KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

Indian Institute of Science Campus, Bengaluru - 560012

REPORT ON 46th SERIES OF STUDENT PROJECT PROGRAMME (SPP)

STUDENT PROJECT PROGRAMME (SPP)

KSCST initiated Student Project Programme (SPP) during 1978–79 to support innovative engineering student projects to improve the quality of education in technical institutions. The SPP program has been playing a very important role in engineering education for the last forty-five years and has become a flagship program of the Council. Products, Services, Innovation and technologies are needed for self-reliance, sustainable development and livelihoods.

The main purpose of this program is to bring out the hidden talent and innovative spirit of young engineers graduating from colleges across the State. Under this program, the Council has been providing both technical and financial support to selected projects undertaken by the final year students of science and engineering colleges across the State. KSCST has been playing a crucial role in building confidence and enhancing the capabilities of engineers graduating from the colleges in the State. So far KSCST has conducted 46 series of uninterrupted events under SPP and since inception supported more than 15,314 projects of engineering and science students.

Many projects, sponsored under this program, deal with technology applications relevant to the State. This process has been ably assisted by more than hundred faculty and scientists of Indian Institute of Science (IISc), National Aerospace Laboratories (NAL), Central Manufacturing Technology Institute (CMTI), Karnataka State Council for Science and Technology (KSCST) and experts from various other research institutions and government departments. The Student Project Program of KSCST has attracted the attention of various incubation centers of engineering colleges, start-ups and technologists in the country.

The work discipline acquired by students in evolving and executing their projects, improves their analytical method and technical capabilities enabling better performance as professionals. The sponsorship, by Karnataka State Council for Science & Technology, has become a benchmark of quality for engineering student projects and these projects have been recognized and valued by both academic and industrial communities.

In this program, several completed projects have also been identified as promising and having commercial potential. Concerned faculty/students of such projects are encouraged to go ahead for further modification wherever required and to take-up field trials or for scaling up. Projects have always been diverse, reflecting the varied interests of the students/guides and some of them are found to be very innovative.

46th Series of Student Project Programme (SPP):

KSCST had invited project proposals from final year students of science and engineering colleges across the State. As per the recommendations of the expert committee, project proposals were invited during November 2022 from the final year BE, M.Tech, M.Sc, M.Tech/M.Sc. (Agriculture) & MBA students for sponsorship, under the 46th series of Student Project Programme (SPP).

The following are the broad themes/areas provided by the expert committee for the project proposal:

1. Non-conventional and/or composite building materials/structures
2. Low-cost modified transport system for village / rural/disabled community
3. Low-cost, eco-friendly potable water filtration
4. Automation or new concepts in agriculture (cultivation, raising crops, irrigation etc.)
5. User-friendly devices for aged or physically challenged people
6. Robotics / 3D printing / Cyber security
7. Innovative materials for acoustics and noise Control
8. E-Learning Technologies to villages / Panchayat levels
9. Bioenergy / Solar energy application at villages
10. Domestic bio / non-bio waste treatment/recycling
11. Newer techniques in Air Pollution Control
12. Newer techniques in treating domestic sewage / industrial effluents
13. Electro-Chemical Devices (Fuel Cells, Capacitors, Batteries, etc.)
14. Technologies relevant in the aftermath of Covid-19.

