



Plugging the leak

India must assuage importers that its produce is compliant with trade demands on GM foods

Since June, the export of about 500 tonnes of rice from India has triggered an uproar in several European countries on the grounds that it was genetically modified (GM) rice. This emerged during a check by the European Commission's Rapid Alert System for Food and Feed that was testing rice flour by the French company Westhove. In June, France had issued a notification for unauthorised GM rice flour, identifying India as the point of origin, and alerting Austria, Belgium, the Czech Republic, Germany, Italy, the Netherlands, Poland, Spain, the U.K. and the U.S. as the possible destination of products made with the flour. So in August, the American food products company Mars, fearing GM contamination, announced that it was recalling four of its product lines of 'Crispy M&M'. GM-free rice that is tagged as 'organic rice' is among India's high-value exports worth ₹63,000 crore annually. India does not permit the commercial cultivation of GM rice, but research groups are testing varieties of such rice in trial plots. So the suspicion is that rice from some of these test-plots may have "leaked" into the exported product. The Indian government has denied this possibility with a Commerce Ministry spokesperson alleging that the contamination may have happened in Europe "to cut costs". However, India has indicated that it will commission an investigation involving its scientific bodies.

India's history of crop modification using GM is one of test-plants finding their way to commercial cultivars before they were formally cleared. Thus, Bt-cotton was widely prevalent in farmer fields before being cleared. Though they have not been cleared, Bt-brinjal and herbicide-tolerant cotton varieties too have been detected in farmer fields. Though the Genetic Engineering Appraisal Committee is the apex regulator of GM crops, it is mandated that trials of GM crops obtain permission from States. Because of the close connections between farmers and State agriculture universities, which are continuously testing new varieties of crops employing all kinds of scientific experiments ranging from introducing transgenes to other non-transgenic modification methods, and the challenges of ensuring that trial plots are strictly segregated from farms, there is a possibility that seeds may transfer within plots. Because many Indian farmers are dependent on European imports, the Centre must rush to assuage importers that India's produce is compliant with trade demands. The fractious history of GM crops in India means that passions often rule over reason on questions of the safety of GM crops, and so India must also move to ensure that research into all approaches – GM or non GM – should not become a casualty in this matter of export-quality compliance.

For change

Changes in law on same-sex relations must be along with an attitudinal change in society

A recent advisory from the National Medical Commission (NMC) emphasising the need to avoid derogatory references to the LGBTQIA+ community in medical textbooks or teaching methods has underscored the value of institutional awareness on issues concerning queer and trans people. The advisory came after the Madras High Court voiced concern over "unscientific and derogatory information" in some textbooks. The NMC cautioned medical universities, colleges and other institutions to avoid such references while teaching subjects relating to gender. The institutions were also asked not to approve books with such references, while textbook authors were instructed to amend what has been written on issues such as virginity and homosexuality. The circular represents the fruition of efforts by Justice N. Anand Venkatesh, who framed guidelines in an order in June, to protect the community's rights. He had expanded the scope of a writ petition filed by a lesbian couple for protection against harassment into one that went into the status of those who did not conform to gender identity assigned at birth or to hetero-normative sexual orientation. The court's attention was then drawn to psychiatry, forensic medicine and toxicology textbooks. Justice Venkatesh had suggested that the NMC and the Indian Psychiatric Society bring in necessary changes in the curriculum.

The judge had directed the police not to harass sexual minorities, but later noted with consternation that such harassment was not only continuing, but sometimes extended to NGOs and other allies of the LGBTQIA+ community. He mooted changes to the police conduct rules to provide for punishing erring police personnel in this regard. He also noted disparaging references in the media. He found that a psychiatrist had referred a gay man for cognitive behavioural therapy, while prescribing anti-depressants and drugs meant to treat erectile dysfunction under the wrong impression that sexual orientation required some sort of therapy. In the course of the hearing, the judge had subjected himself to counselling so that he could overcome his own mindset, limitations in understanding and lack of exposure to issues of gender non-conformity and to go beyond the binary understanding of sex and sexuality. Judicial intervention generally has a salutary effect on the behaviour of the state, its institutions and structures. However, barring specific directions, the spirit of judicial orders, especially with regard to social issues, rarely percolates to every limb of the administration. The queer and gender non-conforming people have found an ally in the court, but they would need greater effort on the part of the authorities at various levels, if their rights are to be protected. In any case, any change in law in terms of recognising same-sex relations or understanding self-identification of gender must be complemented by an attitudinal change in society at large.

