

Press Release from Science and Technology Department (DST), Government of Sikkim
National Scientific Collaboration Accelerates Efforts to Revive Large Cardamom Cultivation
New Delhi, April 15, 2026: In a significant step towards revitalizing India's iconic large cardamom sector, the first review meeting of a major multi-institutional collaborative project, funded by the Department of Biotechnology (DBT), Government of India, was held at the International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi. The meeting was chaired by Dr. Ramesh V. Sonti, Director, International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi.

The meeting brought together senior officials from the Government of Sikkim and leading scientists from premier biotechnology institutions, including Dr. Sandeep Tambe, Principal Secretary, Science and Technology Department (DST), Government of Sikkim; Dr. Dhiren Shrestha, Secretary, Science and Technology Department (DST), Government of Sikkim; Dr. Ashwani Pareek, Executive Director, National Agri-Food Biotechnology Institute (NABI), Mohali; Dr. Debasis Chattopadhyaya, Director, National Institute of Plant Genome Research (NIPGR), New Delhi; Dr. Nanaocha Sharma, Scientist-Incharge, Institute of Bioresources and Sustainable Development (IBSD), Imphal; Dr. Gopaljee Jha, Scientist, NIPGR, New Delhi; Dr. Neeti Sanan-Mishra, Group Leader, Plant RNAi Biology, ICGEB, New Delhi; Dr. Amey Redkar, Reader and Professor, National Centre for Biological Sciences (NCBS), Bengaluru; Dr. Jayeeta Bhaumik, Scientist, NABI, Mohali; Dr. K. Jeyaram, Scientist, IBSD, Sikkim Centre; Dr. Pardeep Kumar Bhardwaj, Scientist, IBSD, Shillong; Dr. Nimaichand Salam, Scientist, NABI, Mohali; Dr. Sanjana Negi, Scientist, NABI, Mohali; Dr. K. B. Subba, Scientific Officer, Science and Technology Department (DST), Government of Sikkim; and Dr. Sushen Pradhan, Assistant Scientific Officer, Science and Technology Department (DST), Government of Sikkim, along with scientists and researchers from participating institutions.

Dr. Sandeep Tambe, in his keynote remarks, emphasized the urgent need to revive large cardamom cultivation, which has been severely impacted by disease and declining productivity. Highlighting the State Government's flagship initiative "Mero Alaichi Mero Dhan", he reaffirmed Sikkim's commitment to restoring the crop's vitality under the leadership of the Hon'ble Chief Minister.

Drawing from recent baseline survey findings, he noted that disease incidence remains the primary driver of decline, while conventional replanting practices have proven inadequate, with plantations surviving only 5–6 years and yielding limited harvests. He expressed appreciation to all partner institutes for their collaborative efforts under the leadership of Dr. Ramesh V. Sonti and acknowledged the continued support of DBT, Government of India.

Welcoming the participants, Dr. Ramesh V. Sonti emphasized the national importance of large cardamom and commended the collaboration among leading biotechnology institutions. He expressed confidence that advanced biotechnological interventions will deliver sustainable solutions and urged all stakeholders to work collectively to achieve impactful outcomes.

The meeting showcased encouraging scientific progress across multiple fronts. Researchers reported the identification of promising bacterial isolates from Sikkim's cardamom fields, exhibiting strong antifungal activity and growth-promoting properties. These findings hold immense potential for developing next-generation biocontrol solutions to combat blight disease and enhance productivity. Field trials are planned at the Biotechnology Research and Application Centre, DST Farm, Sajong.

Significant advancements were also reported in RNAi-based antiviral strategies targeting Chirkey and Foorkey diseases, alongside the development of rapid viral detection kits. Genome editing work has been initiated successfully, supported by tissue culture systems, while speed breeding protocols are being optimized.

Innovative bio-based solutions, including antifungal proteins and peptides derived from bacteria and lignin-based formulations from agricultural waste, are showing promising results for sustainable disease management and improved field applicability.

The project has also made notable progress in virus detection for the production of virus-free planting materials. Studies on endophytic fungal interactions, cultivar tolerance, and identification of effective biocontrol agents are ongoing.

It was decided that the next review meeting will be held in October 2026 at Gangtok to review one year of progress. The meeting concluded with optimism that the coordinated efforts of national research institutions, along with field-level initiatives led by the Science and Technology Department (DST), Government of Sikkim, will play a pivotal role in reviving large cardamom cultivation in the region.