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Reimagining education

Technology can reduce tensions between learning in school and learning for life

Kavita Sabharwal



Einstein once gave an exam and 15 minutes into the exam, one of his students stood up and asked, “Aren’t the questions in this year’s exam the same as last year’s exam?” Einstein replied, “Don’t worry; the answers are different this year.” This wonderful story is very relevant to school education because learning, teaching, curriculum, and pedagogy are the same words but mean very different things than they did 50 years ago. Schools need to reinvent themselves for four reasons: early education matters, our understanding of

the brain has progressed in the last two decades, the world that future generations enter will be very different from ours, and teaching practices are changing to support these developments. I was horrified to hear a pundit recently pontificate that all future education will be on the go, on demand, crowd-sourced and gamified.

But social, technological and pedagogical changes mean that schools have to think about first principles (early education, foundation skills, and teaching practice) and I would like to make the case that these forces are actually reducing the tension in K-12 education, between teaching for a good life, college readiness and work – making education real. Foundational skills are beyond the 3Rs because the internet makes rote learning less relevant and lifelong learning needs to replace the upfront 25 years of school. The one skill that we know our children will need is the ability to relearn all the time. To try things, to come back, read, try new things, come back to read and learn more, and go back again. Poets usually see things way in advance of the rest of us; a hundred years back William Butler Yeats wrote “Education is not the filling of a bucket but the lighting of a fire.”

Contrary to hearsay, teachers are not going anywhere. But pedagogical practices are changing and effective schools need a shared vision, collaborative practices, distributed leadership, performance management rather than performance appraisal, and a cohesive, engaging, rigorous curriculum. Teachers move from didactic teaching of content to building skills (communication, research, thinking, self-management, collaboration), creating inquiry and differentiating teaching based on ability, learning styles and interests; from teaching isolated subjects to transdisciplinary interconnections; from rigour that is beyond mere content to concepts or the big ideas across subjects to see, analyse and understand the world around.

Indian schools have traditionally had many strengths: academic excellence, math and science rigour, and a strong focus on written English. But they must move – from extracurricular activities (such as sports, art, music, drama and the library) to everything as curricular, from moral education classes to invoking citizenship, from incessant repetition for test prep to calculating and charting learning in a motivational spiral, integrating content vertically and horizontally in developmentally appropriate stages. Contrary to belief, existing structures (outdated/unimaginative textbooks, board examinations, college application processes, the Right to Education, etc) are a thorn in the flesh but not a dagger in the heart.

Society responded to the Industrial Revolution with mass schooling and to the service revolution with mass college. The context for schools is rapidly changing. Children are spending more time in school, they receive more communication from teachers, watch more TV, are more aware and technologically savvy, have easy access to content, and their goals tend to change quickly. But the new worlds of work, college and citizenship are telling us that they need children who are knowledgeable, risk-takers, communicators, reflective, open-minded, inquirers and who show curiosity, confidence, respect, integrity and empathy. In the long view, life is not the solving of a sum but the painting of a picture.

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Smart people for smart cities

Without attention to children's health and nutrition, India will not realise its demographic dividend

Supriya Bezbaruah



Technology is transforming the world at an unprecedented pace, to a future that stretches the edges of our imagination. The future is undoubtedly smart – smart homes, smart cars, smart cities. And as technology takes over repetitive, labourious work, the nations that lead the future will be the ones that place a premium on what robots cannot do – human intelligence, human creativity. Tomorrow's leader will be the one with the smartest people. Prima facie it may appear India has an advantage. It has the world's largest youth population, with 356 million 10-24 year olds in 2014. According to UN Population Fund projections, "India will continue to have one of the youngest populations in the world till 2030. India is experiencing a demographic window of

opportunity, a 'youth bulge' that will last till 2025." Yet, few realise that achieving this demographic window's full cognitive potential is closely related to the health status of the young.

And our health status, though improving, is not doing so quickly enough. The food we eat, the air we breathe, the water we drink, the area we live in, all determine how smart we can be. Studies have shown that children who are undernourished often do not achieve their full potential height for age (called stunting) and weight. They also do not achieve their full cognitive potential. According to the National Family Health Survey-4, more than a third of Indian children below the age of five are stunted. This is worse than many sub-Saharan countries. India accounts for more than three of every 10 stunted children globally. Children cannot achieve their full height due to restricted nutrient supply for growth. This restricted supply also leads to functional damage to the brain, probably irreversibly. Research in other countries has shown that supplementation of nutrition improved IQ by 10%, but only if given in the first two years of life.