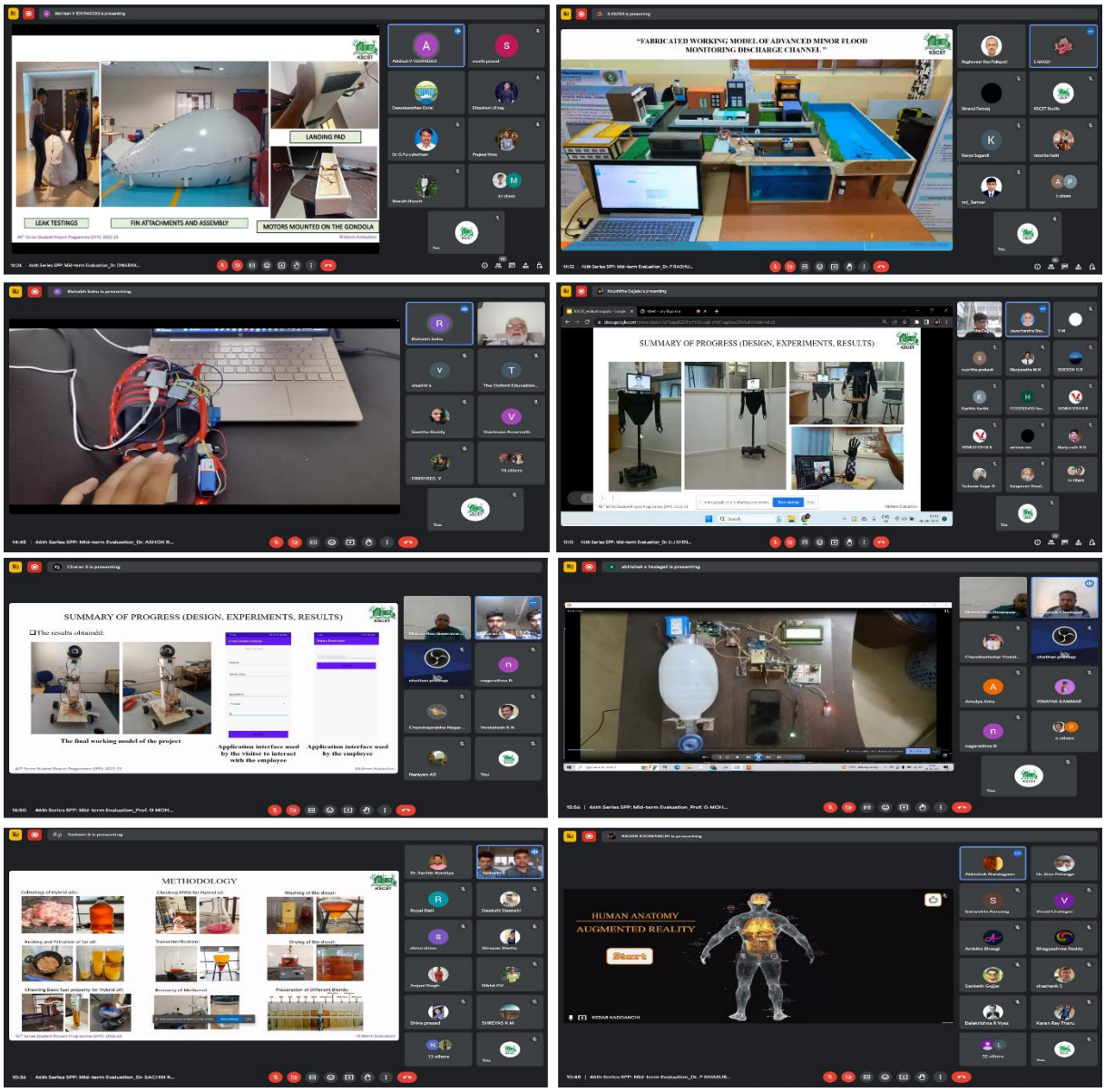
With these broad themes, KSCST received 5,961 project proposals from various disciplines from over 199 engineering colleges, universities and other institutions across the State. These project proposals were scrutinized by experts from the Indian Institute of Science (IISc), National Aerospace Laboratories (NAL), Central Manufacturing Technology Institute (CMTI), Karnataka State Council for Science and Technology (KSCST), and other institutions and have approved 1,494 project proposals to 197 institutions across the state with a financial support Rs. 76,36,000/- (Seventy-Six Lakhs Thirty-Six Thousand).

