ANNUAL REPORT
2021-22

FIFTY SEVENTH ANNUAL REPORT

(April 1, 2021 to March 31, 2022)

UNIVERSITY OF AGRICULTURAL SCIENCES
BANGALORE

2022

Hon'ble Governor of Karnataka and Minister for Agriculture, GoK awarding Gold Medals during 55th Convocation held on 21st September 2021

Hon'ble Governor and other dignitaries with the State-level awardee Farmers & Researchers during Krishimela held at GKVK, Bengaluru from 11-14 November, 2021

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UNIVERSITY OF AGRICULTURAL SCIENCES BANGALORE

PROLOGUE

The University of Agricultural Sciences, Bangalore (UAS-B) is one of the Farm Universities in India that has the greatest academic breadth, research depth and range of degree programmes on offer. UAS-B was established through an Act of the Government of Mysore (Karnataka) on 6th June, 1963 with the objectives to carry out the mandated activities of Teaching, Research and Extension in the areas of Agriculture and Allied Sciences. Since then, UAS-B has moved forward and the results achieved over the period have been excellent. UAS-B has strengthened its National position and stood first in Karnataka and Southern Indian Agricultural Universities; third position among State Agricultural Universities in the country and sixth place at National level including 67 ICAR Deemed Universities in the recently announced ICAR rankings. The University has its own reputation and is an attractive place to work and study for staff and students from all over the world. I am gratified to present the 57th Annual Report of the University of Agricultural Sciences, Bangalore which epitomizes the University's commitment to outshine in the areas of Education, Research and Extension apart from general Administration during 2021-22 (from 1st April, 2021 to 31st March, 2022). The University has a distinguished record of achievement and its long history of service to the students as well as farmers. University is strongly committed to newer exemplars within the field of agricultural and allied enterprises with a moto to develop technologies and generate accomplished human resources to serve the farming community of the State. The University is recipient of an exceptional level of support from State and Central Government and has established collaborations with several National and International organisations in the field of teaching, research and extension.

The University has six teaching campuses, with a territorial jurisdiction of 10 Southern Districts of Karnataka. Presently, the University offers six Bachelor Degree Programmes *viz.,* B.Sc. (Hons.) Agriculture, B.Sc. (Hons.) Sericulture, B.Sc. (Hons.) Agricultural Marketing & Business Management, B. Tech. (Biotechnology), B. Tech. (Agril. Engineering) and B. Tech. (Food Technology). University also offers Master's degree in 24 disciplines in addition to MBA in Agri-Business Management (ABM) and 16 Doctoral degree programmes at GKVK campus. Master's degree in five disciplines and two-year Diploma in Agriculture at V.C. Farm, Mandya are also being offered. One-year Diploma, PG Diploma and other Certificate Courses through Distance Education mode are offered in the University. Students are awarded with scholarships and fellowships to pursue education. Physical and infrastructural facilities are restored to facilitate student's activities. I am happy to put on record that the students have excelled in tutorial, sports & games, additional co-curricular and cultural activities at all India level. The University was awarded 1st position in ICAR-JRF Examination (2020-21) under Agricultural Sciences and Engineering & Technology groups. At the outset, I wish to congratulate all the teachers, students and non-teaching faculty, who brought laurels to the University.

The University has 13 Research Stations spread over four out of ten Agro-Climatic Zones of the State to carry out the need-based and zone-specific research in southern Karnataka. The University complements the extension activities of Development Departments through its seven KVKs and two Extension Education Units. The University duly acknowledges the support and co-operation of Government of Karnataka, Indian Council of Agricultural Research and alternative Collaborators for the financial support. The support of the Members of the Board of Management, the Academic Council, the Research Council, the Extension Education Council, Finance Committee and the Board of Studies (Undergraduate / Postgraduate) in implementing teaching, research and extension programmes is duly acknowledged. The University is ably supported by the Officers, Supporting Staff and Karmikas to implement its mandates and serve the students and farming community of the State in particular and the Country at giant. I congratulate the Communication Centre of the University for having compiled and edited the Annual Report of the University for the year 2021-22.

June, 2022
Bengaluru

(S. Rajendra Prasad)
Vice-Chancellor

College of Agriculture, Hassan

CONTENTS

Chapter number		Title and sub-title		Page no.
		Executive Summary	...	i-iii
Chapter I	**University Administration**			
	1.1	Establishment and Incorporation of the Universities	...	1
	1.2	Jurisdiction	...	1
	1.3	Objectives of the University	...	1
	1.4	Authorities of the University	...	1
	1.5	The Board of Management and its Constitution	...	2
	1.6	Officers of the University	...	3
	1.7	University Vision, Mission and Mandates	...	5
	1.8	University Governance	...	5
	1.9	Month-wise important Programmes and Meetings participated by the Vice-Chancellor	...	6
	1.10	Awards/Recognitions and Significant Achievements of the University	...	12
	1.11	New Initiatives of the University	...	13
	1.12	Meetings of the Authorities of the University	...	14
Chapter II	**Academic Administration**			
	2.1	Academic Programmes	...	15
	2.2	Administrative Management System and Functions	...	15
	2.3	Functions and Activities Performed	...	17
	2.3.1	Admission to Bachelor Degree Programmes	...	17
	2.3.2	Admission to Masters and Doctoral Degree Programmes	...	17
	2.3.3	Admission to Diploma Programmes	...	17
	2.3.4	Admission Committee	...	17
	2.3.5	Admission Intake, Admissions made and Students on Roll	..	18
	2.3.5.1	Bachelor Degrees	...	18
	2.3.5.2	Master and Doctoral Degrees	...	19
	2.3.5.3	Diploma in Agriculture & Sericulture	...	19
	2.3.5.4	Number of Students passed out in Bachelors', Masters' and Doctoral degree	...	19
	2.3.6	Courses offered, faculty strength and examination conducted	...	20
	2.3.7	Adoption and Implementation of Student READY (Rural Entrepreneurship Awareness Develoment Yojana)	..	20
	2.3.8	Implementation of RAWEP	...	20
	2.4	Hands on Training	...	27
	2.5	Conduct of External Examination, Evaluation and Declaration of Results	...	35

Chapter number		Title and sub-title		Page no.
	2.6	Department of Kannada Studies and Communication Centre	...	37
	2.7	Financial support provided to Students	...	38
	2.8	Organizing Sports, Games and Co-curricular Activities for Students	...	38
	2.9	Placement Cell	...	39
	2.10	National Service Scheme	...	39
	2.11	Youth Red Cross Society	...	40
	2.12	Medical Services Provided	...	41
	2.13	International Centre	...	42
	2.14	Library Resources and Information System	...	42
	2.15	Conferment of Degree and Presentation of Medals in the 56th Convocation-2022	...	48
	2.16	Skill Development Centre	...	48
	2.17	Central Instrumentation Facility	...	48
Chapter III		**Agricultural Research and Development**		
	3.1	Agricultural Research Stations and Climatic Zones	..	50
	3.2	Projects in Operation	..	50
	3.3	MoUs Signed	..	51
	3.4	New Chemicals/Varieties/Moleculars Tested	..	51
	3.5	Break-through Research	..	52
	3.6	New Technologies Developed and Released	..	52
	3.7	Research in Progress	..	57
	3.8	Indian Council for Agriculture Research-Centre for Advanced Agricultural Science & Technology (CAAST)	..	78
	3.9	Tribal Sub Plan / Scheduled Caste Sub Plan	..	80
Chapter IV		**Agricultural Extension Education & Services**		
	4.1	Mandates	...	84
	4.2	Objectives	...	84
	4.3	Functions	...	84
	4.4	Units of Directorate of Extension	...	84
	4.4.1	Staff Training Unit (STU)	...	85
	4.4.2	State Agricultural Management and Extension Training Institute (SAMETI-South)	..	85
	4.4.3	Bakery Training Unit (BTU)	...	85
	4.4.4	Farmers Training Institute (FTI)	...	85
	4.4.5	Farm Information Unit (FIU)	...	86
	4.4.6	Distance Education Unit (DEU)	...	87
	4.4.7	Agricultural Technology Information Centre (ATIC)	...	87

Chapter number		Title and sub-title		Page no.
	4.4.8	Agricultural Sciences Museum (ASM)	…	87
	4.4.9	Extension Education Units (EEUs)	…	88
	4.4.10	National Agricultural Extension Project (NAEP)	…	91
	4.4.11	Krishi Vigyan Kendras (KVKs)	…	92
	4.4.12	Krishimela-2021	…	101
	4.4.13	Significant Achievements	…	101
	4.4.14	Extension Projects	…	102
Chapter V	**Events Organised, Capacity Building Programmes, Awards & Recognitions and Publications**			
	5.1	Celebration of important State, National and International Days/ Events & Programmes	…	103
	5.2	Important Conferences/Seminars/Workshops/Training programmes organsied	…	104
	5.3	Participation in Conferences/Seminars/Workshops/Other activities (International)	…	109
	5.4	Presentation of Paper in Seminar/Conference (Outside University)	…	110
	5.5	Recognitions/Awards Conferred on Faculty and Students	…	112
	5.6	Nominations of Teachers for different assignment in Government and other Agencies	…	115
	5.7	Abstract of different programmes organised/participated, extension activities carried out and number of publications brought out by the faculty of UAS-B	…	117
	5.8	Important Research and Review Articles brought out by the faculty	…	122
Chapter VI	**Financial Resources, Allocation, Accounting and Management**			
	6.1	Source of Finance	…	155
	6.2	Receipts 2021-22	…	155
	6.3	Expenditure during 2021-22	…	156
	6.4	Details of Retirement Benefits	…	158
	6.5	Details of Loans and Advances	…	159
	6.6	Audit of Accounts by the Statutory Auditors	…	159
Chapter VII	**Human Resource Development**			
	7.1	Appointments	…	160
	7.2	Staff Position of Teaching and Service Personnel during the year 2021-22	…	160
	7.3	Court Cases, RTI and Enquiries	…	161
	7.4	Retirement	…	161

Chapter number	Title and sub-title		Page no.
Chapter VIII	**Research Chairs, CARDS and Agri-Innovation Centre**		
8.1	Prof. M.D. Nanjundaswamy Research Chair	...	162
8.2	Centre for Agriculture and Rural Development Studies (CARDS)	...	163
8.3	Karnataka State Agricultural Marketing Board (KSAMB) Chair	...	165
8.4	Bio-Nest Agri Innovation Centre	...	166
Chapter IX	**Infrastructure Development and Maintenance**		
9.1	State Grants	...	169
9.2	ICAR Grants	...	170
9.3	Government of India Grants	...	170
9.4	RKVY Grants	...	171
PHOTOGRAPHS		...	173
ANNEXURES		...	187

EXECUTIVE SUMMARY

The University of Agricultural Sciences, Bangalore (UAS-B) was established by the Act No. 22 of the then Mysore Government in the year 1963. The University came into existence on 21st August, 1964, but its conception took birth in 1899 with the establishment of experimental farm on 30 acres, followed by an Agricultural School in the expanded farm area of 202 acres during 1913, which is now the 'Main Research Station (MRS)' located at Hebbal, Bengaluru. Today University of Agricultural Sciences, Bangalore is a tribute to the visionaries who founded and nurtured it over the past several decades. The phenomenal growth of the University and needs of the regions of the State, led to bifurcation of the University of Agricultural Sciences, Bangalore through an Amendment to UAS-B Act in 1986 and the University of Agricultural Sciences, Dharwad was established. Considering the importance of subjects and regions, Government of Karnataka through Acts, established 'Karnataka Veterinary, Animal and Fishery Sciences University' at Bidar during 2005; 'University of Agricultural Sciences, Raichur' during 2008; 'University of Horticultural Sciences, Bagalkot' during 2009 and 'University of Agriculture and Horticultural Sciences, Shivamogga' during 2013. The University of Agricultural Sciences, Bangalore and the Mother University has operational geographical jurisdiction of 10 southern districts in the State. The UAS-B has celebrated its Golden Jubilee year during 2013-14 and Golden Jubilee Convocation during 2015-16.

The University is offering six Under Graduate programmes of four years duration under semester system (21 weeks) with English as medium of instruction, in its six colleges. College of Agriculture, GKVK, Bengaluru has offered three Bachelor Degree programmes *viz.,* B.Sc. (Hons.) Agriculture, B.Sc. (Hons.) Agricultural Marketing and Business Management & B.Tech. (Agricultural Engineering); Master's degree in 24 disciplines and Ph.D. in 16 disciplines. College of Agriculture, Hassan has offered three Bachelor Degree programmes *viz.,* B.Sc. (Hons.) Agriculture; B.Tech. (Bio Tech.) and B.Tech. (Food Technology); College of Sericulture, Chintamani has offered two degree programmes *viz.,* B.Sc. (Hons.) Agriculture and B.Sc. (Hons.) Sericulture; College of Agriculture, Mandya has offered Bachelor Degree programme in B.Sc. (Hons.) Agriculture and Master's Degree in five subjects; College of Agriculture, Chamarajanagara has offered Bachelor Degree programme in B.Sc. (Hons.) Agriculture. The University also offers Diploma courses namely Diploma in Agriculture (2 years) at College of Agriculture, Mandya and Diploma in Sericulture (2 years) at College of Sericulture, Chintamani.

The student intake for Bachelor's degree was 1050 and admitted 918 students of which 483 were boys and 435 were girls. The total number of students on roll was 3622 of which 1883 were boys and 1739 were girls. Intake for Master's and Doctoral degree was 572 and admitted 454 students of which 197 were boys and 257 were girls. The total number of students on roll for Master's degree and Doctoral degree programme was 1004 of which 438 were boys and 566 were girls. During the year, the intake for two-year diploma was 50 students and admission made was 49. The student on roll for the programme was 93 of which 63 were boys and 30 were girls. The overall intake for the Bachelor, Postgraduate degree programmes and diploma programme was 1692 and admitted 1428 candidates. The number of students on roll during the year was 4737of which 2401 were boys and 2336 were girls. A total of 727 students passed out with Bachelor degree and at Masters level 279 students have passed out. At Doctoral level, in total 60 students have passed out. Totally, 1105 courses were offered with 2754 credit hours while 3053 examinations were conducted and 326827 answer scripts of all Bachelor's degree programme, Master's degree programmes and Doctoral degree programmes across all the teaching campuses. These courses were offered by 242 faculties consisting of 95 Professors, 36 Associate Professors and 96 Assistant Professors who were in position. The students of the University participated in various co-curricular activities. The University has placement cell at the main campus with coordinator and also in constituent colleges for the purpose of placement of graduating students in different employing agencies.

During the year, 96 graduating students were recruited by different private companies through Placement Cell. The University adopted the National Service Scheme and the students have participated in various activities.

'University Examination Centre' was established during 2011-12 at GKVK, Bengaluru with one sub-centre in each of its constituent colleges, is responsible for coordinating, scheduling, conducting final external theory examinations for all Bachelor's degree programmes, answer script evaluation process and declaration of results. The UEC has conducted final theory external examinations for all the six Under Graduate degree programmes in the University covering 270 and 297 courses during I & II Semester of academic year 2020-21, respectively. The Communication Centre is coordinating with the University Administration, Research, Teaching and Extension wings in respect of publications and other printing works. The NAAS score of MJAS has increased from 3.93 to 4.64 with effect from January 2021. The Department of Kannada Studies is vested with the responsibility of translating, editing, proof reading and publication of books in Kannada pertaining to agriculture and allied subjects. During the year, 18 books on various agricultural and allied subjects in Kannada were published.

Location specific and farmer centric research programmes have been formulated to solve the challenges faced by the farmers in 13 Agricultural Research Stations located in 10 Southern Districts of the State under the jurisdiction of UAS-B. Efficient and eco-friendly crop production technologies were also developed by the University. In total, 268 research projects are in operation and a total of 39 new research projects have been sanctioned to the University during 2021-22 by various funding agencies with a total outlay of Rs. 5087.5 lakhs. During the year, the University has tested 386 new varieties / lines/chemicals/molecules for control of pests / diseases / weeds / soil analysis and agricultural equipment and generated revenue of Rs.602.25 lakhs. A total of eight MoUs / MoAs / MTA have been signed with different institutions for conducting collaborative research of mutual interest. University has developed nine new crop varieties [Paddy:KMP 225; Paddy:RNR 15048; Hybrid Maize : MAH-14-138; Brown top Millet: GPUBT 2; Field Bean : HA 5; Sesamum: GKVKS 1; Niger: KBN 2; Castor: ICH 66; Fodder Sorghum: CNFS 1 and 37 new technologies were released for adoption by the farmers.

The Directorate of Extension is vested with the responsibility to carry out the extension services in 10 districts of southern Karnataka. Extension education programmes focuses on technology assessment & refinement and facilitating adoption of technology by the farmers & extension functionaries based on research findings for accelerated agricultural growth. The Directorate of Extension has taken up new initiatives such as capacity building of farmers on profitable dairying and livestock management, petroleum conservation in agriculture, doubling farmers' income, demonstrations of climate resilient integrated farming system, seed hub, dissemination of information through district agro met units, etc. The Directorate of Extension has organised 155 Front Line Demonstrations, 32 On-farm testing's, 1294 Field visits, 99 Field days and 404 Training programmes. As many as 31 Radio talks and 96 TV programmes were also given / arranged.

The University has organised 642 Conferences / Seminars / Workshops / Training Programmes / Winter & Summer Schools. Several Professors have been nominated as Members for various committees at State and National Level. As many as 54 radio talks, 253 TV programmes and 2150 field visits, 138 Field Days, 510 training programmes, 108 Seminar/Workshops and 3434 other activities (as resource persons and etc.) were organised / performed by the faculty members. In total, 1320 publications have been brought out, of which 609 were research papers, 161 popular articles, 45 books / bulletins, 181 leaflets / folders and 324 other publications.

The University has Administrative Office headed by Administrative Officer looking after the Human Resource Developmental activities from recruitment to retirement of teaching faculty and supporting staff of the University. There are six Professors (HAG), 49 Professors, 141 Associate Professors and 387 Assistant Professors sanctioned posts for the University. Out of 583 sanctioned posts, 363 are filled and 223 are vacant. The University has 1564 sanctioned supporting staff positions, of which 554 are filled and 1010 are vacant. During the period, five officers, 19 teaching faculty and 39 supporting staff have been superannuated.

The State Government provided maintenance grants under non-plan to continue the on-going commitments under establishment. Indian Council of Agricultural Research, New Delhi provided funds for the continuation of the existing schemes and to start new teaching, research and extension education programmes. Grants were also provided under All India Co-ordinated Research Schemes and Ad-hoc Research programmes. Several Departments of Government of India also provided financial assistance to conduct specific research in agriculture. Grants are being provided by several National and International Organizations / Agencies to conduct research and extension programmes in the University. Revenue was also generated by utilizing the internal resources through crop cultivation, seed production & nursery activities, collection of student's fee, etc. During 2021-22, the total receipts for the University was Rs.35894.97 lakhs out of which the expenditure was Rs.37218.00 lakhs. The expenditure includes the previous year's revalidated Budget.