Indeed, the child may have the die cast against it even before it is born. More than a third of Indian women are chronically undernourished and more than half are anaemic. When they become pregnant, it leads to growth retardation of the child from the womb. But it's not just lack of nutrition that causes stunting. The environment we live in plays its part. Frequent enteric infections, which could be due to lack of hygiene or sanitation, affect the gut's ability to absorb nutrients. So even if the child has nutritious food, the body won't be able to absorb that nutrition. Diarrhoea in children from impoverished areas during the first two years of life leads to an eight cm reduction in growth, and a 10 IQ points decrement when the child is seven to nine years old. In a sense, a child's height on his or her second birthday could be a predictor of "human capital". Poverty, crowded living conditions and lack of sanitation all increase the risk of diarrhoea in children. So the success of the Swachh Bharat campaign is essential not just for a cleaner India, but also for a smarter India. The air we breathe is also preventing young people in India from achieving their full potential. Delhi is perennially in the news for being among the world's most polluted cities. Pollution, though, is an issue across urban India, not just the capital.

Toxic particulate matter, mainly from vehicle tailpipes and brakes but also from industrial pollutants, leads to the breakdown of natural barriers in the body and enters it. It seeps into the brain and causes major inflammation of brain cells. This triggers cell loss in the brain, and slows cognitive development. One study of post mortems of children with accidental deaths showed that those exposed to air pollution had brains that were pre-disposed to Alzheimer's and Parkinson's. Other chemicals are adding to the risk. Arsenic is found in water in many parts of the country. This has an impact on IQ levels. Increased fluoride exposure too can lead to decreased IQ levels. But some of the most extensive damage comes from lead exposure. Children can be exposed to lead from paint, drinking water that flows through pipes that have lead, candy wrappers, pottery/ceramics – from seemingly innocuous items.

Studies across the country have established high lead exposure to the public. The implications are devastating for mind and body – every 10 micrograms of lead in a decilitre (one tenth of a litre) of blood at the age of 11 leads to 4.25 points lower IQ at the age of 38, according to a study published this year in the Journal of the American Medical Association (JAMA). For each five microgram increase in lead in the blood, a person lost 1.5 IQ points. Much concern has been expressed about sufficient jobs not being created for India's youth cohort. Jobs alone are not the answer. Policy makers need to ensure young people in turn have the ability to meet the needs of the jobs of the future. Investments in health, environment and its determinants – the social sector – therefore, need to be priority. These will determine the capital of the future, and are as much a long-term infrastructure investment as laying data pipelines or building expressways.

THE ECONOMIC TIMES

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Missing inner party democracy in India

ET Editorials

It is welcome that Prime Minister Narendra Modi has called upon the media to focus attention on inner party democracy. There can be no doubt that parties, which function as the elementary units in a competitive democracy, must themselves be democratic in how they function, from choosing their leaders to formulating strategy, in order for democracy to be substantive. In India, few parties have true intra-party democracy. Regional parties that are built around a towering leader do not even have any pretence of democratic decision making: their leader's whim or fancy is the party's policy. If that leader passes away, an unseemly scramble for power ensues as the party implodes, particularly if there are no charismatic successors from the leader's immediate family.

Even in the case of 'ideological' parties, things are scarcely different. Nitish Kumar did not hold any inner-party discussion while deciding to change his party's alliance partner in Bihar — even his party president was not in the loop. The Communists call their idea of inner party functioning 'democratic centralism,' but the stress is clearly on centralism. The Congress does hold inner party elections periodically, but from the time of Mahatma Gandhi, in the face of whose displeasure elected president Subhas Chandra Bose resigned, the authority of a leader who somehow embodies the party's collective conscience and moral force has been more important than the mechanics of elections. That Rahul Gandhi will succeed his mother as the next party president is a foregone conclusion. The party high command's discernment in balancing different power blocs has mattered more for inner party peace than formal methods of democratic choice.