The carbon markets conundrum at COP26

Success in Glasgow hinges to a great extent on the conclusion of one of the most technical and highly contentious issues



RAVI S. PRASAD

If climate negotiations are compared to a game of diplomatic chess, Article 6 of the Paris Agreement would be the king to be checkmated and captured for concluding the Paris Agreement Work Programme (PAWP) at the 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC). Article 6 of the Paris Agreement introduces provisions for using international carbon markets to facilitate fulfilment of Nationally Determined Contributions (NDCs) by countries. The success of COP26 at Glasgow hinges, to a great extent, on the conclusion of carbon markets discussions. Despite several rounds of high-level meetings, it remains one of the most technical and highly contentious unresolved issues of the PAWP.

A sensitive issue

Developing countries, particularly India, China and Brazil, gained significantly from the carbon market under the Clean Development Mechanism (CDM) of the Kyoto Protocol. India registered 1,703 projects under the CDM which is the second highest in the world. Total carbon credits known as Certified Emission Reductions (CERs) issued for these projects are around 255 million which corresponds to

an overall anticipated inflow of approximately U.S.\$2.55 billion in the country at a conservative price of U.S.\$10 per CER. Therefore, logically, India has a lot to gain from a thriving carbon market. However, with the ratification of the Paris Agreement, the rules of the game have changed.

Unlike the Kyoto Protocol, now even developing countries are required to have mitigation targets. Developing countries are faced with a dilemma of either selling their carbon credits in return for lucrative foreign investment flows or use these credits to achieve their own mitigation targets. This has made Article 6 a highly sensitive issue that requires careful balancing of interests and expectations.

What should be debated

For developing countries, the new market mechanism is much more than a tool for achieving mitigation targets under the NDCs. Much like its predecessor, it should help promote sustainable development and assist climate change adaptation in the developing countries. It should encourage private sector participation and attract foreign investments to support low carbon development. While over 50% of the countries have communicated their intention of using market mechanisms to achieve NDC targets, India is not one of them as it aims to rely on domestic mitigation efforts to meet its NDC goals. It is the developed countries that would rely more on market mechanisms for achieving their climate targets as they would be comparatively low-cost options.



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The three critical issues that would be hotly debated in Article 6 negotiating rooms are CDM Transition, Accounting rules and Share of Proceeds to the Adaptation Fund. Let us examine them one by one.

CDM transition: The CDM projects have gone through due diligence and credits have been issued under UNFCCC oversight. Therefore, the Article 6 mechanism should honour the previous decisions and allow for a smooth transition of these projects and credits to ensure not only the viability of these projects but also inspire trust among the private investors in the UNFCCC decision-making process.

However, some countries have cast doubts on the environmental integrity of these credits and while there is greater acceptance for transition of projects/activities, the same is not the case for transition of credits. If the decision regarding transition of CDM is not favourable, it could lead to a loss of billions of dollars worth of potential revenue to India alone. A possible landing zone can be that the new supervisory body to be formed under the Paris Agreement can re-examine the validity and rigour of such credits.

Accounting rules: Article 6.4

mechanism is meant to incentivise the private sector and public entities to undertake mitigation activities for sustainable development. Under this mechanism, a country can purchase emission reductions from public and private entities of the host country and use it to meet its NDC targets. However, this does not automatically imply that emission reductions transferred from a host country be adjusted against its NDC targets. It must be appreciated that these reductions represent additional efforts of the private sector or public entities to mitigate greenhouse gas emissions, and in fact raise global climate ambition. This is also in line with the provision of Article 6.5 of the Paris Agreement wherein the host country is not required to undertake corresponding adjustment for the projects outside its NDC.

The path ahead

Being a developing country, India does not need to undertake economy-wide emission reduction targets at this stage of its development. This means, not all mitigation actions fall within the purview of its NDC. Therefore, it can significantly gain from the market mechanism under Article 6.4 by selling emission reductions that lie outside its NDC. The counter view of developed countries, that this will deter raising ambition levels, is flawed as such efforts will in fact be additional to what have been committed in the NDC. Robust accounting will ensure that there will be no double-counting of emission reductions.

Share of Proceeds (SOP) to the

Adaptation Fund: For developing countries, adaptation is a necessity. However, it remains severely underfunded compared to financing for mitigation activities. While developing countries emphasise that the SOP must be uniformly applied to Articles 6.2 and 6.4 to fund adaptation, developed countries want to restrict its application to Article 6.4. This would disincentivise the Article 6.4 mechanism and limit voluntary cooperation to the cooperative approaches under Article 6.2 favoured by developed countries.

In a way, carbon markets allow developed countries to keep emitting greenhouse gases while developing countries benefit from the revenue generated from the sale of their carbon credits. Central to the discussions on Article 6 is equitable sharing of carbon and developmental space. Climate justice demands that developing countries get access to their fair share of global carbon space. As developing countries are nudged to take greater mitigation responsibilities, a facilitative carbon market mechanism that respects the principles enshrined in UNFCCC would greatly help accelerate their transition to low carbon development and would be a win-win solution for all countries.