Infrastructure developed and renovation undertaken by the Estate Office under State grants includes; Establishment of Agriculture Marketing (Halli Santhe) Modern Marketing System model; Animal Husbandry model and Poultry & Fisheries models at Agricultural Sciences Museum; Construction of audio visual lab at Agriculture College, Chamarajanagar; Construction of Green Room for Auditorium at Sericulture College, Chintamani and CoA. Mandya; Construction of Raitha Bhavan at ZARS, VC. Farm, Mandya; Construction of first floor over existing SAMETI Building at GKVK and others. Infrastructure developed and renovation undertaken by the Estate Office under ICAR grants includes; Construction of Girls Hostel at College of Agriculture, Mandya and Hassan. In addition, Extension of Seed Godown at NSP, GKVK; Construction of Laboratory for Quality testing of micro irrigation components by precision farming development centre (PFDS) at GKVK; Renovation of old seed processing unit into Coconut Incubation Facility for Processing of coconut at ICAR, KVK, Ramanagara and others were taken up for execution under GoI grants.

The Central Instrumentation Facility (CIF) under the aegis of the Centre for Advanced Agricultural Sciences and Technology (CAAST) program of the National Agricultural Higher Education Project (NAHEP) of ICAR; Professor M.D. Nanjundaswamy Research Chair; Centre for Agriculture and Rural Development Studies (CARDS); Karnataka State Agricultural Marketing Board (KSAMB) Chair and Bio-Nest Agri Innovation Centre established at UAS-B have significantly contributed for undertaking various activities under their purview.

Chapter I

1. University Administration

1.1 Establishment and Incorporation of the Universities (Sec.3)

The Universities established under section 3 of the Karnataka Universities of Agricultural Sciences Act, 1963, (Karnataka Act 22 of 1963) shall be deemed to have been established under this Act with their territorial jurisdictions as herein after provided. The University of Agricultural Sciences, Bangalore having head quarter at Bengaluru functions with territorial jurisdiction extending over the districts of Kolar, Chikkaballapur, Bengaluru (Rural), Bengaluru (Urban), Ramanagara, Mandya, Tumkuru, Mysuru, Chamarajanagara and Hasana (Sec.3a).

1.2 Jurisdiction (Sec.4)

1) Each University shall be responsible for the maintenance of Agriculture, Animal Husbandry, Fishery, Sericulture, Forestry Training or Educational Centres, Research & Experimental Stations, Training of field extension workers and for the Establishment, Development & Operation of such centres as may be required in various parts within its territorial jurisdiction.

2) All Colleges, Research and Experimental Stations, KVKs and Extension Education Units and other Training Centres under the management of the University or other institutions, which are under the jurisdiction and authority of each University, shall be constituent units of that University and under the management and control of the University. No unit shall be recognized as affiliated unit unless otherwise recognized as affiliated college by the University.

3) Each University may have collaboration of academic programmes and for research projects having multi-disciplinary approach and academic programmes with other Universities or reputed institutes in India and abroad.

4) The University may assume responsibility for establishment, development and operation of its constituent bodies in the territorial jurisdiction and abroad as may be required.

1.3 Objectives of the University (Sec.5)

Each University shall be deemed to have been established and incorporated for the following purposes, namely:- (a) Making provision for imparting education towards development of quality human resource in different branches of study specified in sub-section (3) of section 2; (b) Furthering the advancement of learning and conducting of research, particularly in agriculture and other allied sciences; (c) Undertaking the extension education of such science and technologies, specially for the rural people of the State; (d) Such other purposes as the State Government may by notification in the official Gazette specify from time to time and (e) Promoting partnership and linkages with National and International educational, industries, research and other institutions.

1.4 Authorities of the University (Sec.11)

The following shall be the authorities of the University.;

(1) Board of Management
(2) Academic Council
(3) Research Council
(4) Extension Education Council
(5) Faculties including post graduate studies and their Board of Studies;
(6) Such other Bodies of University as may be declared by the Statutes to be authorities of the University

1.5 The Board of Management and its Constitution (Sec.11)

{Amended Section 12(2) vide Karnataka Act 37 of 2014 dated 9.9.2014)}

(1) The Chancellor shall, as soon as may constitute the Board of Management

(2) The Board of Management shall consist of the following:

Board of Management as on 31.03.2022

ii.	The Vice-Chancellor of the University	Chairman	Dr. S. Rajendra Prasad Vice-Chancellor (17-09-2018 onwards)
ii.	The Principal Secretary or Secretary to Government, Agriculture Department or their nominee not below the rank of Joint Secretary	Member	Shri Raj Kumar Khatri, IAS (01-04-2021 to 30-10-2021) Shri S.R. Umashamkar, IAS (01-11-2021 onwards)
iii.	The Principal Secretary or Secretary to Government, Horticulture Department or their nominee not below the rank of Joint Secretary	Member	Shri Rajendar Kumar Kataria, IAS (01-4-2020 onwards)
iv.	The Principal Secretary or Secretary to Government, Finance Department or their nominee not below the rank of Deputy Secretary	Member	Shri I.S.N. Prasad, IAS (1-4-2020 onwards)
v.	Three progressive farmers from the jurisdiction of the University of whom one person shall belong to the Scheduled Caste or the Scheduled Tribes to be nominated by the State Government	Member	Shri O.S. Dayanand (09-7-2020 onwards) Shri M. Suresh (09-7-2020 onwards) Shri R. Srirama (09-7-2020 onwards)
vi.	Three members of the Karnataka State Legislative Assembly nominated by the Speaker and one member of the Karnataka State Legislative Council nominated by the Chairman to each of the Universities of Bangalore, Dharawad, Raichur and to the University of Agriculture and Horticulture at Shimoga on rotation basis	Member	Shri M. Krishnappa, MLA (01-9-2020 onwards)
vii.	One eminent educationist or expert in Agriculture sector to be nominated by the Chancellor	Member	Dr. P.H. Ramanjini Gowda (06-5-2020 onwards)
viii.	One agro-industrialist or woman social worker to be nominated by the Chancellor	Member	Shri T.M. Aravind (06-5-2020 onwards)
ix.	One representative from the Indian Council of Agriculture Research to be nominated by the Director General	Member	Dr. P.S. Pandey (01-6-2016 onwards)
x.	One Dean to be nominated by the Vice-Chancellor, by rotation for a term of two years	Member	-
xi.	Registrar of the University	Member-Secretary	Dr. . G.N. Dhanapal (from 30-9-2020 to 31.05.2021) Dr. N. Devakumar (from 31.05.2021 to 01.09.2021) Dr. Basave Gowda (01-9-2021 onwards)

(3) The term of office of the Members of the Board, other than Ex-Officio Members, shall, subject to the pleasure of the Government or the Chancellor, as the case may be, for three years and they shall not be eligible for re-nomination to any of the authorities of the University.

(4) When vacancy occurs in the office of any member by the reason of death, resignation, removal or any cause other than the expiry of term, the vacancy shall be filled in accordance with the provisions of the Act and the person who fills such vacancy, shall hold the said office for the remaining period for whose place he is nominated.

(5) One third of the members of the Board shall form quorum at a meeting of the Board, provided that if a meeting of the Board is adjourned for want of quorum, no quorum shall be necessary for the adjourned meeting called for transaction of the same business.

(6) The Members of the Board other than the Officers of the University shall not be entitled to any remuneration for the performance of their functions under this Act except such daily and traveling allowances as may be prescribed.

(7) The Board may for the purpose of consultation invite any person having experience or special knowledge in any subject under consideration to attend its meeting. Such person may speak or otherwise take part in the proceedings of such meeting but shall not be entitled to vote. Any person so invited shall be entitled to such allowances for attending the meeting as may be prescribed.

(8) Ordinarily the Board shall meet at least once in every three months on such dates as may be fixed by the Vice-Chancellor. However, the Vice-Chancellor may whenever he thinks fit or shall, upon the requisition in writing signed by not less than one half of the members of the Board, convene a special meeting of the Board.

1.6 Officers of the University (Sec. 24)

Incumbent Officers

i.	The Chancellor	Shri Vajubhai R. Vala (from 01.09.2014 to 06.07.2021) Shri Thaawar Chand Gehlot (11.07.2021 onwards) Hon'ble Governors of Karnataka
ii.	Pro-Chancellor	Shri B.C. Patil Hon'ble Minister for Agriculture, GoK (11-2-2020 onwards)
iii.	Vice-Chancellor	Dr. S. Rajendra Prasad (17.9.2018 onwards)
iv.	*Directors (Sec.31)*	
	1 Director of Education	Dr. S. Rajendra Prasad (from 17.9.2018 to 30.08.2021) Dr. K.C. Narayanaswamy (30.08.2021 onwards)
	2 Director of Research	Dr. Y. G. Shadakshari (30-5-2017 onwards)

3	Director of Extension	Dr. M. Byregowda (from 30.04.2020 to 30.04.2021) Dr. N. Devakumar (from 30.04.2021 to 31.05.2021) Dr. K. Narayanagowda (from 31.05.2021 to 30.08.2021) Dr. N. Devakumar (30.08.2021 onwards)
4	Deans	
	a) Dean (Agri.), CoA, GKVK, Bengaluru	Dr. D.L. Savithramma (from 9-10-2019 to 30.04.2021) Dr. N, Srinivasa (from 30.04.2021 to 30.08.2021) Dr. N.B. Prakash (30.08.2021 onwards)
	b) Dean (Agri.), CoA, Mandya	Dr. Venkatesh (from 31-7-2019 30.08.2021) Dr. S.S. Prakash (30.08.2021 onwards)
	c) Dean (Seri.), CoS, Chintamani	Dr. P. Venkataravana (31-7-2017 onwards)
	d) Dean (Agri.), CoA, Hassan	Dr. N. Devakumar (from 30-5-2017 to 30.04.2021) Dr. Muniswamy Gowda (from 30.04.2021 to 30.08.2021) Dr. S.N. Vasudevan (30.08.2021 onwards)
	e) Dean (PGS), UAS, GKVK, Bengaluru	Dr. N. Srinivasa (from 30.05.2020 to 31.5.2021) Dr. R.N. Bhaskar (from 31.05.2021 to 30.6.2021) Dr. N. Srinivasa (from 30.06.2021 to 31.12.2021) Dr. T. Narendrappa (31.12.2021 onwards)
	f) Dean (Student Welfare), UAS, GKVK Bengaluru	Dr. T. Narendrappa (from 31.05.2020 to 30.08.2021) Dr. S.V. Suresha (30.08.2021 onwards)
v.	Registrar, UAS, GKVK, Bengaluru	Dr. G.N. Dhanapal (from 30-9-2020 to 30.05.2021) Dr. N. Devakumar (from 30.05.2021 to 01.09.2021) Dr. Basave Gowda (01.09.2021 onwards)
vi.	University Librarian, UAS, GKVK Bengaluru	Dr. R.N. Bhaskar (from 28-2-2021 to 31.05.2021) Dr. Venkataranga Naik (31.05.2021 onwards)
vii.	Comptroller, UAS, GKVK, Bengaluru	Dr. S.V. Suresha (31-1-2020 onwards)

Under Sec 24(ix)

viii.	Estate Officer, UAS, GKVK, Bengaluru	Mr. D.Krishna Murthy(from 31-3-2020 onwards)
ix.	Administrative Officer, UAS, Bengaluru	Dr. G. Gopinath (from 17-10-2018 onwards)

1.7 University Vision, Mission and Mandates

Vision : Transforming University of Agricultural Sciences, Bangalore into a World Class Farm University

Mission : Generate quality human resources in the area of agriculture and allied disciplines, generate cutting-edge competitive technologies and evolve efficient disseminating mechanism so as to serve the farming community of the State and the Country

Mandates: The mandates of the University of Agricultural Sciences, Bangalore as specified in the University Act are:

a) Making provision for imparting education towards development of quality human resource in different branches of agriculture and allied sciences

b) Furthering the advancement of learning and conducting research particularly in agriculture and other allied sciences

c) Undertaking the extension education of such science and technologies specially for the rural people of the State

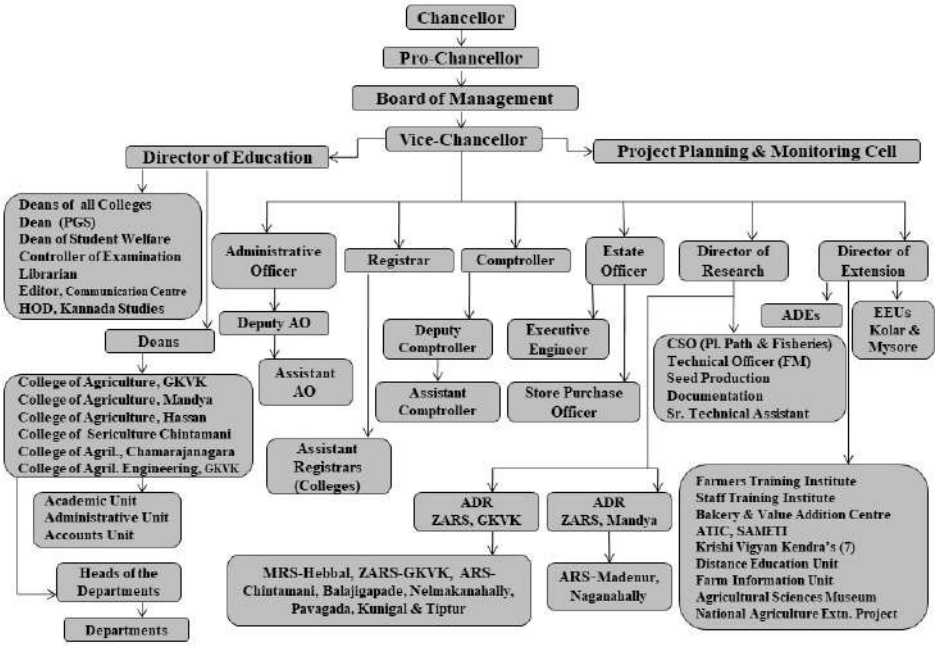
d) Promoting partnership and linkages with national and international educational, industries, research and other institutions

e) Such other purposes specified by the State Government from time to time and notified in the official gazette

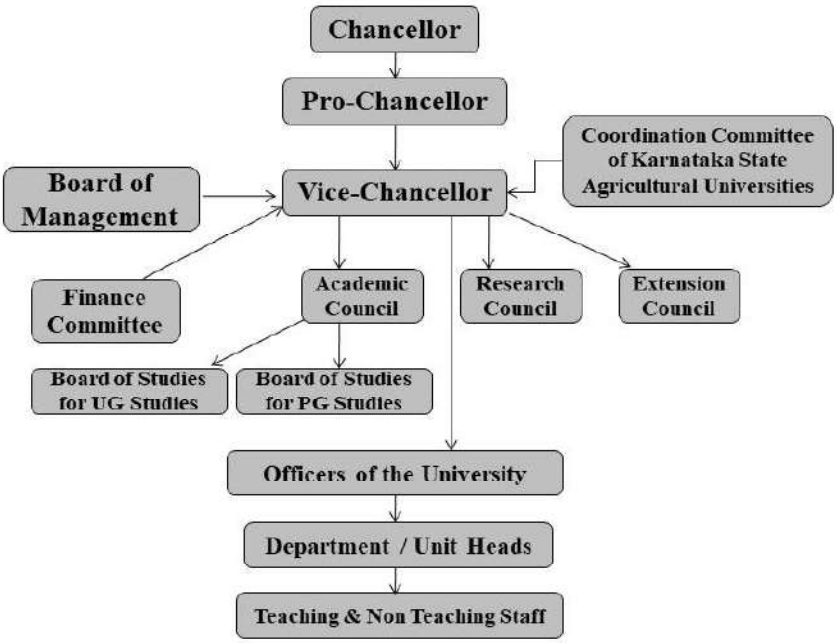
1.8 University Governance

In order to achieve the above Vision, Mission and Mandates of the University, the following is the Synoptic Structure of Governance and Organizational Structure adopted by the University.

Organizational Structure of UAS, Bangalore



Synoptic Structure of Governance of UAS, Bangalore



1.9 Month-wise Important Programmes and Meetings Participated by the Vice-Chancellor

April 2021

Dr. S. Rajendra Prasad, Vice-Chancellor of UAS-B visited Doubled Haploid Facility at ARS Kunigal and explained the facility to Shri B.M Prasanna, Director, CIMMYT, Mexico International Maize Product on 1st April, 2021. He participated in the international webinar on "Waste Water Remediation and Biofuel" organized by UAS-B in collaboration with Shatri Indo–Canadian Institute, Canada on 1st April. He Participated in the Agricultural Business Innovation Day–2021, organized by Department of Agricultural Marketing and Business Management, UAS, GKVK on 3rd April. He participated in the lecture programme on 'Bharathiya Kalagarbadalli Kanmareyada Thulunada Premakavya' as Chief guest, organized by Indo-Euro-DNA, Sahithya Sudhe, New Jersey, America through online on 4th April. He participated in the inauguration of 'Siri Products Shop' organized by Sri Dharmasthala Siri Gramodyoga Samsthe, Dakshina Kannada District, held at UAS, GKVK on 5th April and also chaired the Zonal Research and Extension Programme (ZREP) workshop of Zone–6 through online. Chaired the UAS-B Agri. Innovation Centre meeting, organized by Agri Innovation Centre & Dept. of Biotechnology, through online on 06.04.2021. Participated in the virtual meeting on 'Protection of Plant Varieties and Farmers Rights Act (PPV & FRA), organized by Working Group on Seed Systems (WGoSS), RRA Network on 07.04.2021. Chaired the Zonal Research and Extension Programme (ZREP) workshop of Zone-5, through online on 08.04.2021. He participated in the 7th Annual General Meeting of Karnataka State Natural disaster Monitoring Centre through online, organized by KSNDMC, Bangalore on 08.04.2021. He participated in the special meeting of the executive council and first convocation of Karnataka State Rural Development and Panchayat Raj University, Gadag on 09.04.2021. Participated in the Expert Scrutiny Committee meeting and recommended the eminent persons for the award of Honorary Doctorate to be awarded during the 101 Annual Convocation of Mysore University, Mysore on 12.04.2021. Participated in the celebration of Dr. B. R. Ambedkar's 130th Jayanthi, celebrated at CoA, GKVK on 15.04.2021. Participated in the 95th National Vice Chancellors' Meet & National Seminar of Vice-Chancellors on Implementing National Education Policy-2020 through online on 15.04.2021. He Participated in the meeting of Karnataka Legislative Assembly Committee and discussed on submission of Annual Report and Audit report of the Universities on 20.04.2021. Vice-Chancellor witnessed the MoU between University and Garuda Aerospace Private Limited, Chennai, for collaborative activities on improving

the usage of drone farming using robotic method on 21.04.2021. He chaired the seventh meeting of Board of Studies (UG) held on 22.04.2021. Vice-Chancellor participated in the ICAR-NRRI Platinum Jubilee Foundation Day Celebration on 23.04.2021.