The country's biggest party today, the BJP, makes no bones about locating its conscience and moral authority in the Rashtriya Swayamsevak Sangh, which has appointed, or intervened to resolve differences over choosing, the party's presidents and prime ministerial candidates. The PM is, indeed, right to focus on the need for inner-party democracy in India.



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The clash of institutions

The conflict between the judiciary, Opposition and government goes deep

Yubaraj Ghimire

As key actors untiringly claim that the upcoming election to seven provincial legislatures and the federal parliament will end Nepal's prolonged transition to a constitutional democracy and lead it to economic prosperity, fresh developments appear to be pushing it to the brink of disaster and a much greater constitutional crisis. On Thursday, the recently formed Left Alliance comprising the Communist Party of Nepal-Unified Marxist Leninist and the Nepal Communist Party-Maoist demonstrated its totalitarian character by warning the Supreme Court that it will not honour the verdict if it is against the alliance.

Six senior leaders — three each from the CPN-UML and Maoists including three former prime ministers, K.P. Oli, Jhala Nath Khanal and Pushpa Kamal Dahal — asked the Election Commission not to heed a show cause notice the SC had issued a day earlier: The SC wanted to know the progress in printing ballot papers for the federal and provincial legislature in separate sheets of paper, as mandated. The EC, following an understanding with the ruling Nepali Congress and the Left Alliance, had begun to print the ballot-papers for central and provincial polls on the same sheet of paper. The court had issued a show cause notice after a former minister, Sarvendranath Shukla, moved a petition seeking separate ballot papers as it was “clearly mentioned in the law”.

The EC has said it is impossible to print the ballot papers in different sheets on time for the polls scheduled on November 26 and December 7. The Left Alliance seems determined to defy the SC if it rules in favour of postponement. The alliance has also openly accused the ruling Nepali Congress Party and the SC of “conspiring” to defer elections to stall its ascent to office. “We have not spoken on the poll date. We simply said that it is mandatory to have ballot papers on independent sheets of papers,” a senior functionary in the apex court said. He added that “not doing so will amount to the apex court abdicating its constitutional responsibility”.

The emerging trend — the SC's show cause notice, an aggressive Opposition and a quiet government — may not offer a conducive climate for holding elections, the first under a controversial and an inadequate constitution that its proponents claim “is the best in the world”. Over a period, the Supreme Court has been packed with judges who are linked to the three main political parties and activist groups. However, political equations have changed. Allies of the past are now becoming sworn enemies and electoral rivals. The question is who will blink first. Elections may take place on schedule only if the SC withdraws its observation and acts more like a political manager, and not as an interpreter of the law. But a demoralised Supreme Court and a belligerent Opposition would defeat the stated objective of this election, which is the consolidation of democracy and the implementation of constitutional values.

Different power groups and stakeholders — internal and external — are watching how the situation will unfold. Former king Gyanendra Shah told mediapersons last week that he was ready to take over, obviously as monarch once again, if people so desired. He clarified that “he was not trying to be active”, but made it obvious that as someone representing a dynasty that not only unified the country but also kept its independence intact all through without being ever a “colony”, he can appeal to the people. His comment was followed by some rallies in different parts of the country and invoked a positive response on social media. But the discredited political leadership, except Oli, chose not to respond. Oli said: “If someone is keen to take leadership, there is still time to file the nomination.” The jibe was clearly directed at the former king.

The government seems to have taken note of the public resentment at decisions like declaring Nepal a secular republic being undertaken by half a dozen leaders without involving the people. On October 16, President Bidhya Devi Bhandari gave her assent to a legislation that makes “religious conversion” by force a cognisable offence inviting up to five years imprisonment. This law has been strongly opposed by

some European countries and western rights groups who said that “secularism” without the right to conversion is a “farce”. Coming on the eve of elections, the move is aimed at securing the politically organised Hindu votes. This substantial section believes that sacrificing Nepal’s identity as the world’s only Hindu kingdom was part of a larger external design. The Left Alliance, despite its commitment to “secularism”, has maintained silence on the issue.

The tussle between competing political parties at the time of elections is routine and, perhaps, an essential feature of democracy. The test of the commitment of political parties to democracy, however, is whether they uphold democratic values. The Opposition’s threat to the Supreme Court and the government’s reluctance to defend the judiciary is a discomfoting development.

