Leadership for India Inc: Practical Concepts and Constructs
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Week – 03
Leadership for Sustainable Growth
Lecture – 15
Crisis Leadership

Hi friends, Welcome to the NPTEL course on Leadership for India Inc, Practical Concepts and Constructs. We are in week 3 discussing Leadership for Sustainable Growth. In this lecture, we will cover leadership in crisis situations or crisis leadership.

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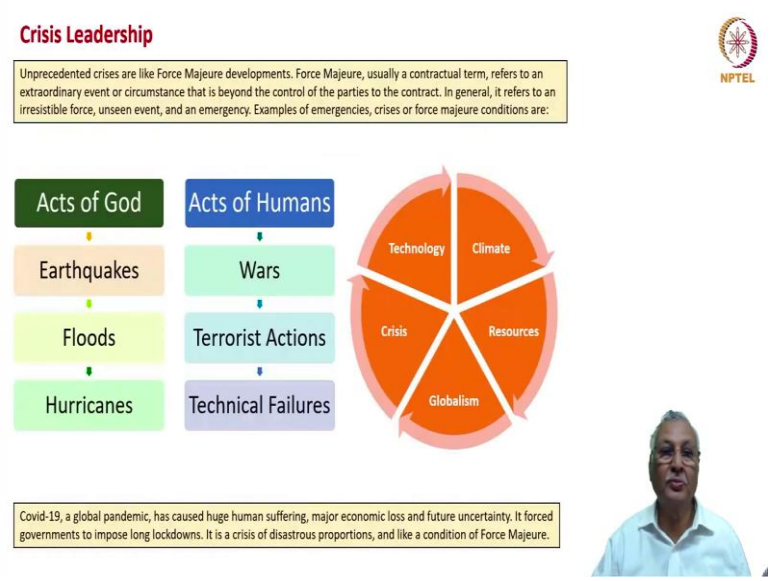

What is crisis? Crisis is something which is completely unanticipated beyond control, and one that comes with irresistible force. Examples of emergencies, crisis are also considered force majeure conditions in certain circumstances.

Force majeure is a contractual term usually; it refers to an extraordinary event or circumstance that is beyond the control of the parties to the contract. Similarly, in real life, crisis is something which is beyond the control of human beings. It is also beyond the control of organizations and entities; crisis can be caused by acts of god. For example, earthquakes, floods, hurricanes, they could also be acts of humans, wars terrorist actions, technical failures.

COVID-19, global pandemic which the world has experienced over the last several months is a pandemic crisis of extraordinary proportions. It has caused untold human suffering, major economic class and future uncertainty, it forced governments to impose long lockdowns.

So, that the chain of transmission could be cut, it is a crisis of disastrous proportions because the virus has not really gone, even after several months while, several governments including India have been successful in reducing the impact of the pandemic through reduction in the chain of transmission, and also through increase in the medicare facilities. We, also have to remember that the crisis yet to go. Probably this represents one of the longest periods of a crisis.

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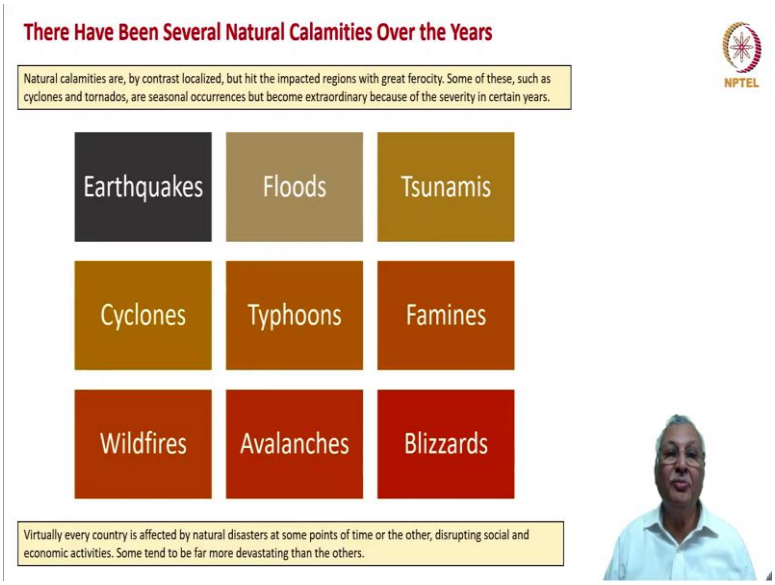

There have been several natural calamities over the years. Natural calamities are by contrast localized and hit the impacted regions with great ferocity. Some of these such as cyclones and tornadoes are seasonal occurrences. But, become extraordinary because of the force and severity in certain year's earthquakes, floods, tsunamis, cyclone, typhoons famines, wildfires, avalanches, blizzards, these are all natural calamities. Virtually every country is affected by natural disasters at some point of time or the other.

And, these natural calamities disrupt social and economic activities. Over a period of time the society gets used to natural calamities and in-built a sense of overcoming the natural calamities, through fortitude and combined effort.

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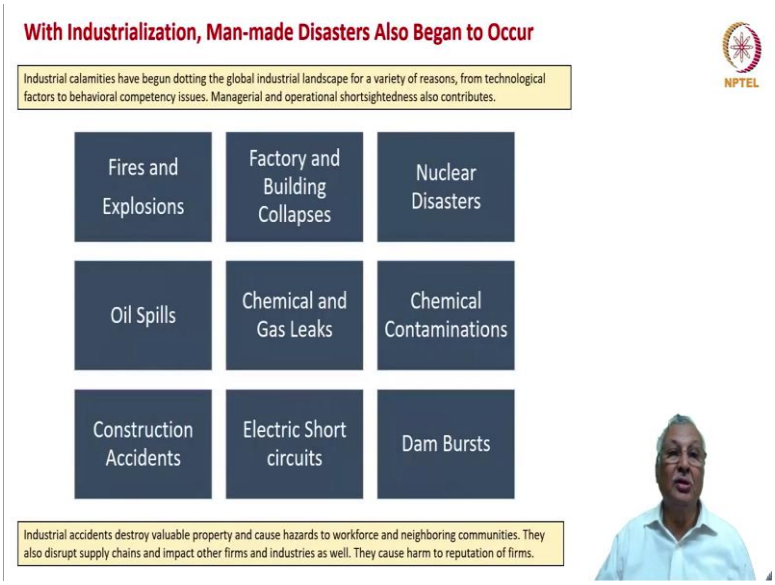

With industrialization, manmade disasters also have begun to appear. Industrial calamities occur, because certain of the processes which need to be adopted with high level of safety and environmental consciousness are not properly followed. These relate to both technological incompetence at one level, and also behavioural incompetence at another level. Managerial and operational short sightedness also contributes.

Some of the examples of industrial accidents that could occur, or fires and explosions factory and building collapses, nuclear disasters, oil spills, chemical and gas leaks, chemical contaminations, construction accidents, electric short circuits, dam bursts etcetera. Industrial disasters destroy valuable property, cause hazards to the workforce and neighboring communities. When an industrial accident occurs several times the neighboring communities are badly affected.

The gas leak that happened, at the Eveready factory is a classic example of what industrial accident could cause in terms of a pain and suffering. For population and have the impact prolonged for years and even across generations.

Apart from that, they also disrupt supply chains, and the stability of globally networked organizations is threatened. As a result, some of the disasters also cause certain nations to lose out in terms of supply chain preference, or supply chain security. And certain other nations come into the system because of the proneness of certain regions for disasters.

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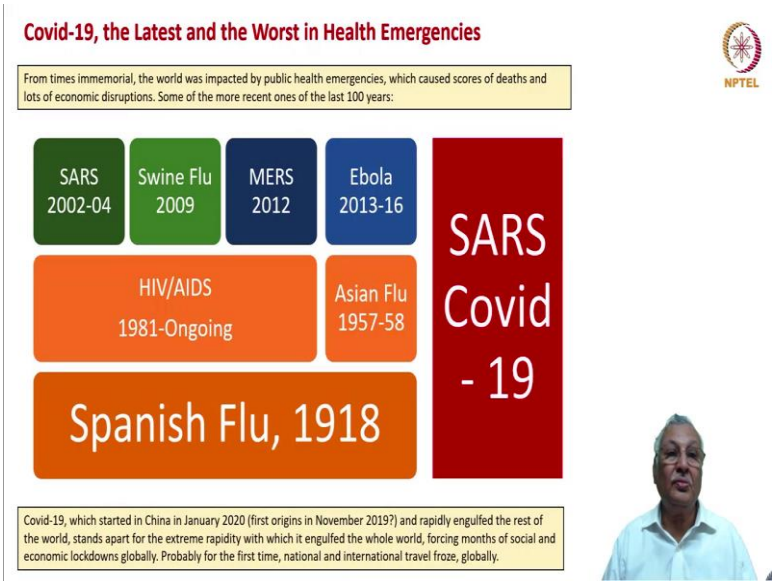

COVID-19 is the latest and the worst in health emergencies. From times immemorial the population was affected by various public health emergencies, which caused the scores of deaths and lots of economic disruptions. Some of the more recent ones that occurred during the last 100 years are Spanish Flu, 1918, HIV, AIDS which came in 1981 and is still ongoing Asian Flu, which occurred in 957- 58, SARS 2002-04, Swine Flu 2019, middle east respiratory syndrome 2012 and Ebola 2013-16.

But, topping all is the SARS COVID-19 which struck the world in 2020. It is assumed that the origins of the SARS COVID-19 started in November 2019 itself in China. Over the last several months, it rapidly engulfed rest of the world and it stands apart for the extreme rapidity with which it moved across the entire world.

It forced months of social and economic lockdowns globally, because the chain of transmission had to be cut. Probably for the first time, travel both national and international froze in its tracks globally.

