

Vice President calls for fast-tracking of genome sequencing of new COVID-19 variants to speed up vaccine, drug development

VP urges international partnership to study developing a universal vaccine for various variants

Vaccine drive should become a national movement:  
Shri Naidu

VP visits CCMB's LaCONES (Laboratory for the Conservation of Endangered Species)

Compliments CCMB for its role in COVID-19 mitigation,

Lauds LaCONES for developing several biotechnology tools for wildlife conservation

VP refers to the impact of climate change and stresses the importance of protecting and preserving our ecosystems

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The Vice President visited CCMB's LaCONES (Laboratory for the Conservation of Endangered Species) facility soon after his arrival in Hyderabad. He witnessed a presentation by Scientist-in-charge of LaCONES, Dr. Karthikeyan Vasudevan and visited National Wildlife Genetic Resource Bank, Assisted Reproduction Lab and animal cages at the facility.

Addressing scientists and research scholars, Shri Naidu observed that sequencing, as an adjunctive tool, plays a critical role in identifying the emergence of new viral mutations and thus helps combat the spread of Covid-19. It would also help in timely interventions, he added.

Stating that the need for genome sequencing of new variants becomes crucial in the light of reports of big cats contracting COVID-19 in a few zoos in the country, Shri Naidu pointed out species jump of a virus—from humans to animals or vice versa—could lead to new variants and pose fresh challenges in the ongoing fight against the pandemic.

The Vice President also stressed the need for strengthening international collaborations by research institutions to study the feasibility of developing a universal vaccine that could neutralize various SARS-CoV-2 variants.

Appealing to the people to shed vaccine hesitancy, Shri Naidu reiterated that vaccines made in India are safe and effective and everyone should get vaccinated and encourage others to do so too. He called for cultural and sporting icons to become active partners in the drive and motivate people to go for vaccination. "Vaccination drive should become a national movement", he stressed.

Complimenting CCMB for its contribution to the cause of COVID-19 mitigation, Shri Naidu referred to the need for strong collaborative arrangements between institutions and added that LaCONES-CCMB, was rightly positioned to make linkages at both national and international levels, to understand the emergence of infectious diseases and prevent such pandemics in the future.

He also observed that LaCONES has recently released guidelines in collaboration with the Central Zoo Authority and Ministry of Forestry, Environment and Climate Change for the zoo frontline workers on COVID-19 investigation for captive animals.

Pointing out that the easy transmissibility of Coronavirus poses many challenges, he said the way in which it might infect new hosts or other species will be an important area of research. "This is where CCMB can take a lead and shed some valuable light", he added.

Lauding LaCONES for having developed several biotechnology tools for wildlife conservation, including those for assisted reproduction and forensics, the Vice President referred to successful reproduction of blackbuck, spotted deer, rock pigeon and endangered mouse deer and suggested that similar efforts should be extended for Hangul deer in Kashmir, Wild buffalos in Chattisgarh and Red Panda in Darjeeling.

He expressed his happiness that the National Wildlife Genetic Resource Bank at LaCONES is one among an exclusive league of 23 such labs in the world.

Referring to the activities of LaCONES and the formation of a consortium involving five zoos to promote bio-banking of endangered species, he termed it "a timely initiative". Touching upon the impact of climate change on all life forms, Shri Naidu pointed out that India has some of the most bio-diverse regions and is home to a wide range of ecosystems.

In order to mitigate climate change, the Vice President said that a massive afforestation programme is the need of the hour and that everyone should actively participate in planting trees in their communities and localities.

"We not only need to protect and preserve our ecosystems but also make every effort for conservation of endangered species for the well-being of animals, plants and humans", he added and expressed confidence that the modern bio-technological tools will help in mitigating the adverse effects on wildlife and ecosystems.

During the visit, the Vice President released a book 'An Introduction to Genetic Resource Banks for Wildlife Conservation'. He also interacted with research scholars and inquired about their work.

Shri Mahmood Ali, Telangana Home Minister, Dr. Vinay Nandicoori, Director, CCMB, Dr. Karthikeyan Vasudevan, Scientist-in-Charge CCMB-LaCONES, R. Shobha, Chief Wildlife Warden Telangana, scientists and research scholars were present during the event.

**Following is the full text of the speech:**

“Dear Sisters and brothers,

I am delighted to visit CCMB’s Laboratory for the Conservation of Endangered Species (LaCONES), interact with all of you and acquaint myself with the excellent work being done in this lab.

As a matter-of-fact, I have embarked on a ‘Knowledge Mission’ since assuming the office of the Vice-President of India and have visited different research institutes, universities, IITs and IIMs, among others. The aim is to not only enhance my knowledge and understanding of the work being carried out in various institutions, but also to motivate youngsters to look beyond the ordinary and break new ground in their chosen fields. In other words, it is imperative to be innovative in the fast-changing world ruled by technology and innovation.

We are meeting under the shadow of a once-in-a-century pandemic with COVID-19 wreaking havoc across the globe. Tens of thousands of lives have been lost while livelihoods and economies have been hugely impacted. Our lifestyles have altered dramatically, and all of us are witnessing and adapting to a new normal. This is also the time for scientific institutions to rise to the occasion, intensify their efforts in finding ways to combat the pandemic and meet future threats.