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So who’s afraid of disruption?

Traditional boardrooms need to listen to the younger employees, customers.

Raghuveer Malik

One exceptionally hung over morning in office, I recall a meeting which ended as follows: “Breaking through the clutter, with an aim to leverage empowerment we must align ourselves to the clear goal of disruptive innovation in view of the new normal that generation X”. The sheer number of buzzwords made me giddy. Buzzwords. Consultants and corporate India love them. That is, until the complexity and situationally shifting singularity supersedes the ability of the said buzzwords to make sense. Then we get bored and adopt new buzzwords. Board meetings, traditionally used to mundane topics like interest rates, raw material costs, sales forecasts and marketing spends are waking up to an existential threat, and the latest buzzword on the block. Disruption. To elaborate, the threat of “disruption” via shifts in technology and customer expectations.

Logically, it is possible to infer that today’s large corporates, with their deep pockets, industry leadership, ability to attract talent, brand value and a steadily growing and recurring stream of profit would be well poised to capture future market share in their respective industries. Many still believe that disruption is a passing fad. Hype created by VC dollars which must surely normalise over time. But start a dialogue with those impacted by a strategic miscalculation of the sheer pace of technological advancement or customer expectation shift; they might disagree. Be it Nokia, Kodak or certain soon-to-be-defunct PSU banks unable to match the service and technology adoption of leaner, meaner players in the market. Over the past decade, we’ve seen some new entrants like Ola, AirBnB, Zomato and Oyo which are turning traditional sectors on their head and shaking out every ounce of efficiency while systematically cutting out the middle layers of fat. All this and more has led to visible disruptions in news, retail, commerce, banking, airline booking, music and television content. And now, we can enjoy a front seat view to the active battle being fought by auto, pharma and healthcare giants.

So where does culture come in? And what is company culture? Let’s be clear — it’s not the bonding activities that those of us with an enthusiastic HR team try to avoid (usually called something super creative like, “Fun Friday”). Nor is it the pastries with tea at 5:30 pm. Ben Horowitz defines it as the

“collective behaviour of an organisation” and goes on to clarify that unless you set it, it’ll stay as it is. Traditional corporate management hierarchies were created in an era where the pace of change was far slower than today. With slower change, senior managers had risen through the ranks and at their peak possessed roughly the same expertise to react to technology shifts and customer expectations as a fresher or parallel entry middle manager. Moreover, their experience gave them an edge in decision-making. Meetings in these companies usually went something like this: Senior manager walks in on a meeting and gives his view, everyone else aligns to the said view and the facts are created to support decision-making. Now imagine a scenario where technology and customer expectation shift at lightning speed. The youngest or savviest link in your chain suddenly becomes super valuable. But if decision-making and meetings are conducted in roughly the same way as they were in 1860, we have a problem.

The gap between the customer and the corporate will widen, the knowledge-bearer will move on to another firm and sooner or later, a new entrant with none of the legacy cultural issues will creep up from behind and cause the end of the old guard. Now, don’t get me wrong. Decision-making is rightfully the domain of those with experience, but inputs on rapid changes need to be taken from employees on the ground and more so, from customers. Unless this is addressed, no amount of investment or self-realisation will be enough to ride the wave of disruption that companies face — and beneath the crest of the wave is a steep fall into the maelstrom. So the next time it seems irrational to see a large, established company, with an understanding of this threat and a willingness to invest to prevent it, buckle like a house of cards — just remember, to the customer, it is totally rational to move to the future than staying with the past. And the customer pays the bills. Not technology, or the politicians with their regulations, not the share-holders, mired in tradition, or the employees, bogged down in self-promoting inertia. It is culture that will kill the corporates of yesteryear.



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Devaluing high courts

The jurisdiction of our high courts has been subject to relentless attack

K. Vivek Reddy

For the framers of our Constitution, high courts, occupied a central position. They were conceived as a forum for adjudicating disputes under the Constitution, Central and State statutes before they moved to the Supreme Court; their jurisdiction was more extensive than the Supreme Court’s. In contrast to the American model of a bifurcated federal and state judiciary, our high courts resolve all disputes. In the initial years, several constitutional issues came to the Supreme Court after high courts grappled with those issues. The First Amendment to the Constitution was triggered by a Patna High Court ruling declaring a land reform law as unconstitutional.

