PROCEEDINGS OF THE 144th MEETING OF THE GENETIC ENGINEERING APPRAISAL COMMITTEE HELD ON 22.02.2022

The 144th meeting of the Genetic Engineering Appraisal Committee (GEAC) of the Ministry of Environment, Forest and Climate Change (MoEF&CC) was held on 22.02.2022 virtually through video conferencing. The meeting was chaired by Shri Naresh Pal Gangwar, Additional Secretary, MoEF&CC. The list of participants is placed at **Annexure.**

At the outset, Shri Naresh Pal Gangwar, Chairperson, GEAC welcomed all the members and requested the Member Secretary to start the discussion on agenda items.

Agenda Item No. 1: Leave of absence

Three Members communicated their inability to attend the 144th meeting of GEAC, namely Prof. P. Balasubramanian, Dr. Dinesh K Agarwal, and Dr. N. Sathyanarayana.

Decision:
Leave of absence was granted to the members who could not attend the meeting.

Action: GEAC Secretariat

Agenda Item No. 2: Confirmation of minutes of the 143rd GEAC meeting

Minutes of the 143rd GEAC meeting were circulated to all the members for comments and minutes were suitably amended to incorporate the comments received from the members.

Decision:
Members confirmed the minutes of the 143rd GEAC meeting.

Action: GEAC Secretariat

Agenda Item No. 3: Action taken report on the decision taken in the 143rd GEAC meeting

Member Secretary, GEAC briefed about the action taken on the decisions at the 143rd meeting of GEAC. He informed that letters communicating GEAC decisions had been issued to applicants.

Decision:
The Committee noted the actions taken by the Secretariat.

Action: GEAC Secretariat

Agenda Item No. 4: Applications related to Commercial/ Environmental release

4.1 Application for Environmental approval /NOC to commence commercial production of Recombinant *Gallus gallus* (chicken) Ovalbumin (Protein two) in *Pichia pastoris* for non-therapeutic applications by M/s Laurus Bio Private Limited (Formerly Richcore Lifesciences Pvt. Ltd.), Bengaluru.

The proposal of M/s Laurus Bio Private Limited (Formerly Richcore Lifesciences Pvt. Ltd.), Bengaluru seeking environmental approval for commercial production of Recombinant *Gallus gallus* (chicken) Ovalbumin (Protein two) in *Pichia pastoris* for non-therapeutic applications was deliberated by the committee.

Decision:

The application of M/s Laurus Bio Private Limited, Bengaluru seeking environmental approval for commercial production of Recombinant *Gallus gallus* (chicken) Ovalbumin (Protein two) in *Pichia pastoris* for non-therapeutic applications was recommended by the committee subject to the following conditions:

a. M/s Laurus Bio Private Limited registers its IBSC with the RCGM. The project should be implemented under the oversight of IBSC of the applicant with regular annual reports to RCGM.
b. Submission of Environmental Risk Management and Safety Plan (ERMP) within 3 months to this Ministry;
c. Submission of compliance report on ERMP plan every six months to the concerned Regional Office of this Ministry;
d. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises. The remnants of ZLD in the form of solids, solid waste should be treated and made chemically and biologically inert and disposed off, as per the characteristics, either at Hazardous Waste Disposal Landfill or a municipal sanitary landfill at a secure location. The records of generation, treatment, recycled/reused and disposal shall be maintained and submitted to SPCB at regular intervals of twice in a year, on 15th October (for April-September) and 15th April for October to March).
e. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
f. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
g. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/ information/monitoring reports.
h. The material produced at commercial level would be shipped back to the client's facility or their recommended analytical facility for testing purpose and would not be utilized in India.
i. Approval from FSSAI may be sought if used for human consumption or any other purpose in India.

The Review Committee on Genetic Manipulation (RCGM) to examine and submit a Risk Assessment and Risk Management Plan to GEAC, which would be shared with applicant for compliance.

Action: GEAC Secretariat

4.2Application for Environmental approval /NOC to commence commercial production of Recombinant *Bos taurus* (Bovine) Beta-Lactoglobulin (major whey protein) in *Pichia pastoris* for non-therapeutic applications by M/s Laurus Bio Private Limited (Formerly Richcore Lifesciences Pvt. Ltd.), Bengaluru.