With SARS-CoV-2 mutating frequently, we are seeing the emergence of new variants that are causing faster transmissibility. This is a cause for concern and calls for stepped up efforts from scientists to neutralize its ability to spread rapidly. I think there is a need to fast-track genome sequencing of the new variants to speed up development of suitable vaccines and drugs. Perhaps, international collaborations by research institutions have to be intensified and the feasibility of developing a universal vaccine that can neutralize various variants needs to be studied.

Specialized research focusing on sequencing would help in timely interventions during the ongoing pandemic. Sequencing, as an adjunctive tool, plays a critical role in identifying the emergence of new viral mutations and thus helps combat the spread of Covid-19.

The need for genome sequencing of new variants becomes crucial in the light of reports of big cats contracting COVID-19 in a few zoos in the country. As you all are aware, species jump of a virus—from humans to animals or vice versa—can lead to new variants and pose fresh challenges in the ongoing fight against the pandemic.

The challenge posed by the pandemic has made several organisations to reorganize themselves and deliver in a timely manner. The scale of the impact demands extraordinary efforts and strong collaborative arrangements between institutions. LaCONES-CCMB, I feel, is rightly positioned to make these linkages at both national and international levels, to understand the emergence of infectious diseases and prevent such pandemics in the future.

I am told that LaCONES is one of the four centres in the country that can test animal samples for COVID-19 infection. I am happy to note that it has recently released guidelines in collaboration with the Central Zoo Authority and Ministry of Forestry, Environment and Climate Change for the zoo frontline workers on COVID-19 investigation for captive animals.

I would also like to compliment CCMB for its contribution to the cause of COVID-19 mitigation that includes the establishment of rapid diagnostics, genome sequencing and surveillance. I am happy to note that scientists at CCMB have been closely monitoring the spread of the Corona virus in India and its rapid evolution. Research done at CCMB has also shown that Corona virus spreads through air and that it can be detected in sewage and wild animals. The easy transmission of this virus poses many challenges, and the way in which it might infect new hosts or other species will be an important area of research. This is where CCMB can take a lead and shed some valuable light.

I am told the idea to set up LaCONES, a unique facility, was mooted in the early 1990s when India did not have a lab to study genetic variation and reproductive fitness for wildlife samples. Since its inception, LaCONES has developed several biotechnology tools and used them for wildlife conservation.

The universal primer technology pioneered by LaCONES has strengthened wildlife forensics in the country by providing a powerful tool to bring offenders to trial and deliver justice. The technology enables identification of an animal just by its tissue samples. This has empowered the state forest departments to implement protection measures. The benefits of this technology have been extended to prevent illegal trade of wild animals, wild plants and their parts.

I am happy to note that LaCONES scientists, using DNA from animals as the source of information, have helped star tortoises to be repatriated back to their home in Nallamala hills after they were rescued from smugglers.

It gladdens me to learn that the National Wildlife Genetic Resource Bank at LaCONES is one among an exclusive league of 23 such labs in the world. I am told that scientists at LaCONES have developed technologies for assisted reproduction and have successfully reproduced black buck, spotted deer and rock pigeon using these advanced technologies. In Nehru Zoological Park, endangered mouse deer have been successfully raised from a few individuals to more than 250. The deer have now been successfully released in the forests of Amarabad. Similar efforts should be extended for Hangul deer in Kashmir, Wild buffalos in Chattisgarh and Red Panda in Darjeeling!

I am pleased to note that the activities of LaCONES involving zoos have prompted the formation of a consortium involving five zoos from different parts of the country to promote bio-banking of endangered species. This is a timely initiative. I am sure, this consortium and others will take full advantage of this bio-banking facility.

With the ongoing climate change, there is an undeniable impact on all life forms around us, including humans. India, as you all are aware, has some of the most bio-diverse regions and is home to a wide range of ecosystems such as forests, grasslands, wetlands, deserts and coastal and marine ecosystems. We not only need to protect and preserve our ecosystems but also make every effort for conservation of endangered species for the well being of animals, plants and humans.

I have always been stressing the need to protect nature and preserve culture for a better future.

I am sure that the modern biotechnological tools will help in mitigating the adverse effects on wildlife and ecosystems.

Before concluding, I would like to appeal to people to shed vaccine hesitancy and take the required doses of the vaccine. The need of the hour is to create awareness among people that vaccines would provide a high degree of protection and even if infected, the disease will be less severe. At the same time, people should not lower their guard. Everyone should follow COVID-19 appropriate behaviour by avoiding large gatherings, maintaining social distancing, wearing masks and remaining in well-ventilated areas.

And once COVID-19 is behind us, it would have also taught us the importance of being technologically ready to deal with other infectious diseases in our country. It is now imperative that India pays greater attention to zoonotic diseases that impact both animals and humans. There are many reports that connect climate change to emerging infectious diseases. So, I do hope that CCMB, LaCONES, other research institutes and public health organizations in India would expand their facilities to perform surveillance using rapid genome sequencing platforms.

Undoubtedly, a strong focus should be on 'One health'. This idea is already embodied in '*Maha Upanishad*' as "*Vasudhaiva Kutumbakam*" or "The entire world is a family". I urge our scientists to strive in making India self-reliant and a global leader in public health and in dealing with emerging health challenges in the future.

Jai Hind!"

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**MS/RK/DP**

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