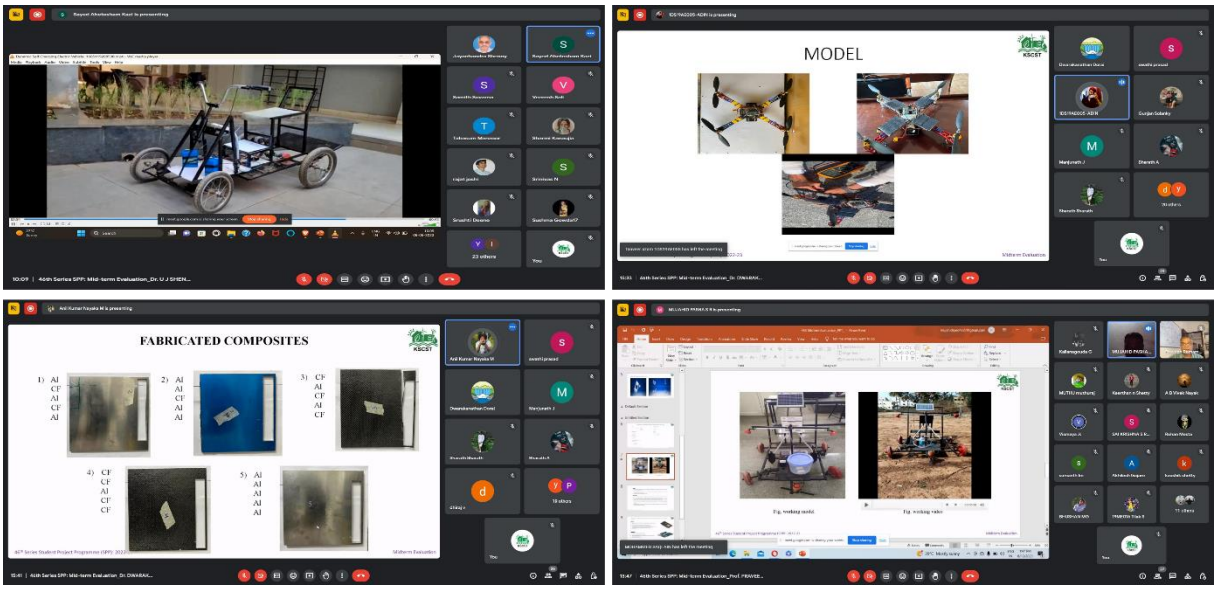
Sl. No.	Course	No. of Projects Received	No. of Projects Approved	Budget Sanctioned
1.	B.E.	5,521	1,354	68,22,500
2.	M.Tech	119	36	2,12,000
3.	M.Sc	167	54	3,84,000
4.	M.B.A.	121	43	1,84,500
5.	M.C.A.	33	7	33,000
		5,961	1,494	76,36,000

The sponsored 1,494 projects were evaluated by subject experts through online mode (Google Meet) from 29th May 2023 to 24th June 2023 during the mid-term evaluation. The evaluation primarily focused on the methodology and the interim output of the projects.

The evaluators recommended 443 projects of 149 institutes for the state-level Seminar and exhibition (204 projects for Seminar and 239 projects for Exhibition) scheduled to be held at Alva's Institute of Engineering and Technology, Moodubidire on 11th and 12th August 2023.

Glimpses of midterm evaluation conducted online





The details of projects selected for the seminar and exhibition branch wise is as follows:

Sl. No.	Branch	No. of Projects Received	No. of Projects Approved	No. of Projects Selected for Seminar	No. of Projects Selected for Exhibition
1.	AERONAUTICAL ENGINEERING	72	14	2	3
2.	AEROSPACE ENGINEERING	8	3	1	1
3.	APPLIED GEOLOGY	1	1	1	-
4.	ARTIFICIAL INTELLIGENCE AND DATA SCIENCE	4	1	-	-
5.	ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING	2	-	-	-
6.	AUTOMOBILE ENGINEERING	32	9	1	2
7.	BIG DATA ANALYTICS	3	1	-	-
8.	BIOCHEMISTRY	4	1	1	-
9.	BIOMEDICAL ENGINEERING	13	3	-	-
10.	BIOTECHNOLOGY	89	26	7	2
11.	BOTANY	3	3	2	-
12.	BUSINESS ANALYTICS	5	3	-	-
13.	CHEMICAL ENGINEERING	40	9	1	1
14.	CHEMISTRY	25	7	2	-
15.	CIVIL ENGINEERING	804	198	49	8
16.	CLINICAL RESEARCH	4	1	-	-
17.	COMPUTER AIDED DESIGN OF STRUCTURES	6	1	-	-
18.	COMPUTER NETWORKING	4	1	-	-
19.	COMPUTER SCIENCE	2	1	-	-
20.	COMPUTER SCIENCE AND ENGINEERING	1314	315	35	55