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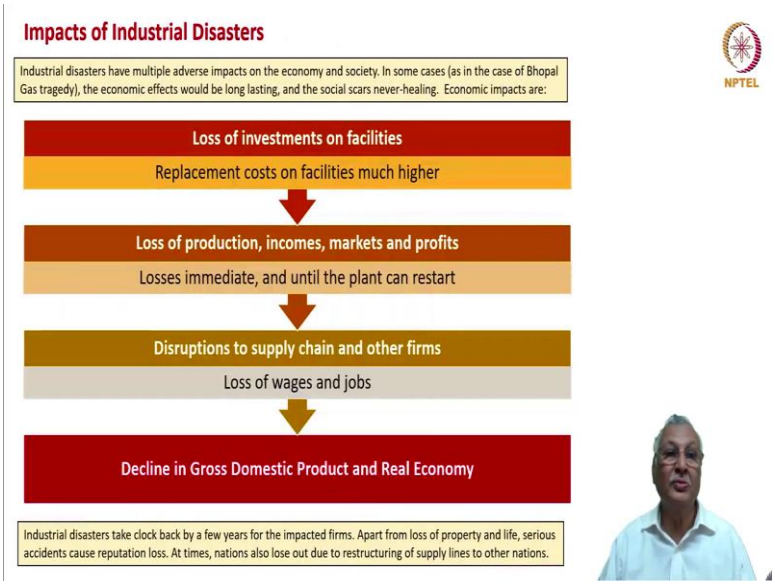

Let us look at the impact of industrial disasters, as I said there are three types of crisis situations a man or an organization faces, one - the industrial disasters, the second - the natural disasters, and third - the pandemics. We are discussing these things, because only in times of such acute crisis or acute distress that leadership is called upon to play a stellar role in taking the humanity out of these kinds of emergency situations.

History has it that industrial disasters have had multiple adverse impacts on the economy and society. In some cases, as I said in case of Bhopal gas tragedy, the economic effects had been really long lasting. And social scars were never healing; usually the economic impacts of industrial disasters are loss of investments on facilities. And the replacement costs on such facilities would be much higher. And, insurance would not be come in if the failure or the accident is due to human negligence or management shortfalls.

Loss of production, incomes, markets and profits, losses are immediate and until the plant can restart. And, also there is no guarantee that the market that has been lost and occupied by another company would be recouped by the company, disruptions to supply chain and also to other firms, loss of wages and jobs across the industrial value chain.

And overall decline in gross domestic product and the real economy. Industrial disasters truly take the clock back by a few years for the impacted firms. Apart from loss of property and life serious accidents cause loss of reputation for companies, at times nations also lose out. Because, of the restructuring of supply chains to other nations as I mentioned.

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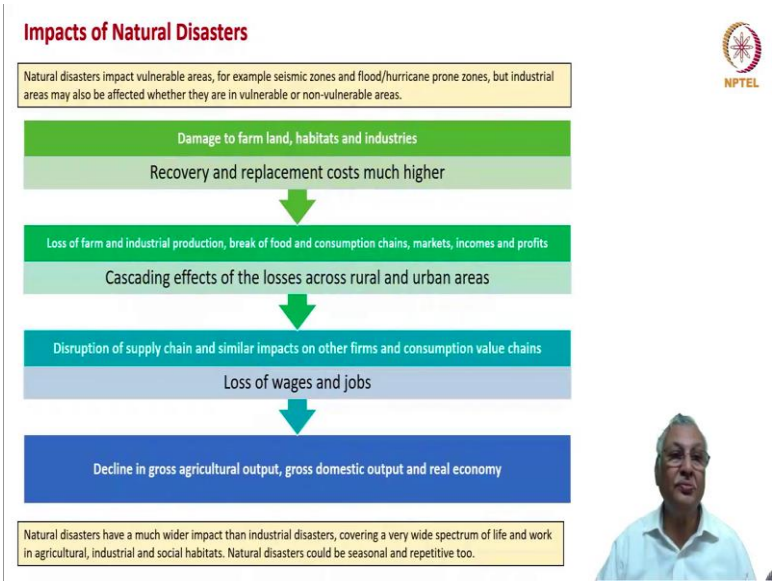

Then, let us look at the impact of natural disasters; natural disasters impact vulnerable areas for example, seismic zones and flood hurricane prone zones. But, industrial areas also may be affected, in case they are vulnerable. And at times even when they are in non-vulnerable areas floods and hurricanes can threaten industrial locations.

Fundamentally, they damage the farmland, habitats and industries, recovery and replacement costs will be higher. Loss of farm and industrial production takes place, food and consumption chains are disrupted, markets, incomes and profits plummet. And, there would be cascading effects of these losses across both rural and urban areas, disruption of supply chain and similar impacts on other forms and consumption value chains, again causing loss of wages and jobs.

As a result of the natural disasters mostly, there would be decline in gross agricultural output. Consequently, gross domestic output is impacted and real economy also goes down. Natural disasters have a wider impact than industrial disasters, covering a very wide spectrum of life and work, in agricultural, industrial and social habitats. Natural disasters can be seasonal and repetitively too. To that extent and to that extent alone, natural disasters give us a warning sign.

That yes, this is the season of either fires example being the Californian wildfires, or hurricanes and tornadoes which occur in the Midwest or intense snowstorms that could occur in the east coast of the United States. Or severe typhoons and floods which occur

in the Bay of Bengal and similar such things so, the impacts of natural disasters could somewhat be prepared for and mitigated.

Because of this seasonality and repetitiveness of the natural disaster; however, even here technology and leadership play a part, because, these things need to be forecast based on data analytics and satellite imagery and more accurate prediction mechanisms. And, if they were to happen, leadership has to demonstrate, its capability to take the people out of the sorrow and suffering and reconstruct the areas at the earliest. That is the leadership requirement there.

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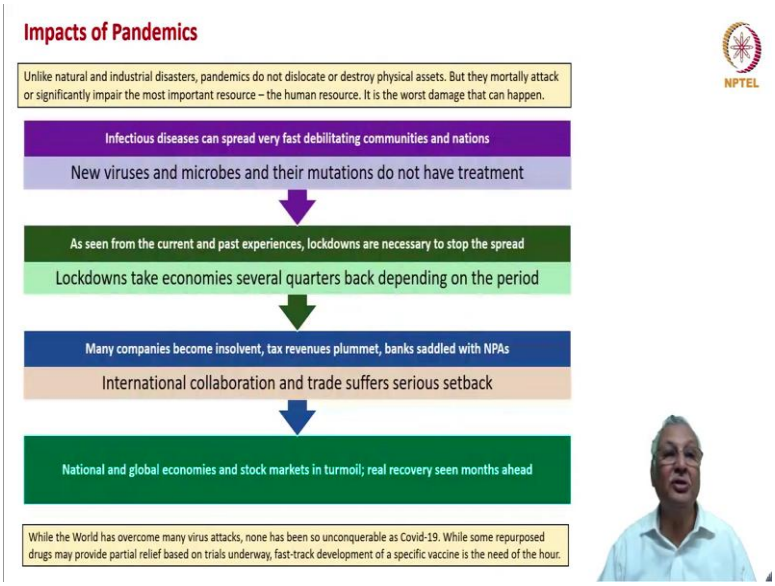

What about pandemics? Unlike natural and industrial disasters, pandemics do not destroy, or dislocate physical assets. But, they mortally attack or significantly impair the most important resource of the world the human resource; it is the worst damage that can happen. Infectious diseases particularly can spread very fast, debilitating communities and nations. New viruses and microbes and their mutations do not have immediate treatment options.

As seen from the current and past experiences lockdowns are necessary to stop this spread. And lockdowns take economies several quarters back, depending upon the period that has to be used for lock downs. Many becomes, in this process become insolvent, tax revenues, plummet banks saddled with NPAs. International collaboration and trade suffers serious setback.

Thanks to the measures taken by the Indian government, we are seeing a good deal of recovery. While there was concern whether the recovery would be U type recovery or W type recovery, we seem to be heading towards a V shaped recovery. And the good news is that the banking and financial sector, has shown certain resilience in this unprecedented pandemic induced economic downturn. That said, we have to be also remembering that these viruses do not go away simply until the vaccine comes.

Although we have very good results as of date between Pfizer and Moderna in terms of 94 percent or 95 percent efficacy and other vaccines notably AstraZeneca, Oxford University vaccine and Johnson and Johnson's vaccine are moving forward abroad. And, also in India 5 vaccine manufacturers are trying out their vaccines in various phases of trials.

We have to be conscious that it would be a herculean task to vaccinate the entire population of the world it may take several quarters. So, building up of herd immunity, building up of barriers to the virus and practicing of several, precautionary measures would continue to dictate our social life and also the economic life going forward.

So, the pandemic is a long term crisis that has struck the human population. And the leadership is required to take the society out of this pandemic impact. And, it is very important that we need to think of the situation that has arisen, because of the pandemic and learn the lessons also. There are several leadership lessons which arise from these disasters.

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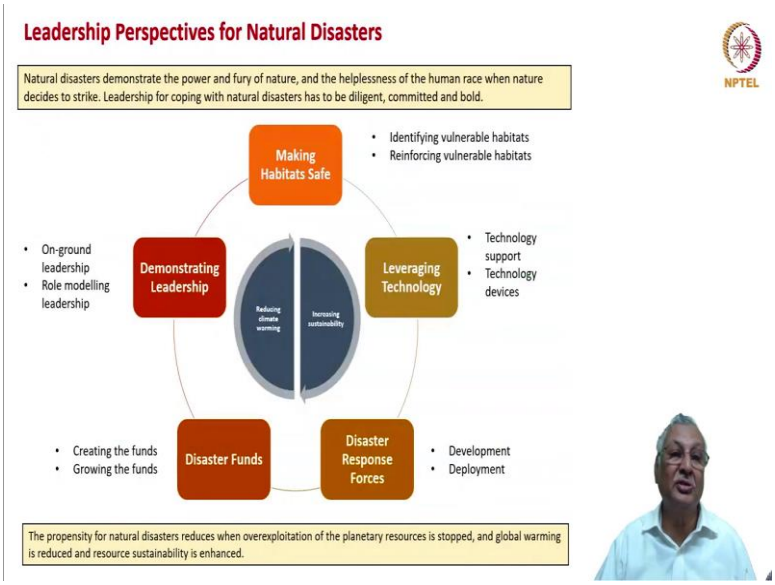

So, what are the leadership perspectives for natural disasters? Ironically most habitats are built in vulnerable areas on the riverfronts, on the seashore, near the hills, or even in seismic zones. When natural disasters demonstrate the power and fury of nature, it is these habitats that are easily and immediately affected.

