Bt Bit by Politics

The future of Bt technology hangs in balance with recent cut in royalties

India's recent notification of bringing down prices of Bt cotton by slashing royalty fees by 74% has spread confusion and discontent among the biotechnology firms operating in India. The move has considerably reduced India's desirability among the biotechnology firms in investing and introducing new technology.

The maximum sale price according to the notification will be reduced to Rs.800 (per 450gm packet) from Rs.830-1,000 earlier. The trait value or the royalty would be reduced by 74%, from Rs.163 per packet to Rs.43 (excluding taxes). The latest prices which will come into effect from the next kharif crop season, is expected to benefit 8 million cotton farmers in India. The announcement is a bid to appease the farmers rattled by two consecutive droughts and a general apprehension that Bollgard II has become ineffective against pink boll worm. A section is even asking for cutting off the trait value itself, as had been done with the Bollgard I. Bollgard II launched in 2006, with a stacked combination of both 'cry1Ac' and 'cry2Ab' Bt genes superseded in performance to Bollgard I. However, a decade to its introduction and with allegations of its poor performance, the fate of the variety hangs in balance. The notification is expected to clam down the negative sentiments of the farmers and generate good will towards the government.

With elections round the corner and discontent seething among farmers, populist policies would be the norm of any government. But as usual, these populist policies are myopic in their vision and short lived in their effect. Seeds are critical to agriculture, and they decide the output from agriculture. The Indian government, therefore has an elaborate seed production and marketing mechanism with safeguards in quality control. The government bodies are dominant in supplying high volume low value seeds. The private sector also works shoulder to shoulder with the public bodies to supply seeds to the country. Their better infrastructure and capital advantage have helped them to introduce innovative technologies in the seed sector which has infact helped the country to increase its agriculture production. A case in point is India's cotton revolution which was powerfully backed by the Bt cotton technology. Post two generations of Bt cotton, India today sails high in the cotton production front. So it becomes necessary for the government to encourage private sector participation in the seed segment, if we intend to maintain that momentum.

GM technology is a promising technology adopted worldwide, and India has also emerged as a beneficiary in the last decade. The current situation, however, has raised concerns regarding the future of the technology in India. With an embargo on commercial cultivation of new GM crops, we have closed any further innovations in new crops. The move to reduce the trait value has also closed gates to further improvements in the Bt cotton technology. The next in line, a three-gene Bollgard III fortified with 'Vip3A' gene, in addition to the preexisting 'cry1Ac' and 'cry2Ab', is claimed to increase the longevity of the technology. It has already been introduced in US and Australia. India, an important cotton producer, however, has to wait as the company will surely be holding a wait and watch approach. Besides, any possible introduction in India would definitely come with riders and higher prices.

India's green revolution was the result of a strong political will and commitment towards raising the agricultural production of the country which arose out of desperation. Although not imminent, Indian agriculture would encounter an impasse in its agricultural production in years to come. We do not want to wait for that to happen. If we do not want to involve private sector, our government research bodies be better be equipped to carry out research in these lines. Innovation will be the key to success in agriculture.

Climate Changes Food Security

Climate changes can affect India's Food Security

Climate change is one of the greatest threats for today's agriculture. The threat has been reiterated on record multiple times by many researchers. A recent study, published in the journal Philosophical Transactions of the Royal Society A, specifically mentioned India among the top countries to be at the greatest vulnerability to food insecurity when moving from the present-day climate to 2 degrees Celsius global warming.

The assurance of food security is contingent upon a host of factors – man made and otherwise. Indian agriculture has been reliant on climatic parameters more so than any other agriculturally progressive nations. Monsoons are still lifelines of 52 per cent of our farm lands. So even a small change in the climate will be manifested in the output from half of the country's cultivated area. The annual economic survey, 2017-18 has specifically mentioned that changes in climate could shrink agricultural income by as much as 25 per cent in unirrigated farmland and 18 per cent in irrigated areas within the next 82 years. These figures concerns 22 per cent of our population who are involved in the profession, either directly or indirectly.