Ravi S. Prasad was Additional Secretary, Ministry of Environment, Forest & Climate Change and Chief Negotiator, Climate Change - India (till February 2021). He is now Additional Chief Secretary and Agriculture Production Commissioner (Agriculture, Veterinary and Fisheries), Government of Assam. The views expressed are personal

The outlines of a national security policy

Once cybertechnology becomes a key variable in the defence policies of a nation, land size or GDP size are irrelevant



SUBRAMANIAN SWAMY

National security concepts have, in the two decades of the 21st century, undergone fundamental changes. These fundamental changes reveal that a large country, in terms of size of geography, population and GDP, will not deter any country. Cyber warfare has vastly reduced the deterrent value of these sizes since cyber weaponry will be available even to small island countries, and the capacity to cause devastation to a large nation by cyber warfare is within the reach of even small and poorer nations.

An equaliser

Innovations in weapons moved from stones in the pre-historic era, to bows and arrows, and later to cannons and guns in the 19th century. These were followed by aeroplanes, nuclear bombs, and intercontinental missiles in the 20th century. In the 21st century, the world is moving to cyber weapons-based warfare which will also immobilise current tangible advanced weapon systems in a war.

Therefore, in the 21st century, after cybertechnology enters as an important variable in nations' defence policies, the size of a country will cease to matter. Sri Lanka, or North Korea, empowered by cyber technology, will be equal to the United States, Russia, India or Chi-

na, in their capability to cause unacceptable damage. Weapons in the 21st century will merely mean a cyber button on the desk of the nation's military and the leader of the government. Geographical land size or GDP size will be irrelevant in war-making capacity or deterrence.

More innovations

These fundamental changes are entirely due to the earlier 20th century innovations in cyber technology and software developments. Drones, robots, satellites and advanced computers as weapons are already in use. More innovations are around the corner. Some examples of further innovations are artificial intelligence and nanotechnology.

Warfare, therefore, will be no more just mobilisation of weapons or be dependent on the size of the armed forces of men. It will be cyber warfare. From remote controlled drones to artificial intelligence driven weapons systems, etc., will matter in the 21st century. Hence, national security in the 21st century covers not merely the overt and covert operations but, more crucially, electronic operations from a remote centre beyond the front lines of ground forces or air power to track enemy assets by these newly weaponised cyber instruments of technology. Tracking those cyber warfare centres of the adversary will need a new national security policy.

By credible accounts, China, recently, publicly cautioned Indians to sit up and take notice by using cyber technology to shut down Mumbai's electric supply in popu-



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lated areas of the city, for a few hours. This was to overawe Indians as we were clueless for hours as to what went wrong till reports emerged about a possible cyberattack. Thus, each nation will have to prepare more for bilateral conflicts in the 21st century that are based on cyber warfare rather than in multilateral acts of conventional war or rely on military blocs for mobilisation.

The four dimensions to this

National security at its root in the 21st century will depend on mind-boggling skills in four dimensions:

Objectives: the objective of the National Security Policy in the 21st century is to define what assets are required to be defended, the identity of opponents who seek to overawe the people of a target nation, by unfamiliar moves to cause disorientation of people. Although the novel coronavirus is perhaps accidental, it has completely destabilised peoples globally and their governments in all nations of the world over, and also derailed the global economy because nations were most unprepared for such a pandemic, even conceptually. So far, nearly two years of the pandemic have left several millions [or more] dead with most

economies having been driven to the edge of disaster. Normal life has been disrupted. Never before has there been such a virus attack of this dimension. This is a preview of the kinds of threats that await us in the coming decades which a national security policy will have to address by choosing a nation's priorities.

Priorities: In such scenarios of uncertainties about the future in the 21st century, national security priorities will require new departments for supporting several frontiers of innovation and technologies such as hydrogen fuel cells, desalination of seawater, thorium for nuclear technology, anti-computer viruses, and new immunity-creating medicines. This focus on a new priority will require compulsory science and mathematics education, especially in applications for analytical subjects. Every citizen will have to be alerted to new remote controlled military technology and be ready for it.

Strategy: The strategy required for this new national security policy will be to anticipate our enemies in many dimensions and by demonstrative but limited pre-emptive strikes by developing a strategy of deterrence of the enemy.

For India, it will be the China cyber capability factor which is the new threat for which it has to devise a new strategy.

The agenda for the new strategy will be critical and emerging technologies, connectivity and infrastructure, cyber security and maritime security. But, alas, India by trying to befriend nations on both sides of the divide ended up with

no serious ally internationally. The position of India is much like that of the bat species in the *Panchatantra*.