So, we need to do two things, one - we understand that climate warming by itself which is caused by industrialization, has caused increase in the impact of natural disasters, in the occurrence of natural disasters themselves. So, we have to reduce climate warming and we have to increase sustainability.

These are the topics and we also discussed the leadership for handling those kinds of climate related issues in the previous lecture. Apart from that, to be able to cope with natural disasters the perspectives for leaders are that we have to make habitat safe, identify vulnerable habitats, reinforce the vulnerable habitats.

Second, we have to leverage technology. We have to support through devices as well as through analytics the mitigatory measures for natural disasters. We, also have to have disaster response forces, they have to be developed and deployed.

We also should have a particular percentage of GDP allocated for disaster funds, we need to create such funds and also grow the funds. It could be done at the company level; it could be done at the industry level. And also it could be done at the state government and central government level.

And most importantly, we have to demonstrate leadership, that there is on ground leadership which can steer the society out of this natural disaster related crisis. And, role modelling of such leadership is also very important. The propensity for natural disasters will reduce, when the over exploitation of the planetary resources is stopped and global warming is reduced and resource sustainability is enhanced.

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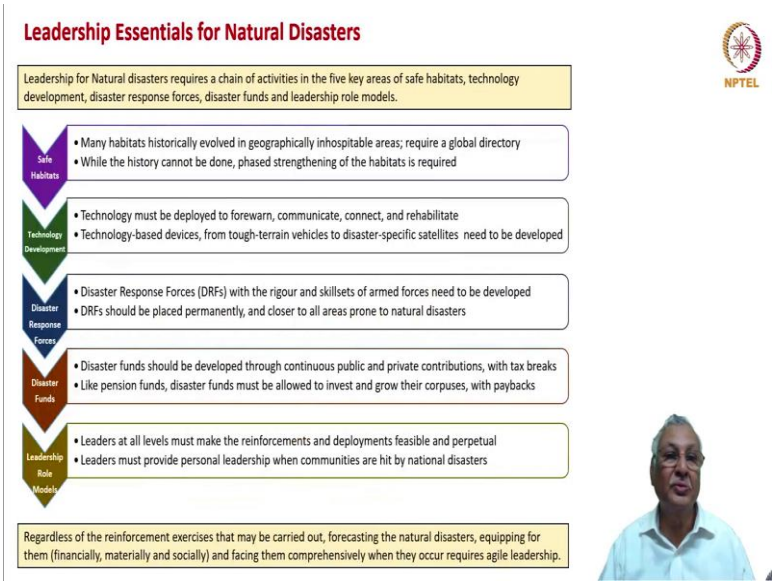

What are the leadership essentials for natural disasters? We have considered a few points earlier, but when you look at the each of these points, it is relating to a whole series of habitat planning and locational planning, many habitats have you historically evolved in geographically inhospitable areas.

So, we require a global directory of such vulnerable habitats, while the history cannot be redone, phased strengthening of the habitats is required. While we are thinking of smart cities to help the urban habitats, we also require smart technology to make vulnerable habitats less vulnerable.

We also have to use technology so, that we can have forewarning of the impending disasters, and take appropriate communication, connectivity and rehabilitation measures. So, we need also disaster proof equipment and vehicles, tough terrain vehicles and also more of bulldozers and earth moving equipment. So, that the aftermath of disasters can be handled.

Then we need disaster response forces, people who are trained in this particular domain of handling disasters. And they should be deployed permanently not airlifted from central places.

Every area which is prone to natural disaster should have a rapid deployment force which is available. We also should have financial sinews to be able to handle the natural disasters, every time a disaster occurs people contribute and a fund is built, which is great. But, we also should have in our economic system, at a microeconomic level as at the, as also at the macro-economic level disaster funds, which are set apart for handling natural disasters and most importantly leadership role modelling.

Leaders at all levels must make the reinforcement and deployments, feasible and perpetual. They should also demonstrate personal leadership when communities are hit national disasters. So, regardless of the reinforcement exercises that will be carried out forecasting the natural disasters, equipping for them financially, materially and socially and facing, them comprehensively when they occur requires agile leadership and also empathetic leadership.

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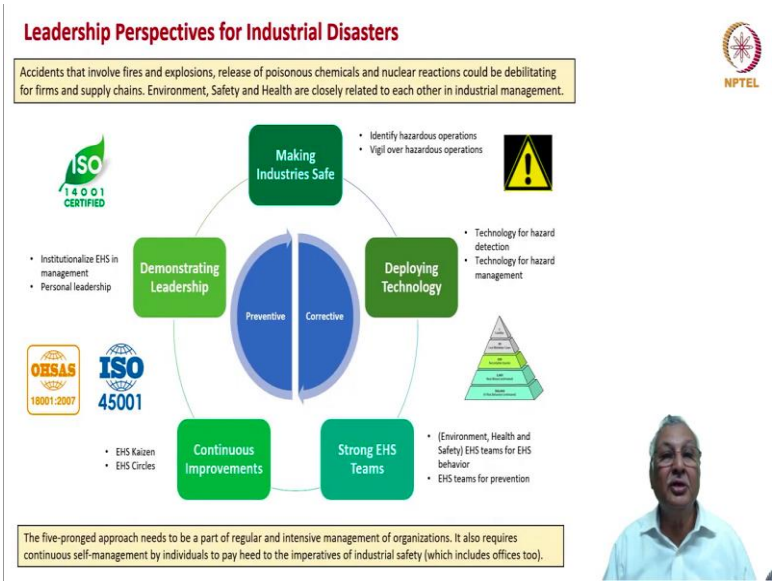

Let us look at industrial disasters, amongst all the types of crisis which I have mentioned, industrial disasters are the crisis which can be avoided. They tend to be entirely man-made; we need to take multiple preventive actions and multiple corrective actions to make our industry safe. We have to deploy technology either in terms of using safe

materials and safe processes, or detecting unsafe acts, unsafe hazards and then correcting them through technology.

We also need strong environment, health and safety teams in organizations, which provide the right behavioural training. Because, safety is not merely a matter of technology, it is also a matter of behaviour primarily. Everybody should think that there is responsibility of safety ingrained in the person. And leaders have the responsibility that everyone who walks into the gates of a factory, have to be sent back safely to their families that is the leadership responsibility.

Continuous improvements, because safety has no end point, zero harm workplace should be the goal of every organization. Visibly felt leadership in favour of safety is also the goal of all leadership to ensure, that there are no industrial disasters. We have got certain ways and means to do that, there is considerable research which suggests that if one fatality were to occur 300,000 unsafe acts would have occurred in the workplace.

It is therefore important, that as many unsafe acts and unsafe conditions are discovered by the people in the workplace, and for which we need a safety culture, safety monitoring culture, barrier building for safety all those things are extremely important.

And this could be done through systemic improvements for environmental safety, we can have ISO 14001 certification which is a very rigorous and structured methodology, for having systems and procedures and mind-set changes to have environmental safety ingrained in the organizations.

Workmen safety health is done by OHSAS 18001, that certification can help us look at workplace health and safety measures in a completely different light. And finally, ISO 45001 represents the gold standard in safety journey. We must have Kaizen and EHS circles working continuously on reducing the level of hazard, in the workplace. This five pronged approach should be the bedrock of regular and intensive management, for instilling the safety culture across the organization.

It requires continuous self-management and everybody from the frontline executive to the highest level that is the CXO or the CSO should be involved in instigating, in instilling a safety culture in the organization. And, when we say safety culture it is not just workplace at factory, it also covers workplace in the offices.

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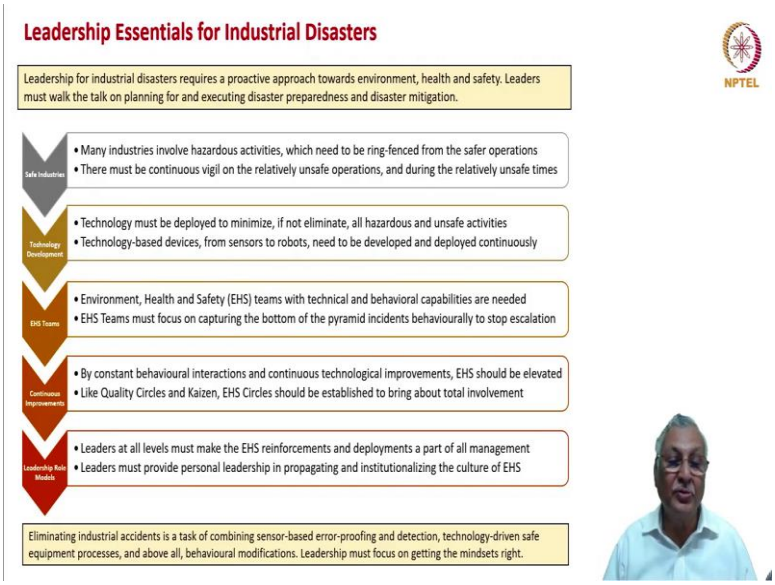

So, what are the leadership essentials for industrial disasters? We have to make our industries safe; there must be continuous vigil on relatively unsafe operations. And particularly during the relatively unsafe times, most of the accidents occur during the night times or during the early morning hours.

And ironically although production is the same in terms of the planning in all the three shifts, we have less supervision in the night shifts and lesser supervision in the early morning hours.

It is therefore necessary that, we have to have a uniform level of supervision, a uniform level of alertness in the shop floor that is very important. And all hazardous activities must be flagged and substituted by non-hazardous operations. Technology must be deployed to minimize fool proofing of every moving part in the industrial system, and substituting toxic chemicals by non-toxic chemicals use of sensors and robots, could be helpful in reducing the risk of unsafe actions.

