is most likely that the CCP will slowly, but steadily shift the national SD focus towards the environment so as to preserve the basis for the economic, political and social stability of China.

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