May 2021

Vice-Chancellor chaired the Seed Production meeting through online organized by National Seed Project, GKVK on 03.05.2021. Chaired the review meeting with incubates of Agricultural Innovation Centre, GKVK through online on 06.05.2021. Participated in the discussion meeting with Hon'ble Minister for Agriculture, Govt. of Karnataka and briefed the activities of the University on 11.05.2021. Participated in the meeting of Vice-Chancellors of all Farm Universities convened by University of Horticultural Sciences, Bagalkot through online on 20.05.2021. Participated in the Agriculture Revolution Seminar and Awards 2021 programme organized by Agriculture Today Group through online and witnessed the award received by the University in the category of "Training Programme on Organic Farming" on 21.05.2021. Chaired the online meeting on 25.05.2021 with IRRI and University officials and discussed about the collaborative research activities and establishment of Regional Rice Research Centre at UAS, Bangalore. Participated in the online workshop on "Women Entrepreneurs in Agriculture", organized in collaboration with Bio-NEST AIC and C-CAMP on 27.05.2021. Also participated in the online meeting on "Establishment of Common Incubation Centre under PMFME scheme, organized by Karnataka State Agricultural Produce Processing and Export Corporation Limited on 27.05.2021. Chaired the NAHEP technical review meeting with all Co-PIs of CAAST project and discussed and reviewed the progress of activities on 28.05.2021. Participated in the webinar on "Nano Urea : Importance and uses" organized by IFFCO, Karnataka and delivered a guest lecture on 29.05.2021. Participated in the award distribution programme of the Kritagya Hackthon organized by ICAR, New Delhi through online on 31.05.2021.

June 2021

Vice-Chancellor participated in the World Milk Day-2021 through online, organized by Bakery Training Unit on 01.06.2021. He participated in the webinar on "Food and Dietary concepts of Ayurveda-Indian traditional wisdom of food for better nutrition and Health" organized by ICAR under NAHEP 01.06.2021. Participated in the NAHEP - Technical Review Meeting of IDP and CAAST Project, organized by ICAR- NAHEP through online on 02.06.2021. Chaired the meeting of All Farm Universities on 03.06.2021 and discussed about the mode of UG & PG examinations, commencement of semester and admissions for next academic year. Chaired the meeting of Agri. Innovation Center committee through online and reviewed the progress of incubates on 06.06.2021. Participated in the lecture by Dr. Steve Goss, Economics Advisor to World Bank and FAO, through online organized by ICAR under NAHEP on 07.06.2021. Participated in the live phone in programme of Krishi Dharshana on 08.06.2021. Participated in the symposium on "Production and Marketing of Important Vegetables in Kolar, Chikkaballapur and Bengaluru Rural Districts, organized by Professor Nanjundaswamy Research Chair on 09.06.2021. Participated in the webinar on "Myths of Corona and Fungal Infections" organized by NSS Unit, UAS, Bangalore on 10.06.2021. Interacted with Hon'ble Minister for Agriculture, Govt. of Karnataka during his visit to VC Farm Mandya on 11.06.2021. Participated in the meeting on "Preparation for Kharif and availability of Seeds and Fertilizers" under the chairmanship of Hon'ble Minister for Agriculture, Govt. of Karnataka, held at Zilla Panchayat, Mandya on 11.06.2021. Participated in the inauguration of one week yoga training programme organized by Department of Physical Education, UAS, GKVK, Bangalore through online on 14.06.2021. Participated in the 58th Vision Group on Bio-technology meeting through online and discussed on Bengaluru Tech Summit 2021 on 15.06.2021. Participated in the Coleman Lecture 2021 programme, organized by Department Plant Pathology and Agriculture Entomology, GKVK through online on 16.06.2021. Chaired the meeting of PG automation software demonstration through online, organized on 17.06.2021. Participated in the Regional Research Symposium on PBL organized by Karnataka State Higher Education Council through online on 18.06.2021. Participated in the webinar on "Business opportunities in exporting Fresh Fruits, Vegetables and Flowers" as Chief Guest, organized by Alumni Association, UAS, Bangalore on 20.06.2021. Participated in the 7th International Day of Yoga through online held at GKVK on 21.06.2021 and also participated in the

Karnataka State Policy and Planning Commission meeting, organized at MS Building, Bengaluru. Visited Jaggery park at Mandya, College of Agriculture and Krishi Vigyan Kendra's of Mandya and Chamarajanagara and reviewed the progress of activities on 24.06.2021. Participated in the inauguration of direct marketing of Avacada fruits from the farmer, organized by Dept. of Agriculture Marketing & Co-operation at GKVK Campus on 26.06.2021. Participated in the meeting with Hon'ble Minister for Agriculture, Government of Karnataka and discussed about the activities of the University on 28.06.2021. Participated in the 30th State Level Co-ordination Committee Meeting held at Vikasa Soudha, Bengaluru on 29.06.2021 and also participated in the laying of Foundation Stone for Micro Irrigation TFDC building near College of Agricultural Engineering, GKVK on 29.06.2021.

July 2021

Vice-Chancellor chaired the meeting with Vandhe Bharatham Foundation and University Officials about the implementation of schemes and programmes of government on 03.07.2021. Participated in the KAU golden jubilee lecture series on "Seed Sustainability, Caring, Sharing and Conserving seeds for food – secure future" through online organized by College of Agriculture, Vellanikkara on 03.07.2021. Participated in the International Webinar on "Business Opportunities in Exporting of Spices" as Chief Guest, organized by Alumni Association, UAS, Bangalore on 04.07.2021. Participated in the webinar on Exploring opportunities in Agriculture sector between the Netherlands and State of Karnataka, organized by Embassy of the Kingdom of Netherlands, New Delhi on 05.07.2021. Witnessed the signing of MoU between University and IRRI, New Delhi, towards collaborative research activities on 08.07.2021 and the MoU with TECSOK, Bengaluru, towards collaborative HRD activities. Visited Progressive Farmer Field and Ramakrishna Mission, Shivanahalli, Anekal along with Prof. S. Ayyappan, Chancellor, Central Agricultural University on 10.07.2021. Participated as Chief Guest in the inaugural programme of EDP and Skill Development Programme held at Khanija Bhavan, Bengaluru organized by TECSOK on 12.07.2021. Participated in the tree plantation campaign and awareness programme through online organized by ICAR-CAFRI, Uttar Pradesh, on the eve of 93rd ICAR's Foundation Day on 16.07.2021. Chaired the award committee meeting and discussed about the nomination for Dr. N.G. Rao Memorial award held at GKVK on 20.07.2021. Visited Agriculture Research Station, Gunjevu, Holenarasipura, reviewed the progress of activities and interacted with Scientists on 21.07.2021. Attended 53rd Governing Council meeting of S. Nijalingappa Sugar Institute Belagavi, held at Vidhanasoudha, Bengaluru on 22.07.2021. Attended the Seventh meeting of the Executive Council of Karnataka State Rural Development and Panchayat Raj University, Gadag as member on 23.07.2021. Participated in the panel discussion of Zonal Workshop-2021 on 'Doubling Farmer's Income through Strengthening KVKs' on 30.07.2021.

August 2021

Vice-Chancellor witnessed the MoU between University and Agriculture and Processed Food Export Developments Authority (APEDA), New Delhi on 02.08.2021. Participated in the inauguration of Faculty Development Training Programme organized by Directorate of Post Graduate Studies on 03.08.2021. He participated in the 27th General Body Meeting of Water and Land Management Institute (WALMI), Dharwad through online 03.08.2021. Participated in the inauguration of training programme on "Sustainable Beekeeping Techniques and Success Stories of Successful Bee Keepers" organized by Department of Apiculture, on 05.08.2021. Participated as Chief Guest in the e-launch event of Agri-Start-ups in the state of Karnataka organized by MANAGE, Hyderabad on 06.08.2021. Participated in the meeting convened by Principal Secretary, Department of Horticulture and Sericulture, Government of Karnataka on 06.08.2021. Participated in the Interview for Officers posts of University of Agricultural and Horticultural Sciences, Shivamogga, as External Member of the Selection Committee on 07.08.2021. Vice-Chancellor met Hon'ble Governor of Karnataka and appraised about the University activities on 10.08.2021. Attended the meeting with Hon'ble Chief Minister of Karnataka, organized by Karnataka State Policy and Planning Commission on 10.08.2021. Witnessed the MoA

between University and HAL, Bangalore, towards collaborative research and development activities on 11.08.2021. Attended the meeting convened by Additional Chief Secretary, Dept. of Agriculture, Govt. of Karnataka through online on 16.08.2021. Participated in the online training programme on "Seed Certification and Quality Control and Stakeholders" as Chief guest organized by ICAR Research Complex, Manipur on 18.08.2021. Participated in the Karnataka State Policy and Planning Commission meeting organized by KSP&PC held at Vikasa Soudha on 19.08.2021. Chaired the 149th Finance Committee Meeting of the University on 26.08.2021. Attended the review meeting under the chairmanship of Hon'ble Minister of State for Agriculture and Farmers Welfare, Government of India, held at Vikasa Soudha, Bangalore on 27.08.2021. Participated in the online meeting on "Eima Agrimach India 2022, organized by Federation of Indian Chambers of Commerce & Industry (FICCI), Government of Karnataka on 30.08.2021.

September 2021

Vice-Chancellor participated in the Karnataka State Policy and Planning Commission meeting held at Vikasa Soudha, Bengaluru on 01.09.2021. Participated in the DAESI batch inauguration programme organized by KVK, Bengaluru Rural on 02.09.2021. Participated in the meeting convened under the chairmanship of Additional Chief Secretary, Dept. of Agriculture, Govt. of Karnataka on 03.09.2021. Participated in the Mukhyamanthrigala Raitha Vidhya Nidhi programme, held at Vidhana Soudha, Bengaluru on 05.09.2021. Participated in the press meet and launched Raitha Mithra questionnaire column in Vijayavani daily newspaper held at GKVK on 06.09.2021. Participated in the meeting through online convened by Additional Chief Secretary, Department of Agriculture on 07.09.2021. He chaired the online meeting of all the Farm Universities and discussed on the academics, UG and PG admissions on 08.09.2021. Participated in the inaugural programme of the Garden at Art of Living Bengaluru on 11.09.2021. Participated in the 27th meeting of ICAR Regional Committee through online on 14.09.2021. Witnessed the MoU between the University and C-CAMP towards collaboration of academic and research activities on 16.09.2021. Participated in the meeting on exploring opportunities in Agriculture sector between the Netherlands and Karnataka State held at Bengaluru on 16.09.2021. Participated in the webcast of curtain raiser programme of Nutricereal Mega Conclave organized by ICAR New Delhi on 17.09.2021. Participated in the Fit India Freedom Run at GKVK on 18.09.2021. Participated in the brainstorming session on "Strategies and approaches for promotion of sustainable bivoltine sericulture" in India as co-convener through online organized by NAAS, New Delhi on 22.09.2021. Chaired the technical session of International Webinar cum Workshop on "Seed Quality Enhancement" through online organized by ICAR, New Delhi, on 23.09.2021. Participated in the MoU between Hexagon, Government of Karnataka and Farm Universities, held at Vikasa Soudha, Bengaluru on 23.09.2021. Participated in the International Conference on Harnessing Plant Physiology for Crop Improvement through online organized by Dept. of Crop Physiology on 25.09.2021. Participated in the award ceremony at PES Engineering College, Mandya organized by Janatha Shikshana Trust, Mandya and received Dr. H. D. Chowdaiah Shikshana Award on 25.09.2021. Participated in the advisory board meeting of proposed GM University, organized by Sreesaila Education Trust, Davanagere at Bengaluru on 26.09.2021. Participated in the meeting through online convened by Additional Chief Secretary, GoK on 30.09.2021.

October 2021

Vice-Chancellor presided the 56th Foundation Day programme of the University on 01.10.2021. Participated in the Ajadi ka Amruth Mahothsav organized by Rastreeya Chemicals and Fertilizers Ltd. at GKVK on 04.10.2021. Participated in the progress review meeting of Department of Agriculture, Government of Karnataka held at GKVK on 04.10.2021. Attended the Legislative Committee Meeting convened by Dept. of Agriculture, Govt. of Karnataka, held at Vidhana Soudha and discussed about the audit paras of the University on 05.10.2021. Participated in the meeting of Accreditation with all Officers of the University and Peer Review Team, on 08.10.2021. Attended the meeting convened by Department of Agriculture under the chairmanship of Development Commissioner on 13.10.2021. Participated in the Expert committee meeting for the Honorary Doctorate held at

Belgaum on 18.10.2021. Participated in the 28th Foundation Day of ICAR-National Bureau of Agricultural Insect Resources, Bangalore as Chief Guest on 19.10.2021. Visited ICAR-Krishi Vigyan Kendra, Kattupakkam, Tamil Nadu and interacted with Scientists and Staff on 20.10.2021. Participated in the inaugural programme of South Zone Pre-Republic Day Parade Selection Camp-2021 on 22.10.2021. Visited Agriculture Research Station, Kunigal and interacted with scientists and inspected the maize Doubled Haploid (DH) facility on 23.10.2021. Participated in the 12th Agri-tech India 2021 Exhibition held at Bangalore International Exhibition Center on 29.10.2021. Chaired the Krishi Mela Steering Committee Meeting and reviewed the arrangements for Krishi Mela on 30.10.2021. Visited RAWEP villages of Mandya Taluk and interacted with students and farmers on 30.10.2021.

November 2021

Vice-Chancellor visited RAWEP villages of Pandavapura Taluk, Mandya District and interacted with students and farmers on 02.11.2021. Chaired the selection committee meeting of Dr. M. H. Marigowda National Endowment Award for the best horticultural research on 04.11.2021. Chaired the First Board Meeting of Agri Innovation Center of the University on 04.11.2021. Visited Agricultural Research Station, Madenur, Hassan and reviewed the progress of activities and interacted with Scientists and Staff on 05.11.2021. Participated in the inaugural function of "Krushi Sinchana" Agricultural Exhibition at Gowdagere on 06.11.2021. He participated in the live phone in programme on Krishi Mela – 2021 at Doordharshan, Bangalore on 09.11.2021. Vice-Chancellor participated in the 51st Governing Council meeting of WALMI Society through online on 15.11.2021. He participated in the graduation day of DAESI at College of Sericulture, Chintamani on 16.11.2021 and participated in the inaugural function of RAWEP. Visited Raj Bhavan and appraised about the University issues to Hon'ble Governor of Karnataka on 19.11.2021. Participated in the meeting of the screening committee on appointment of Vice-Chancellor, Odisha University of Agriculture and Technology through online on 20.11.2021. Participated in the inauguration of the training programme on "Rice Yield Technology for India" through online on 24.11.2021.

December 2021

Vice-Chancellor participated in the Krishi Mela-2021 organized by College of Agriculture, VC Farm, Mandya and delivered the presidential remarks on 01.12.2021. Participated in the search committee meeting for the appointment of Vice-Chancellor, Odisha University of Agriculture and Technology, through online on 01.12.2021. Participated in the presentations for Professorship in the discipline of Seed Science & Technology, through online organized by IARI, New Delhi on 02.12.2021. Participated in the Dr. B. R. Ambedkar death anniversary programme organized by SC/ST cell of UAS, Bangalore on 06.12.2021. Participated in the advisory committee meeting of NASF through online organized by National Agricultural Science Fund, ICAR, New Delhi on 07.12.2021. He participated in the Kannada Rajyothsava organized by the University on 08.12.2021. Chaired the meeting with Former Director, ICAR-IIOR and other officials through online and discussed about the collaborative activities between RRA Network / WASSAN and the University on 18.12.2021. Participated in the Walkthan-"Namma Nadige Siridanyagaledege" held at GKVK on 20.12.2021. Participated in the innovative conclave on Village Adoption through online organized by Sri Siddhartha Academy of Higher Education, Tumakuru on 21.12.2021. Participated in the DAESI graduation day programme at Extension Education Unit, Naganahalli and awarded the graduation certificates on 22.12.2021. Participated in the Conference of all Vice-Chancellors of Universities in Karnataka at Karnataka State Higher Education Council, Bengaluru and presented the activities of the University on 27.12.2021. Participated in the executive committee meeting of Institution of Agroforestry Farmers and Technologists (IAFT) held at IAFT, Bangalore on 28.12.2021. Chaired the Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Mandya on 29.12.2021 and also participated in the DAESI graduation day at Extension Education Unit, Mysuru. Participated in the award ceremony organized by Karnataka Vachana Sahithya Parishath, Bangalore, held at Chitrakala Parishat, Banagalore and received "Basava Prashasti on 31.12.2021.

January 2022

Vice-Chancellor chaired the review meeting of BioNEST Agri. Innovation Center held on 3rd January, 2022. He participated in the inaugural function of DAESI programme and graduation day organized by Farmers Training Institute at GKVK on 03.01.2022. Chaired the UG admission meeting of all Farm Universities of Karnataka through online on 03.01.2022. He chaired the Scientific Advisory Committee Meeting of Krishi Vigyan Kendra, Haradanahalli, Chamarajanagara held at KVK, Chamarajanagara on 04.01.2022. Witnessed the MoU between University and Tata Institute for Genetics and Society, Bangalore towards collaborative research and academic activities on 06.01.2022. Participated in the National Webinar on "Usance of Medicinal Plants with special reference to Covid Pandemic" organized by Department of Horticulture, UAS, GKVK on 06.01.2022. Participated in the one-day online workshop on "Technologies for Transformation of Indian Agriculture" organized in collaboration with Indian Institute of Science, ICAR-IIHR and Indian National Academy of Engineering, Bangalore and delivered inaugural address on 10.01.2022. Participated in the meeting through online and discussed about the collaborative activities between the University of Agricultural Sciences, Bangalore and Toronto University on 18.01.2022. Participated in the inaugural function of the International Conference on Finger Millet held at College of Agriculture, VC Farm, Mandya and delivered keynote address on 19.01.2022. Participated in the meeting on trails / testing being conducted by Universities / ICAR Institutes on Nano-fertilizer (Nano Urea) through online under the chairmanship of Hon'ble Director General, ICAR on 20.01.2022. Participated in the NAHEP Knowledge Management Portal Launch through online on 21.01.2022. Participated in the SICI's Agri Cluster Meeting through online organized by Shastri Indo-Canadian Institute, New Delhi on 21.01.2022. Chaired the Scientific Advisory Committee meeting of Krishi Vigyan Kendra, Hassan held at KVK, Kandali, Hassan on 25.01.2022. He participated in the farm implements distribution programme at Madenur, Hassan organized by College of Agriculture, Hassan on 25.01.2022. Participated in the online meeting with Hitachi and discussed on the collaborative activities organized by Hitachi India R&D Center, Bangalore on 25.01.2022. Participated in the online orientation for the first year UG students and addressed the students about the University on 31.01.2022. Witnessed the signing of MoU between the University and Shramajeevi TV Chanel towards the collaborative activities on 31.01.2022.