Particularly in chemical plants, earlier it was all expectation that if you did the temperature monitoring, if you did the addition of chemicals as per a particular titration there would not be accidents. But, at times there could be human error and at times there could be the quality issue with relevance to the, with reference to the chemical, which could cause a snowballing impact on the reactor which cannot be seen.

Having sensors in the reactors goes a long way in detecting these kinds of adverse developments and also switch off the entire industrial line system. So, these kinds of technologies are now available, and we should be putting those ideas into actual practice and here the leadership plays a part.

Because, these all are investments which require capital expenditure and leaders must be proactive and willing to commit such investments. So, that the workplace is made safety, environment health and safety teams must be organized.

Just as you require finance to make sure that every physical activity is appropriately, financially translated, we also require EHS teams to ensure that every operation is performed with the utmost safety health and environmental concern. So, EHS should be an organizational imperative in a very organization.

And, also where the organization has many sites, there should be a corporate EHS team, which will ensure that the safety culture is permeated across the organization and across the sites in a uniform manner.

It also should undertake safety audits. And leader for the company should be actively involved in ensuring that the safety is seen as a key cultural anchor of the organization. Continuous improvements as with quality, there must be continuous improvements in the EHS systems as well. And leaders should demonstrate safety, and how do you do that perhaps you open every meeting with a safety moment.

The moment as safety incident occurs. You make it a point to talk about it not with a critical view, but from a learning point of view. And propagate the safety culture whenever you walk on the shop floor, be a safety vigilant walking across the road in the sites. And use every site visit to propagate from the highest level to the lowest level the importance of safety culture, that’s the role modelling, it is called the felt leadership people can see the leaders concern for workman safety that is very important.

It is a kind of combination of good behaviour as well as good technology, and getting the mind-sets right is the very important task of leadership as far as industrial disasters are concerned. Because, these are preventable, these can be planned into design and executed appropriately.

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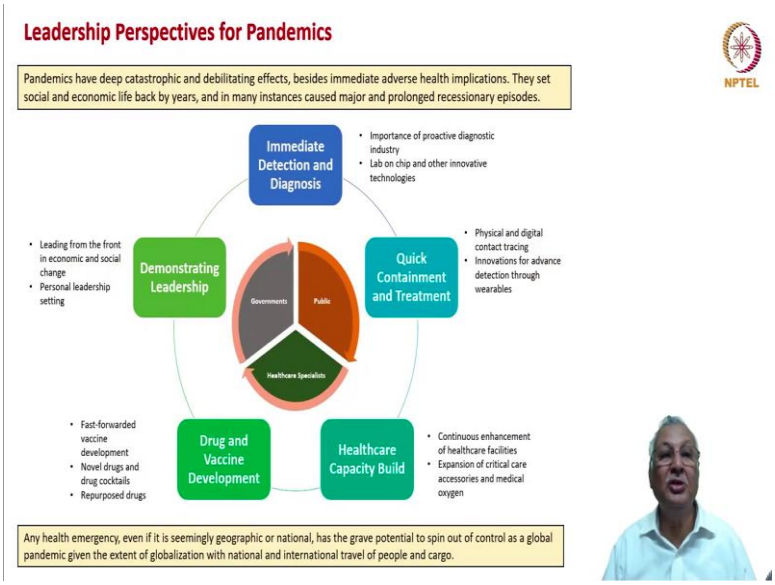

Then of course, the leadership perspectives for pandemics, as I said pandemics cannot be predicted, they have deep catastrophic and debilitating effects and directly attack the human life. So, if human life is at stake, social and economic life will also be at stake, and there could be highly impacted prolonged recessionary episode.

So, what could we do in such situations such as this, governments, public and healthcare specialists can of course collaborate and come up with solutions. We need immediate detection and diagnosis earlier, it used to take three days to get a test result with reference to the COVID-19 incidents.

Today things are faster, we are also getting newer paper based and other tests which can provide significant early detection support. And, also we are getting most modern technologies such as lab on chip and CT scan based tests, which can help in immediate detection and diagnosis. We also need to have quick containment and treatment for which physical and digital contact tracing.

Innovations for advanced detection through wearables, SpO2 measurement, pulse oximeters on hand these are very helpful. And building of healthcare capacity for the first time the governments and the society have recognized the importance of healthcare investments, and building up of healthcare infrastructures. We used to have very few ICUs, very few hospital beds, which are dedicated for prolonged treatment and recovery.

COVID-19 has focused our attention on building up of institutional capability in this aspect. Personal protective equipment, various types of sanitizers face masks, they were not existent as a regular line of production. The country has risen to the occasion and started producing those things in big numbers, but these are all new learnings that have come from the COVID-19 pandemic.

And, most importantly the pharmaceutical industry has risen to the occasion trying to fast forward the vaccine development; vaccine development, which used to take 10 years is getting fast-tracked to get done in 1 year. Novel drugs are being developed and also drug cocktails are being used, some of the drugs which are existing or being repurposed to be able to handle, some of the after effects or the pre effects of COVID.

And leadership, leaders are demonstrating from the front in economic and social change, and personal leadership setting is also happening. So, any health emergency even if it is seemingly geographical or national, has the grave potential to spin out of control as a global pandemic.

Given the extent of globalization and international travel that is a must in today's world. So, no pandemic should be ignored even if it happens in Africa, India should be alert, even it happens in the developed world the developing world should be alert and vice versa.

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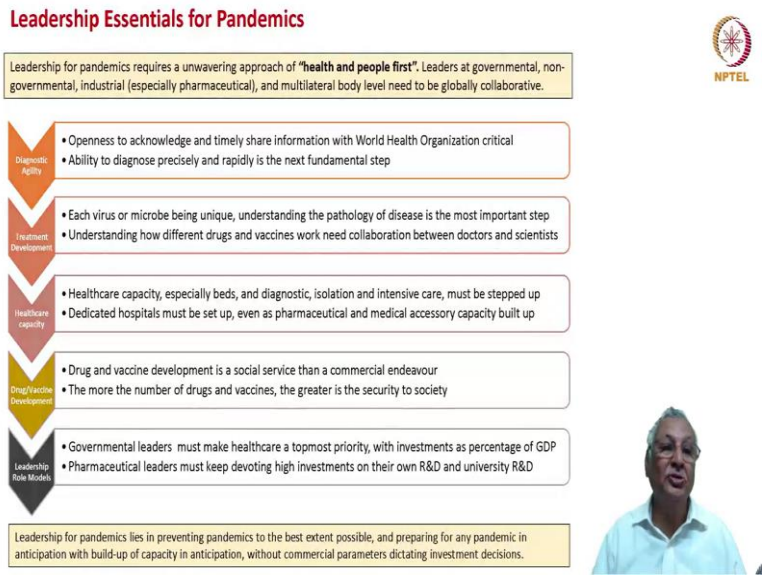

So, what are the leadership essentials for pandemics? We should have a guiding principle that should be an unwavering approach of health and people first, leaders in governmental, non-governmental industrial, particularly pharmaceutical and multilateral body levels need to be globally collaborative.

There, should be openness in acknowledging and timely sharing information with World Health Organization that is critical. Ability to diagnose precisely and rapidly is the next fundamental step. Every virus or microbe is unique. So, understanding the pathology of disease is the most important step.

Understanding how different drugs and vaccines work, need collaboration between doctors and scientists. As far as the capacity is concerned hospital infrastructure, bed infrastructure, and infection proof corridors and operation theatres, or isolation theatres, they must be stepped up.

COVID cannot be allowed to stop all the other kinds of healthcare requirements be it for cancer or cardiac or stroke requirements. We should have enough separations, enough safeguards so, that the nominal healthcare routines are also taken care of.

Dedicated hospitals therefore must be set up to handle, these kinds of unexpected unanticipated and highly infectious diseases that is very important. Drug and vaccine development should be seen as a social service, then as a commercial endeavour. The government should chip in with support to pharmaceutical companies, which are establishing the vaccine development programs. And, also companies themselves should be willing to see them as a no cost venture or no profit venture.

The more the number of drugs and vaccines available the greater would be the security to society. And leadership role models comprise not only governmental leaders, but also industrial leaders. We must make healthcare a topmost priority with investments, as a percentage of GDP being appropriate and adequate. Pharmaceutical leaders especially must keep devoting high investments on their own R&D and support university R&D.

For example, AstraZeneca vaccine has come out of research from the, University of Oxford. Similarly, several other developments are coming through start-up firms, these need to be supported both by private equity and venture capital investments as also governmental grants and supports.

To the best extent possible we should prevent pandemics, but when pandemics cannot be prevented we should be prepared to handle them and building up of capacity in anticipation. Without commercial parameters dictating our level of response, that is extremely important.

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So, let us spend some time on COVID-19 and how the world has responded to it and what does it imply to us in terms of leadership. Fundamentally the biggest and the most unexpected pandemic nonlinearity is through COVID, there has been an unprecedented human tally, economic misery and uncertainty globally, there is no doubt about this.

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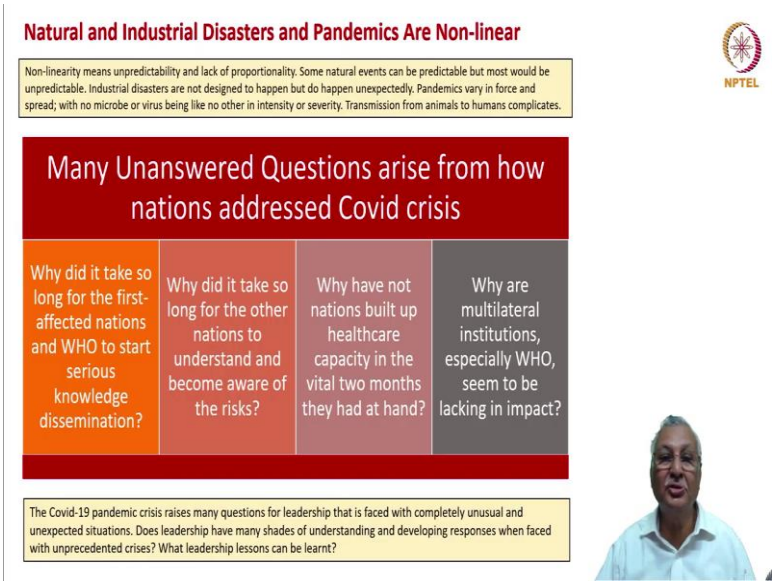

But, there are also many unanswered questions arise, how nations address the COVID crisis? Why did it take so long for the first affected nations and WHO that is the World Health Organization to start serious knowledge dissemination? Why did it take so long for the other nations to understand and become aware of the risk? Why have not nations built up healthcare capacity in the vital two months they had at hand?