Increasingly, the jurisdiction of our 24 High Courts has been subject to relentless attack from Parliament, and, unfortunately, even the Supreme Court.

Rampant tribunalisation

Parliament has inflicted damage on high courts with rampant tribunalisation. Tribunals have replaced high courts for disputes under the Companies Act, Competition Act, SEBI Act, Electricity Act, Consumer Protection Act among others. Any person aggrieved by an order of an appellate tribunal can directly appeal to the Supreme Court, side-stepping the high court. This raises three institutional concerns

First, these tribunals do not enjoy the same constitutional protection as high courts. The appointment process and service conditions of high court judges are not under the control of the executive. The enormous institutional investment to protect the independence of high courts is dispensed with when it comes to tribunals. Many tribunals still owe allegiance to their parent ministries.

Tribunals are also not as accessible as high courts. For example, there are just four benches of the Green Tribunal for the whole country. In comparison, high courts were easily accessible for environmental matters. A shareholder in Kerala or the Northeast would have to travel to the Securities Appellate Tribunal in Mumbai to challenge any order by the Securities and Exchange Board of India. This makes justice expensive and difficult to access. Further, when retired high court judges invariably preside over every tribunal, the justification of expert adjudication by tribunals disappears.

Second, conferring a direct right of appeal to the Supreme Court from tribunals has changed the Supreme Court from being a constitutional court to a mere appellate court. It has become a final clearing house for every appeal under every statute. The Supreme Court should be a court of last resort deciding cases of the moment, and not a final forum with an all-embracing jurisdiction over disputes ranging from a custody battle to the scope of a municipal by-law.

Issue of backlog

A backlog of over 58,000 cases in the Supreme Court precludes it from being a deliberative court reflecting over critical questions of law. It can affect the quality of the court's jurisprudence. If high courts were to exercise appellate jurisdiction over orders of tribunals, they would act as filters, enabling the Supreme Court to confine itself to those substantial questions where there is divergence among high courts.

Third, high courts are the training grounds for future Supreme Court judges. When high court judges deal with several cases under a particular area of law, they carry with them the benefit of their experience and insights to the Supreme Court. When high courts are side-stepped in favour of tribunals, Supreme Court judges hearing appeals from tribunals would have to deal with the finer nuances of disputes under specialised areas of law for the very first time. This is not ideal for a court of last resort.

The rationale advanced for avoiding high courts is the colossal backlog. This is a problem of the government's making as it consciously chooses not to appoint judges of the sanctioned strength for each high court. The way ahead lies in the creation of specialised divisions in high courts for tax, company law and environmental disputes.

Impinging on rights

The jurisdiction of high courts is also undermined by the Supreme Court when it directly entertains various writ petitions. When the Supreme Court exercises original jurisdiction, it deprives the citizen and

the state of the right to challenge potentially erroneous orders. A classic instance is the Supreme Court's ruling in the 2G case. To overcome this ruling, the President had to invoke the advisory jurisdiction of the Supreme Court. The ordinary citizen enjoys no such privilege.

This difficulty becomes even more acute when the Supreme Court takes on a legislative role by framing guidelines in the larger public interest. Neither the individual nor the state has an effective remedy to challenge these norms. In contrast, there are several institutional benefits when a case travels from high court to the Supreme Court. The Supreme Court is wiser by a well-considered high court ruling. Notably, the U.S. Supreme Court takes up cases where there is a divergence of opinion among the Circuit Courts of Appeal.

It has been asserted that when the Supreme Court decides an issue, it avoids conflicting judgments of the high court. This is untrue. The Supreme Court is in a better position to resolve a dispute when it is confronted with two conflicting high court rulings on the same issue. In the triple talaq ruling, it benefited from prior high court decisions on the nuances of Muslim personal law. If high courts lose their prominence, India's justice delivery system will be the principal loser.