With every year, our anxieties regarding climate change are becoming more intense and well pronounced.The changing climate has a profound influence on water availability for agriculture. Our agriculture in this scenario should move towards sensible approaches of water usage. India pumps more than twice as much groundwater as China or the United States. Irrigation which has still not caught the fancy of majority of farmers has to be intensely propagated. Conventional irrigation must give way to micro irrigation which promotes judicious use of water. Indian government has consistently made provisions through various schemes and subsidies to accommodate MI in the Indian farming scenario. At this juncture, it becomes imperative that the farming population in the country espouse micro irrigation systems.

The fluctuations in climate patterns also necessitates development of varieties that are tolerant to flood, drought, water logging and salinity. These are possible causalities that can emerge out of climate abnormalities. Many land races and traditional varieties that were cultivated during pre green revolution era can be handled as a contingency varieties and kept reserved during possible periods of these casualties. Having said that, drafting a contingency plan holds immense significance. It is also incumbent upon the weather forecasting division to broadcast data regarding the climate fluctuations in a useful format well in advance. The contingency plan should incorporate suitable varieties and package of practices for the same. The yield potential of these varieties may not be commensurate with that of the improved varieties which are bred purposefully for better yield attributes. So in this scenario, a revised MSP or other price support mechanisms must be roped in to compensate for the yield differences and to protect the farmers from income fluctuations.

Pest and diseases which has the potential to reduce the yield of the crops by 25- 40 per cent in a normal scenario can do the same and even more during weather extremities. The changed climate patterns can lead to resurgence of pest and appearance of new pest and disease. This can also affect the yield of crops. Aspects of crop protection, hence, must be appropriately cared for. Disease forecasting, a fairly neglected area in India, can do wonders in the climate changed world.

Agroforestry is another suitable option. It comes with the twin benefits of adding additional income and adding green cover to the earth's surface thereby mitigating the ill effects of global warming by carbon sequestration.

Climate change is a reality and we have to warm up to the idea. Being pro active is the key in managing agriculture in a climate changed world. Food shortage in today's world can have catastrophic effects. Our agriculture production system should be climate proofed by infusing technology, techniques and policy.

Draft Pesticides Bill Needs More Tightening

The Draft Pesticide Management Bill has left many areas unattended

The new Pesticide Management Bill 2017 is all set to replace the five decade old Insecticides Act which has been dictating the pesticide regulatory segment in India. The draft which is already in the public domain, has however, not been able to elicit enthusiasm among the stakeholder as they believe that the draft is not a big improvement from a similar one presented in Parliament in 2008. A decade to its introduction the bill hasn't moved an inch not only withregard to its implementation but also with regard to the amendments suggested.

Spurious pesticides which lack efficacy and sometimes pose deleterious effects, have become widespread in India. Their regulation has therefore become an important and difficult task. Unfortunately, the lack of proper inspection and regulatory framework is encouraging sale of substandard and expired pesticides.The new bill has proposes an increase in penalties on violators. According to the bill, the maximum punishment for violation (such as sale of prohibited or spurious pesticides) is a penalty of up to Rs50 lakh and up to five years' imprisonment. Earlier, the punishment was limited to Rs2,000 and up to three years' imprisonment.

Last time, when the bill was introduced in 2008,it was referred to a parliamentary committee for inclusion of provisions tightening the sale of substandard pesticides.The Parliamentary panel then had suggested that pesticide inspectors should also be held responsible for growth and approval of spurious pesticide. The new draft, however vindicates the inspectors from this responsibility. Also, the bigger players who outsource production to smaller companies remain immune to any violations. It becomes the sole responsibility of the small manufacturers. Big pesticide companies should be made accountable and not the outsourced small manufacturer. Strong framework of legal penalties should be put in place to handle violations.The parliamentary panel then had suggested that data protection be extended to five years and data submitted with application to not be reused by another applicant for three years, which the current draft does not state.

The draft has maintained a lax attitude towards imports of formulations. The draft allows import of formulations without having to register active ingredient. While the importers enjoy a free hand, the domestic companies go through a labyrinthine process to sell their products. When the local manufacturers passes through years pursuing the registration of pesticides, the importers get easy access to Indian markets. This is contrary to the Make in India campaign that the government is actively pushing.