The proposal of M/s Laurus Bio Private Limited (Formerly Richcore Lifesciences Pvt. Ltd.), Bengaluru seeking environmental approval for commercial production of Recombinant *Bos taurus* (Bovine) Beta-Lactoglobulin (major whey protein) in *Pichia pastoris* for non-therapeutic applications was deliberated by the committee.

Decision:

The application of M/s Laurus Bio Private Limited, Bengaluru seeking environmental approval for commercial production of Recombinant *Bos taurus* (Bovine) Beta-Lactoglobulin (major whey protein) in *Pichia pastoris* for non-therapeutic applications was recommended by the committee subject to the following conditions:

a. M/s Laurus Bio Private Limited registers its IBSC with the RCGM. The project should be implemented under the oversight of IBSC of the applicant with regular annual reports to RCGM.
b. Submission of Environmental Risk Management and Safety Plan (ERMP) within 3 months to this Ministry;
c. Submission of compliance report on ERMP plan every six months to the concerned Regional Office of this Ministry;
d. Zero Liquid Discharge shall be ensured and no waste/treated water shall be discharged outside the premises. The remnants of ZLD in the form of solids, solid waste should be treated and made chemically and biologically inert and disposed off, as per the characteristics, either at Hazardous Waste Disposal Landfill or a municipal sanitary landfill at a secure location. The records of generation, treatment, recycled/reused and disposal shall be maintained and submitted to SPCB at regular intervals of twice in a year, on 15th October (for April-September) and 15th April for October to March).
e. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
f. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
g. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
h. The material produced at commercial level would be shipped back to the client's facility or their recommended analytical facility for testing purpose and would not be utilized in India.
i. Approval from FSSAI may be sought if used for human consumption or any other purpose in India.

The Review Committee on Genetic Manipulation (RCGM) to examine and submit a Risk Assessment and Risk Management Plan to GEAC, which would be shared with applicant for compliance.

Action: GEAC Secretariat

4.3Application for Environmental approval /NOC for commercial production of Levodopa, using Category 1 GMO (*E. coli* grown upto a scale of 20 KL) in licensed from IIT Bombay and optimized as a part of SBIRI program by M/s Embio Limited, Mumbai.

The proposal of M/s Embio Limited, Mumbai seeking environmental approval for commercial production of Levodopa, using Category 1 GMO (*E. coli* grown upto a scale of 20 KL) in licensed from IIT Bombay and optimized as a part of SBIRI program was deliberated by the committee.

Decision:

It was informed to the committee that as per the notification issued by Ministry of Environment, Forests, and Climate Change on 20th September 2006 wherein the recombinant pharmaceutical products are exempted from the provisions of rules 7 to 10 of Rules, 1989; and as per the Regulations and Guidelines for Recombinant DNA Research and Biocontainment 2017, under section 3.2 (i) "In the guidelines, experiments beyond 100 litre capacity for research as well as industrial purposes are considered as large scale experimentation/ operations, which are generally used for the production of bioethanol, enzymes, biochemicals and proteins for non-therapeutic applications, etc.", only non-therapeutic applications are considered by GEAC.

The application of M/s Embio Limited, Mumbai seeking environmental approval for commercial production of Levodopa, using Category 1 GMO (*E. coli* grown upto a scale of 20 KL) may be forwarded to RCGM since it is a therapeutic application, the recommendation of GEAC is not required.

Action: GEAC Secretariat

Agenda Item No. 5: Applications related to Import/ Export

5.1Application for import of ZED-19 recombinant bacterial strain E Coli BL21 DE3 for the manufacture of Synthetic (S)-Nicotine by M/s Harman Finochem Limited, Mumbai.

The proposal of M/s Harman Finochem Limited seeking NOC for import of Enzyme ZED-19 (Biomass) manufactured by EW Biotech GmbH Am Haupttor, Bau 366806237 Leuna Germany and supplied by Zanoprima Life Sciences Ltd (UK) was deliberated by the committee. In the application form filled by the applicant, the mentioned quantity per year of the imported biocatalyst is approximately 40,000 Kg and that of the (S)-Nicotine made is approximately 120,000 Kg. The applicant has also made a presentation before the committee.