21.	COMPUTER SCIENCE AND ENGINEERING - INFORMATION SECURITY	3	2	-	-
22.	COMPUTER SCIENCE AND TECHNOLOGY	1	-	-	-
23.	COMPUTING AND INFORMATION TECHNOLOGY	2	-	-	-
24.	CONSTRUCTION TECHNOLOGY AND MANAGEMENT	21	5	2	-
25.	CYBER SECURITY	2	-	-	-
26.	DATA SCIENCE	1	1	1	-
27.	DIGITAL COMMUNICATION AND NETWORKING	5	1	-	-
28.	DIGITAL ELECTRONICS AND COMMUNICATION	2	1	-	-
29.	DIGITAL ELECTRONICS AND COMMUNICATION SYSTEMS	1	-	-	-
30.	ELECTRICAL AND ELECTRONICS ENGINEERING	430	100	9	27
31.	ELECTRONICS AND COMMUNICATION ENGINEERING	1216	277	16	61
32.	ELECTRONICS AND INSTRUMENTATION ENGINEERING	45	11	2	1
33.	ELECTRONICS AND TELECOMMUNICATION ENGINEERING	49	15	1	3
34.	ENVIRONMENTAL ENGINEERING	12	7	1	-
35.	ENVIRONMENTAL SCIENCE	2	-	-	-
36.	FINANCE	15	3	-	-
37.	FINANCE AND MARKETING	13	6	2	1
38.	FOOD AND NUTRITION	1	1	-	1
39.	FOOD PROCESSING AND NUTRACEUTICAL	1	1	-	-
40.	FOOD SCIENCE AND TECHNOLOGY	1	-	-	-
41.	FOOD TECHNOLOGY AND QUALITY MANAGEMENT	3	2	1	-
42.	HUMAN MOLECULAR GENETICS	1	1	-	-
43.	HUMAN RESOURCE	2	1	1	-
44.	HUMAN RESOURCE AND ENTREPRENEURSHIP	1	1	-	-
45.	HUMAN RESOURCE AND FINANCE	12	4	-	-
46.	HUMAN RESOURCE AND MARKETING	6	4	-	1
47.	INDUSTRIAL AND PRODUCTION ENGINEERING	2	1	1	-
48.	INDUSTRIAL ENGINEERING AND MANAGEMENT	9	2	-	-
49.	INFORMATION AND COMMUNICATION SYSTEM	1	-	-	-
50.	INFORMATION SCIENCE AND ENGINEERING	617	133	14	19
51.	INFORMATION TECHNOLOGY	4	1	-	-
52.	INTERDISCIPLINARY (ELECTRONICS AND COMMUNICATION & AERONAUTICAL ENGINEERING)	1	1	-	-
53.	INTERDISCIPLINARY (MECHANICAL AND COMPUTER SCIENCE)	1	1	-	1
54.	LIFE SCIENCES	16	3	-	-

55.	MACHINE DESIGN	7	3	-	2
56.	MANAGEMENT STUDIES	55	19	6	-
57.	MANUFACTURING SCIENCE AND ENGINEERING	1	-	-	-
58.	MARINE ENGINEERING	10	2	-	1
59.	MARKETING	6	1	1	-
60.	MARKETING AND FINANCE	5	1	1	-
61.	MARKETING AND LOGISTICS AND SUPPLY CHAIN MANAGEMENT	1	-	-	-
62.	MASTER OF COMPUTER APPLICATION	33	7	3	1
63.	MECHANICAL ENGINEERING	736	221	29	43
64.	MECHATRONICS ENGINEERING	38	14	2	2
65.	MEDICAL ELECTRONICS	15	1	-	-
66.	MICROBIOLOGY	26	7	2	1
67.	MINERAL PROCESSING	1	1	1	-
68.	MOLECULAR AND CELLULAR BIOLOGY	1	1	-	-
69.	NANOTECHNOLOGY	2	1	-	-
70.	ORGANIC CHEMISTRY	11	5	2	-
71.	PETROCHEMICAL ENGINEERING	1	-	-	-
72.	PHYSICS	21	6	1	-
73.	POWER AND ENERGY SYSTEMS	1	1	-	1
74.	PRODUCT DESIGN AND MANUFACTURING	2	1	-	-
75.	ROBOTICS AND AUTOMATION	2	-	-	-
76.	STRUCTURAL ENGINEERING	28	11	3	-
77.	TELECOMMUNICATION ENGINEERING	4	1	-	-
78.	TEXTILE TECHNOLOGY	11	4	-	1
79.	THERMAL ENGINEERING	1	1	-	-
80.	THERMAL POWER ENGINEERING	2	1	-	-
81.	TRANSPORTATION ENGINEERING	1	-	-	-
82.	VLSI DESIGN AND EMBEDDED SYSTEMS	5	-	-	-
	Total	**5961**	**1494**	**204**	**239**

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Karnataka State Council for Science and Technology

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STUDENTS PROJECT PROGRAMME

(SPP - 46th SERIES : 2022 - 2023)

KSCST invites project proposals from the final year BE, M.Tech., M.Sc., M.Tech / M.Sc., (Agri.) and MBA students for sponsorship under the 46th Series of Student Project Programme

The project proposals can be submitted from 10th November 2022 to 10th February 2023.