Another serious objection towards the new policy is the diluted powers of the state in intervening in pesticide regulation. Many states expect more powers to regulate and control the use of agrochemicals and representation in the regulatory body. As the state governments have a better idea about (state-specific) agro-ecological aspects, they should be endowed with the authority to disallow use of pesticides. Currently the state governments have the power to ban a chemical for 60 days. Limited powers vested with the state government in testing, registration and regulating sales is causing delay to take any action. State governments should be given adequate powers to test and regulate sales of pesticides.

Five decades is a long time. The situation has changed and we are in need of a stronger, updated bill to manage the registration and the associated concerns of the pesticide in today's world. Many more new chemicals have arrived in the scene and sometimes the archaic bills are not enough to cope with the advances in technology. Many suggestions have been put forward by the stakeholders belonging to various sectors. Hope the government can incorporate the most pressing needs and come out with a comprehensive bill at the earliest.

Enhancing Agri Exports

Expanding world agricultural trade can increase farmers' income

India's petite share in world agricultural trade, despite being world's second largest agricultural producer calls for a sturdy and stable agri trade policy. The draft agro trade policy currently in the public domain hence is a welcome step.

Value addition is an important area that India needs to focus on if we are to expand our world trade. Organic products especially those sourced from traditionally organic areas are another niche area which India can work upon. Development of organic export Zones/organic Food park with an integrated approach, Marketing and branding of organic products and Developing uniform quality and packaging standards for organic and ethnic products area can further enhance India's agro trade.

Greater involvement of State Governments in Agri Exports can be crucial for enhancing agri exports from India. A State Export Policy and an assessment of the State's potential in key agricultural sectors and drawing up an action plan to support the infrastructure creation will be crucial to promoting exports. There should also be institutional mechanism at state level and cluster level to support exports. Identifying suitable production clusters, Conducting farmer registrations, Digitization of land records and Promotion of Farmer Producer Organizations (FPO) can help in assessing the surplus available for global trade. Developing agri export zones (AEZs) can facilitate value addition, common facility creation and higher exports from such zones.

Emphasis must be laid upon R&D activities for developing new products. Specific areas to be focused are fortified foods and super foods as they have enhanced demands around the world. SHGs/ FPOs/Cooperatives/Artisan groups can be showcased by establishing a mechanism for linking all credible SHGs, FPO's, Cooperatives, Quality certified Private Processors and Traders etc. through a public private partnership mechanism including exploring the possibility of development of a portal to provide e-commerce platform for providing direct linkage to Farmers' cooperatives, producer societies.

Creation of commodity boards can help in aiding global exports. Global success stories of Commodity Boards, such as California Walnut, Washington Apples, Canola Association of Canada etc. and our own Boards for Spices, Tea, Coconut etc..have done good job in promoting crop stewardship on one hand and global promotion of the concerned commodities and Brand India on the other hand. But, all future such boards will have to be created in the private sector, supported by the Ministry of Commerce & Industry. Few boards such as India Banana Board, Grapes Board, Apple Board, Rice Board, Meat Board, Poultry Board, Fisheries Board, Cotton Board, Pulses Board etc. are yet to be created.

Another crucial area that has rattled many agri exporters is with regard to quality standards. The lack of recognition of Indian testing procedures and conformity standards proves costly to exporters and therefore farmers. To expand India's global presence, the government must initiate concerted efforts during bilateral discussions for mutual recognition of ethnic and organic products and standards. To enhance quality and cost competitiveness, crop stewardship programs with GAP certification needs to be promoted, especially when globally, there is a move on the part of consumers, corporate and Governmental agencies to accept only certified produce in the years to come.

Lack of a stable trade policy has many times affected India's agro export interests. Lack of consistent policies in the areas of farm production, support prices and R&D to inland transportation, exit point infrastructure and export restrictions have the potential to result in uncertainty among the global stakeholders and loss of opportunity. Given the domestic price and production volatility of certain agricultural commodities, there has been a tendency to utilize trade policy as an instrument to attain short-term goals of taming inflation, providing price support to farmers and protecting the domestic industry. They end up distorting India's image in international trade as a long term and reliable supplier. Therefore, it is imperative to frame a stable and predictable policy with limited State interference to send a positive signal to the international market.

India has immense potential in global agri exports. India must capitalize on its strength and works on its weaknesses to increase its global presence.