February 2022

Vice-Chancellor participated in the Doordarshan, Bangalore interview and shared the opinion about the Central Government Budget-2022 on 01.02.2022. He had discussion with Managing Director, BMRCL about the issues related to Metro stop at GKVK on 02.02.2022. Attended the budget review meeting under the chairmanship of Additional Chief Secretary, Government of Karnataka on 03.02.2022. Participated in the VK superstar best farmers selection committee meeting organized by Vijaya Karnataka on 05.02.2022. Participated in the inauguration of Centralized Nursery established at Dept. of Horticulture, UAS, GKVK on 09.02.2022. Vice-Chancellor participated in the panel discussion on "Vasudhaiva Kutumbakam-Education Summit 2022" through online on 10.02.2022. Participated in the 1st State Level Nodal Agency meeting convened under the Chairpersonship of Additional Chief Secretary and Development Commissioner, Government of Karnataka through online on 11.02.2022. Participated in the inaugural function of workshop on "Technology backstopping to Karnataka FPOs" through online organized by ATARI, Bangalore on 11.02.2022. Participated in the online seminar on "Fodder Resources Development Plan for the state of Karnataka" organized by IGFRI, Dharwad on 16.02.2022. He participated in the inaugural address of the short course organized by Directorate of Extension on 17.02.2022. He participated in the 9th Executive Council meeting of Karnataka State Rural Development and Panchayat Raj University, Gadag on 18.02.2022 through online. Attended the meeting with Hon'ble Minister for Agriculture and appraised the progress of activities of the University on 21.02.2022. He chaired the review meeting of Watershed Development Project operated at GKVK and reviewed the progress of activities on 22.02.2022. Participated in the inauguration of ICAR sponsored winter school on "Agri-Startups and Entrepreneurship Development" on 23.02.2022. Participated in the meeting under the Chairmanship of Hon'ble Minister for Agriculture and discussed on Secondary Agriculture held at Vikasa Soudha, Bengaluru on 23.02.2022. Participated in the 31st Coordination Committee meeting under the Chairmanship of Hon'ble Minister for Agriculture and discussed on Secondary Agriculture held at Vikasa Soudha, Bangalore on 23.02.2022. Participated

in the inaugural programme of Crop Insurance distribution programme organized by Department of Agriculture, Government of Karnataka on 26.02.2022. Participated in the inaugural programme of KC Valley water pipeline to College of Sericulture, Chintamani and also participated in the certificate distribution event of DAESI programme on 28.02.2022.

March 2022

Vice-Chancellor chaired the meeting with Post Procurement Review Team organized by CAAST project on 02.03.2022. Participated in the training programme on "Post-Harvest Technologies for Better Seed Quality" through online and delivered the talk on "Indian Seed Industry and Post-harvest Technologies" on 02.03.2022. He participated in the "VK Superstar Raitha – 2021" award programme organized by Vijayakarnataka Newspaper, held at Rajanukunte, Yelahanka on 03.03.2022. He participated in the inaugural programme of 13th Bangalore International Film fare organized by Karnataka Film Academy, held at GKVK on 03.03.2022. Vice-Chancellor participated in the inaugural programme of Tech Bharath-2022 organized by Lub-K and IMF Foundation held at GKVK on 04.03.2022. Participated as Chief Guest in the award ceremony programme organized by Alumni Association of UAS, Bangalore on 05.03.2022. Vice-Chancellor visited Barcelona and Switzerland from 07-23 March, 2022. He visited University of Leida at Spain and discussed on the collaborative activities between University of Leida and UAS-B through interaction with scientists, staff and students. Vice-Chancellor visited Friedrich Schiller University (FSU), Jena, Germany and discussed on the collaborative activities between FSU and UAS-B through interaction with president & faculty. He also visited Max Planck Institute (MPI) and Hans Knoll Institute, Beutenberg for Chemical Ecology at Jena. He visited University of Gottingen, Germany and interacted with Vice-President for Research, Coordinator, Director and Regional Coordinator on the collaborative activities between University of Gottingen and UAS-B. He visited International Seed Testing Association (ISTA), Switzerland and discussed on the collaborative activities between ISTA and UAS-B. Vice-Chancellor participated in the meeting with Dr. Ralph, Dr. Masa and Dr. Ken held at Functional Genomics Centre Zurich and discussed on the Ragi whole genome sequencing and phenotyping. He participated in the award ceremony of "Sri Mantralaya Parimala Award" held at Sri Raghavendra Swamy Matha, Manthralaya, and received "Sri Mantralaya Parimala Award" on 24.03.2022. Vice-Chancellor participated in the meeting convened by Secretary to Hon'ble Governor of Karnataka on 26.03.2022. Witnessed the signing of MoU between Visvesvaraya Trade Promotion Center (VTPC) and UAS, Bangalore for establishment of nuclear magnetic resonance honey testing laboratory at GKVK on 28.03.2022. Participated in the inaugural programme of Farm Machinery Technical Mela-2022 held at ZARS, Mandya on 30.03.2022. He participated in the Diploma Graduation Day and Diploma (Agri) Dashamanotsava at V.C. Farm, Mandya on 30.03.2022. Vice-Chancellor participated in the committee meeting through online and recommended suitable names for nominations for Gandhi Peace Prize 2022 on 31.03.2022.

1.10 Awards / Recognitions and Significant Achievements of the University

- University of Agricultural Sciences, Bangalore stood first in Karnataka and Southern Indian Agricultural Universities; third position among State Agricultural Universities in the country and sixth place at National level including ICAR deemed University (among 67 universities) in the recently announced ICAR rankings
- UAS, Bangalore has secured the first position in ICAR-JRF Awards (2020-21) under Agricultural Sciences and Engineering & Technology groups with 38 and 10 PGS, respectively
- UAS, Bangalore was accredited by ICAR-NAEAB with overall score of 3.261 out of four, equivalent to grade 'A'
- UAS, Bangalore received Red Cross appreciation for Youth Development activities and support in strengthening youth red cross activities from Hon'ble Governor of Karnataka

- Shri Thaawar Chand Gehlot, Hon'ble Governor of Karnataka awarded the degrees to 659 under graduate students, 279 post graduate students and 74 doctoral students during 55th Convocation of the University held on 21st September 2021. Also, 150 gold medals were received by deserving candidates
- As many as 517 UG, 96 PG and 41 doctoral degree students of UAS, Bangalore received scholarship support from state government and other agencies
- UAS, Bangalore received Brand Promising University Award from ATAL Ranking Innovation Institutes
- UAS, Bangalore was bestowed with Agriculture Today - Agri-Education Awards-2021 in the category of Excellence in Course and Curriculum Design Award & Organic Farming Training Programme Award
- NCC Sub Unit (1-KAR BN NCC) 52-SD/SW Cadets has been sanctioned to the University
- Krishimela, Convocation and Foundation Day of the University were successfully conducted during 2021 in hybrid mode (*i.e.,* both through virtual and offline mode)
- AICRP on Forage Crops and Utilization received certificate of appreciation towards development of technology viz., Perennial grass based cropping system involving Bajra Napier Hybrid grass with Sesbenia grandifolia in Forage Crop Production from ICAR- Indian Grassland and Fodder Research Institute (IGFRI), Jhansi during National Group Meet on Forage crops and utilization Kharif-2021. The centre also received certificate of appreciation towards development of technology *viz.,* Agase Intercropping with BxN Hybrid or Perennial Sorghum in Forage Crop Production
- AICRP on Dryland Agriculture, GKVK was awarded ICAR - Chaudhary Devi Lal Outstanding All India Coordinated Research Project Award for Best Coordinating Centre among 31 centres across the country with a cash prize of One lakh rupees on 93rd ICAR foundation Day on 16th July 2021

1.11 New Initiatives of the University

- Decentralized digital evaluation of answer booklets of UG students at anytime from anywhere (24x7) by the teachers is initiated
- M.Sc. (Agri.) in Sericulture; M.Sc. (Agri.) in Agronomy and M.Sc. (Agri.) in Entomology would be commenced at College of Sericulture, Chintamani *w.e.f.* academic year 2022-23. M.Tech. in Plant Biotechnology; M.Sc. (Agri.) in Agronomy and M.Tech. in Food Science & Technology would be started at College of Agriculture, Hassan *w.e.f.* academic year 2022-23. Further, Ph.D. in Biochemistry at College of Agriculture, GKVK would also be started *w.e.f.* academic year 2022-23.
- Department of Agricultural Engineering is strengthened into College of Agricultural Engineering at GKVK Campus. Department of Agricultural Marketing & Cooperation and BM is upgraded to 'Institution of Agri-Business Management' at GKVK Campus. Upgraded infrastructure facilities at University Library at GKVK Campus including Video-Conferencing facility. RFID tagging of books and periodicals is done at Libraries in Mandya, Hassan and Chintamani Campuses. Infrastructure facilities and manpower in newly established College of Agriculture, Chamarajanagara have been upgraded.
- Initiated the process of implementation of 'National Education Policy-2020' for all the UG Degree Programmes in the University. Formulated the guidelines for implementation of 'Broad Subject Matter Area (BSMA)' recommendations of ICAR for Masters and Doctoral Degree Programmes in the University.
- Introduced 'Cross-Learning Programme' and 'Finishing School Programme' among UG students under Student READY programme *w.e.f.* the academic year 2021-22

- Instituted 'Best Outgoing Student Award' and framed guidelines to recognize best overall performing student, which will be presented during Foundation Day of the University during October, 2022 onwards. Framed the guidelines for instituting 'Professor of Eminence' to recognize and to continue the services of eminent faculty even after their superannuation for utilizing their expertise. Framed the guidelines for awarding 'Honorary Doctorate' to the eminent personalities in the field of agriculture and allied sectors

1.12 Meetings of the Authorities of the University

Board of Management	
388th Meeting	...17.04.2021
389th Meeting	...06.07.2021
(Adj. Meeting)	...30.08.2021
390th Meeting	...20.09.2021
391st Meeting	...12.01.2022

Finance Committee	
148th Meeting	... 16.04.2021
149th Meeting	... 26.08.2021
150th Meeting	... 20.09.2021
151st Meeting	... 11.01.2022

Academic Council Meeting	
192nd Meeting	... 12.08.2021
193rd Meeting	... 07.02.2022

Board of Studies (UG & PG)	
18th Meeting	...14.01.2022

Research Council Meeting	
61st Meeting	... 25.06.2021

Extension Education Council Meeting	
60th Meeting	... 25.06.2021

Chapter II

2. Academic Administration

2.1 Academic Programmes

The University has six colleges with a territorial jurisdiction of 10 Southern districts of Karnataka to carry out the mandated education in the areas of agriculture and allied sciences. Presently, the University offers six Bachelor Degree programmes *viz.,* B.Sc. (Hons.) Agriculture, B.Sc.(Hons.) Sericulture), B.Sc.(Hons.) Agricultural Marketing & Business Management, B.Tech. (Biotechnology), B.Tech. (Agri. Engineering) and B.Tech. (Food Technology). University also offers Masters' degree programme in 24 disciplines and Ph.D. programme in 16 disciplines. Two year diploma in Agriculture is being offered under semester system in Kannada medium at College of Agriculture, Mandya. Further, the Directorate of Extension offers various Diploma and certificate courses on Distance Education mode. Degrees which were offered as B.Sc. (Agri.), B.Sc. (Seri.) and B.Sc. (Agril. Maketing & Co-operation) are now offered as B.Sc. (Hons.) Agriculture, B.Sc. (Hons.) Sericulture and B.Sc. (Hons.) Agril. Maketing, Co-operation & Business Management since 2018-19. The degree B.Sc. (Agri. Biotech.) offered at College of Agriculture, Hassan is now offered as B.Tech. (Biotechnology) since 2018-19 and the degree B.Sc. (Food Science & Technology) is now offered as B.Tech. (Food Technology) since 2017-18. The University also offers Diploma courses - Diploma in Agriculture (2 years) at College of Agriculture, Mandya and Diploma in Sericulture (2 years) at College of Sericulture, Chintamani.

2.2 Administrative Management System and Functions

2.2.1. Directorate of Education

The Academic administrative system consists of Directorate of Education ably supported by Registrar, Deans of constituent colleges, Dean Post Graduate Studies, Dean Student Welfare, Controller of Examination, facilitated by Communication Center, Kannada Department and University Library. Major responsibilities and functions attached with the directorate/officers and functions performed during 2019-20 are detailed here under.

i. ***Director of Education; As per the Act***

a. Shall be concerned with co-ordination of all academic policy matters and systems regarding resident instruction and development of educational technology. He shall also oversee examinations.

b. Shall monitor and supervise the University Library, Examination Centre, Kannada Department and Communication Centre

c. Shall supervise the academic activities of constituents colleges

d. Shall be responsible for Human Resource Development in the University and teacher's training programmes

e. Shall be the Chairman of Board of Studies of UG and PG programmes and shall maintain the records of the Board of Studies

f. Shall be the Member-Secretary of Academic Council and custodian of the proceedings of the Academic Council

g. Shall be responsible for strengthening of collaboration between UAS-B and other State, National and International organizations

h. Shall co-ordinate Teaching, Research and Extension Education Programmes of the University

i. Shall assist the Vice-Chancellor in over all administration of the University and assume such other duties and powers as the Vice-Chancellor may assign

j. Shall perform duties of the Vice-Chancellor in his temporary absence, except as otherwise provided by the Board and / or the Vice-Chancellor

ii. Registrar; As per the Act

a. Shall be the Member Secretary of the Board of Management and shall be a permanent Member of all councils

b. Shall be responsible for due custody of records and common seal of the University

c. Shall receive applications for entrance to the University and shall keep a permanent record of all the courses, curricula and other information as may be necessary

d. Shall be responsible for Human Resource Development and general administration in the University as prescribed [Sec. 31 (7) b-e]

iii. Deans; As per the Act

Shall be the Head of the college and responsible for administering and implementation of teaching, research and extension activities in the college (Sec. 37 / 4).

iv. Dean of Post Graduate Studies; As per the Act

Shall be responsible for administering and implementation of Post Graduate Studies and other education as programmes including diplomas (Sec. 37 / 5).

v. Dean of Student Welfare; As per the Act

a. Shall plan & direct the programmes of the students' advisement, counselling, enlist the cooperation of prospective employers and employment agencies to assist the placement of graduates of the University and to promote discipline amongst the students of the University

b. Shall plan and organize students extra-curricular activities such as sports, cultural & other recreational activities, NCC, NSS, communi-cation skill improvement and other allied activities at the University level

c. Shall assist the Deans in supervision and management of students' hostel, cafeteria and conduct of sports and cultural events

d. Shall supervise and control medical & health services and other welfare measures of students' in the university [Sec. 37(6) a-d]

vi. Principal – Two Years Diploma in Agriculture

Responsible for implementation of Academic Programme in respect of two years diploma in Agriculture

vii. Controller of Examinations

Responsible for conducting of Examinations, evaluation and declaration of results in coordination with the Deans of respective colleges under the supervision of Director of Education.

viii. University Librarian; As per the Act

Shall be responsible for the maintenance and management of the University Library information system and to guide and coordinate library activities of all the constituent units of the University under the supervision of Director of Education.

ix. Communication Centre

Responsible for publishing The Mysore Journal of Agricultural Sciences, Krishi Vignana quarterly magazine, Calendars, Newsletter, Annual Report, Bulletin & other needed text deemed fit for publication in the University both in Kannada & English.

x. Department of Kannada Studies

Responsible for publishing text books & dictionary related to Agriculture and other related subjects for the use of farmers, agric. students, scientists and others.

2.3 Functions and Activities Performed

2.3.1 Admission to Bachelor Degree Programmes

The University admits students to Bachelor degree programmes through KEA-CET by following Government of Karnataka / ICAR guidelines / norms / roaster. The University has reserved 50 per cent of seats to children of Agriculturists. As per the ICAR direction, 15 per cent of the seats are reserved for ICAR-NTS candidates. The University also admits foreign students and NRI students to the extent of 15 per cent of intake. The University reserved 5 per cent of seats for two years Diploma (Agri.) holders through lateral entry for UG admission. The prescribed qualification is 10+2 with PCMB combinations.

2.3.2 Admission to Masters and Doctoral Degree programmes

Postgraduate admissions are made through Common Admission Test among the Farm Universities in the state through counseling. The University approved seat matrix indicating roaster based on the Government of Karnataka and ICAR, New Delhi guidelines are adopted in admission process. The University also admits candidates with ICAR-JRF / NTS /SRF allotted by ICAR to the extent of 25 per cent of the intake. In addition, foreign students are admitted to the extent of 10 per cent of intake to the university through DARE / ICCR, Govt. of India and through bilateral MOU between the foreign universities sponsored candidates and 10 percent under NRI quota. The prescribed qualification for Master degree programme is Bachelor Degree in the concerned subject/s and for Doctoral degree programme is Master degree in concerned subject/s.

2.3.3 Admission to Diploma programmes

Admissions to Two Year Diploma (Agri.) & Diploma (Seri.) is made based on the merit of the prescribed qualification i.e. 10th Standard by following University approved seat matrix with roaster based guidelines of Government of Karnataka.

2.3.4 Admission Committee

The University constitutes Admission committee for admission to Bachelor degree programme, Postgraduate degree programmes and Diploma in Agriculture under the Chairmanship of Director of Education. Deans, DSW, Dean (PGS), Controller of Examination, Principal-Diploma (Agri.) will be the members and Registrar will be the Member-Secretary. The Committee perform the various functions as prescribed and plan for the annual admissions. The University issues Notifications for admissions in leading Kannada and English daily news papers besides uploading to the University website www.uasbangalore.edu.in. The committee prepares the plan of activity for Bachelor degree programme, verification of documents, for conduct of practical test & evaluation, preparation of merit list and submission to Karnataka Examination Authority.

Similarly, the committee coordinates with the other Farm Universities as per the Coordination committee decisions and participate in conduct of Common Entrance Test, Evaluation of papers and counselling process. In respect of two year Diploma (Agri.) & Diploma (Seri.), plan of activities are prepared, notifications are issued by inviting applications in the local news papers. Received applications are subjected to scrutiny and merit list is prepared to admit candidates as per the roaster. by the separate committee constituted for this purpose.

2.3.5 Admission Intake, Admissions made and Students on Roll

2.3.5.1 Bachelor Degrees

During the academic year, the intake strength for Bachelor's degree was 1050, however 918 students were admitted of which 483 were boys (52.62%) and 435 were girls (47.38%). The total number of students on roll in UG degree programmes was 3622 of which 1883 were boys (52%) and 1739 were girls (48%). (Table 1). Category-wise details are provided in Annexures 1.1, 1.2 and 1.3.

Table 1 : College-wise Bachelor degree programmes, intake, admitted students and students on roll during the year 2021-22

Sl.No.	Colleges & Degree programmes	Student intake	Admissions made			Students on Roll (Four years)		
			Boys	Girls	Total	Boys	Girls	Total
1	**College of Agriculture, GKVK, Bengaluru**							
	B.Sc. (Hons.) Agriculture	313	172	116	**288**	608	549	**1157**
	B.Sc. (Hons.) Agri. Marketing & Business Management	70	27	33	**60**	99	142	**241**
	B.Tech. (Agril. Engineering)	87	34	37	**71**	162	127	**289**
	Total (a)	**470**	**233**	**186**	**419**	**869**	**818**	**1687**
2	**College of Agriculture, VC Farm, Mandya**							
	B.Sc. (Hons.) Agriculture	115	61	45	**106**	223	182	**405**
	Total (b)	**115**	**61**	**45**	**106**	**223**	**182**	**405**
3	**College of Agriculture, Karekere, Hassan**							
	B.Sc. (Hons.) Agriculture	116	44	65	**109**	202	211	**413**
	B.Tech. (Biotechnology)	83	24	40	**64**	118	125	**243**
	B.Tech. (Food Technology)	83	32	31	**63**	123	127	**250**
	Total (c)	**282**	**100**	**136**	**236**	**443**	**463**	**906**
4	**College of Sericulture, Kurubur, Chintamani**							
	B.Sc.(Hons.) Agriculture	102	54	37	**91**	215	161	**376**
	B.Sc.(Hons.) Sericulture	42	18	19	**33**	63	61	**124**
	Total (d)	**144**	**68**	**56**	**124**	**278**	**222**	**500**
5	**College of Agriculture, Chamarajanagara**							
	B.Sc. (Hons.) Agriculture	39	21	12	**33**	70	54	**124**
	Total (e)	**39**	**21**	**12**	**33**	**70**	**54**	**124**
	Total (a+b+c+d+e)	**1050**	**483**	**435**	**918**	**1883**	**1739**	**3622**

2.3.5.2 Master and Doctoral Degrees

During the year, the intake for Master's and Doctoral degree programme was 572 and admitted was 454, of which 197 were boys (43.40%) and 257 were girls (56.60). The total number of students on roll for Masters and Doctoral degree programme was 1004 of which 438 were boys (43.62%) and 566 were girls (56.38%) (Table 2). Category-wise details are provided in the Annexure 1.4.