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Questions over delay

A fresh procedure for appointing judges should be evolved by consensus

EDITORIAL

The move by the Supreme Court to seek an explanation from the government about the delay in finalising a fresh Memorandum of Procedure (MoP) for the appointment of judges in the higher judiciary raises more questions than answers. We do not know, for instance, what is holding up the process. It is not clear whether the government and the five-member Supreme Court Collegium have been unable to agree on some significant aspects of the MoP. It is possible that the consultative process has broken down and the government requires a nudge from the court to both explain the delay and expedite the process. The matter came to the highest court after the Delhi High Court dismissed an advocate's challenge to the appointment of judges without a new MoP being finalised as per the Supreme Court's December 2015 order. The two-judge Bench hearing an appeal agreed with the high court, but wanted to consider a related prayer — that there should be no further delay in finalising the MoP and that it should provide for a mechanism to avoid any undue delay in the appointment of chief justices for the various high courts. At present, seven high courts have only acting chief justices. The Centre must use this opportunity to throw some light on the status of the consultation between the government and the Collegium. The delay in finalising a fresh procedure for appointments is a cause for concern, as vacancies in the high courts have continued to increase while the pace at which new judges are being appointed remains sluggish.

What is really worrisome is that two issues may come to be seen as deliberately inter-linked: the delay in evolving a fresh procedure and the perceived tardiness in clearing and making fresh appointments. In the two years since legislation seeking to create a National Judicial Appointments Commission was struck down by a Constitution Bench, there have been many instances of incumbent Chief Justices of India

voicing dismay and anguish over the rising number of vacancies. Mercifully, these potential flashpoints did not turn into full-blown conflicts. This was possible because the appointments process, though slow, was never stopped and the recommendations of the Collegium were being processed and cleared by the Centre. That the same issue should crop up repeatedly is not a good sign. When it is agreed in principle that having a fresh and transparent appointments process is vital to institutional reform, it would be unfortunate if the two sides are seen as being obdurate and inflexible on the new MoP. A judicial direction to the government to notify a procedure approved by the Collegium will be an easy way out, but it will not do anything to address the problem of judicial primacy being seen as detrimental to judicial accountability. A consensus on this matter will be far more conducive to the public interest.



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नागरिक रोबोट

कहा जाता है कि दुनिया में दो तरह के देश हैं। एक कनाडा जैसे देश, जिनके दरवाजे किसी भी धर्म, जाति, समुदाय के लोगों, किसी भी राजनीतिक सोच वालों और यहां तक कि समलैंगिकों और ट्रांसजेंडर, सभी के लिए खुले होते हैं। चंद औपचारिकताओं के बाद उन्हें वहां की नागरिकता भी मिल जाती है। दूसरी तरफ हैं सऊदी अरब जैसे कट्टर देश, जिनके दरवाजे किसी भी धर्म, जाति, समुदाय के लोगों के लिए बंद रहते हैं। वहां सिर्फ वही लोग जा सकते हैं, जिनकी सऊदी अरब को जरूरत है, और नागरिकता तो उन्हें भी नहीं मिल पाती। इस मामले में कनाडा और सऊदी अरब दो विपरीत ध्रुव हैं, बाकी के देश इन्हीं के बीच कहीं हैं। लेकिन चकित करने वाली खबर इस बार सऊदी अरब से आई है। पहली बार उसने किसी के लिए अपनी नागरिकता का दरवाजा खोला है। सोफिया को मिली नागरिकता के साथ ही सऊदी अरब को पहली बार एक ऐसी नागरिक मिली है, जो वहां के राजधर्म इस्लाम का पालन अभी तक तो नहीं ही करती और सिर्फ अंग्रेजी जुबान ही जानती-समझती है। सोफिया दरअसल हांगकांग में बनी कृत्रिम बुद्धि यानी आर्टिफिशियल इंटेलीजेंस के लैस एक रोबोट है, जो बुद्धि के मामले में जहीन से जहीन इंसान को मात दे सकती है। यह पहला मौका है, जब किसी रोबोट को किसी देश ने अपने नागरिक का दर्जा दिया है। इसके बहुत सारे अर्थ हो सकते हैं, लेकिन फिलहाल महत्वपूर्ण यही है कि हम इंसानों जैसा रंग-रूप और बुद्धि हासिल करने वाले रोबोट अब इंसानों को हासिल अधिकारों की ओर भी बढ़ चले हैं।

