Why China has taken a lead over India in farm production

While India is still dithering over measures to regulate groundwater abstraction, China has taken tough measures such as the Three Red Lines water policy to curb water use.
While China and India walked abreast on agriculture till the early 1990s, China has taken substantially longer strides since, whether it is in grain yield enhancement or growth in agricultural capital formation or maintaining trade surplus with roughly about half on average per capita the farm holding as India (1.2 hectares as compared to about 0.6 hectares in China). How is the miracle happening?

It can be attributed largely to China’s commitment to improve agricultural resource administration, especially with respect to on-farm irrigation water management. Globally, China stands with the largest irrigated area (69.1 as compared 67 million hectares in India). But to cope with such demand, China has made concrete moves to adopt advanced water-saving technologies. At present, 48% of irrigated area in China has micro-irrigation systems (drip/sprinklers) that make optimal use of water.

This officially begun with China’s 12th Five Year Plan (FYP) that saw more than RMB139 billion irrigation investment to equip 7.5 million hectares with highly efficient water-saving irrigation support. At present, the 13th five year plan aims to bring at least 64% irrigated area under it by 2020 and 75% by 2030. China began regulating the irrigation water quota (volume of water per unit irrigated area) with strictest norms as early as the 1990s.

In China, the private sector has begun pitching in through third-party services or public–private partnerships (PPP). The China Development Bank recently announced a RMB500 billion loan to water resources projects for the tenure of the 13th FYP. Between 2005 and 2014, China had already spent RMB2.3 trillion on water infrastructure initiatives, 44.7% of which were spent on bolstering water diversion and irrigation projects alone. In contrast, our NITI Aayog has from 2016 begun to welcome private financing in micro-irrigation support.

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Fundamentally, China’s radical adoption of water-saving irrigation ensues from inherently higher irrigation water use efficiency (the percentage of water applied and actually taken up by crops). With current average efficiency at 0.53 (up from 0.44 in 2004) China leaps way forward of India (barely 0.30).

In both countries, the lion’s share of annual water withdrawal goes to irrigation while both suffer from acute water shortages that threaten the livelihood opportunities of millions. While India is still dithering over measures to regulate groundwater abstraction, China has taken tough measures such as the Three Red Lines water policy to curb water use, increase water use efficiency and reduce water pollution risks. What similar measures has India undertaken?

Another bold step forward is to enact a stringent water tariff system to regulate withdrawal-to-consumption ratio. In 2016, the Chinese Council rolled out 10 mutually reinforcing programmes to moderate water wastage in the country. This is complemented by the Water Rights Exchange policy (equitable sharing/trading between different sectors) and clean energy sources. On the latter, while China is rapidly moving towards solar-/wind-powered irrigation facilities that serve dual purposes — cutting down on low-quality on-farm electricity supply services (a major concern in India) as much as adhering to future emission reduction targets — electric-/diesel-powered pump-sets are rampant in India, causing huge air quality concerns.

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China instituted its Water Resources Fee structure as early as in 1988 (the same as the European Union). In water over-extracted regions, the fee is doubled and in severely over-extracted regions, tripled. In the more recent Water Tax Interim Measures (2016), there are provisions to enforce five times higher fee in over-
extracted regions. Where do we stand? Still encouraging rampant electricity pilferage and establishment of a rural groundwater market (where poorer farmers depend on wealthier ones for infrastructure support and get exploited in turn)?

Of course, enforcing stringent measures is tougher in a democratic framework. Especially when they are politically disavowed as ‘violating’ fundamental human rights. It is good to note that the recent Union Budget attempts to boost agricultural machinery. But appallingly, with just a little more than 12% of our irrigated area under micro-irrigation, 15 states under constant drought alerts, groundwater levels dropping in 14 states, expanding desertification, agricultural input costs on a steep ascent and percentage agricultural GDP on a steady downward spiral, it will be an uphill task to look China in the eye. It’s time to take a committed stand on subjects such as taking agriculture permanently off electoral equations, to begin with, and enhancing the power grid with renewables.

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The views expressed are personal

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