Decision:

The application of M/s Harman Finochem Limited seeking NOC for import of Enzyme ZED-19 (Biomass) manufactured by EW Biotech GmbH Am Haupttor, Bau 366806237 Leuna Germany and supplied by Zanoprima Life Sciences Ltd (UK) was duly deliberated by the committee and the approval has been granted for import of 40,000 Kg Enzyme ZED-19 (biocatalyst) per annum.

Action: GEAC Secretariat

5.2Regarding the conditions mentioned in the environmental approval/ No Objection Certificate granted for the veterinary vaccine derived from a living modified organism by M/s Virbac Animal Health India Pvt. Ltd., Mumbai

The proposal of M/s Virbac Animal Health India Pvt. Ltd., Mumbai seeking for No Objection Certificate (NOC) for a veterinary vaccine derived from Living Modified Organism (Ranikhet Disease Vaccine Live (Lentogenic Strain), IP, KBNP –C4152R2L Strain) was initially considered in the 142nd GEAC meeting held on 11.05.2021 and the committee has directed the firm to get "initial 3 batches of the subject vaccine to be certified in IVRI before it is marketed in the country; obtain relevant approvals from Department of Animal Husbandry and Dairying, Drug Controller General of India etc. as per existing Indian laws applicable for import of vaccines; and the final data certified by IVRI to be presented before the GEAC for final approval, before it is marketed in the country."

Accordingly, M/s Virbac Animal Health India Pvt. Ltd., Mumbai has submitted NOC from the Department of Animal Husbandry and Dairying, and test reports of 3 batches analysed by Chaudhary Charan Singh National Institute of Animal Health (CCSNIAH), Baghpat-250609, Uttar Pradesh (as notified by Ministry of Health & Family Welfare) for the subject vaccine. The applicant has also made a presentation before the committee.

Decision:

After deliberations, the application of M/s Virbac Animal Health India Pvt. Ltd., Mumbai for import of veterinary vaccine derived from Living Modified Organism (Ranikhet Disease Vaccine Live (Lentogenic Strain), IP, KBNP –C4152R2L Strain) was recommended by the committee for marketing in the country.

Action: GEAC Secretariat

5.3Application for import and marketing of "Fowl Laryngotracheitis Marek's Disease vaccine, serotype 2 & 3, Modified Live & Live Marek's Disease Vector (Innovax ILT-SB)" Vaccine against active immunization as an aid in the prevention of Marek's Disease & Infectious Laryngotracheitis Disease in chicken by M/s Intervet India Pvt. Ltd., Pune.

The proposal of M/s Intervet India Pvt. Ltd., Pune for import and marketing of "Fowl Laryngotracheitis Marek's Disease vaccine, serotype 2 & 3, Modified Live & Live Marek's Disease Vector (Innovax ILT-SB)" Vaccine against active immunization as an aid in the prevention of Marek's Disease & Infectious Laryngotracheitis Disease in chicken was deliberated by the committee.

Decision:

The committee recommended the proposal of M/s Intervet India Pvt. Ltd., Pune for import and marketing of "Fowl Laryngotracheitis Marek's Disease vaccine, serotype 2 & 3, Modified Live & Live Marek's Disease Vector (Innovax ILT-SB)" Vaccine against active immunization as an aid in the prevention of Marek's Disease & Infectious Laryngotracheitis Disease in chicken subject to the following conditions:

i) Initial 3 batches of the subject vaccine to be certified in ICAR-Indian Veterinary Research Institute (ICAR-IVRI)

ii) Obtain relevant approvals from Department of Animal Husbandry and Dairying, Drug Controller General of India etc. as per existing Indian laws applicable for import of vaccines.

iii) The final data certified by IVRI to be presented before the GEAC for final approval, before it is marketed in the country.