Table 2 : College-wise Masters and Doctoral degree programmes, intake, admitted students and students on roll during the year 2021-22

Sl.No.	Colleges & Degree programmes	Duration	Student intake	Admissions made			Students on Roll (2/3 years)		
				Boys	Girls	Total	Boys	Girls	Total
A.	**Master Degree**								
1.	CoA, GKVK, Bengaluru	02	384	133	177	310	281	343	624
2.	CoA, VC Farm, Mandya	02	33	15	12	27	28	26	54
	Total (A)	**04**	**417**	**148**	**189**	**337**	**309**	**369**	**678**
B.	**Doctoral Degree**								
1.	CoA, GKVK, Bengaluru	03	145	48	62	110	128	191	319
2.	CoA, VC Farm, Mandya	03	10	01	06	07	01	06	07
	Total (B)	**06**	**155**	**49**	**68**	**117**	**129**	**197**	**326**
	Total (A+B)	**10**	**572**	**197**	**257**	**454**	**438**	**566**	**1004**

2.3.5.3 Diploma in Agriculture and Sericulture

During the academic year, the intake for two year Diploma (Agri.) was 50 and admission made was 49 students of which 37 were boys (74%) and 12 were girls (24.48%). The total number of students on roll for the programme was 93 of which 63 were boys (67.74%) and 30 were girls (32.25%). The intake for Diploma (Seri.) was 20 and admission made was 07 students and all were boys. The total number of students on roll for the programme was 18 (Table 3). Category-wise details are provided in the Annexure 1.5, 1.6, 1.7.

Table 3 : Students intake, admission made, students on roll with respect to two-year diploma in agriculture during the year 2022-23

Sl.No.	Colleges & Degree programmes	Student intake	Admissions made			Students on Roll (02 years)		
			Boys	Girls	Total	Boys	Girls	Total
1.	College of Agriculture, VC Farm, Mandya	50	37	12	49	63	30	93
2.	College of Agriculture, Chintamani	20	07	0	07	17	01	18
	Total	**70**	**44**	**12**	**56**	**80**	**31**	**111**

The overall admission intake for the Bachelor, Postgraduate degree programmes and diploma programme was 1692 and admitted 1428 students. The number of students on roll during the year was 4737 of which 2401 were boys (50.69%) and 2336 were girls (49.31%). The details are provided in the Table 4.

2.3.5.4 Number of Students passed out in Bachelors', Masters' and Doctoral degree

During the year, in total 727 students passed out successfully in Bachelor degree of which 402 are boys and 325 are girls. Further, at Masters level 279 students have passed out of which 123 are boys and 156 are girls. At Doctoral level, 60 students have been passed out of which 24 are boys and 36 are girls (Table 5). Category wise details are provided in the Annexure 1.8, 1.9.

Table 4 : Overall intake, admission made and students on roll in the University during 2021-22

Sl.No.	Degree programmes	Student intake	Admissions made			Students on Roll		
			Boys	Girls	Total	Boys	Girls	Total
1	Bachelor degree	1050	483	435	918	1883	1739	3622
2	Master's degre	417	148	189	337	309	369	678
3	Doctoral degree	155	49	68	117	129	197	326
4	2 years Diploma in Agriculture	50	37	12	49	63	30	93
5	2 years Diploma in Sericulture	20	07	0	07	17	01	18
	Total	**1692**	**724**	**704**	**1428**	**2401**	**2336**	**4737**

2.3.6 Courses offered, faculty strength and examination conducted

During 2021-22, the prescribed courses with credit hours for each degree programmes were offered by the faculty in position in respective colleges. However, wherever possible, scientists of Directorate of Research and Directorate of Extension were also involved in offering courses for UG and PG programmes apart from Postgraduate guidance. The details of faculty strength and course offered college wise is presented in the below Table 6.

2.3.7 Adoption and Implementation of Student READY (Rural Entrepreneurship Awareness Development Yojana)

The University has adopted '5th Deans Committee' recommendations of the Indian Council of Agricultural Research(ICAR) and accordingly adopted the Student Rural Entrepreneurship Agricultural Development Yojana(READY) programme for all bachelor degree programmes for the Academic year 2018-19. Student Rural Entrepreneurship Agricultural Development Yojana(READY) Programme is a new initiative of ICAR, New Delhi to reorient graduates of Agriculture and allied subjects for ensuring and assuring employability and develop entrepreneurs for emerging knowledge intensive agriculture. This programme includes five components i.e., Experiential learning, Rural Agricultural Work Experience (RAWE), In-plant training / Industrial attachment, Hands on Training (HOT) / Skill development training and student's projects.

2.3.8 Implementation of RAWEP

The Rural Agricultural Work Experience Programme (RAWEP) was implemented in the University of Agricultural Sciences, Bangalore during the year 1995-96 to all the final year students of different degree programmes for a period of six months (one semester of 22 weeks) i.e., 7th semester. RAWE programme helps the students primarily to understand the rural situation, status of technologies adopted by farmers, prioritize the farmers' problems and to develop skills and attitude of working with farm families for overall development in rural area. Students who have successfully completed all the prescribed and offered courses till the end of the 6th semester are eligible to register for 20 credits of Rural Agricultural Work Experience Programme (RAWEP) during 7th semester of the degree programme.

Under Student Rural Entrepreneurship Agricultural Development Yojana Programme,(READY) financial assistance is provided by ICAR and the State Government. Each student is provided with a stipend at the rate of Rs. 3000/- per month for a period of six months. Students are placed in Raitha Samparka Kendras (RSKs) of Department of Agriculture, Government of Karnataka during the village stay practicals. The practical exposure and experience of Rural Agricultural Work Experience(RAWE) Programme will have far reaching impact in shaping the career of every student. Advisory Committee is headed by the Dean of the college and all the Heads of the Departments, Rural Agricultural Work Experience programmes (RAWEP) Co-ordinator and Associate Co-ordinators are its members. The Committee provides guidance to the teacher's in-charge of Rural Agricultural Work Experience programmes (RAWEP) and students for effective implementation of Rural

Table 5 : Details of the Students Passed out with Bachelors', Master's, Doctoral degrees and Diploma in Agriculture during 2020-21

Sl.No.	Colleges	Bachelors'	Passed out Students			Masters'	Passed out Students			Doctoral	Passed out Students		
			Boys	Girls	Total		Boys	Girls	Total		Boys	Girls	Total
1	Col. of Agriculture GKVK, Bengaluru	B.Sc.(Hons.)Agriculture	131	82	213	M.Sc. (Agri.)	100	128	228	Ph.D.	24	36	60
		B.Sc.(Hons.) Agri. Marketing & Business Management	26	23	49	M.Tech. (PFE&SWE)	4	7	11		-	-	-
		B.Tech. (Agri. Engineering)	41	28	69								
2	Col. of Agriculture VC Farm, Mandya	B.Sc.(Hons.) Agriculture	54	41	95	M.B.A.(ABM)	9	4	13			-	-
						M.Sc. (Agri.)	10	17	27		-	-	-
3	Col. of Agriculture Karekere, Hassan	B.Sc.(Hons.) Agriculture	38	44	82	-	-	-	-		-	-	-
		B.Tech. (Biotechnology)	32	21	53	-	-	-	-		-	-	-
		B.Tech. (Food Technology)	26	33	59	-	-	-	-		-	-	-
4	Col. of Sericulture Kurubur, Chintamani	B.Sc.(Hons.) Agriculture	37	40	77	-	-	-	-		-	-	-
		B.Sc. (Hons.) Sericulture	17	13	30								
	Total		**402**	**325**	**727**	**-**	**123**	**156**	**279**		**24**	**36**	**60**
5	Col. of Agriculture VC Farm, Mandya	2 year Diploma (Agri.)	29	15	44								

Table 6 : Courses Offered and faculty strength during the academic Year 2021-22

Sl No	Colleges	Faculty in position				Degree Programmes	No. of courses offered	Credit Hrs.	No. of examiantion	No. of papers evaluated
		Professor	Assoc. Professor	Asst. Professor	Total					
1	College of Agriculture GKVK, Bengaluru	74	17	34	150	B.Sc.(Hons.) Agriculture	69	160	136	77602
						B.Sc.(Hons.) Agril. Markt. & Business Mangt.	65	157	157	15440
						B.Tech. (Agril. Engineering)	57	160	111	15834
						Master's Degree - 15 courses & 22 disciplines [(M.Sc. (Agri.), M.Tech., MBA (ABM)]	236	769	895	119120
						Doctoral Degree - 16 course & 15 disciplines	120	255	447	20743
2	College of Agriculture VC Farm, Mandya	06	01	19	26	B.Sc.(Hons.) Agriculture	82	188	199	16375
						Master's Degree - 15 courses & 5 Disciplines	58	136	226	6105
						Doctoral Degree - 03 disciplines	17	38	65	401
						Two year Diploma in Agriculture	24	32	62	5766
3	College of Agriculture Karekere, Hassan	10	03	23	36	B.Sc. (Hons.) Agriculture	66	133	189	19598
						B.Tech. (Biotech.)	50	133	177	10852
						B.Tech. (Food Sci.&Tech.)	52	129	174	10917
4	College of Sericulture Kurubur, Chintamani	04	04	19	27	B.Sc. (Hons.) Sericulture	76	183	64	1938
						B.Sc. (Hons.) Agriculture	76	183	67	5824
5	College of Agriculture Chamarajanagara	1	1	1	5	B.Sc. (Hons.) Agriculture	57	98	84	312
	Total	**95**	**26**	**96**	**242**		**1105**	**2754**	**3053**	**326827**

Agricultural Work Experience programmes (RAWEP). The designated Rural Agricultural Work Experience programmes (RAWEP) teachers from all the departments of the college are responsible to monitor, supervise and guide the students to attend their designated activities. Details of Rural Work Experience programmes conducted by different colleges of the university during 2021-22 is presented below :

a) College of Agriculture, GKVK, Bengaluru

The RAWE Programme 2020-21 for the final year students of UG degree programme were rescheduled for VIII Semester 2020-21 from 01.03.2021 to 20.07.2021. The Agro-industrial Attachment and KVK placements courses were initially taken up and due to the incidence of second wave of corona pandemic and lock down the remaining courses were conducted through online. Accordingly, a new plan for implementation and evaluation of courses through online mode was worked out using the various online applications like video conferencing, online forms, weekly online presentations and reviews. The students were attending the RAWEP from their native places with their neighbouring farmers. They were also attached with the nearest RSKs / Extension Centres. The students were divided into 20 groups based on their locations and two teachers were assigned for implementation and monitoring. The final evaluation of presentations, assignments and examinations were conducted online mode.

The College of Agriculture, GKVK, Bengaluru conducted RAWE programme 2021-22 from 19.07.2021 to 15.12.2021 and village stay practical from 02.08.2021 to 24.10.2021. The students were attached to 18 villages of 10 RSKs of Bengaluru Rural and Chikkaballapura district (6 Taluks). Particulars are given in the below table.

Table 7 : Details of RSKs and Villages Selected for RAWEP by CoA, GKVK

District	Taluks	RSK / Hobli	Village
Bengaluru Rural	Hosakote	Sulibele	Bettahalli and Vabasandra
	Doddaballapura	Belavangala	Kasaghatta and Aiyyanahalli
		Kasaba	Oddarahalli and Dasagondanahalli
		Thubagere	Channapura & Dandudas Kodigehalli
	Devanahalli	Channarayapatna	Beediganahalli and Reddyhalli
Chikkaballapura	Shidlaghatta	Kasaba	Appegowdanahalli and Bodhagur
	Gowribidanur	Tondebhavi	Bevinahalli
		Manchenahalli	Gowdagere and Hanumanthapura
	Chikkaballapura	Nandi	Ramachandra Hosuru and Yelehalli
		Kasaba	Maralakunte

Table 8 : Details of students of CoA, GKVK who have undergone RAWEP and extension activities conducted

Sl. No.	Course	No. of Students			No. of Villages
		Boys	Girls	Total	
1	B.Sc. (Hons.) Agriculture	145	152	297	18
2	B.Sc.(Hons.) Agril. Marketing. & Business Management	33	30	63	18
3	B.Tech.(Agril. Engineering)	47	27	74	18

No. of soil samples collected & analysed : 1002; Animal Health Camps : 17; Value addition & Nutrition programmes: 34; Method demonstrations: 226; Training programmes: 35; Diagnostic visits: 309; Mass tree planting: 13; Exhibitions: 18; Field visits: 547; Swachhata Andolana Programme: 98; Health Campaign / Blood donation: 2; General Meetings: 34; Result Demonstrations: 124; Soil health campaign: 28; Seed treatment demo: 24; Awareness programme on Bio-Fuel: 3; Sericulture Training Programme: 20; Awareness programme on Fertilizer adulteration: 17; Integrated pest and disease management: 26; Integrated farming system: 18; Exposure visits organized to organic farming : 13; Vanamohastava Indigenous technological knowledge (ITKs): 41; Information Center and plant health clinic: 18; Crop Museum: 18 and Parthenium Awareness programme: 15

b) College of Agriculture, Mandya

Agricultural College, Mandya conducted RAWE programme from 19.07.2021 to 13.01.2022 and village stay practicles from 02.08.2021 to 18.11.2021. The students were attached to 04 Raitha Samparka Kendras of 2 taluks belonging to Mandya districts. Particulars are given in the below table.

Table 9 : Details of RSKs and Villages selected for SRA-RAWEP by CoA, Mandya

District	Taluks	RSK / Hobli	Village
Mandya	Mandya	Dudda	Shivalli
			Dudda
		Mandya Kasaba	Gunnayakana Halli
			Hadya
			Maradipura
	Pandavapura	Pandavapura Kasaba	Sunkatonnur
			Kalenahalli
		Jakkanahalli	S. Kodagahalli
			Attiganahalli

Table 10 : Details of students of College of Agriculture, Mandya who have undergone RAWEP and extension activities conducted

Sl. No.	Course	No. of Students			No. of Villages
		Boys	Girls	Total	
1.	B.Sc.(Hons.) Agriculture	74	64	138	09

No. of Extension Activities conducted : No. of Extension Activities conducted: 650 No. of soil samples collected & analysed: 03 Animal Health Camps: 09 Value addition & Nutrition programmes: 30 Method demonstrations: 196 Training programmes: 547 Diagnostic visits: 09 Mass tree planting: 01 Exhibitions: 690 Field visits: 09 Swachhata Andolana Programme: Health Campaign / Blood donation- Nil: 09 General Meetings: 30 Result Demonstrations: 09 Soil health campaign: 09 Seed treatment demo: No. of Water samples tested- Nil: Awareness programme on Bio-Fuel-Nil: 09 Sericulture Training Programme: 09 Awareness programme on Fertilizer adulteration: 09 Integrated pest and disease management: 09 Integrated farming system: 01

c) College of Sericulture, Chintamani

Sericulture College, Chintamani conducted RAWE programme from 19.07.2021 to 07.01.2022 and village stay practicles from 09.09.2021 to 17.11.2021. The students were attached to 05 Raitha Samparka Kendras of Chikkaballapura / Kolar districts. Particulars are given in the below table.

Table 11 : Details of RSKs and Villages Selected for RAWEP by CoS, Chintamani

District	Taluks	RSK / Hobli	Village
Chikkabalapur	Shidlaghatta	Shidlaghatta Kasaba	Doddadasenahalli
	Chintamani	Ambaji Durga	Bhaktharahalli
		Murugamalli	Kothahudya
		Murugamalli	Thumbalahalli
Kolara	Kolara	Suguturu	Madanahalli
		Suguturu	Ankathatti
		Suguturu	Naganala
		Vemagal	Rajakallahalli

Table 12 : Details of students of CoS, Chintamani who have undergone RAWEP and extension activities conducted

Sl. No.	Course	No. of Students			No. of Villages
		Boys	Girls	Total	
1	B.Sc.(Hons.) Agriculture	53	42	95	08
2	B.Sc.(Hons.) Sericulture	12	18	30	

No. of Extension Activities conducted: No. of soil samples collected & analysed : 05; Animal Health Camps : 03; Value addition & Nutrition programmes: 08; Method demonstrations: 42; Training programmes: 08; Diagnostic visits: 30; Mass tree planting: 100; Exhibitions: 03; Field visits: 574; Swachhata Andolana Programme: 08; General Meetings: 08; Result Demonstrations: 31; Soil health campaign: 08; Seed treatment demo: 08; Awareness programme on Bio-Fuel: 08; Sericulture Training Programme: 02; Awareness programme on Fertilizer adulteration: 08; Integrated pest and disease management: 08; Integrated farming system: 08; Vanamohastava 950; Crop Museum: 08 and Information Centre: 08.

d) College of Agriculture, Karekere, Hassan

College of Agriculture, Karekere, Hassan: Agricultural College, Hassan conducted RAWE programme from 19.7.2021 to 07.01.2022 and village stay practicles from 02.08.2021 to 10.11.2021. Students were attached to five Raitha Samparka Kendras of Channarayapatna and Hassan Taluk of Hassan districts. Particulars are given in the below table.

Table 13 : Details of RSKs and Villages Selected for RAWEP by CoA, Hassan

ಜಿಲ್ಲೆ/District	ತಾಲ್ಲೂಕು/Taluks	ರೈತ ಸಂಪರ್ಕ ಕೇಂದ್ರ/RSK / ಹೋಬಳಿ/Hobli	ಹಳ್ಳಿ/Village
Hassan	Hassan	Hassan Kasaba	Hassan Kasaba
		Shantigrama	Shantigrama
	Channarayapattana	Channarayapattana Kasaba	Muddenahalli, Joodigatte
		Hirisave	Hirehalli, Baladhare
		Hudayapura	D. Samudra, Vaggarahalli

Table 14 : Details of students of CoA, Hassan who have undergone RAWEP and extension activities conducted

Sl.No.	Course	No. of Students			No. of Villages
		Boys	Girls	Total	
1	B.Sc.(Hons.) Agriculture	50	54	104	5
2	B.Tech. (Biotechnology)	30	30	60	5
3	B.Tech. (Food Technology)	28	32	60	5

No. of Extension Activities conducted: No. of soil samples collected & analysed: 350; Animal Health Camps: 5; Value addition & Nutrition programmes: 31; Method demonstrations: 101; Training programmes: 112; Diagnostic visits: 32; Mass tree planting: 5; Exhibitions: 1; Field visits: 28; Swachhata Andolana Programme: 23; Health Campaign/Blood donation: 5; General Meetings: 8; Result Demonstrations: 8; Soil health campaign: 5; Seed treatment demo: 13; No. of Water samples tested: 25; Awareness programme on Bio-Fuel: 3; Sericulture Training Programme: 3; Awareness programme on Fertilizer adulteration: 5; Integrated pest and disease management: 21; Integrated farming system: 5; Exposure visits organized to organic farming: 4; Vanamohastava: 5; Indigenous technological knowledge (ITKs): 6; Crop museum/Information centre:5; Museum :5 and Parthenium awareness programmes:5

2.4 Hands on Training

The students of all the degree programmes during their final year are required to complete Hands on Training Courses to the extent of 20 credit hours to gain confidence and skills in areas of specialization of their choice. All the colleges of UAS-B offered the approved courses. Based on the interest of the students and their merit, the courses were allotted. Details are presented in the table.