Methods to use

Resource mobilisation: The macroeconomics of resource mobilisation depends on whether a nation has 'demand' as an economic deficit or not. That means, for example, if demand for a commodity or service is in deficit or insufficient to clear the market of the available supply of the same, then liberal printing of currency and placing it in the hands of consumers is recommended for the economy to recover the demand supply parity. This then is one way of facilitating resource mobilisation in a demand supply balanced market. A way to increase demand is by lowering the interest rate on bank loans or raising the rates in fixed deposits which will enable banks to obtain liquidity and lend liberally for enhancing investment for production.

If it is 'supply' that is short or in deficit compared to demand, then special measures are required to incentivise to encourage an increase in supply. The bottomline is that except for endowments of nature, a true economist adept in macroeconomics and inter-sectoral impact, will not despair for a lack of resources. Macroeconomics has many ways to generate resources without taxation. Printing of notes of currency is one way when there is a demand shortage.

Dr. Subramanian Swamy is a BJP Member of Parliament and former Union Minister for Law and Justice

LETTERS TO THE EDITOR

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Nature's fury

First, it was Kerala, battered and bruised by heavy rains, claiming precious lives and infrastructure. Now we have Uttarakhand where the situation seems far worse (Page 1, October 20). Natural calamities are beyond human perception; therefore, there need to be foolproof measures in place to ensure minimal losses. The NDRF teams do a great job, without an iota of doubt, but perhaps they need to be deployed immediately after alerts by the India Meteorological Department. Hilly terrain, as the reports show, would require better monitoring systems in place.

BALASUBRAMANIAM PAVANI, Secunderabad

EU food recall

The Genetically Modified (GM) contamination of rice flour allegedly originating

from India, according to notifications on the European Commission's rapid alert system, naturally rekindles the debate on the desirability of growing GM crops (Page 1, October 20). The problem is that even field trials of GM crops are not without dangerous consequences. Pollen from GM plants can be accidentally transferred to other normal plants with unpredictable outcomes. Growing GM and non-GM crops is considered so dangerous that European Union law stipulates a minimum distance between these crops, depending on the particular variety of crop grown. It is not yet proven conclusively by scientists that foods from GM crops are completely safe for human consumption. The fears of adverse effects on human health such as

transfer of antibiotic resistance to humans and toxicity are not yet satisfactorily addressed. Until proven conclusively to be completely safe by scientists, GM crops should not be allowed even for field trials, let alone for growing on a commercial scale.

KOSARAJU CHANDRAMOULI, Hyderabad

Gandhi and Savarkar

It is true Savarkar kindled the national spirit against the British but with a different ideology. Gandhiji was for a pluralistic India taking within its fold the minorities without whom India would not be complete. The notorious Cellular jail in the Andamans was where inmates belonging to different faiths suffered and perished because of the atrocities perpetrated by

the colonial rulers. Defence Minister Rajnath Singh's statement on Savarkar is perhaps a precursor to the BJP rewriting history. Could it be a move to 'installing its own heroes' in the new Parliament building which is being built at breakneck speed?

N.G.R. PRASAD, Chennai

Captain's party

Captain Amarinder Singh's plan to float his own party is sure to send shivers down the spine of the Congress leadership. It is a development which the Grand Old Party eventually asked for by mismanaging its affairs in Punjab right from the time it inducted Navjot Singh Sidhu into its fold. Mr. Sidhu has a propensity to tread his own path. The Congress spent much time in placating Mr. Sidhu, revealing strategic

flaws in its approach. Captain Amarinder's party is sure to eat into a sizeable share of Congress votes.

V. SUBRAMANIAN, Chennai

Vaccine second dose

There are a lot of people – like me and my daughter for instance – who have received both doses of the COVID-19 vaccine but are unable to get completion certificates. In our case, the second dose, on July 13, 2021, is shown as the first dose in the certificate. In my case, I have tried my level best by sending emails to all the high-profile authorities as this type of an error cannot be corrected online. Unless such serious errors are corrected how is the Government to have the right data on vaccination?

K.K. NAIR, Thiruvananthapuram

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The concern is that around 40% of those who got their first jab are still to receive the second dose. The lackadaisical attitude of people who believe that the pandemic has waned, vaccine hesitancy, low vaccine coverage in rural and isolated areas, and an overall slackening in the pace of vaccination are all causes. The increase in the gap between the two doses of Covishield, which accounts for more than 85% of all vaccinations, has also resulted in people waiting for a longer period to get their second dose. If there is no shortage of doses, then the gap between the two jabs can be shortened. Ramping up the production of the two other approved vaccines will also help in full vaccination.

Dr. Biju C. MATHEW, Thiruvananthapuram