

Preface

For the past two decades, the Green Rating Project (GRP) has been at the forefront of improving the environmental performance of Indian industry. It has so far rated six major industrial sectors of the Indian economy—automobiles, pulp and paper, chlor alkali, cement, iron and steel, and thermal power. The fertilizer (urea) sector is the seventh to be rated by GRP.

The rating project takes pride in its many achievements over its two-decade long journey. Perhaps the most important of these has been the role GRP has played in making Indian industry more transparent, particularly when it comes to environmental matters. It can also take some credit for improvements in the environmental management and performance of the sectors it has rated. For example, GRP's work was critical in moving the chlor alkali industry away from the polluting mercury cell process to the more eco-friendly membrane cell process. In the paper sector, which was rated twice by GRP, the industry's performance improved remarkably with respect to water consumption and pollution, largely because of the push made by GRP to eliminate elemental chlorine bleaching. In the power sector, we advocated strengthening of the pollution norms that were enacted by the government in 2015. If these standards are met, it will reduce pollution from the power sector by half to two-thirds. In terms of reduction in the quantum of pollution, this counts among the biggest regulatory actions in the history of India.

The Indian fertilizer industry is one of the most important industrial sectors for the country. It directly touches the lives of millions of Indians farmers, the single largest community in India. Moreover, it is a vital link in food production, thus indirectly influencing the lives of every one of us.

Today, this industry stands at a crossroads. On one hand, it is one of the most energy-efficient sectors of the Indian economy; on the other, it has disregarded other environmental issues, in particular its water footprints and pollution. But these are less the failures of the companies themselves and more a result of a subsidy regime that incentivizes energy efficiency but disincentivizes good environmental performance. Besides, plant-level issues are minor compared to the real challenge that the sector faces.

The biggest issue it is grappling with is the very future of nitrogenous fertilizers. The industry has a significant role to play in addressing two major global environmental issues: nitrogen pollution and climate change. Production and use of fertilizers is a significant contributor to greenhouse gas emissions. Moreover, the world has breached the planetary limit for nitrogen, and the use of nitrogenous fertilizers is a major contributor in this. In fact, nitrogen pollution of surface and groundwater has reached alarming levels in many states of India. There is also widespread soil sickness due to imbalanced application of nitrogen fertilizers. To address these issues, the fertilizer industry will have to change the way it produces and sells fertilizers to farmers. The right steps need to be taken in this regard.

Firstly, Indian agriculture needs to graduate from the present practice of bulk application of fertilizers to a more precise supply of required nutrients. The industry needs to come up with new and innovative products to improve nitrogen use efficiency from the current 35–50 per cent

to more than 80 per cent. This will reduce urea consumption, improve soil health and efficiently increase yields.

Secondly, the production of nitrogen fertilizers will also have to shift from fossil fuels to renewables. It is interesting to note that electrolysis of water was a common means of producing hydrogen in areas with cheap power before hydrocarbon-based processes took over. The Fertilizer Corporation of India's Nangal plant employed electrolysis to produce hydrogen until it switched to hydrocarbons in the 1970s due to shortage of power in the Bhakra grid. Clearly, we have the technology to produce nitrogenous fertilizers without using fossil fuels. The falling costs of renewable energy will make this a fiscally feasible option. The Indian fertilizer industry needs to be geared up for these future developments.

But this industry is also one of the most tightly controlled sectors of the economy. For the fertilizer sector to take these steps, the government needs to change its fertilizer policy and bring a measure of decontrol in the industry. Decontrol will also make the industry more competitive. Competitiveness and innovation will be vital for the survival and growth of the industry in the 21st century.

We are thankful to all those who have supported and helped us in the present rating project, as well as in all our earlier ratings. It is to them, and to the dedicated work of our GRP team, that the credit goes for making GRP one of the best environmental audit projects in the Global South.

Sunita Narain
Chandra Bhushan