Table 15 : Details of Hands on Training Courses Undergone by the Students and Significant Outcomes

College	Module No./ Course Group Name	HOT Course Title	No. of Students Undergone			Significant outcomes
			Boys	Girls	Total	
1	2	3	4	5	6	7
CoA GKVK, Bengaluru	Group I ESA 421+ EAG 421	Soil, Plant, Water and Fertilizer Testing+ Organic Production Technology	22	13	35	Students were taught about collection and preparation of soil samples for analysis from different land uses like Finger millet, Red gram, Mango, Sapota, Guava, Grapes and Mulberry. Learnt handling of instruments like pH meter, EC bridge, Nitrogen analyser, Flame photometer, Spectrophotometer, Hot air oven *etc*.,
						They learnt techniques on lanform identification, soil site characteristics, horizonation in soil profile, assessment of morphological and physical characteristics soil.
						The students learnt different aspects of organic farming, methods of compost preparation, preparation of liquid organic manures such as Jeevamruth, Beejamruth, Panchagavya, etc.
	Group II ESA 422+ EAL 422	Agriculture Waste Management+ Integrated Farming System	19	12	31	The students have been trained and educated about composting of plant residues, green manuring, bio-gas production; acquired skills on nutrient analysis of kitchen and city waste raw materials used for production of drum compost; analysis of different farm compost and city compost.
						The students learnt about various enterprises selection and management.
	Group III EAM 422+ EEP 421	Production Technology for Bio-fertilizers+ Production Technology for Bio- agents	16	17	33	Students have been trained and exposed to various laboratory and mass production equipments; preparation of different culture media and sterilization techniques; mass production of bio-fertilizers, Azolla, Phosphate/ potash solubilising microorganisms, nitrogen fixing bacteria, production technologies of carrier based and liquid biofertilizers, plant growth promoting rhizobacteria etc., packing and storing methods and entrepreneurship development

1	2	3	4	5	6	7
						Students were acquired skills in isolation of Trichoderma, dual culture techniques, mass production of parasitoids (*Trichogramma, Goniozus*), predators (*Chrysoperla carnea*) pathogens (HaNPV, SL NPV, *B.bassiana*), and bio- agents (*Trichoderma, Pseudomonas* etc.,) testing their efficacy, mass multiplication and delivery system.
	Group IV EAM 421+ EEP 421	Mushroom Cultivation Technology+ Production Technology for Bio- agents	15	18	33	Students were taught about various characteristics and morphological features of mushrooms, Maintenance of mushroom laboratory, mother culture preparation, Spawn production, cultivation of oyster mushroom, harvesting, processing, packing of mushrooms, project preparation for spawn production and mushroom cultivation
						Students have been trained and acquainted with various laboratory and mass production equipments; preparation of different culture media and sterilization techniques; mass production of bio-fertilizers, Azolla, Phosphate/ potash solubilising microorganisms, nitrogen fixing bacteria, Production technology for carrier based and liquid biofertilizers, plant growth promoting rhizobacteria etc., packing and storing methods and entrepreneurship development.
	Group V EHR 421+ EBT 421	Commercial Horticulture+ Plant tissue culture	15	18	33	Students acquired skills of high-tech nursery management practices, tissue culture technique and practiced open and protected cultivation techniques such as bed preparation, fumigation, mulching, drip irrigation, fertigation, training, foliar application of micronutrients, plant protection measures, harvesting, grading and packaging of important vegetable crops, terrace gardening.
						Students have been trained on design and basics for maintenance of Plant Tissue Culture Laboratory. Totally 495 numbers of Elakki Banana meristems were initiated by the students and produce around 80 to 100 plantlets per sucker.
	Group VI EHR 422+ EHR 421	Floriculture and Landscaping+ Commercial Horticulture	20	13	33	Students have been trained on nursery techniques, nursery management, bed preparation planting of chrysanthemum, propagation of ornamental plants, pruning practices in edges and hedges and management practices in Anthuriums

1	2	3	4	5	6	7
						Students acquired skills of high-tech nursery management practices, tissue culture technique, practiced open and protected cultivation techniques such as bed preparation, fumigation, mulching, drip irrigation, fertigation, training, foliar application of micronutrients, plant protection measures, harvesting, grading and packaging of important vegetable crops, terrace gardening.
	Group VII ESE 421+	Commercial Sericulture+ Seed Production and	11	22	33	Students learnt both mulberry cultivation and silkworm rearing, pruning of mulberry shoots, production of mulberry leaves under irrigated condition, raising of mulberry sapling in the plastic covers in polyhouse; disinfection in rearing house, egg transportation, egg incubation, harvest and leaf preservation, chawki rearing, late age silkworm rearing methods, silkworm diseases and pests and their management, mounting, harvesting, cocoon sorting and marketing of cocoons. Economics of mulberry cultivation and silkworm rearing.
						Students were oriented about various seed production principles and technologies in the beginning of the course, students involved in various activities like de-potting and cleaning of pots for raising of good seedlings under poly house, layout of drip lines for irrigation in the main field for hybrid seed production.
	Group VIII EAP 421+ EAS 421	Commercial Bee keeping +Poultry Production Technology	13	20	33	The students have been exposed to handling of bee colonies, location of bee colonies in nature, hiving and transfer to bee hive, seasonal management of honey bee colonies, preparation of honey bee colonies for higher honey production, swarming, robbing, queenlessness colonies and their management, extraction and processing of honey, preparation of value added bee hive products, etc.
						The students learnt through training on Brooding arrangements, disinfection of the rearing unit, raking of litter, vaccination for birds, feeding and water management, arrangement of feeders and waterers, weighing of birds, recording of feed consumption and measurement of feed efficiency in Giriraja birds.
	Group IX EFS 421+ EEX 421	Food Processing+ Agricultural Journalism & Multimedia Production	09	24	33	Students acquired skills of dehusking /dehulling milling, roasting, popping, malting, etc. for ragi, paddy, millets, maize, pulses, nuts; value added foods like ragi malt drink, techniques for evaluation of food products, food safety

1	2	3	4	5	6	7
						measures, grain storage practices, use of additives and preservatives, processing of turmeric, millets, spices and condiments with value addition, computation of nutrition value, costing and marketin
						Students were educated about the over view of farm journalism, writing skills of print media, newsletter production, brochure preparation, pamphlet preparation, photography techniques, power point presentation skills, photo journalism, script writing for video, video editing using editing software etc.
CoA, V.C. Farm, Mandya B.Sc.(Hons) Agri.	Group I	EAM 423 (0+20) - Commercial Production Technology for Bio-fertilizers & Bio-inoculants	02	15	17	Students gained practical knowledge and skill on isolation, identification of different microorganisms used as bio-inoculants. They learnt screening techniques and started mass production of inoculants
	Group II	EHR 421 (0+10) - Commercial Horticulture	20	10	30	Students gained practical knowledge and skills on production technologies on Bhendi, Carrot in open condition, protected cultivation of Capsicum, Media preparation, propagation of horticultural crops though different types i.e. cutting, layering, grafting, budding and preparation of Squash, Jam, tomato sauce and ketchup
		ESE 421 (0+10) - Commercial Sericulture	20	10	30	This has helped the students to become entrepreneurs. Further they can serve as resource consultant in respective fields of sericulture in private /semi govt/NGO or even they can set up an organization of their own to carry out the different activities of sericulture
	Group III	ESA 421 (0+10) - Soil, Plant, Water and Fertilizer Testing	12	18	30	Students gained practical knowledge and skill on different composting and vermicomposting technics, organic production of crops and growing of green manure crops etc
		EAG 421 (0+10) - Organic Production Technology	12	18	30	Students acquired skill on various commercial compost preparation. Got familiarized with the laboratory analysis of various compost. Student learnt the marketing strategy of compost and organic crop production techniques
	Group IV	EBT 421 (0+10) - Plant Tissue Culture	27	04	31	Students gained skill on tissue culture to become an entrepreneur, Students can establish their own tissue culture laboratory on various agricultural and horticultural crops.
		EST 421 (0+10) - Seed Production and Technology	27	04	31	Students gained practical knowledge and skills on seed production technologies in cowpea (PGCP-6) and Hybrid seed production of Sunflower (KBSH-78)

1	2	3	4	5	6	7
	Group V	EEP 421 (0+10) - Production Technology for Bio-agents	14	16	30	Students acquired skill on isolation, purification and mass multiplication of biocontrol agents (BCA) *viz., Trichoderma viridae,Pseudomonas fluorescence.* Students gained practical knowledge and skills on mass production of *Corcyra cephalonica* and procedure or preparation of Trichocards and their application in field for management of various borers.
		EAL 422 (0+10) - Integrated Farming System	14	16	30	Students gained practical knowledge and skills on different components of IFS, recycling of resources, use of one output as another input and cost benefit analysis of IFS
CoS, Chintamani B.Sc.(Hons.) Agriculture	Module I	ESE 421 (0+10) Commercial Sericulture	15	04	19	The students learnt the art of mulberry and silkworm rearing, mulberry saplings production technology and scientific management of mulberry garden
		EHR 421 (0+10) Commercial Horticulture	15	04	19	Students learnt pruning in Jasmine and Rose for higher flower yield and harvesting and marketing of Jasmine, Rose, Crossandra and Marigold. They also learnt multiple cropping in Vegetables and Flowers. They also acquired knowledge on various tools and equipments used in nursery.
	Module II	EAG 421 (0+10) Organic Production Technology	12	07	19	Students learnt Scientific compost production techniques under different methods; Growing of green manures and its use in agriculture production; Production technology of organic liquid manures and about organic certification.
		ESA 421 (0+10) Soil, Plant, Water and Fertilizer Testing	12	07	19	Students learnt skills in collection, preparation and analysis of soil, water, manure and plant samples. The soil water and leaf litter samples collected in the campus at different sites were analyzed for their nutrient and quality parameters.
	Module III	EEP 421 (0+10) Production Technology of Bio-agents	08	11	19	Students are trained in the techniques for isolation, purification and large scale production of bio agents such as *Trichoderma* and *Pseudomonas* for the management of diseases. They were exposed to entrepreneurial skill development activities such as commercial production and selling of bioagents to the farmers.
		EAP 421 (0+10) Commercial Beekeeping	08	11	19	Students learnt about beekeeping technology, value addition of honey, bee wax and handling of honey bees.
	Module IV	EEP 421 (0+10) Production Technology of Bio-agents	11	08	19	Students were trained in the techniques for isolation, purification and large scale production of bio agents such as *Trichoderma* and *Pseudomonas* for the management of diseases.They were exposed to entrepreneurial skill development activities such as commercial production and selling of bioagents to the farmers.

1	2	3	4	5	6	7
		EFS 421 (0+10) Food Processing	11	08	19	Students developed skills in preparation of different millet based cookies, doughnuts, pizza, puff, cake and dilpasand. They prepared these products at Department of Food Science & Nutrition and sold in the campus. They were practically exposed to the actvitites like purchase of raw materials, prepraion of receips and cost calculation and marketing of stuffs.
	Module V	Plant Tissue Culture	09	11	19	Students have learnt about the preparation of different stocks of MS media. Antibiotics, hormones like BAP, NAA have been prepared and used for callus and shoot induction. They prepared the tobacco Explant for callus induction and learnt preparation of Banana Explant for induction of shoots from suckers.
		Seed Production and Technology	09	11	19	Students learnt selection of suitable seed production area for quality production; Field inspection methods, stages, field count technique, reporting of observations; Seed crop harvesting ; Seed drying techniques and processing and seed quality estimation like sampling, physical purity, germination, moisture, seed vigour and viability, seed health
CoS, Chintamani B.Sc.(Hons) Sericulture	Module I	SER 423a (0+20) Commercial Chawki Rearing Technology	10	05	15	Students acquired the knowledge of chawki rearing technology and practical experience of micro climate management in chawki rearing; Business plan and marketing of chawki and farmer's advisory services on silkworm rearing.
	Module II	SER 424 (0+10) Value Addition to Mulberry, Grainage and Rearing By-products	0	05	15	Students learnt fruit and vegetable processing and applied the methodologies to prepare mulberry fruit jam, jelly, pickle and tea from mulberry leaf. Waste pupa from grainage unit was used for poultry and fish rearing. Learnt using silkworm rearing waste effectively in compost production and using broken and damaged pupa waste for preparing different crafts.
		SER 427 (0+10 Entrepreneurship Development in Post Silk Technology	10	05	15	Students acquainted with the procedures involved in the various activities of post reeling sectors. They understood various pros and cons involved in the different sectors of post reeling activities and mitigation measures. Students acquired the different business skills involved in post reeling sectors so that they become successful entrepreneurs.

1	2	3	4	5	6	7
CoA, Hassan B.Sc.(Hons.) Agri.	Module I	EAM 423 (0+20) Commertial Production Technologies for Bio-fertilizers and Bio-inoculants	3	7	10	Students gained practical knowledge and skill on isolation, identification of different microorganisms used as bio-inoculants. They learnt screening techniques and started mass production of inoculants
	Module II	ESA 421 (0+10) Hands on Training (HOT) on Soil, Plant, Water and fertilizer testing	6	14	20	Students gained practical knowledge and skill on Soil and Plant analysis, Fertilizers and water quality analsis and recommendation to the farming community. They learnt different technique in analytical methods of nutrient analysis
		ESA 423 (0+10) Hands on Training(HOT) on Produc. technology of mineral additives				All the students successfully learnt production technology of fertilizer mixture, recommandations of mineral additives
	Module III	EAL 422 (0+10) Integrated Farming Systems EAG 421 (0+10) Organic Production Technology	11	9	20	Students gained practical knowledge and skill on vermicomposting and produced more than 4 tons of vermicompost, reared 300 chicks and learnt production of organic vegetables viz,. leafy vegetables, bhendi, raddish, tomato, brinjal, chilli and french bean.
	Module IV	EFS 421 Food Processing	10	6	16	Students learnt processing technology of grains, fruts and vegetables, plantation crops, nuts and oilseeds. Prepared novel products and conducted quality evaluation for the processed products.
		EHR 421 - Commercial Horticulture				Students learnt about protected cultivation and open cultivation of vegetables, usage of plant protection chemicals and marketing of vegetables
	Module V	EST 421 (0+10) Seed Production and Technology	5	12	17	Students gained practical knowledge and skill on Seed production and Seed quaity.
	Module VI	ESE 421(0+10) Commercial Sericulture EAP421(0+10) Commercial Beekeeping	14	6	20	Students gained practical experience and skill on rearing of mulberry silkworm Learnt establishment of Apiary Unit and Bee Garden in the farm section as part of IFS components
CoA, Hassan B.Tech. (Biotech)	Module I	PBT411 (0+20) Plant Tissue Culture	9	7	16	Students learnt to establish tissue culture platform. Standardized tissue culture protocol and mass multiplication of potato, banana and ornamental plants like singonium and aglonema. In addition, they also protocols for callus induction of hard wood plants like parijatha, pomogranate and Meliadubia.

1	2	3	4	5	6	7
	Module II	PBT 412 (0+20) Molecular Markers	8	8	16	Students learnt to design markers and test for pholymorphic nature of markers using mapping population, score the gels and analyse the and genotypic data to identify QTLs using example data sets.
	Module III	PBT 413 (0+20) Genetic Engineering	4	12	16	Students learned the molecular biology techniques such as PCR, Gel electrophoresis, Plasmid isolation, and transformation. They are in a position to demonstrate these techniques independently in the lab.
	Module IV	BIT 411 (0+20) Bioinformatics	09	03	12	Students learnt various bioinformatics tools such as BLAST analysis, multiple alignment, sequence submission, primer designing, protein stricture analysis using PDB data base and swissprot analysis and Molecular docking.
CoA, Hassan B.Tech. (Food Tech)	Module I	Grain Processing Technology	9	6	15	Students learnt about the various processing operations and equipment used for these operations
						Prepared alue added products from grains such as multi grain biscuits, roti, laddu, chikki, deep fried items, etc.
						Detailed quality analysis of the products was carried out
	Module II	Fruits and Vegetables Processing Technology	9	6	15	Students learn about various equipmentsused for processing of fruits and vegetables. Various value added products like fruit juices, pulps, syrups, nectars, jams, jellies, soups, pastes, sauces and pickles were prepared and analysed the products for various physico-chemical quality parameters.
	Module III	Baking Technology	6	9	15	Students learnt about the various raw materials and equipment used in baking. Products such as bread, biscuits, buns, pastries, cookies and cakes were prepared. The products were evaluated for various quality and sensory characteristics.
	Module IV	Beverage Technology	6	9	15	Learnt preparation of beverages such as fruit juices, carbonated beverages, and alcoholic beverages like wine and the products were analysed for various quality parameters.

2.5 Conduct of External Examinations, Evaluation and Declaration of Results

2.5.1 University Examination Centre (UEC)

The University has established 'University Examination Centre' (UEC) during 2011-12 at UAS, GKVK, Bengaluru and it has one sub-centre in each College.

The UEC has conducted final theory external examinations for all the six Under Graduate degree programmes in the University covering 270 and 297 courses during I & II Semester of academic year 2020-21, respectively.

Table 16 : Number of External Examinations conducted by UEC during the academic year 2020-21

Degree Programme	I SEMESTER					II ಸೆಮಿಸ್ಟರ್ / II SEMESTER					Grand total
	I year	II year	III Year	IV year	Total	I year	II year	III Year	IV year	Total	
B.Sc. (Hons.) Agri., GKVK	09	09	09	-	27	09	10	12	-	31	58
B.Sc. (Hons.) Agri., Hassan	09	09	09	-	27	09	10	12	-	31	58
B.Sc. (Hons.) Agri., Mandya	09	09	09	-	27	09	10	12	-	31	58
B.Sc. (Hons.) Agri., Chintamani	09	09	09	-	27	09	10	12	-	31	58
B.Sc.(Hons.) Agri.,Chamarajnagar	09	09	09	-	27	09	10	12	-	31	58
B.Sc. (Hons.) Seri., Chintamani	09	10	09	-	28	09	09	09	-	27	55
B.Sc. (Hons.) Agril. Marketing & Business Management, GKVK	08	11	09	-	28	10	10	10	-	30	58 &
B.Tech. (Agril. Engg.), GKVK	06	09	08	-	23	08	09	07	03	27	50
B.Tech. (Food Tech.), Hassan	08	09	09	01	27	10	10	10	-	30	57
B.Tech. (Biotech.), Hassan	09	10	10	-	29	08	10	10	-	28	57
Total	**85**	**94**	**90**	**01**	**270**	**90**	**98**	**106**	**03**	**297**	**567**

2.5.2 Activities during 2021-22

During the year under report, totally 51493 grades were notified for all the six UG degree programmes in the University.