Action: GEAC Secretariat

5.4Application for obtaining No Objection Certificate to import "Marek's Disease Newcastle Disease Vaccine, Serotype 3, Live Marek's Disease Vector (Brand Name: POULVAC PROCERTA HVT-ND) from USA for Veterinary use- Submission of ICAR-IVRI certificated test report by M/s Zoetis India Limited, Mumbai.

The proposal of M/s Zoetis India Limited, Mumbai for importing Marek's Disease Newcastle Disease Vaccine, Serotype 3, Live Marek's Disease Vector (Brand Name: POULVAC PROCERTA HVT-ND) from USA for Veterinary use was initially considered in the 141st meeting of the GEAC held on 24.11.2020 and the committee has directed the firm to get "initial 3 batches of the subject vaccine to be certified in IVRI before it is marketed in the country; to obtain relevant approvals from Department of Animal Husbandry and Dairying, Drug Controller General of India etc. as per existing Indian laws applicable for import of vaccines; and the final data certified by IVRI to be presented before the GEAC for final approval, before it is marketed in the country."

Accordingly, M/s Zoetis India Limited has submitted NOC from the Department of Animal Husbandry and Dairying, test reports of 6 batches analysed by ICAR-IVRI, and permission obtained from Drugs Controller General of India for the subject vaccine. The applicant has also made a presentation before the committee.

Decision:

After considering the IVRI test report, the application of M/s Zoetis India Limited, Mumbai for importing Marek's Disease Newcastle Disease Vaccine, Serotype 3, Live Marek's Disease Vector (Brand Name: POULVAC PROCERTA HVT-ND) from USA for Veterinary use was recommended by the committee for marketing in the country.

Action: GEAC Secretariat

5.5Application for import of *Saccharomyces Cerevisiae* (CelluX4 yeast) for the production of cellulosic ethanol by fermentation of rice straw hydrolysates at second generation ethanol plant of Indian Oil Corporation Ltd at Panipat Haryana by M/s Praj Industries Ltd., Pune.

The proposal of M/s Praj Industries Ltd for importing *Saccharomyces Cerevisiae* (CelluX4 yeast) for the production of cellulosic ethanol by fermentation of rice straw hydrolysates at second generation ethanol plant of Indian Oil Corporation Ltd at Panipat Haryana was deliberated by the committee.

GEAC in its 142nd meeting held on 11.05.2021 granted environmental approval for large scale production of cellulosic ethanol using CelluXTM 4 YEAST by Indian Oil

Corporation Ltd (IOCL) and directed IOCL to obtain separate permission while importing Cellux4 yeast from Leaf, USA. Accordingly, M/s Praj Industries Ltd., appointed by Indian Oil Corporation Ltd for supply of technology and CelluxX4yeast for the production of cellulosic ethanol, has submitted the application.

Decision:

The application of M/s Praj Industries Ltd., Pune for import of 10 Metric Tonnes of CellyX4 dry yeast (*Saccharomyces Cerevisiae*) per annum for the production of cellulosic ethanol by fermentation of rice straw hydrolysates at second generation ethanol plant of Indian Oil Corporation Ltd at Panipat Haryana has been recommended by the committee and suggested the firms to obtain separate approval from GEAC for large scale manufacturing.

Action: GEAC Secretariat

5.6Request for change of ownership of import approvals for 'Oil derived from herbicide tolerant soybean (Event FG72)' from BASF India Limited to Syngenta Biosciences Private Limited by M/s Syngenta Biosciences Private Limited, Pune.

The application of M/s Syngenta Biosciences Private Limited, Pune requesting for change of ownership of import approvals for 'Oil derived from herbicide tolerant soybean (Event FG72)' from BASF India Limited to Syngenta Biosciences Private Limited was deliberated by the committee. The applicant has also made a presentation before the committee.

Decision:

The committee has noted the change of ownership. Other statutory clearances, if any, has to be taken by the applicant.

Action: GEAC Secretariat

5.7Application for import of *Saccharomyces cerevisiae* (amgPS gene, amyJA126PE096 gene) for ethanol production using fermentation technology and to commercialize genetically modified active dried yeast strains to customers to produce bioethanol by M/s Novozymes South Asia Pvt. Ltd., Bangalore.

