

High science with low development

Promising the moon with tech dreams while ignoring human development leaves India at the mercy of the mob



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On our 72nd Independence Day, Prime Minister Narendra Modi announced that by 2022 we may expect the Tricolour to be unfurled in space. Even as he was announcing this from the ramparts of Red Fort in New Delhi, parts of the country were faced with flooding, due partly to water released from dams following exceptional rain. Previously we had witnessed lynchings, mostly over a wide swathe of north India from Uttar Pradesh to Jharkhand but not entirely absent in the south. Mobs had attacked persons either on their own or in small groups, with the victims in every case having been unarmed and acting without any provocation. The victims have been Dalits and Muslims engaged in the cattle trade, middle-aged single women accused of witchcraft, and migrant labourers allegedly trafficking in children. It is not difficult to see a majoritarianism in this as the victims are from the most marginalised sections of the country, left without protection by the state.

These incidents are incongruous with the claim of India being a long-lived civilisation, but it is the incongruity of such outcomes with democracy that holds out some hope for ending them. For while civilisational norms may place restrictions on individual action, democratic norms singularly protect the individual's inalienable right to life and liberty and place upon the state the responsibility of advancing it. Coercion in any form may

be allowed only of the state, and the Indian state must now be called upon to discharge its bounden duty. The governance imperative in a democracy does not end with promoting the ease of doing business.

The democratic agenda

Emphasising a space programme as an objective while failing to highlight the multiple failings of public policy in India makes a mockery of the democratic project, the principal object of which is the creation of enabling conditions for a valuable life. These conditions result from protecting natural capital, building public goods in the form of physical infrastructure, providing a public education and health service, and creating institutions that support individual aspirations. This is the democratic agenda. It is not obvious from their actions that the majority of India's political class is even aware of its centrality to their legitimacy. That in a democracy we elect a government to implement this agenda is not negotiable. When political parties pursue projects that evoke national prestige in the form of space missions, they mask the principal task for which they have been elected in the first place, which, it bears repeating, is to enable people to lead flourishing lives.

The pursuit of high science by the Government of India had started quite early after 1947 when it embarked on a programme of harnessing nuclear energy for peaceful purposes. The Atomic Energy Commission was formed and treated with reverence. The difference this has made to the power situation in the country is not clear. Independent experts at the Indian Statistical Institute point out that nuclear power is costly.



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But we also know that the alternative – of burning coal – is not just polluting but contributes to global warming and climate change, with catastrophic consequences. However, we need to rely neither on nuclear power or fossil fuel, for we have abundant sunlight in India and some wind power. And the cost of generating solar power is reducing rapidly due to advances in storage technology. The only question is whether we have a science policy that is focussed enough to monitor and exploit these trends and a government machinery that is both motivated and adept at facilitating a mass transition to cleaner fuel. Such transitions are not easily made and require the guiding hand of our elected representatives. Private agencies just do not possess the incentive or legitimacy needed.

The enchantment with high science, as opposed to a science and technology that serves our needs, that had imbued public policy in the early days of the republic is not hard to understand. India was then emerging from colonial rule, which had involved not only economic exploitation but also a disdain for the Indian way of life. The imperialist's trope had been to point to the superiority of the metropolis by way of its scientific accomplishments. While this

may have been a historical reality, it is worth reflecting upon whether the public policy of post-colonial India should have been guided by a knee-jerk nationalism. A space mission when India faces more urgent challenges is just that. Today, after 71 years we have the hindsight to see this, and we should take advantage of it. India's science and technology policy should now be re-oriented to improve the lives of Indians.

Tethered to the farm

An example of such a role for science was the launching of the Green Revolution in the mid-1960s. In a matter of less than a decade a precarious economy the size of a subcontinent was transformed into one self-sufficient in food. While the role of global knowledge in the form of biotech and American philanthropy in the form of funding was significant, there was also a national movement of sorts. The Green Revolution was achieved through a rare combination of scientific leadership in the agricultural sector, administrative ability and political acumen, but above all by the genius of India's farmers.

We have not seen national will on a similar scale since. This when we urgently need an agricultural initiative comparable in its transformative capacity today. Indian agriculture has performed more erratically than usual in the past decade. Given the scale of the public science and technology apparatus in India, especially of agricultural research institutions, there is a visible lack of response to this situation, if not crisis. Development economists recognise that the 'food problem' does not cease once a country is able to produce food in sufficient quantity. It is necessary to produce food at a cost

that is affordable to the mass of the population. It may be emphasised that this is fully compatible with a prosperous farming population. What is needed is an increase in the productivity of land. Despite the Prime Minister's claims in his speech of his government having delivered on farm price support, a rise in farm productivity requires more than the price mechanism; technology and extension services would matter.

A direct connection

It may appear odd to start out speaking of mob lynching and end by flagging the importance of agriculture. The connection, however, is not as tenuous as may be imagined as the former has mostly taken place in rural India. Bharat has benefited relatively less from a public policy with a penchant for high science. In the 1970s it had been fashionable to counter the charge of an 'urban bias' in Indian economic policy by pointing out that the Indian state was, after all, rewarding the agricultural sector with high and rising procurement prices. It was overlooked that the proportion of surplus farmers in rural India was very small in relation to its population. Today we are paying the price for a policy that generally neglected the majority of the rural Indians who more than anything else needed public services. Equipped with capability – through good health and awareness – the once marginalised would be vulnerable no more. Promising the moon by courting high science while ignoring human development leaves some Indians at the mercy of the mob and India's democracy diminished in our own estimation.

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