Table 17 : Number of Grades announced for regular courses during academic year 2020-21

Degree programme	I SEMESTER					II SEMESTER					Grand total
	I year	II year	III year	IV year	Total	I year	II year	III year	IV year	Total	
B.Sc. (Hons.) Agri., GKVK	2511	2691	2592	-	7794	2511	2990	3456	-	8957	16751
B.Sc. (Hons.) Agri., Hassan	936	918	900	-	2754	936	1020	1200	-	3156	5910
B.Sc. (Hons) Agri., Mandya	810	936	963	-	2709	810	1040	1284	-	3134	5843
B.Sc. (Hons.) Agri., Chintamani	846	864	873	-	2583	846	960	1164	-	2970	5553
B.Sc. (Hons.) Agri.,Chamarajnagar	288	288	270	-	846	288	320	360	-	968	1814
B.Sc. (Hons.) Seri., Chintamani	279	310	270	-	859	279	320	270	-	869	1728
B.Sc. (Hons.) Agril. Markt. & Business Management	480	649	549	-	1678	600	590	610	-	1800	3478
B.Tech. (Ag. Engg.), GKVK	420	666	568	-	1654	560	660	497	192	1909	3563
B.Tech. (Food Tech.), Hassan	384	567	540	61	1552	640	630	600	-	1870	3422
B.Tech. (Biotechnology), Hassan	567	600	580		1747	504	600	580	-	1684	3431
Total	**7521**	**8489**	**8105**	**61**	**24176**	**7974**	**9130**	**10021**	**192**	**27317**	**51493**

The UEC has announced a total of 780 grades for supplementary courses in all the six undergraduate degree programmes in the University during I and II semester of academic year 2020-21.

2.5.3 Significant Activities

- University Examination Centre submitted the 'Status report on NAD Digilocker of University of Agricultural Sciences, Bangalore', to the Additional Chief Secretary to Government, Dept. of Higher Education, Bengaluru
- University Examination Centre moved an item on 'Conduct of online classes and exams to UG degree programmes in the event of natural calamities/ disasters' in the Board of Studies (UG) of UAS-B
- University Examination Centre conducted a live demo on 'Upgraded version of UGAM software and newly developed PG automation' on 17-06-2021 for all the stakeholders of UGAM and PG software under the chairmanship of Vice-Chancellor. Similar programme was organised specifically for training the UEC staff on 29-06-2021.
- University Examination Centre introduced the 'Decentralized Digital Evaluation' on 24x7 basis so that faculty can perform evaluation from respective colleges; which saves time and resources besides enhancing the speed of digital evaluation
- University Examination Centre prepared the draft notifications on KAN 111(0+1) and NSS 111(0+1) as pre requisite courses for subsequent and sent to Registrar for notification
- The Co-ordination Committee entrusted to arrange the display of materials in connection with ICAR-PRT members visit to UASB during 7th to 11th October 2021 to Dr. R. Jayaramaiah, Controller of Examinations, Sri A. Anjanappa served as the member of the same committee
- The results of Common Entrance examinations for Diploma candidates for lateral admission to B.Sc. (Hons.) Agri./B.Tech. (Ag. Engg.)/B.Sc. (Hons.) Hort./B.Sc (Hons.) Forestry Degree programmes in Farm Universities of Karnataka 2021-22 were processed at University Examination Centre (426 students) and the results of Common Entrance Examination for Admission to Masters & Doctoral degree programmes in Farm Universities of Karnataka 2021-22 were also processed at University Examination Centre (3011 students)

Table 18 : Number of grades finalised for supplementary courses during academic year I and II Semester of 2020-21

Degree programme	I SEMESTER					II SEMESTER					Grand total
	I year	II year	III year	IV year	Total	I year	II year	III year	IV year	Total	
B.Sc. (Hons.) Agri., GKVK	23	18	13	-	54	87	20	28	-	135	189
B.Sc. (Hons.) Agri., Hassan	26	07	14	-	47	30	07	26	-	63	110
B.Sc. (Hons) Agri., Mandya	35	10	16	-	61	46	06	20	-	72	133
B.Sc. (Hons.) Agri., Chintamani	23	05	12	-	40	20	02	10	-	32	72
B.Sc. (Hons.) Agri., Chamarajnagar	-	-	-	-	-	-	-	-	-	-	-
B.Sc. (Hons.) Seri., Chintamani	68	03	-	-	71	06	04	02	-	12	83
B.Sc. (Hons.) Agril. Markt. & Business Management, GKVK	11	08	13	-	32	04	04	09	-	17	49
B.Tech. (Ag. Engg.), GKVK	08	13	08	-	29	17	10	10	02	37	66
B.Tech. (Food Tech.), Hassan	02	00	08	-	10	05	04	05	-	14	24
B.Tech. (Biotechnology), Hassan	16	04	08	-	28	18	02	04	-	24	52
Total	**212**	**68**	**92**	**00**	**372**	**233**	**59**	**114**	**02**	**408**	**780**

2.6 Department of Kannada Studies and Communication Centre

Department of Kannada Studies was established at UAS, Bangalore to bringout Scientific and Technical knowledge in regional languages as per the guidelines of Ministry of Human Resource Development, Govt. of India and Commission for Scientific and Technical Terminology (CSTT), Department of Higher Education has been providing financial assistance to carry out the same. The department. has published more than 400 books on Agriculture and allied subjects. The Department of Kannada Studies is vested with the responsibility of editing and publication of books in Kannada pertaining to Agriculture and allied subjects for the benefit of Farmers, Students, Scientists, Extension workers and others. In addition, department undertakes the responsibility of preparing Kannada versions of the University annual reports and convocation material. The Department has started teaching Kannada Subject 2015-16 for 1st year Under Graduate Students for 2 semesters. A separate course for non Kannada Students is also being taught in Kannada usage and communication.

The Department has published 18 books in regional language during 2021-22 as indicated below:

(1) ಪಠ್ಯಾಧಾರಿತ ಪ್ರಾಯೋಗಿಕ ಕನ್ನಡ ಅಭ್ಯಾಸ ಪುಸ್ತಕ– 1ನೇ ಸೆಮಿಸ್ಟರ್ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ

(2) ಮುಂಗಾರು

(3) ಪಠ್ಯಾಧಾರಿತ ಪ್ರಾಯೋಗಿಕ ಕನ್ನಡ ಅಭ್ಯಾಸ ಪುಸ್ತಕ– 2ನೇ ಸೆಮಿಸ್ಟರ್ ವಿದ್ಯಾರ್ಥಿಗಳಿಗೆ

(4) ಪಶುಪಾಲನೆಗೆ ಸಮೃದ್ಧ ಮೇವು

(5) ನಿಮ್ಮ ಕೈತೋಟ

(6) ಸಪೋಟ ಮತ್ತು ಸೀಬೆ

(7) ಕೃಷಿ ಪತ್ರಿಕೋದ್ಯಮ

(8) ಮಧುಮೇಹಿಗಳಿಗೆ ಸೂಕ್ತ ಆಹಾರಗಳು

(9) ಜಾನುವಾರು ಸಾಂಕ್ರಾಮಿಕ ಬ್ಯಾಕ್ಟೀರಿಯಾ ರೋಗಗಳು

(10) ಬೇರು ಬೆಳೆಗಳ ಬೇಸಾಯ

(11) ಭೂ ವಿಜ್ಞಾನ ಪರಿಚಯ

(12) ವಿಷ ಜಂತುಗಳು

(13) ಪ್ರಾಚೀನ ಭಾರತದಲ್ಲಿ ಬೇಸಾಯ

(14) ಸಮಗ್ರ ಸಾವಯವ ಕೃಷಿ

(15) ಇಲಿಗಳು ಹಾಗೂ ಅವುಗಳ ನಿಯಂತ್ರಣ

(16) ಹಟ್ಟಿ ಪದ್ಧತಿಯಲ್ಲಿ ಮೇಕೆ ಸಾಕಣೆ

(17) ಮಾಂಸದ ಕೋಳಿ ಸಾಕಣೆ ಆಧುನಿಕ ಪದ್ಧತಿಗಳು

(18) ಅನುವಂಶೀಯತೆ ಮತ್ತು ಸಸ್ಯ ತಳಿ ಅಭಿವೃದ್ಧಿಶಾಸ್ತ್ರ

Kannada Krishi Books Award : As done during every year this year also The Department of Kannada Studies invited Books on Agriculture in Kannada published during the year 2020 throughout the State and the best book was awarded with Kannada Krishi Pustaka Prashasthi. This year 'Beru Baduku' written by Shri Narendra Rai Derla was awarded the best book and a cash prize of Rs. 10,000/-. The award, citization and the cash prize were handed over during the Foundation Day Celebrations.

Communication Centre

The center is coordinating with the University Administration, Research, Teaching and Extension wings in respect of publications and other printing works. The centre has published four issues of Mysore Journal of Agricultural Sciences (MJAS), four issues of Krishi Vignana (Kannada), 12 issues of UAS Bangalore Newsletter and other publications. The NAAS scoring of the MJAS is 4.64 with effect from January 2021.

2.7 Financial support provided to Students

2.7.1 UAS Scholarships Awarded

The students admitted to bachelor degree, post graduate degree programmes are eligible to apply for defined scholarships like UAS-B merit scholarships, UAS-B general scholarships and donors scholarships during their residential period of study.

Besides, University facilitated SC/ST, Minorities students to apply for Government of India post-metric scholarships, backward class students to apply for government of Karnataka Sponsored scholarships like 'Vidyasiri' and philanthropists / charitable trusts / community sponsored scholarships. At postgraduate level students get admission with ICAR- CSIR-UGC DST-DBT awarded JRF/SRF. Some students do come with international fellowships/ sponsored fellowships. Owing to Covid - 19 Pandemic, admission process was completed in the month of March, 2022. Notificaion for the scholarship is anounced in the month of April, 2022 and hence, the Scholarship list is not provided.

2.8 Organizing Sports, Games and Co-Curricular Activities for Students

The students of University of Agricultural Sciences, Bangalore have participated in various co-curricular activities which include Athletic Meet and Youth Festival in addition to participation in Zonal, State and National Level co-curricular activities. The students have also participated in NSS activities. The details are as follows:

Sl. No.	Name of the Student	ID No.	Degree
1	Varshitha. S.N	ALC 7073	IV B.Sc. (Agri.)
2	Nandini. K.V	ALC 7041	IV B.Sc. (Agri.)
3	Pavitra Vaggannavar	SLC 7020	IV B.Sc. (Seri.)
4	Sneha. E	SLC 8027	III B.Sc. (Seri.)
5	Vinutha. P.D	SLC 9033	II B.Sc. (Seri.)
6	Disha. K	AMC 0023	I B.Sc. (Agri.)

2.8.1 All India Inter Agricultural University Sports and Games Meet

Students of College of Sericulture, Chintamani students have participated in 32nd Senior National Korf ball championship (Boys & Girls) 2020-21 held at Rattan Institute of Technology and Management Patwal, Haryana State from 31st March to 3rd April. 2021. The details are provided here under.

- Kumari Syeda Ifthaquar Banu I B.Sc. (Hons.) Agri., CoA, GKVK has represented Karnataka State in Junior Nationals Fencing Championship held at Sonipat , Haryana in December 2021 and was selected to represent India in the Foil event in Fencing World Cup held at Croatia in the month of January (due to Covid restrictions, team India has withdrawn its participation).

- Kumari Syeda Ifthaquar Banu I B.Sc. (Hons.) Agri., CoA, GKVK and Srividya (I B.Tech Agri Engg CoA) have represented the University in the All India Inter University Fencing Championship held at Gurunanak Dev University, Amritsar, Punjab from 7-01-2022 to 10-01-2022. Kumari Srividya has secured top 8th rank in the All India Inter University Epee women event and was selected to participate in the Khelo India University Games scheduled during April 2022 at Bengaluru.

- Vishwaradhya M E, PAMB 0392, Studying in Sr. M.Tech. in department of FPE has represented UAS, Bangalore in the 81st All India Inter University Athletics Championships held at Alva's College, Moodibidre, Mangalore University from 4-7 January, 2022 in the Men's 100 m event.

2.9 Placement Cell

The university has in place the Placement Cell headed by Coordinator at main campus and also in sub-campuses which facilitates the placement of graduating students in different employing agencies. During 2021-22, as many as 30 organizations approached the University and among which 05 organizations visited GKVK campus and other 25 organizations interacted about placement drive and selected through virtual interview. During the year, 96 students were recruited by different private companies through Placement Cell.

Table 19 : Details of Agencies/Organisations where students got placement during 2021-22

Year	Number of students placed				
	Total No. of out going students	Public sector	Private sector	Banking	Total
2021-22	-	23	54	19	96

2.10 National Service Scheme (NSS)

The University has adopted the National Service Scheme. At the University level, there is a Coordinator and at each college there are Assistant Coordinators to organise the defined and identified mandated programmes, to nurture the patriotism and to inculcate service moto among the students. Following are the important achievements / activities under NSS including all the constituent colleges of the University.

a) College of Agriculture, GKVK

Blood detection camp and student counselling was organized by NSS, Unit of UAS-B in collaboration with Alumni Association, UAS, Hebbal at Ibasapura village of Devanahalli Taluk on 02.04.2021. A Webinar on "Stress Management" for UAS-B faculty was organized on 28.05.2021. Two webinars were organized by NSS, Unit, UAS-B on "Myths of Corona and fungal infections" on 10.06.2021 and "Effect of mental health during covid" on 12.06.2021. Fit India Freedom Run was organized by NSS, Unit, UASB to make to be fit and healthy and to overcome effect of mental health during covid on 18.09.2021 in GKVK, Bangalore wherein over 150 students participated and "Millet Marathon" was also organized in GKVK on 20.12.2021 in which over 300 students participated. South Zone Pre- Republic Day Parade Camp 2021 began on 22nd October, 2021 at Kuvempu Kannada Sabhagana, UAS, Bangalore. Totally 160 students are participated in the camp from 22nd to 31st October 2021, along with their respective program officers from Tamil Nadu, Puducherry and Karnataka.

NSS Cell, University of Agricultural Sciences, Bangalore in association with College of Agriculture, GKVK has conducted Ekta Diwas on 31-10-2021 in commemoration of the Birthday of Sri. Saradar Vallabhbai Patel. The programme had Ekta run by the NSS volunteers followed by pledge taking to work for the unity and integrity of the Nation. As part of the programme distribution of the plants to all the NSS volunteers was also done. Early in the morning the ekta run was organized from Farmers Training Institute to Kuvempu Kannada Sabhangana where the programme was held. Dean Student Welfare Dr. S.V Suresha presided over the function, Dr. Vasanta Shetty, Deputy Registrar, Rajiv Gandhi University of Health Status (RGUHS), Bangalore and Sri. Rajiv Kumar Sinha, Under Secretary, Ministry of Youth Affairs, GoI were the chief guests. Organized Annual NSS Special Camp for IV B.Sc. (Agri.), B.Sc. (Ag. MaCo.) and B.Tech. students from 18-24 November 2021 at 18 villages for 432 students.

About 70 students of II year undergraduate were deputed as volunteers for Pulse Polio Programme from 27.02.2022 to 02.03.2022 at Sahakaranagara Public Health Center under NSS Unit, CoA, UAS-B. Six students

of Second and Final year UG Degree have been deputed to participate in National Integration Camp (NIC) held at College for Women (Govt. Girls PU college), Malleswaram, Bengaluru from 16.03.2022 to 22.03.2022 in which the team of awarded as "Best Cultural Team".

b) College of Sericulture, Chintamani

Organized NSS Annual Special camp at Hanumaiahgarahalli village, Chintamani Taluk, Chikkabalapur district from 31.3.2020 to 06.04.2021 for both III B.Sc.(Agri.) and B.Sc.(Seri.) students of College of Sericulture, Chintamani. Organised Vanamohastva programme at college campus and also at RAWE villages on the following dates and planted 950 tree saplings.

- 14-7-2021 at College of Sericulture campus
- 09-8-2021 at Bhaktaralli and Doddadasanahalli
- 10-8-2021 at Kothahudya and Thumbalahalli
- 11-8-2021 at Naganala and Rajakallahalli and
- 12-8-2021 at Madanahalli and Ankathatti

Organized Blood Donation camp at college of Sericulture, Chintamani on 24-9-2021 Freedom Run. Organised Fit India Freedom Run on 18-9-2021 at College of Sericulrure, Chintamani by NSS volunteers. Organised Swatch Bharath activities like campus cleaning, weeding, planting activities etc. Maintaning Plastic free campus by NSS volunteers was organised. Celebrated National Festivals Like Mahatma Gandhi Jayanthi, International Yoga Day, Republic Day and Independace Day etc. Organised National Integration day on 26-11-2021.

c) College of Agricuture, Hassan

Karnataka State NSS cell conducted International Yoga Day for NSS Volunteers' and Programme Officers at College of Agriculture, Hassan on 21st June, 2021. The NSS camp was successfully conducted in Dondiganalli, Channarayapattana taluk, Hassan district from 13-09-2021 to 19-09-2021. The Vanamahotsava program was also conducted. The formal inauguration of NSS special camp was carried out on 14-09-2021. One day free health camp was organised on 16.09.2021 and 53 blood units were donated by NSS volunteers, 60 dental and 50 eyes checksups were carried out. In view of Azadi ki Amruth Mahosthav Fit India Freedon Run 2.0 was organised at Muraranalli, on 18.09.2021. The National Service Scheme Unit of College of Agriculture Hassan was conferred with "State Level Best NSS Unit State Award" for the year 2017-18 from Youth Empowerment and Sports department, NSS Scheme Cell, Govt. of Karnataka. A team from college of Agriculture, Hassan has bagged the award with second place in Agri-Innovative enterpreunrship start-up Idea held on 29th Sept., 2021.

2.11 Youth Red Cross Society

- The College of Sericulture, Chintamani, National Service Scheme unit & Youth Red Cross Soceity jointly organized blood donation camp on 24.09.2021 on eve of NSS day celebration at CoS, Chintamani. In this programme I B.Sc. (Hons.) Agriculture, B.Sc. (Hons) Sericulture, I Diploma (Seri.) student's and staff were participated. Totally 45 units of blood collected and donated.
- Nominated three volunteers to participate in the state level cancer awareness programme at VSKV, Bellary held on 24.03.2022 from College of Sericulture, Chintamani.
- Nominated four student volunteers along with programme officer who participated in the State Level Youth Red Cross Volunteer Training and Motivation Camp-2021 from 13.03.2021 to15.03.2021 held at UAS, GKVK, Bangalore.