The submitted projects shall mandatorily be from one of the broad themes / areas as below:

1. Non-conventional and / or composite building materials / structures
2. Low-cost modified transport system for village / rural / disabled community
3. Low-cost, eco-friendly potable water filtration
4. Automation or new concepts in agriculture (cultivation, raising crops, irrigation etc.)
5. User friendly devices for aged or physically challenged people
6. Robotics / 3D printing / Cyber security
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12. Newer techniques in treating domestic sewage / industrial effluents
13. Electro-Chemical Devices (Fuel Cell, Capacitor, Batteries, etc.)
14. Technologies relevant in the aftermath of Covid-19.

How to apply:

1. Students studying in their final year B.E., M.Tech, M.Sc, M.Tech/MSc., (Agriculture) and M.B.A. are eligible to apply.
2. The Project Proposals shall be prepared as per the SPP proposal format available from KSCST website.
3. The team members are advised to carryout literature review and prior-art-search before submitting the project proposal to check the novelty of the project.
4. The project team shall have a maximum of 4 students and each project team shall only send one proposal as per the themes indicated above. Any other project proposals will not be considered and liable for rejection.
5. The softcopy of the proposal along with the details of payment made (through NEFT transfer / UPI Payment only) for Rs. 1,000/- (Rupees One Thousand only) to be submitted through Google Form only. (Bank details of KSCST is in the project proposal format, available in website).
6. The processing fees paid for the project proposal is non-refundable / non-transferable.
7. The student's team to keep ready the project proposal with approval from Project guide / head of the department and institution, make the payment for processing fees and upload the details in the Google Form. The team leader of the project needs to mandatorily fill the Google Form.

   The link is: https://forms.gle/pMfzw4iKL7LNAojd8
8. Submission of the project proposal is through Google Form only and Email: spp@kscst.org.in (All information in one single pdf file). Students / institutions shall not send the hardcopy of the project proposals to KSCST. All proposals to be submitted after approval of project guide and college / institution.
9. The Institution shall designate SPP Co-ordinator to co-ordinate with KSCST.

Evaluation Process:

1. The submitted projects will be evaluated by experts and then short-listed for sponsorship. The sponsored-amount for the project will be sent to the Principal of respective institutions by NEFT.
2. The sponsored projects will be evaluated by an expert committee, either offline / online, and then shortlisted for final state-level seminar and exhibition.
3. The finalised projects will be called for exhibition / seminar followed by evaluation for the coveted "Best Project of the Year Award".

For information on Student Projects Programme (SPP) and for downloading the project proposal format and guidelines, please visit our website: www.kscst.org.in/spp.html or https://kscst.karnataka.gov.in

Interested students may send the **"softcopy of the project proposal in single pdf file"** with due approval of the college to: **Email: spp@kscst.org.in**