Why are multinational institutions, multilateral institutions especially WHO seem to be lacking in impact? These are the questions and the learning from these questions would help us not only control COVID in a much better fashion, but also address any unexpected future pandemics with much greater resoluteness and with much greater resilience.

So, leadership comes about when you are able to diagnose a problem which is in the making, and address it with a prompt solution. And that is the biggest lesson of leadership which has come from COVID-19.

Does leadership have many shades of understanding on developing responses when faced with unprecedented crisis? This is a philosophical question. Are we allowing our optimistic tendencies are our biases to handle the COVID-19 pandemic in a different way, compared to the way it should be addressed; fortunately, India took a very strong approach to COVID19.

And, the entire governmental machinery moved to ensure that there is greater awareness of the COVID-19 pandemic with the economic and social lockdown. That has been

announced for a month or month and half that has brought the issue of COVID to the entire population of course, there has been a great economic cost.

But, with the kind of stimulus which is being provided, the country and the growth response of the country would be sure to address, would be sure to assert itself and come out of the crisis sooner than later. But, it is important to learn the leadership lessons from these kinds of pandemics and our own response mechanisms for them.

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It is instructive that human ingenuity and resilience began finding solutions even for COVID-19, although, we were stunned and shocked when this COVID-19 pandemic came. And the way it attaches itself to the lungs or various other organizations was absolutely shocking and unprecedented.

Pharmaceutical companies have begun working out various methodologies to handle this. Doctors have collaborated with pharmaceutical specialists and also with other research institutions to alter their healthcare protocols to be able to appropriately respond.

So, scores of drugs are under repurposing trials usage including steroids. Antivirals; Remdisivir, Lopinavir, Ritanovir, Nelfinavir, Favipiravir etcetera have been tried out with varying levels of success, in reducing the viral load. And of this Gilead's Remdisivir has secured FDAs emergency approval not withstanding WHO's questioning

stance on Remdisivir, it has also proven itself to be a drug of choice in reducing the viral load.

Similarly, Fujifilm's Favipiravir which was used for Influenza of one type and that was successful in Japan and China for that strain. And it is also being used in India and Indian pharmaceutical industry has risen to the occasion by manufacturing that. Monoclonal antibodies such as Tocilizumab, Baricitinib, Itolizumab etcetera they have been able to control the cytokine storms, which arise when COVID affects the body.

There are several molecules under use for collateral purposes Hydroxychloroquine, Azithromycin antibiotic, Ivermectin a veterinary drug has been repurposed to be effective in COVID situation. The benefits of BCG vaccines are under being evaluation, polyclonal antibodies are under development, for antibody development. Regeneron's antibody is a classic example of straightaway building antibody levels in the human being. So, that they are able to handle the COVID virus much better.

Over 100 new vaccines are under development and as I mentioned at least 5 vaccines from the developed world and 5 vaccines from India are under various stages of advanced trials Pfizer and Moderna vaccines are likely to be the most, early available vaccines.

As against 5 to 7 years taken to develop a new vaccine the race is on to develop a new COVID-19 vaccine within 12 months. And all through these lockdown periods pharmaceutical industry has been operating without cessation of activities, given that drugs are the most important and critical products in this kind of pandemic situation. So, all medicines even after approved by regulators need to be taken under strict medical supervision, because this is a totally strange kind of disease affliction.

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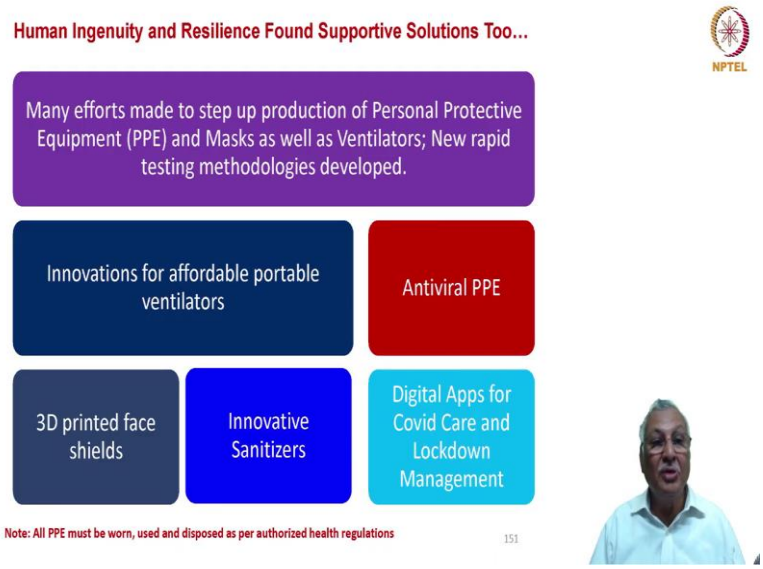

Similarly, human ingenuity and resilience found solutions, in various other areas also. As Prime Minister Narendra Modi said to the nation, India never had a big infrastructure for manufacturing of personal protective equipment, today India is one of the largest manufacturers and even exporter of personal protective equipment. Masks as well as ventilators are being produced in huge numbers.

New rapid testing methodologies from the Tata group for example, Feluda these have been developed. Various innovations for affordable, portable ventilators have been made by start ups, as well as established companies, antiviral properties are being imparted for textile and plastic materials for masks and PPEs. 3D printed face shields have been developed. Sanitizers are being innovatively produced, and digital labs for COVID care in lockdown management have come about very fast.

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There also have been non-linear dramatic responses from the governments and others. The developed world has announced a huge stimuli printing of helicopter money as they say in the economic terms, but India has chosen a path of very creative Atma Nirbhar stimuli that is enabling the industry to discover its own resilience. And increase its own production and consumption capability.

There, have been contributions from philanthropic foundations, individual contributions, corporate contributions, there have been calls for review of supply chains and the excessive dependence on one or two countries such as China and social messaging by media houses and celebrities. India has also recognized that while India is the pharmaceutical capital of the world, India is also dependent on China for several key APIs and intermediates.

So, there is a huge effort on the part of the industry as well as the government, to set up a new drug parks and also new biotechnology facilities. So, that India can be much more self-sufficient and self-reliant in the pharmaceutical space.

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And the response from the government of India and public has been phenomenal. It demonstrates leadership at the grassroots levels. Despite the lockdown, essential activities, were maintained, no household could say that the essential products. Such as milk or vegetables, were stopped.

Without day's interruption the essential activity cycle was maintained throughout the country. Various other industrial sectors restarted based on government guidelines, while the pharmaceutical industry continued to be operation without any stoppage.

The huge population base of 1.3 billion acted as one person by and large to comply with new social requirements, doctors, nurses, health care professional, sanitary workers law and order enforcement personnel and essential activity personnel, sanitation personnel worked tirelessly and in the face of serious threats from the virus, to ensure that the larger population is taken care of.

Rural sector and farming community which was not impacted by COVID at least in the initial months, rose up to the occasion and ensured bumper crop production. New patterns of life and work social distancing, protective masks, sanitization, work from home online education, home deliveries, low density transportation, work from anywhere also these things have come into the system.

And the whole industrial and economic system readjusted itself to the new reality. In the importance of national and state governments in recognizing pandemic emergency and guiding disaster response has also been very widely understood, this is the situation. So,

how was this possible? Because of leadership; leadership which expressed in time and in the right manner and the percolation of the leadership thought in the hierarchy and also horizontally across various agencies.

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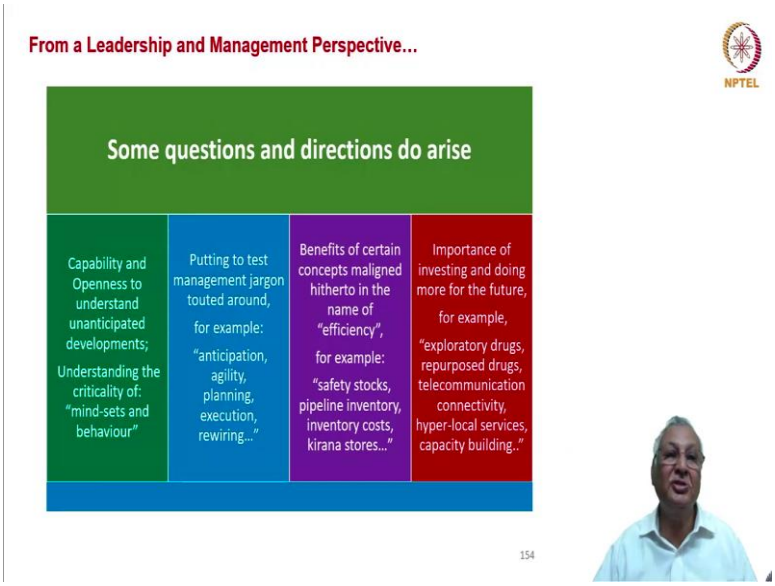

So, we still have some questions and directions which arise at a global level. What is the capability of the leadership system in the overall across nations and the openness to understand unanticipated developments? What is the criticality of mind-sets and behaviour patterns in handling the crisis? Putting to test management jargon which are very happy to use in leadership and managerial studies for example, anticipation, agility, planning, execution, rewiring we use these words very liberally in management field.

How ready are we to test this management jargon through actual execution, when faced with crisis of this nature? And there also are certain concepts which are maligned in the name of efficiency. For example, safety stock is a no-no, industrial inventory management. Pipeline inventory is hated word, inventory costs are best avoided, Kirana stores were considered that, it was also considered that typically indigenous entities such as Kirana stores would no longer be relevant in a future retail situation.