रोबोट एक मशीन ही है और उसके स्त्री या पुरुष रूप का कोई गहन जैविक अर्थ नहीं है। लेकिन सोफिया को एक स्त्री रूप में ही पेश किया जा रहा है, इसलिए हमें भी उसे इसी रूप में देखना होगा। इसी के साथ यह भी कहा जाने लगा है कि सोफिया सऊदी अरब की ऐसी नागरिक बन गई है, जिसके अधिकार वहां की औरतों से कहीं ज्यादा हैं। सार्वजनिक स्थलों पर जाने वाली सऊदी महिलाओं के लिए वहां बाकायदा एक ड्रेस कोड है। उन्हें इसके लिए सिर पर स्कार्फ पहनना पड़ता है और पूरे शरीर को ढकने वाली चोगेनुमा ड्रेस पहननी होती है, जिसे अबया कहा जाता है। लेकिन जब सोफिया को प्रेस कॉन्फ्रेंस में पेश किया गया, तो न उसने स्कार्फ पहना था और न ही अबया। घर बैठी सऊदी महिलाओं ने भी यह सब टेलीविजन पर देखा होगा, हमें नहीं पता कि उनकी प्रतिक्रिया क्या रही होगी? हाल तक सऊदी महिलाएं ड्राइविंग का अधिकार हासिल करने के लिए संघर्ष कर रही थीं। हम नहीं जानते कि सोफिया उनकी जागरूकता को किस नए स्तर तक ले जाएगी? कुछ महीने पहले सऊदी अरब के ही एक मौलवी ने कहा था कि औरतों का दिमाग मर्दों के मुकाबले एक चौथाई ही होता है। अब ऐसे मौलवी क्या कहेंगे? एक ऐसी महिला सऊदी अरब की नागरिक बन गई है, जिसके पास मौलवी साहब से सौ गुना तेज दिमाग तो होगा ही।

सऊदी अरब ने सोफिया के दिमाग की इसी क्षमता को देखते हुए उसे वहां की नागरिकता दी है, लेकिन इसमें यह संभावना भी छिपी है कि सोफिया की सक्रियता एक कट्टर समाज को झकझोर सकती है। उसमें बदलाव का दबाव बना सकती है। बहुत से लोगों को हो सकता है कि यह अच्छी बात भी लगे, लेकिन यह बहुत अच्छी बात नहीं है। अच्छा यही है कि हम अपने समाज को मानव प्रयासों से ही

बेहतर बनाएं और उसके लिए किसी भी तरह की कृत्रिम बुद्धि और मशीनों पर निर्भर न बनें। बेशक रोबोट इस काम में सहयोगी हो सकते हैं, लेकिन इस काम को अगर वही आगे बढ़ाते हैं, तो उसके खतरे भी बहुत हैं।

Date :30-10-17

जीएम फसलों पर दूरगामी नीति बनाना जरूरी

केसी त्यागी

तमाम विवादों और दबावों के बीच सरकार ने जेनेटिकली मोडिफाइड मस्टर्ड यानी जीएम सरसों को मंजूरी न देने का निर्णय किया है। पर्यावरण मंत्रालय की जेनेटिक इंजीनियरिंग अनुमोदन समिति की सहमति ऐसी फसलों के लिए अनिवार्य होती है। उसी ने इसे नामंजूर कर दिया। देश में कई संगठन इसका लगातार विरोध करते रहे हैं। संसद की दो समितियों की रिपोर्ट में भी जीएम फसलों के स्वास्थ्य व पर्यावरण पर प्रभावों के आकलन बिना मंजूरी न देने की बात कही गई थी। देश में अभी तक केवल जीएम फसलों के रूप में बीटी कपास की ही व्यावसायिक खेती हो रही है। साल 2010 में बीटी बैंगन को भी मंजूरी दिलाने की कवायद शुरू हुई थी, पर नौ राज्य सरकारों, कई पर्यावरण विशेषज्ञों, कृषि वैज्ञानिकों, बुद्धिजीवियों और किसानों के व्यापक विरोध के कारण सरकार को अपना कदम वापस लेना पड़ा था। साल 2003 में हमारे देश में बीटी कपास की व्यावसायिक खेती को मंजूरी मिली थी। बीटी कपास से देश के कपास उत्पादक किसानों पर क्या प्रभाव पड़ा, इसको लेकर संसद की कृषि मामाले की स्थायी समिति ने अपनी 37वीं रिपोर्ट में काफी कुछ कहा था। 'कल्टीवेशन ऑफ जेनेटिक मोडिफाइड फूड क्रॉप- संभावना और प्रभाव' नामक रिपोर्ट में बताया गया है कि बीटी कपास की व्यावसायिक खेती करने से कपास उत्पादक किसानों की माली हालत सुधरने की बजाय बिगड़ गई। बीटी कपास में कीटनाशकों का अधिक प्रयोग करना पड़ा।