The Google Form link is: https://forms.gle/pMfzw4iKL7LNAojd8

DATES TO REMEMBER

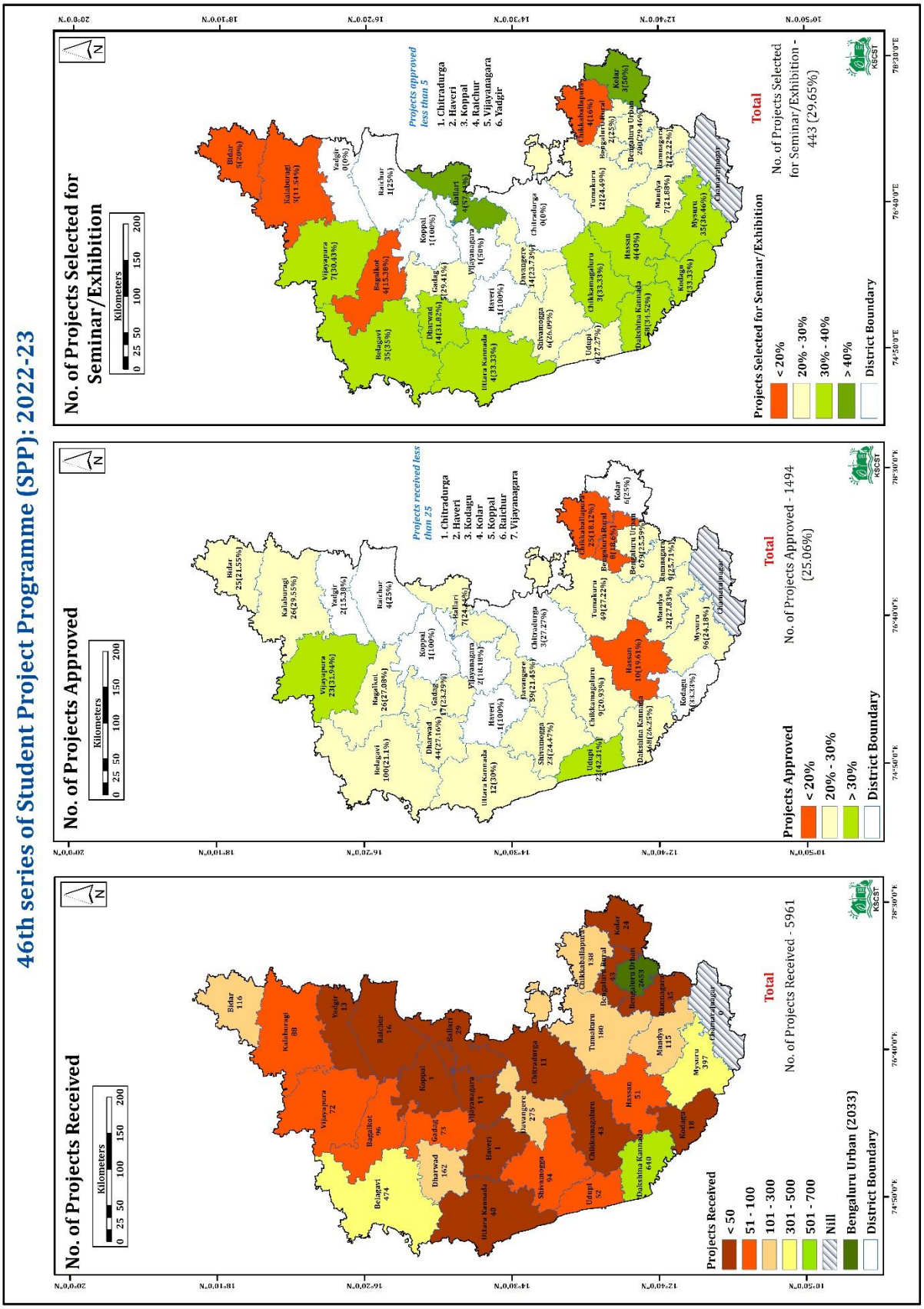
Last date for filling Google Form and receipt of softcopy of the project proposal as per the SPP format	10th February 2023, 5 PM
Project approval by KSCST	March 2023
Evaluation of Projects at Nodal Centre and selection of projects for Seminar / Exhibition	May - June 2023
Synopsis and Final Project Report submission through Google Form	24th June 2023
Seminar and Exhibition of selected projects	July / August 2023

This program is supported by :

DEPARTMENT OF SCIENCE AND TECHNOLOGY, GOVERNMENT OF INDIA

DEPARTMENT OF SCIENCE AND TECHNOLOGY, GOVERNMENT OF KARNATAKA

KARNATAKA STATE BIOENERGY DEVELOPMENT BOARD, GOVERNMENT OF KARNATAKA


46th series of Student Project Programme (SPP): 2022-23
No. of Projects Received
Kilometers
0 25 50 100 150 200
Projects Received
< 50
51 - 100
101 - 300
301 - 500
501 - 700
Nill
Bengaluru Urban (2033)
District Boundary
Total
No. of Projects Received - 5961
No. of Projects Approved
Projects received less than 25
1. Chitradurga
2. Haveri
3. Kodagu
4. Kolar
5. Koppal
6. Raichur
7. Vijayanagara
Projects Approved
< 20%
20% - 30%
> 30%
District Boundary
Total
No. of Projects Approved - 1494
(25.06%)
No. of Projects Selected for Seminar/Exhibition
Projects approved less than 5
1. Chitradurga
2. Haveri
3. Koppal
4. Raichur
5. Vijayanagara
6. Yadgir
Projects Selected for Seminar/Exhibition
< 20%
20% - 30%
30% - 40%
> 40%
District Boundary
Total
No. of Projects Selected for Seminar/Exhibition - 443 (29.65%)