But all of these maligned concepts are overturned in the awake of COVID-19. Similarly, there is a lot of recognition and respect, for investing beyond the immediate need. But, for the exploratory drugs, repurpose drugs telecommunication connectivity, hyper local

services, capacity building that has taken place, we would not have been in a position to cope with the aftermath of COVID-19.

Therefore, we must also ensure that there is an appropriate and meaningful redundancy in the systems, so that we are able to handle, disasters, pandemics and other emergency situations.

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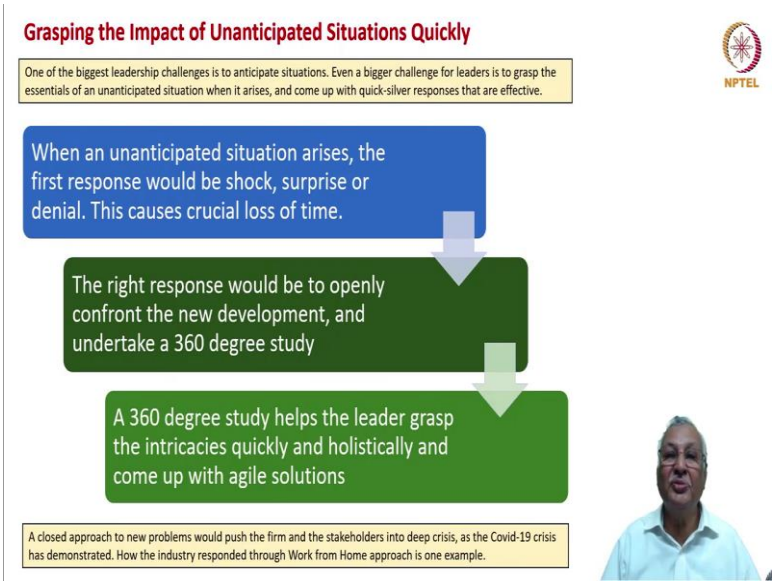

So, how do you grasp this impact of unanticipated situations, can there be a playbook and the biggest leadership challenge is to anticipate situations. And, even a bigger challenge for leaders is to grasp the essentials of an anticipated situation, when it arises or even before it arises and come up with quick-silver responses that are effective.

I propose here a three step plan. When an unanticipated situation arises, the first human response would be shock, surprise or denial. This causes crucial loss of time, the right response would be to openly confront the new development and undertake a 360-degree study. A 360-degree study helps the leader grasp the intricacies of the problem very quickly and holistically and come up with agile solutions.

However, if you tend to have a closed approach to new problems hoping, that the problem will kind of solve itself. Then, it will plunge the stakeholders and the economies into deep crisis. How the industry responded through work from home, is a telling lesson

as to how an industrial situation can be rewired provided, we have also invested in an appropriate telecom gear and telecommunication connectivity.

So, to be able to meet these requirements, we have to move always one step of the impending danger and that is where the leadership, proactiveness, leaderships anticipatory skills and leadership agility come into play.

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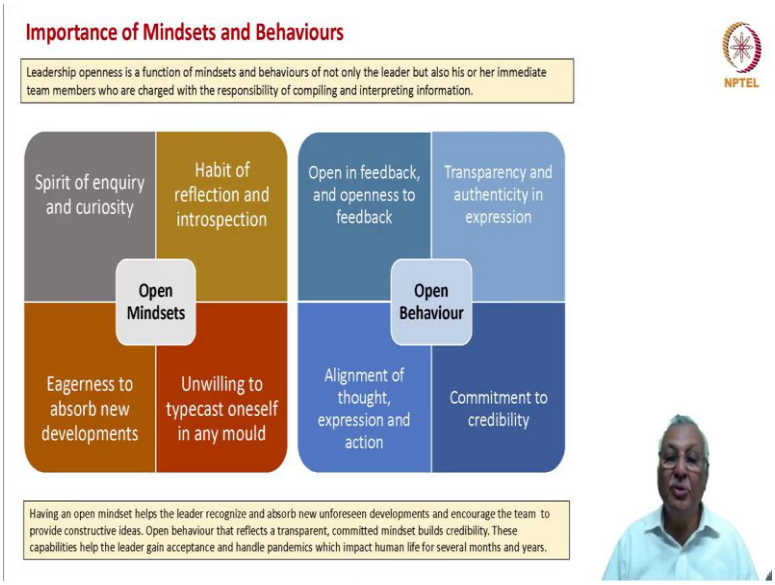

For that, we need to open mind-sets and we need behaviours. The mind-sets and behaviours are not merely of the leader, but also of the entire team which supports the leader. We should have when we say open mind-sets the following four; one - a spirit of inquiry and curiosity everybody should be observant should be curious about things.

Not necessarily about the disasters about the pandemics that should be a mind-set characteristic, there should be a habit of reflection and introspection; there should be eagerness to absorb new developments. And one should be unwilling to typecast oneself in any mould, as either as a kind of extreme optimist or extreme pessimists.

One should be on the other hand a realist, willing to understand what is happening and then reflect and introspect widely. And what is open behaviour? Being open in feedback and having openness to receiving feedback, transparency and authenticity in expression. Alignment of thought expression and action and commitment to credibility, these translate our open mind-set and decision making process into open behaviour.

When a leader has got an open mind-set, he gets the best possible solution to a problem which is defined in a complete holistic way. When, he also has open behaviour he serves as a role model, who inspires confidence and commitment from the team. It builds credibility, these capabilities help the leader gain acceptance and handle pandemics which impact human life for several months and years.

And, nobody does these things and nobody should do these things only to take care of disasters or crisis situations. These must be part of a leadership DNA. So, that these things are seen as felt leadership when crisis strike us.

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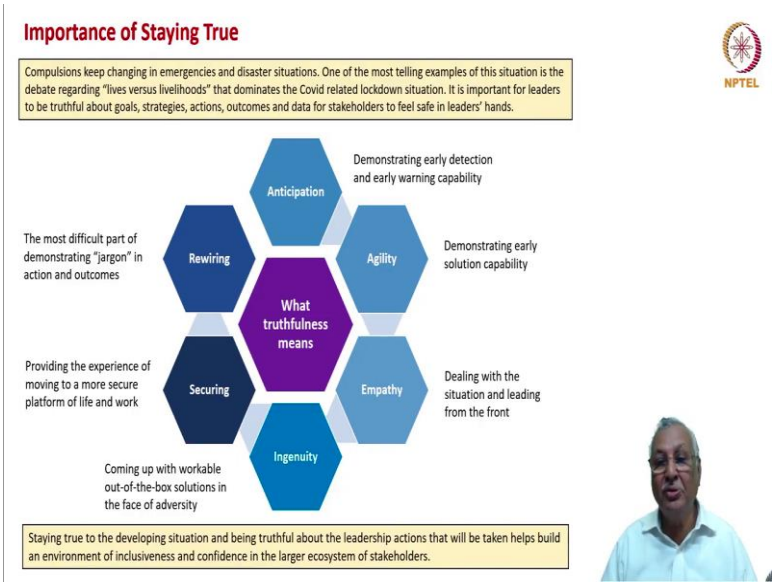

There is therefore, this importance of staying true, we cannot say that life is more important than livelihood or that livelihood is more important than life. This has been one of the most telling examples of the balance and the dilemma, which the society faces when struck with these kinds of emergencies.

So, it is important for leaders to be truthful about goal strategies, actions, outcomes and data, whenever there is a crisis that is impacting the organization. So, what is truthfulness? Truthfulness is anticipation, demonstrating early detection, and early warning capability that is anticipation, which is part of truthfulness.

Agility - demonstrating early solution capability, empathy - having not sympathy but empathy; empathy means dealing with the situation and leading from the front keeping yourself in the shoes of the other person who is suffering the impact.

Ingenuity - creativity and innovation to develop out of the box solutions in the face of adversity. The ability to make sanitizers from all chemical and quasi chemical operations, the ability to make masks from textile and apparel companies, ability to make portables from engineering and automobile firms, these are all ingenuity examples. Providing the experience of moving to a more secure platform of life and work that is securing truthfulness.

And rewiring which is the most difficult part of demonstrating jargon in action and outcomes, we can say all of these things anticipation, agility, empathy, ingenuity, securing, but we should revive the organization through actual demonstration of these facets these five facets and that is rewiring.

Therefore, staying true to the developing situation and being truthful about the leadership actions that are being taken, the results they are producing and the course corrections that would be made is part of the entire truthfulness paradigm, that will ensure that leaders are able to lead the society out of severe stress.

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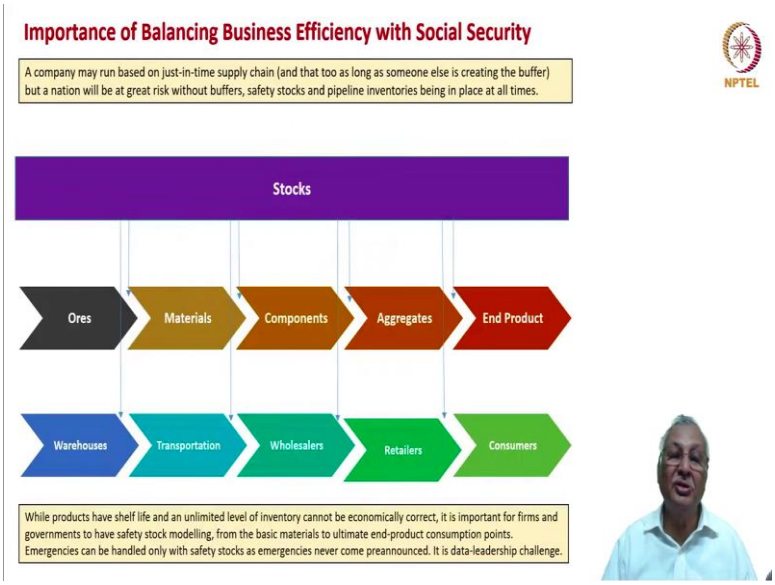

Similarly, we should be open about balancing business efficiency with social security. If you look at an engineering industry, which does construction related products or a fast moving consumer goods industry. That is, their value chain, for a metals industry ores to materials to components to aggregates to end product is the value chain.

