

Sustainable Development of China in Research into Water Resources

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Opinion

Water resources are generally known to be important to human existence, social development and economic prosperity. Just 29.9% of all the world's freshwater resources are groundwater and only 0.26% is concentrated in lakes, reservoirs and water systems. The greater part of the ice and permanent snow cover is excluded from usage by humans and is therefore excluded. The world's population has grown to 7.5 billion with significant economic expansion, with the usage of the existing, if limited, freshwater resources. However, in the long run there will be a multitude of water-related concerns due to climate change, population increase and an excessive economic development.

In practically every part of the globe water pollution, water shortages, and many other water issues have occurred, which the public and professional have taken great care of. In arid and semi-arid development nations, water concerns are of particular concern, many of which are spread along New Silk Road routes. These nations of the Silk Road have a long tradition of water shortages and mismanagement of water resources and the situation may get worse as a result of climate change and rising human activity. One such country, China, is faced with increasing water stress, a worldwide concern due to China's growing economic and environmental links to the rest of the globe. Water resources are ubiquitous across China, which makes it very important for the Chinese economy to expand very carefully, fully recognising the fragile environment and the necessity for strong scientific studies and trustworthy information.

For two decades, the 2000 West Development Program delivered much-needed investment to Western China's dry and semi-arid provinces. Regrettably, those arid western areas are extremely susceptible to human activity and climate change, generating worries about water supply water quality degrading, the sustainability and the possibility of soil and water damage. In addition to the overexploitation of waters resources and eastern and north of China, such as North China Plain and the Su-Xi-Chang region, result in intrusions to the sea, ground deterioration and earth cracks.

Nor is there any encouragement for the situation in southern China. Climate changes and economic growth in some parts of Southern China have frequently caused drought and water pollution and posed threats to water resources sustainability. Faced with such issues, the government and its scientists have already taken steps to safeguard water quality, quantity and

ameliorate the climate and human activities water crisis. At the national level, the government has issued several rules and guidelines since 2010 and has established a series of policy objectives and priorities to protect national water quality, such as the National Plan for Preventing and Control for Groundwater Pollution and the revised Environmental Impact Assessment Technical Guidelines.

Since 2009, the Central Government has also introduced the Strictest Water Resources Management System for sustainable water usage. This is considered a strategic step towards balancing between the interests of various water users. Water pricing, although, has certain inconveniences and is highly impacted by external, social and economic factors, is a viable and effective socioeconomic instrument for managing and assigning water resources. In order to better balance demand and supply, the Chinese water pricing structure is being turned into a water fiscal framework. Hebei was the first transformation pilot province to start in 2016, expanding by the end of 2017 into nine additional autonomous provinces. In addition, China has completed large-scale engineering projects to balance water needs in diverse areas and industries, the South-to-North Water Diversion and the Three Gorges Dam project of which is most well-known.

In fact, these megaprojects reduced to some extent the water situation, even if scholars have differing views on its environmental and environmental implications. Researchers also conducted several researches on water resources that strengthened the country's ability to adapt to climate change and address the water problem. A dualistic water cycle hypothesis provided by Wang and Jia highlighted the importance of human activity in the regional water cycle. This gives a good theoretical basis to address Chinese difficulties with water resources. However, two key water challenges are more researched: water contamination and shortage of water.

As for water contamination, the reports of Hou, Li and Nathanail show that in 17 Northern Provinces, approximately 80 percent of the groundwater monitoring wells had poor or extremely low quality water, unfit for residential use. Groundwater remediation is developing business that will treat more than one million polluted sites. Chinese water environment issues and trends were identified: 'Water pollution in China has extended from point to point, from fresh water to coastal water and from surface to ground water.' 'Water pollution has spread in China. With regard to water shortage, it contributes to and addresses future difficulties.

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