The proposal of M/s Novozymes South Asia Pvt. Ltd. for import of *Saccharomyces cerevisiae* (amgPS gene, amyJA126PE096 gene) which is a genetically modified dried yeast strain used for ethanol production utilizing fermentation technology and to commercialize genetically modified active dried yeast strains to customers for production of bioethanol was deliberated by the committee. The applicant has also made a presentation before the committee.

Decision:

The application of M/s Novozymes South Asia Pvt. Ltd. for import of *Saccharomyces cerevisiae* (amgPS gene, amyJA126PE096 gene) which is a genetically modified dried yeast strain used for ethanol production utilizing fermentation technology and to commercialize genetically modified active dried yeast strains to customers for production of bioethanol has been recommended by the committee. The committee also suggested the firms, whomsoever using the imported genetically modified active

dried yeast strains, has to obtain separate approval from GEAC for large scale manufacturing.

Action: GEAC Secretariat

5.8Application for import of *Fusarium Venenatum* for biomass production of Mycoprotein as a source of protein by M/s Acme Cleantech Solutions Private Limited., Gurgaon.

The application of M/s Acme Cleantech Solutions Private Limited for import of *Fusarium Venenatum* for biomass production of Mycoprotein as a source of protein was deliberated by the committee. The applicant has also made a presentation before the committee.

Decision:

The application of M/s Acme Cleantech Solutions Private Limited for import of *Fusarium Venenatum* for biomass production of Mycoprotein as a source of protein has been recommended by the committee subject to the conditions mentioned in FSSAI Letter No. 34/Std/PA/FSSAI/2021 dated 11.11.2021.

Action: GEAC Secretariat

5.9Application for obtaining No objection certificate for import and market of Lokivetmab Solution for Injection 10mg/ml, 20mg/ml and 40mg/ml (Brand Name: Cytopoint) for Veterinary use only by M/s Zoetis India Limited, Mumbai.

The application of M/s Zoetis India Limited for obtaining No objection certificate for import and market of Lokivetmab Solution for Injection 10mg/ml, 20mg/ml and 40mg/ml (Brand Name: Cytopoint) for Veterinary use was deliberated by the committee. The applicant has also made a presentation before the committee.

The committee also requested the applicant to share the Environmental Risk Assessment Plan and Safety Plan.

Decision:

The committee recommended the proposal of M/s Zoetis India Limited for import and market of Lokivetmab Solution for Injection 10mg/ml, 20mg/ml and 40mg/ml (Brand Name: Cytopoint) for Veterinary use subject to the following conditions:

i. Initial 3 batches of the subject vaccine to be certified in ICAR-Indian Veterinary Research Institute (ICAR-IVRI).
ii. Obtain relevant approvals from Department of Animal Husbandry and Dairying, Drug Controller General of India etc. as per existing Indian laws applicable for import of vaccines.
iii. The final data certified by IVRI to be presented before the GEAC for final approval, before it is marketed in the country.

Action: GEAC Secretariat

5.10Application for NOC for import of the Product Bursal Disease-Marek's Disease-Newcastle Disease Vaccine, Serotype 3, Live Marek's Disease Vector (VAXXITEK

HVT+IBD+ND) Veterinary Vaccine by M/s Boehringer Ingelheim India Private Ltd., Mumbai.

The proposal of M/s Boehringer Ingelheim India Private Ltd. seeking NOC for import of the Product Bursal Disease-Marek's Disease- Newcastle Disease Vaccine, Serotype 3, Live Marek's Disease Vector (VAXXITEK HVT+IBD+ND) Veterinary Vaccine was deliberated by the committee.

Decision:

The committee recommended the proposal of M/s Boehringer Ingelheim India Private Ltd. seeking NOC for import of the Product Bursal Disease-Marek's Disease-Newcastle Disease Vaccine, Serotype 3, Live Marek's Disease Vector (VAXXITEK HVT+IBD+ND) Veterinary Vaccine subject to the following conditions:

i. Initial 3 batches of the subject vaccine to be certified in ICAR-Indian Veterinary Research Institute (ICAR-IVRI).
ii. Obtain relevant approvals from Department of Animal Husbandry and Dairying, Drug Controller General of India etc. as per existing Indian laws applicable for import of vaccines.
iii. The final data certified by IVRI to be presented before the GEAC for final approval, before it is marketed in the country.