For a fast moving consumer goods industry, additional ingredients will be there, or different ingredients will be there, which will be converted into the end product and they move through warehouses, transportation systems, wholesalers, retailers and finally reach consumers. We need to have stocks in the pipeline, if India did not have a pipeline stock.

When, the truck transportation stopped, it would not have been possible for the Indian population to have been covered with supply of essential goods or day to day living goods. It was possible because the supply chain was adequately stocked. It is therefore, important to accept inventory management based on safety stock modelling, as an important redundancy building approach.

So, that crises are handled appropriately by any country and more so for the developing countries, such as India which is vast and well spread out. And where there are several population iniquities, it is a data and leadership challenge.

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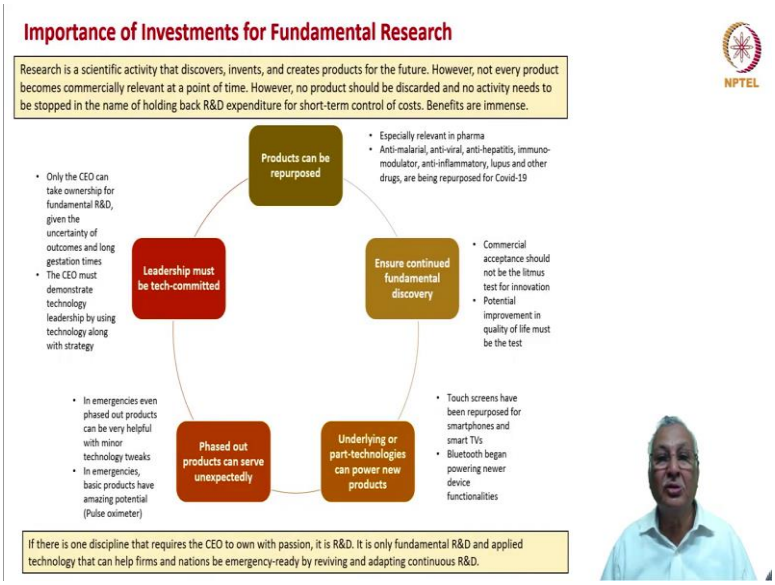

We also must commit ourselves to continue investments for fundamental research. If you did not have products that could be repurposed, whether from anti-malarial, antiviral, anti-hepatitis, immuno modulator anti-inflammatory, lupus and other veterinary drugs as well, we would not be able to meet COVID in certain situations, with certain patients, this is especially relevant in pharma.

We need to have always a bank of drug candidates, which could be repurposed as and when required that is number 1. Number 2, we should have continued faith and belief in fundamental discovery, commercial acceptance of a product should not be the only litmus test for research or innovation. Potential improvement in quality of life, potential security for human lives that also must be the litmus test for fundamental research in pharmaceutical organization.

We should also understand that underlying part technologies can power new products, without sensory technologies we would not have been able to develop a new simple SpO 2 pulse oximeter measurement devices in this situation. Similarly, we could have had better monitoring of social distancing, and the impact of COVID in various communities through Bluetooth and other apps which are connected by Bluetooth.

In emergencies even phased out products can be very helpful with minor technology tweaks. Therefore, we should have always an abundant capability to revert back to old products so, that they can be stepped up in terms of availability. And most importantly leadership must be tech committed, I have also mentioned earlier that a good leader is one who understands technology, and knows how to deploy technology fruitfully.

A leader who thinks that technology is only for producing today's product and getting a few dollars or rupees, that leader would not be very effective leader for the long term for the society.

Only the CEO can take ownership for fundamental R&D, given the uncertainty of outcomes and the huge investments that are required. The CEO must demonstrate his faith and belief in technology leadership by using technology, along with strategy.

If there is one discipline that will differentiate a great CEO, a visionary CEO, from other CEO it is the commitment to research and development. It is only fundamental R&D and

applied technology that can help firms and nations be emergency ready by reviving and adopting continuous R&D. So, this is leadership plus.

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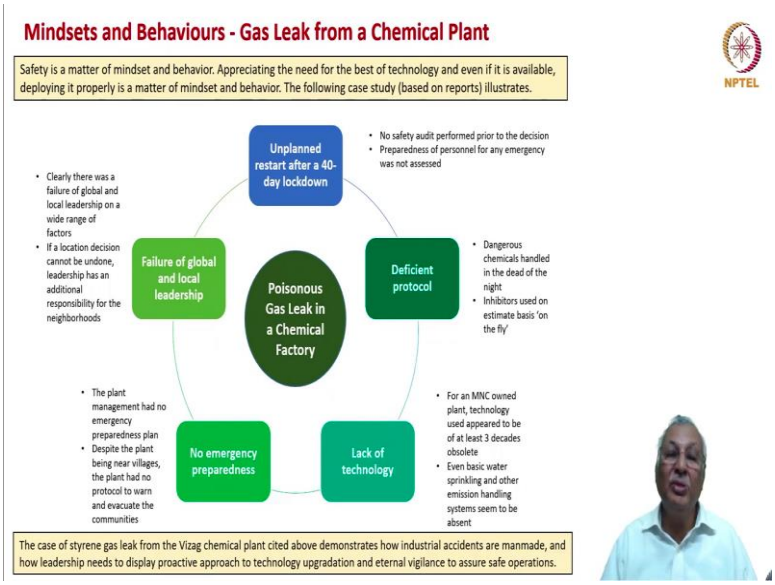

Let us look at the mind-set and behaviours from an actual case study example. This is an Indian plant of a global multinational, which operated in a city of Andhra Pradesh. After several weeks of lockdown, they recommence the production and there was a poisonous gas leak in that chemical factory, affecting several villages and causing mortality in certain human beings and lots of disturbance.

So, what were the causes for that unplanned restart after a 40-day lockdown, there was no safety audit that was performed prior to the decision. And personnel were not prepared for any emergency that was not assessed. Then, there was a deficient protocol itself, dangerous chemicals were handled in the dead of the night, inhibitors were used based on an on the fly estimation.

There was lack of technology for an MNC owned plant technology used appeared to be at least three decades obsolete. Even methodologies such as basic water sprinkling and other emission handling systems seem to be absent. There was no emergency preparedness at all, when you restart a chemical factory. It is very important that you have ambulances, sirens, and things like that at hand.

The plant had no emergency preparedness plan at all, the management was not visible and there was no felt leadership. Despite the plant being near villages, the plant had no protocol, to warn villagers in advance and evacuate the communities in case there was any adverse development.

And there was a failure of global and local leadership, because the MNC did not have its procedures imprinted on the local company, neither did the local company take the advice of the multinational corporation in terms of the standards and the procedures.

Even if a location decision cannot be undone, due to the efflux of time, leadership at least has the additional responsibility for the neighbourhoods. And therefore, for safe running of operation, this case which involved leakage of dangerous styrene gas from the tankers is a clear indication that industrial disasters are entirely man-made. By, having appropriate safety procedures and also having a safety culture, as an institutionalized DNA of each and every person in an industrial organization.

We can avoid these kinds of accidents and these of course, are based on reports. And probably there is a fair measure of truth in the reports as well, and from time to time we get several instructive lessons from the accidents that happen. And every company which is not impacted by such accidents directly must be alive to the risk that could happen at any point of time.

So, one should be very much aware that industrial accidents, workplace accidents are caused by mind-set issues, behaviour issues, by lack of appropriate safety culture. We should always keep in mind the safety pyramid.

One fatality means, there have been 300,000 unsafe acts or unsafe conditions. The more we do a vigilant safety review on a day to day basis of whatever is happening on the shop floor or at the workplace, the more we will be able to prevent serious accidents and even fatalities, that is the lesson that comes from leadership of industrial safety.

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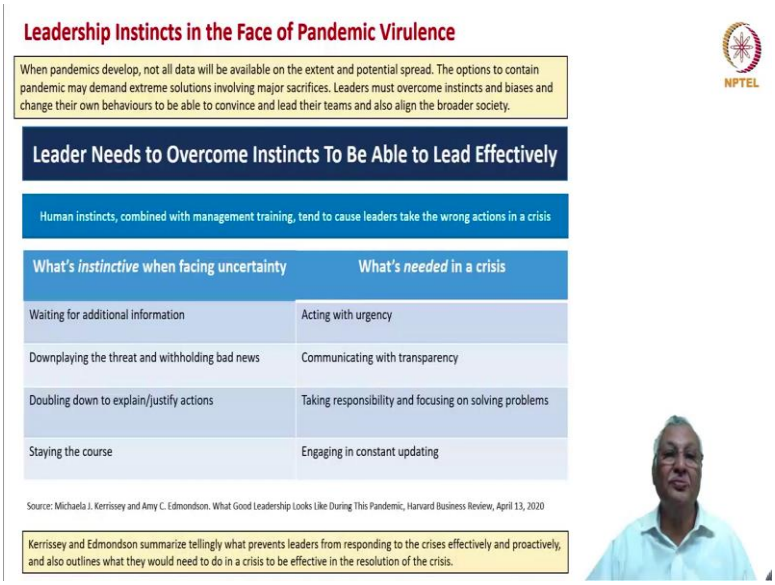

So, what are the leadership instincts in the place of pandemic virulence? Because there is something which we cannot predict our plan for so, we need to overcome instincts to be able to lead effectively. When you combine human instincts with management training and leadership wisdom, we can take correct actions.

On the other hand, if we are vulnerable to human instincts, and if you force ourselves through certain classical management methodologies we may take wrong actions as well. So, we have to understand what is instinctive and what is needed in a crisis.

When the instinct of management says that when you have uncertainty please get more data, you wait for additional information before you take a decision. But, when you are facing a crisis you must act with urgency. As a manager, when you face difficulty you tend to downplay and calm the nerves, and you withhold the bad news hoping that you will prepare the organization through other means to overcome that.