महाराष्ट्र में ही इन दिनों अपनी कपास को कीड़े से बचाने की जुगत में किसानों द्वारा अनजाने में मौत को गले लगाने के कितने मामले सामने आए। बीते कुछ दिनों में ही यवतमाल में ही 20 किसानों की मौत हो चुकी है। इन मौतों की वजह किसानों द्वारा खरीदा गया वह कीटनाशक बताया जा रहा है, जिसे उन्होंने फसल पर कीड़े खत्म करने के लिए छिड़का था। पिछले कुछ दिनों में कीटनाशकों के छिड़काव के कारण हुई 25 में से 20 किसानों की मौत अकेले यवतमाल जिले में ही हुई है। बीटी कपास उगाने वालों के लिए जिस कीटनाशक के उपयोग का प्रचार किया गया, उस वक्त किसानों को यह बताया ही नहीं गया कि इसको इस्तेमाल करते समय किन चीजों का खास ध्यान रखना जरूरी है। यह भी नहीं बताया गया कि इसको छिड़कने से पहले सावधानी नहीं बरती गई, तो मौत भी हो सकती है।

जेनेटिकली मोडिफाइड मस्टर्ड, जिसे जीएम सरसों कहते हैं, डीएमएच-11 का ही रूप है, जिसे दिल्ली विश्वविद्यालय के सेंटर फॉर जेनेटिक मेनिपुलेशन ऑफ क्रॉप प्लांट्स ने विकसित किया है। इसे भारत सरकार की संस्थाओं ने ही आर्थिक सहयोग दिया है। जीएम सरसों से उत्पादकता में 30-35 प्रतिशत की बढ़ोतरी का दावा भी किया जा रहा था, जिससे हम खाद्य तेल का आयात कम कर सकेंगे। आलोचक कहते हैं कि जीएम मस्टर्ड की उत्पादकता का परीक्षण सरसों की जिस वेरायटी की तुलना में किया गया है, वह सही नहीं है। आरएच-749 किस्म से एक हेक्टेयर में 2,600- 2,800 किलो सरसों हो जाता है। डीएमएच-11 सरसों से एक हेक्टेयर में 2,626 किलो प्रति हेक्टेयर उत्पादन का दावा है। जीएम फसलों की खेती केवल छह देशों- अमेरिका, ब्राजील, कनाडा, चीन, भारत और अर्जेंटीना में ही हो रही है। दुनिया में कुल 18 करोड़ हेक्टेयर में इसकी खेती हो रही है और उसमें 92 प्रतिशत हिस्सा इन छह देशों की कृषि भूमि का ही है। इसमें अमेरिका का हिस्सा 40 प्रतिशत और ब्राजील का हिस्सा 25 प्रतिशत है, जबकि बाकी 27 प्रतिशत भारत, चीन, कनाडा और अर्जेंटीना की कृषि भूमि है, जहां जीएम पैदावार हो रही है। जीएम फसलें आम उपभोग और पर्यावरण के लिए अहितकर हैं, यह बात वर्षों से कई वैज्ञानिक, कृषक और पर्यावरणविद् करते आ रहे हैं। यह बात सही है कि हमें हर नई तकनीक का विरोध नहीं करना चाहिए, लेकिन यदि यह कृषि और किसान के हित को नजरअंदाज कर सिर्फ कुछ विदेशी कंपनियों के मुनाफे के लिए हो, तो उसका विरोध जरूरी है। इन सबके बीच जीएम सरसों को लेकर चल रही बहस पर फिलहाल इस नामंजूरी के बाद एक अल्पविराम लग गया है।