Action: GEAC Secretariat

5.11Application for NOC for import of a veterinary vaccine derived from a living modified organism (LMO) for Ranikhet Disease Vaccine (NDV-KBNP-C4152R2L Strain) by M/s Virbac Animal Health India Pvt. Ltd., Mumbai.

The proposal of M/s Virbac Animal Health India Pvt. Ltd. for import of a veterinary vaccine derived from a living modified organism (LMO) for Ranikhet Disease Vaccine (NDV-KBNP-C4152R2L Strain) was deliberated by the committee. The applicant has also made a presentation before the committee.

Decision:

The committee recommended the proposal of M/s Virbac Animal Health India Pvt. Ltd. for import of a veterinary vaccine derived from a living modified organism (LMO) for Ranikhet Disease Vaccine (NDV-KBNP-C4152R2L Strain) subject to the following conditions:

i. Initial 3 batches of the subject vaccine to be certified in ICAR-Indian Veterinary Research Institute (ICAR-IVRI) or Chaudhary Charan Singh National Institute of Animal Health (CCSNIAH), Uttar Pradesh (as notified by Ministry of Health and Family Welfare).
ii. Obtain relevant approvals from Department of Animal Husbandry and Dairying, Drug Controller General of India etc. as per existing Indian laws applicable for import of vaccines.
iii. The final data certified by IVRI/CCSNIAH to be presented before the GEAC for final approval, before it is marketed in the country.

Action: GEAC Secretariat

5.12Application for import of a veterinary vaccine derived from a living modified organism (LMO) for "Combined Newcastle Disease (KBNP-C4152R2L) & Avian Infectious Bronchitis (M41 Strain and & KM91 Strain), Inactivated Oil Vaccine" M/s Virbac Animal Health India Pvt. Ltd., Mumbai.

The proposal of M/s Virbac Animal Health India Pvt. Ltd. for import of a veterinary vaccine derived from a living modified organism (LMO) for Combined Newcastle Disease (KBNP-C4152R2L) & Avian Infectious Bronchitis (M41 Strain and & KM91 Strain), Inactivated Oil Vaccine was deliberated by the committee. The applicant has also made a presentation before the committee.

Decision:

The committee recommended the proposal of M/s Virbac Animal Health India Pvt. Ltd. for import of a veterinary vaccine derived from a living modified organism (LMO) for Combined Newcastle Disease (KBNP-C4152R2L) & Avian Infectious Bronchitis (M41 Strain and & KM91 Strain), Inactivated Oil Vaccine subject to the following conditions:

i. Initial 3 batches of the subject vaccine to be certified in ICAR-Indian Veterinary Research Institute (ICAR-IVRI).
ii. Obtain relevant approvals from Department of Animal Husbandry and Dairying, Drug Controller General of India etc. as per existing Indian laws applicable for import of vaccines.
iii. The final data certified by IVRI to be presented before the GEAC for final approval, before it is marketed in the country.

Action: GEAC Secretariat

Agenda Item No. 6: Additional Items for consideration/ information

6.1Application for Environmental approval of COVID 19 Vaccine (Sputnik Light) for manufacturing of COVID-19 vaccine using a Human Embryonic Kidney (HEK 293) host cells by M/s Stelis Biopharma Private Limited, Bengaluru-reg.

This is for information that GEAC (vide letter no. C-12013/13/2021-CS-III dated 21.09.2021) gave approval for manufacturing Sputnik Light COVID-19 vaccine using a Human Embryonic Kidney (HEK 293) host cells to express adeno viral vectors of rAD26-S-CoV2 which further produce spike protein after injecting into humans, developed by N. F. Gamaleya National Research Center, Moscow, Russia at units (III-DS and DP and II-DP) at following sites:

a. Unit-III (for production of DS and DP)- M/s Stelis Biopharma Private Limited (Unit-III), 68/A, 1st Phase, Bommasandra Industrial Area, Bommasandra, Bangalore, Karnataka-560099.
b. Unit-II (for production of DP)- M/s Stelis Biopharma Private Limited (Unit-II), Plot no. 2-D1, Obadenhalli, Doddaballapura 3rd Phase, Industrial Area, Doddaballapura, Bangalore, Karnataka-561203.