But, when you have a pandemic there is no time to lose, you have to communicate fast and with transparency. You tend to double down to explain and justify actions in a normal instinctive management, but here you must take responsibility and focus on solving problems. And you must stay on the course with production or marketing, when it is normal issue, but when pandemics are involved, you must engage yourself in constant updating.

So, there is an article by Kerrissey and Edmondson in Harvard business review, which tellingly summarizes what prevents leaders from responding to the crisis effectively and

proactively. It also outlines what they would need to do in a crisis to be effective. So, that the crisis is resolved.

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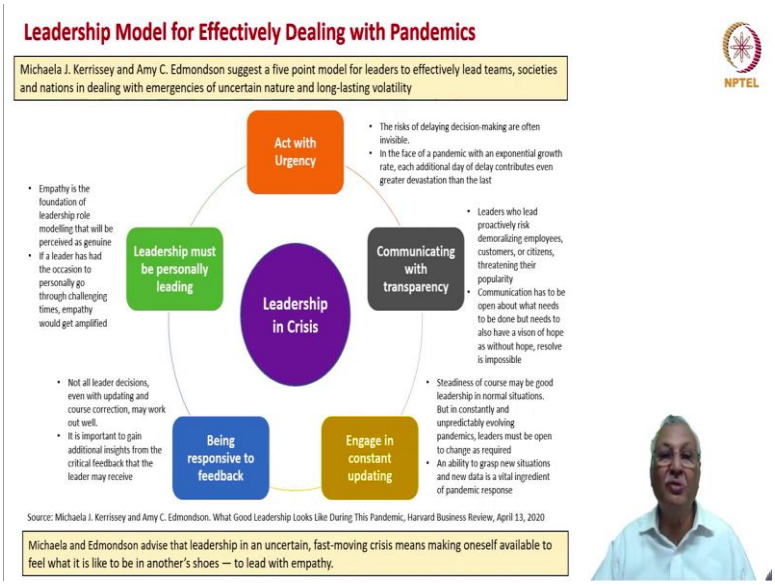

What is the leadership model for effectively dealing with pandemics? The same author suggests a five-point model for leaders to effectively lead times, societies and nations, in dealing with emergencies of uncertain nature and long lasting volatility. Fundamentally leadership in crisis has got five parameters, one - you must act with urgency. The risks of delaying decision would only snowball the impact of a pandemic.

In the face a pandemic with an exponential growth potential each additional day of delay contributes to an even greater devastation, you must communicate with transparency, see communicating with transparency is the second arm of the crisis leadership model. In this you have a double edged sword, if you communicate far too much you may be risking becoming unpopular with the employees, with the customers, with the vendors, or even citizens.

At the same time, communication has to be there and it also has to be open, objective and terminal. So, how to balance your communication message that is very important for the leader, it must be a message of hope, because without hope there cannot be a resolve in the human mind and without a resolve there cannot be solution.

So, communicating with transparency and openness is the second pillar. The third one is engage in constant updating, when you have crisis of the pandemic proportion developments vary on a day to day basis.

You got to be clear, that is what the governments are doing, when they talk about this active cases when they talk about the cases discharged, when they talk about the fatalities and that too collecting information from the nook and corner of the country.

It is engaging with people in terms of constant updating, the more the statistics are provided with transparency. The more the engagement of the governments and bodies is visible to the people, the greater will be the confidence level.

That provides in people and ability to grasp the new situation and get led by the leaders as appropriate. One should also be responsive to feedback; it is not that all leader decisions, all governmental decisions or all the organization decisions would be perfect. Leaders must be open to feedback and see what works and what does not work.

It is important to gain additional insights from the critical feedback, that the leader may receive. There have been cases where whole communities were cordoned off initially in the name of containment, but leaders were open to the feedback. And they understood that it is not necessary to brand the entire community, as necessitating containment only that particular house which is impacted by COVID must be contained.

So, the number of containment zones in terms of the spread has been significantly reduced, and along with that the disease also was controlled the virus was also controlled the chain was broken. So, being open to feedback is also one of the hallmarks of leadership in crisis situations. And most importantly, leadership must be personally leading, empathy is the foundation of leadership role modelling that will be perceived as genuine in a pandemic situation.

Because, the society at large is suffering, the leader must be empathetic to the needs of the society. If a leader has had the occasion to personally go through challenging times, empathy would get amplified even further. Leadership in an uncertain fast moving crisis situation means making oneself available, to feel what it is like to be in another shoes that will provide the capability to lead with empathy. That is the leadership model which is required to deal with pandemics.

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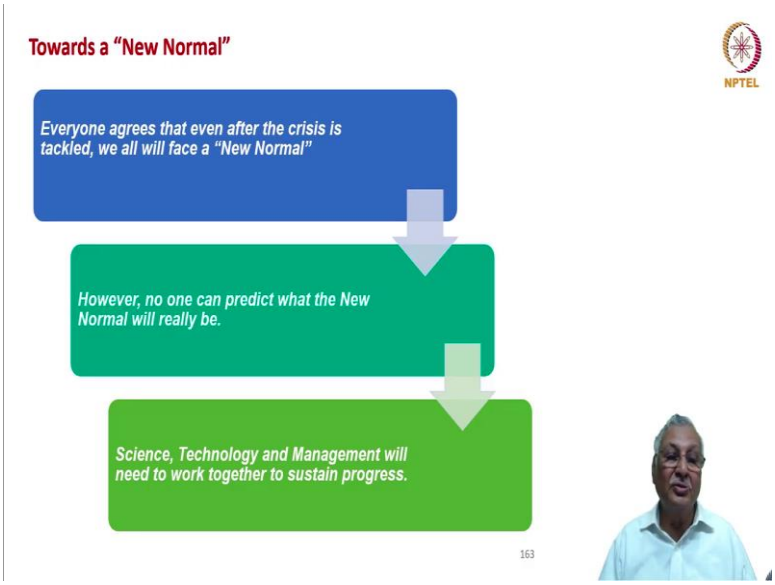

Whenever you are beset with the crisis sooner or later you will return to the normal, when you are beset with a pandemic of unprecedented proportions such as COVID-19 the normal will be new. And what is the new normal? No one can really predict at this point of time, but everybody agrees that even after the crisis is tackled, we all will face a new normal.

Because, we cannot predict what is the new normal, we should use science, technology and management in a prudential manner and in a collaborative manner. So, that we can sustain the progress we have made as a humanity in handling a pandemic of unprecedented proportions.

That is the lesson we all have learned through the COVID crisis. And similar lessons we need to learn from every accident, every incident, every disaster we read about or we see in our lives. Because, from everything, we can learn lessons, leadership can be strengthened greater fortitude, greater resilience, greater pro activeness, greater agility can be brought in, brought into our leadership personality to be able to handle crisis situations.

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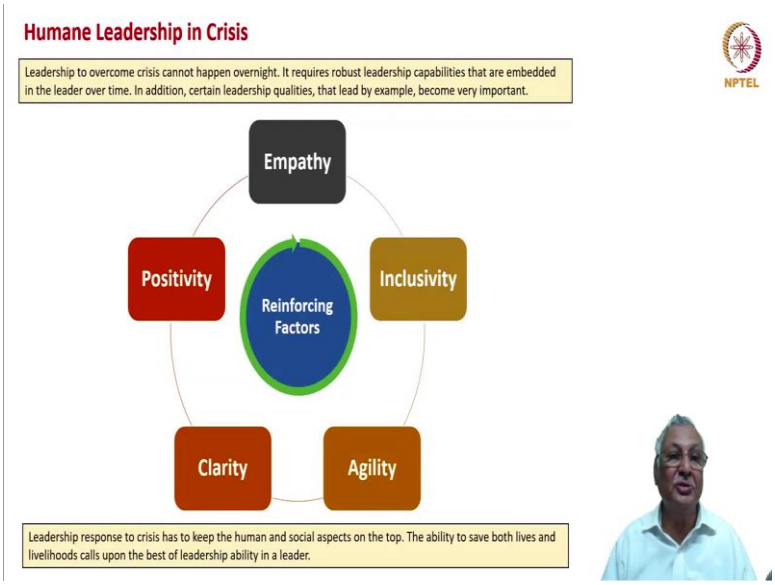

So, I would end this saying that we need humane leadership in crisis. Leadership to overcome crisis cannot happen overnight, it must be a leadership personality that is developed over several years. And, which can display itself when crisis are faced, it requires robust leadership capabilities that are embedded in the leader over time. In addition, certain leadership qualities that lead by example become very important. What are these reinforcing factors?

As we discussed in the previous slides, empathy, to be able to be in other shoes suffer along with the society, while leading the society out of the suffering that is extremely important. Inclusivity - taking everyone along irrespective of the affiliations in the movement to overcome the crisis, that is extremely important. Agility, in grasping the problem, and studying the problem and also developing a solution, Clarity of thought, that is I am in executing this path; however, if the path is not providing appropriate results. I will have the clarity and openness to change the path or take additional feedback come up with more creative solution.

And most importantly positivity you should never lose hope. Because, hope is the bulwark of resolve and resolve is the bulwark of strength to solve a problem.

Leadership response to crisis has to keep the human and social aspects on the top, the economic aspects cannot be ignored, but the impact of economic aspects on the human and social aspects merit deep attention.

The ability to save and protect both lives and livelihoods calls upon, the best of leadership ability in a leader when faced with the disasters, which are either manmade or natural, and in handling pandemics which cannot be predicted and which could pose unprecedented risks to the humanity.

That is human leadership and humane leadership in crisis. It is important that leadership absorbs all of these insights from things that happen all around us and which have characterised 2020 as a year of discontinuity in terms of all these factors.

It has taught everyone a lesson and there are more lessons for leadership than for any other domain in this crisis that has happened. And by virtue of leader's ability to use all the factors of production, as we said science and technology, natural resources etcetera etcetera.

Leader has got higher responsibility, probably the highest responsibility to ensure that he or she stays in control of the response measures to contain the crisis and move the society to safe landing.

Thank you.