Action: GEAC Secretariat

The meeting ended with a vote of thanks to the Chair, Co-Chair and all the members.

Annexure

List of Participants

Official Members who participated			
1.	**Shri Naresh Pal Gangwar** Additional Secretary, Ministry of Environment, Forest & Climate Change, Indira Paryavaran Bhawan, Jorbagh, Aliganj, New Delhi	**3.**	**Shri Tarun Kathula** Scientist-F, and Member Secretary (GEAC), Ministry of Environment, Forests & Climate Change, JorBagh, Aliganj, New Delhi.
2.	**Dr. K. Veluthambi** Co-Chairman, GEAC and Professor (retd) & Head, School of Biotechnology, Madurai Kamaraj University, Madurai	**4.**	**Dr. Ashish Kumar** Joint Director, Ministry of Environment, Forest and Climate Change, New Delhi
Officials/ Expert members			
1.	**Dr. Nitin K. Jain** Scientist–F and Member Secretary RCGM Department of Biotechnology, C. G. O, Complex, Lodhi Road, New Delhi-110003	**9.**	**Dr. A.K. Singh** Head, Division of Genetics, IARI, New Delhi.
2.	**Dr. Ashok Bhatnagar** Former Professor, Department of Botany University of Delhi, New Delhi	**10.**	**Dr. Usha Rao** Assistant Controller of Patents & Designs, Patent Office, New Delhi
3.	**Dr. B. Venkateswarlu** Former Vice-Chancellor Vasantrao Naik Marathwada Krishi Vidyapeeth, Parbani (Maharashtra)	**11.**	**Dr. Yashpal Yadav** Central Pollution Control Board Parviesh Bhawan, CBD cum office complex, East Arjun Nagar, New Delhi- 110032
4.	**Dr. S. J. Rahman,** Principal Scientist & Univ. Head of Entomology, AICRP on Biological Control Agricultural Research Institute (ARI), Prof. Jayashankar Telangana State Agri. University, Rajendranagar, Hyderabad	**12.**	**Dr. S. K. Barik** Director CSIR- National Botanical Research Institute, Lucknow
5.	**Dr. Madhu Dikshit** Former Director CSIR-Central Drug Research	**13.**	**Dr. S De** Principal Scientist Animal Biotechnology Centre,

	Institute, Lucknow.		National Dairy Research Institute, Karnal.
6.	**Shri Jayant Gangakhedkar** Assistant Drugs Controller (I) Central Drugs Standard Control Organizations, FDA Bhawan Kotla Road, New Delhi-110002	**14.**	**Dr. Geeta Jotwani** Scientist F Indian Council of Medical Research, New Delhi.
7.	**Shri Sunil Bakshi** Food Safety and Standards Authority of India (FSSAI), FDA Bhawan, Kotla Road, New Delhi	**15.**	**Dr. P. Suprasanna** Scientific Officer H (level 14) Bio sciences Group, BARC, Mumbai.
8.	**Dr. Sushil Gupta,** Former Chairman, Central Ground Water Board, New Delhi	**16.**	**Dr. Lalitha Gowda,** Former Chief Scientist, CSIR-CFTRI Mysore, Karnataka-570020, India

Member who did not participate			
1.	**Prof. P. Balasubramanian** Former Director, Centre for Plant Molecular Biology, TNAU, Coimbatore	**3.**	**Dr. Dinesh K Agarwal** Principal Scientist, Incharge, Plant Breeding & Genetics, ICAR-Indian Institute of Seed Science Mau, U.P
2.	**Dr. N. Sathyanarayana** Joint Director Plant Protection Quarantine & storage, NH-IV, Faridabad, Haryana		