2.12 Medical Services Provided

College of Agriculture, GKVK

- General/Emergency medical services were provided by following Covid appropriate protocols. All Covid related services were provided as per the guidelines issued by the Health and Family Welfare dept. Govt of Karnataka and India through out the Covid Pandemic.
- Continued Medical/ Covid services during all Janatha lock down periods
- In the wake of clusters of Covid positive cases at hostels, GKVK campus during the second wave and third waves, immediate measures were taken for isolation, follow up and treatment at designated isolation centers within the campus in Co-ordination with concerned authority. Regular visits were made to the isolation centers by the Medical Officers, for the purpose of general observance of these patients.
- Co-ordinated with the BBMP authority and took necessary measures to contain the disease among the students at hostels
- Non Covid sick students in containment/micro containment zones within the campus were taken care appropriately
- Covid positive employees were isolated at their homes (Home isolation criteria) and followed up till recovery. Arrangements for necessary investigations were also made to take required precautions to avoid complications due to Covid especially in elderly co-morbid patients.
- Quarantine protocols were followed with respect to the primary contacts and co- ordinated with the BBMP health officials to contain the Covid among the staff and students.
- Necessary measures were taken to create awareness on Covid appropriate behavior, immunity boosting measures. "A message to the Covid positive students" was circulated to the Hostel Wardens and students as part of awareness.
- More than three thousand Covid testing was arranged in the GKVK Campus as part of Containing Covid.
- Extensive efforts were made to facilitate Covid- 19 Vaccination, which was started in association with BBMP, PHC, Sahakarnagara on 23/04/2021, continued in sessions till 31st December 2021 over 4300 doses were given.
- General Medical/First aid/Ambulance services were provided to the sports/cultural/Krishimela/NSS activities etc., events during the above stated period.
- Made a provision for research related studies like glycemic index, nutritional impact studies on co-morbid health conditions/chronic diseases - to the students of Food Science and Nutrition Dept. UAS, GKVK. Awareness lectures were given by the Chief Medical Officer wherever necessary.

College of Agriculture, Hassan

- In the campus dispensary, medical service was provided even during the COVID19 period. Regular medical check-ups were conducted and medicines were issued to the patients (both students and staff) with a monthly average of 235 patients, who were suffering from fever, cold, cough, gastritis, skin problem, joint pain, throat infection, body pains, eye issues, headache etc., including COVID-19 suspected Patients. During the 2021-22, consultation service was rendered to 2512 patients at campus. Youth Red Cross Society Unit, College of Agriculture, Hassan in collaboration with NSS Unit, Lions Club Hassan Hoysala and Jeeva Sanjeevini Blood Bank, Hassan organised a self motivated Blood donation camps, Free health, eye and dental check-up camps in and around the campus.

College of Sericulture, Chintamani

The College of Sericulture, Chintamani campus provides medical consultation and prescription as outpatient to all the bonafied students and employees of the campus. During 2021-22, consultation was rendered to a total of 2565 patients at Chintamani. Besides, all the students admitted to the University including Foreign Nationals are covered under compulsory Group Health Insurance Scheme to meet the emergent medical expenses. Covid-19 vaccination and RTPCR tests were arranged in the campus for students and faculty members.

2.13 International Centre

International Centre (IC) was established at the Directorate of Student Welfare, GKVK, Bengaluruon 1st July 2019. The IC would coordinate all the international activities of the University except student admission process and that the office would promote, facilitate and coordinate academic interactions of the university with other universities outside India to establish a global research network in the area of agriculture and allied sciences. Dr. M.K. Prasanna Kumar, Associate Professor, Dept. of Plant Pathology and Dr. B. Shivanna, Asst. Professor, Dept. of Agril. Entomology, CoA, GKVK, Bengaluru have been nominated as Coordinator and Assistant Coordinator of IC respectively. 08 students and 15 faculties have been facilitated for International Exposure Training. The student exchange programme is also being implemented between University of Agricultural Sciences, Bangalore & Gottingen, Germany and Federal University Wukari, Nigeria.

2.14 Library Resources and Information System

University Library was established during 1966-67 which is the oldest and biggest University library in the field of Agricultural sciences in Karnataka. Library has nearly 2 lakh documents out of which, Books, Journals, University publications, Government publications, Rare books, Thesis/dissertations, Reports, Pamphlets, Maps, Microfilms, Microfiche, CD ROM's/DVD's etc. University Library is a member of Online Computer Library Centre (OCLC). The Library is completely automated with Koha Open Source Software package and integrated with RFID Technology; Inter library connectivity with constituent colleges of UASB in Library Management software Koha is adopted. University Library has created Video Conference Facility for conducting online meetings, seminars, classes for students and faculty including Constituent colleges of UAS-B.

Library has developed the database of Books, Journals, Thesis, Reports and other Information under the Koha open software. Users can access the OPAC through Internet. University Library has subscribed several Online Journals, Offline Databases, e-books and e-Journals. Library is also offering PGS 501 (0+1) non-credit compulsory course on 'Library and Information Service' for Master's Degree Students as per the Guidelines of ICAR.

University Library has implemented and adopted latest technologies for the benefit of library users.

- **DSpace** is an open source repository application that allows library to capture, store, index, preserve and distribute the digital material including text, video, audio and data.
- **IRINS**-Indian Research Information Network System, IRINS is web based Research Information Management (RIM) service developed by the Information and Library network (INFLIBNET) Centre. The portal facilitates the academic, R&D organizations and faculty members, scientists to collect, curate and showcase the scholarly communication activities and provide an opportunity to create the scholarly network.
- **Sententia Software:** Sententia software is an English grammar text and style analysis platform with content and certification for learning academy which is adaptive for the UG, PG and Ph.D students, besides staff members.
- **Myloft Software:** Myloft is a SaaS based product which allows the users to access the e-content anywhere and anytime on single IP range for the entire University Jurisdiction of UASB for sharing the data of staff, students of UG/PG and Ph.D.

- **NiPA;** This database NIPA is very much useful for the students who are appearing for ICAR, SRF, JRF and NET exams and online test can also be conducted in this software.

University Library is reaching 24/7 all over the Globe through its website *www.uasbagrilibindia.org. /**https://www.uasbangalore.*** Library timings are from 8:30a.m. to 12.00 Midnight -Monday to Friday, Saturday from 8:30 a.m. to 6:00 p.m. and Sunday from 9:00 a.m. to 1:00 p.m.

2.14.1 Library Sub-Committee

The Library Sub-Committee meets on the need based issues under the Chairmanship of Dean (Post Graduate Studies) at GKVK and Dean's of other constituent colleges, Library Sub-Committee reviews and recommends for procurement of new books and subscription of new Journals.

2.14.2 Acquisition of Books and Periodicals

Books : During the year 2021-22, a total Books of 3162 titles were procured using funds made available by the State Government and ICAR grants. These titles include current titles, serials like; annual reviews and advances. The following Tables provide the details of books and other collections added to the Library.

Table 20 : Details of new additions to UAS-B Libraries during the year 2021-22

Sl. No	Particulars	GKVK Campus	CoA Hassan	CoA, Mandya	CoS, Chintamani	CoA, Chamarajanagar	Total
1.	Purchase (Books)	824	578	287	192	320	2201
2.	Gift Books	204	61	65	11	10	351
3.	Pamphlets	17	08	-	-	-	25
4.	Thesis/Dissertations	301	0	34	-	-	335
5.	Reports	200	04	31	-	-	235
6.	Bound Volumes of Periodicals	02	0	-	-	-	02
7.	e-Books/CDs	13	0	-	-	-	13
8.	e-Journals	-	0	-	-	-	0
	Total	**1561**	**651**	**417**	**203**	**330**	**3162**

Table 21: Details of books and other periodicals in the University libraries as on 31st March, 2022

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagara Library	Total
1	Books (including Back Volumes & SDC books)	131311	21510	20696	12899	2963	189379
2	Pamphlets	8770	172	98	1285	-	10325
3	Gift Books	13756	925	1073	1926	-	17680
4	Thesis / Dissertations	12757	0	296	68	-	13121
5	Reports	17380	47	770	241	-	18438
6	Microfilms	04	0	-	-	-	04
7	Microfiche	53	0	-	-	-	53
8	Maps	60	157	-	-	-	217
9	CD ROM's/DVD's/CDs	371	228	314	167	-	1080
10	e-Books	266	25	18	20	-	329
11	e-Journals	18	29		-	-	47
	Total	**184746**	**23093**	**23265**	**16606**	**2963**	**250673**

ನಿಯತಕಾಲಿಕೆಗಳು

ಬೆಂಗಳೂರು ಕೃಷಿ ವಿಶ್ವವಿದ್ಯಾನಿಲಯ ಗ್ರಂಥಾಲಯವು ಚಂದದಾರಿಕೆ, ಕೊಡುಗೆ ಮತ್ತು ವಿನಿಮಯ ಆಧಾರದ ಮೇಲೆ 2021–22ನೇ ಸಾಲಿನಲ್ಲಿ ಪಡೆದ ಪತ್ರಿಕೆಗಳ ವಿವರ ಈ ಮುಂದಿನಂತಿದೆ:

Periodicals

UAS-B Libraries have received Journals on subscription, gift and exchange basis during the Year 2021-22 as detailed below:

Table 22 : Details of other periodicals in the university libraries

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagara Library	Total
1.	Subscription of Foreign Journals	01	-	-	-	-	01
2.	Subscription of Indian Journals	08	-	01	15	-	24
3.	Journals received on Gift	23	02	03	08	-	36
4.	Journals received on Exchange	14	-	-	-	-	14
5.	Print and Online Journals	-	-	-	-	-	-
6.	e-Journals	-	-	-	-	-	-
7.	Life Membership	**02**	-	-	-	-	**02**
	Total	**50**	**03**	**21**	**74**		

2.14.3 Library e-Resources

Table 23 : Details of e–Resourcess in the libraries

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagara Library
1.	Indiastatagri.com (on-Line Journal)	01	Linked with Cera	Linked with Cera	Linked with Cera	Linked with Cera
2.	CRC NET, e-Books	2010-2019	25	Accessing through University/ Library Website	Accessing through University/ Library Website	Accessing through University/ Library Website
3.	e-Books (John Wiley)	22 Titles 2012	-do-	-do-	-do-	-do-
4.	e-Books (Indian Edition)	224 titles	-do-	-do-	20 titles (2018)	-do-
5.	Directory of Open Access Journals (DOAJ)	Open Source	Open Source	Open Source	Open Source	Open Source
6.	Emerald Management Journals	2009-2014	Accessing through University/ Library Website	Accessing through University/ Library Website	Accessing through University/ Library Website	Accessing through University/ Library Website
7.	Offline databases (CD ROM's/DVD)	4 CD	228	-do-	167	-do-
8.	e-books Taylor & Francis	49 titles 2010	-do-	-do-	-do-	-do-
9.	AGRIS	from 1975-80 to 1999-2001	-do-	-do-	-do-	-do-
10.	Britannica Encyclopaedia	6 CD	-do-	-do-	-do-	-do-
11.	CAB CD	1994-2009	-do-	-do-	-do-	-do-
12.	CIARL-BRS	1962-86	-do-	-do-	-do-	-do-
13.	HORT CD	1973-2004	-do-	-do-	-do-	-do-
14.	VET CD	1973-2004	-do-	-do-	-do-	-do-

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagara Library
15.	Mapsofindia.com CD	2001	-do-	-do-	-do-	-do-
16.	Agriculture & Environmental Education CD	1978-2006	-do-	-do-	-do-	-do-
17.	Biological Abstracts on DVD	2008-2013	-do-	-do-	-do-	-do-
18.	Agriculture & Animal Husbandary DVD Format	1-81	-do-	-do-	-do-	-do-
19.	Biotechnology Abstracts CD-ROM	2008-2011	-do-	-do-	-do-	-do-
20.	CAB e-BOOK (On-line)	2009-2017	-do-	-do-	-do-	-do-
21.	Food Science and technology Abstracts (FSTA)	2008-2014	-do-	-do-	-do-	-do-

2.14.4 Library e-Resources of ICAR

Table 24 : Details of ICAR e-Resources available in the UAS-B Libraries

Sl. No	Particulars	GKVK Campus	CoA Hassan	CoA, Mandya	CoS, Chintamani	CoA, Chamarajanagar	Total
1.	CeRA and J-Gate Plus online journals • Full Text- • Library Subscription • Open Access	4,000+	Linked with Cera	Linked with Cera	Linked with Cera	Linked with Cera	4,000+
2.	Elsevier e-Books from CeRA	1,174	Accessing through University/ Library Website	Accessing through University/ Library Website	Accessing through University/ Library Website	Accessing through University/ Library Website	1,174
	Total	5,174+					5,174+

2.14.5 Circulation : Activities related to circulation is depicted in the following tables

Table 25 : Status of Membership (Students & Staff) during 2021-22

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagara Library	Total
1.	B.Sc. (Hons.) Agriculture	1170	426	411	299	124	2430
2.	B.Sc.(Hons.) Agril. Marketing & Business Mangement	292	-	-	-	-	292
3.	B.Tech. (Agri.Engg.)	244		-	-	-	244
4.	B.Tech. (Biotechnology)	Nil	254	-	-	-	254
5.	B.Tech. (Food Science & Technology)	Nil	259	-	-	-	259
6.	B.Sc. (Hons.) Sericulture	Nil	-		102	-	102
7.	M.Sc., MBA, M.Tech. (Agri. Engg.)	631	-	54	-	-	685
8.	Ph.D.	343	-	07	-	-	350
9.	Diploma in Agriculture	Nil	-	96	14	-	110
10.	Staff (Teaching & Non-Teaching)	901	47	67	44	7	1066
	Total	**3581**	**986**	**635**	**559**	**131**	**5792**

Table 26 : Usage of the Libraries of UAS, Bangalore

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagara Library	Total
1.	Books Consulted	-	12666	18647	8878	-	40191
2.	Reports Consulted	5892	297	935	21	-	7145
3.	Theses Consulted	4294	-	565	41	-	4900
4.	Other Publications Consulted	1843	149	09	442	-	2443
5.	Books Issued	(Staff) 462	301		236	113	
		(Student) 3690	4171		3361	262	14832
		Total 4152	**4472**	**2236**	**3597**	**375**	
6.	Inter-Library Loan						
	a) Lent In	-	-	-	-	-	-
	b) Lent Out	03	-	-	-	-	03
7.	Introductory Letters	-	-	-	-	-	-
8.	Visits	34168	10351	-	14625	2092	61236
9.	Consultations Permitted	06		-	-	-	06
10.	Collections made (in Rs.)						
	a) Overdue Charges	37635.00	20463.00	5800.00	16649.00	182.00	80729.00
	b) Book Lost Cost Recovered	38.00	1340.00	--	--	--	1378.00
	c) Outsiders Consultation Charges	200.00	-	-	-	-	200.00
	d) I.D. Cards	75740.00	2500.00		--	--	78240.00
	e) Text Book Bank Fee	-	-	1070.00	-	-	1070.00
	Total	**113613.00**	**24,303.00**	**6870.00**	**16,649.00**	**182.00**	**161617.00**

Table 27 : Text Book Bank under general fund - Details of Text Book Bank at University Library

Sl. No.	Particulars	GKVK Library	CoA, Mandya Library	Total
1.	Total Collections	805	3816	4621
2.	No. of Members	01	465	466
3.	Books Issued	01	214	215
4.	Amount Collected (Rs.)	05.00	1070.00	1075.00

Table 28 : Details of Book Bank under SC/ST fund

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	Total
1.	Total Collections	3017	1406	1122	654	6199
2.	No. of Members (UG 258, PG 110, Ph.D. 73)	441	88	58	18	605
3.	Books Issued	04	20	61	24	109

2.14.6 Documentation and Reprographic Services

Catalogue of theses of UAS-B has been up-dated for the year 2021-22 and added to the Library software KOHA. Following Table gives the details of Reprographic, CD-Rom and Internet services provided to the users during the year 2021-22.

Table 29 : Computer/Reprographic Services and Number of Users

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagar Library	Total
1.	Visits	14870	298	90	334	-	15592
2.	a) Members enrolled to CeRA	6758	-	-	-	-	6758
	b) No. of Hits	47269	-	-	-	-	47269
3.	References downloaded from Databases	7577	-	-	-	-	7577
4.	CERA						
	a) Request Received	1368	-	-	-	-	1368
	b) Request sent	197	-	-	-	-	197
5.	Krishiprabha						
	a) No. of Theses sent on e-Mail	Nil	-	-	-	-	-
	b) No. of Ph.D. Theses sent on CD/DVD format	Nil	-	-	-	-	-
6.	No. of News Paper clipping soft copy added	2913	-	-	-	-	2913
7.	No. of documents uploaded to Institutional Repository (Dspace)	1036	-	-	-	-	1036
8.	No. of Faculty profile updated to Vidwan Software	400	-	-	-	-	400
9.	Other works carried out						
	a) Orientation	04	02	01	01	01	09
	b) Workshop	-	-	-	-	-	-
	Utilization statistics of softwares						
	a) Lanquill	1279	-	-	-	-	1279
	b) Workshop	2819	-	-	-	-	2819
	Total	**86490**	**300**	**91**	**335**	**01**	**87217**

Table 30 : Overall Resources at GKVK and Constituent College Libraries of the University of Agricultural Sciences, Bangalore

Sl. No.	Particulars	GKVK Library	CoA, Hassan Library	CoA, Mandya Library	CoS, Chintamani Library	CoA, Chamarajanagar Library	Total
1.	Total Collections	184746	23093	23265	16,606	2963	251553
2.	Total Membership	3581	986	635	459	131	5792

2.14.7 Other activities

- Orientation Programme for accessing My Loft and Sententia Softwares' was conducted from 6th to 9th September, 2021 for M.Sc. and Ph.D. students. Similar programme for Faculty of Library was held on 13.09.2021.
- Developed Library staff manual, Library Hand book for PG students and Library users besides, leaflets and posters to create awareness about University Library services
- Five day in house Training Programme on Library Management in Departments was conducted from 20th-24th December 2021 to the faculty of the University at University Library, GKVK
- One day Training Programme on Use of e-Resources was held on 12.02.2022 to all the Head of the Departments of UASB at University Library, GKVK. Similar programme was organised for faculty and scientists of AICRP schemes on 7th and 9th March, 2022
- University Library Organised a Book Exhibition on 17th and 18th March 2022 at GKVK, Bengaluru

2.15 Conferment of Degree and Presentation of Medals in the 56th Convocation-2022

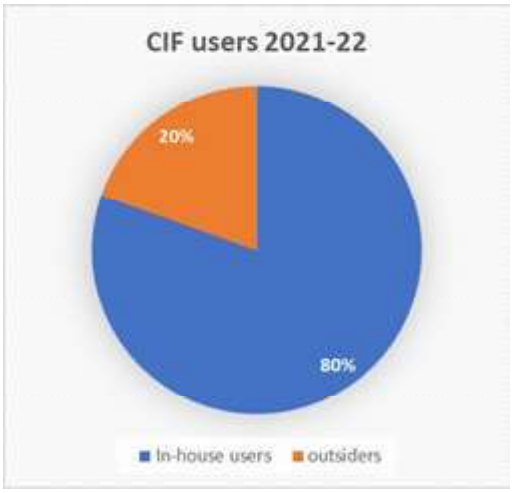
The 56th Convocation is scheduled tentatively during August/September 2022.

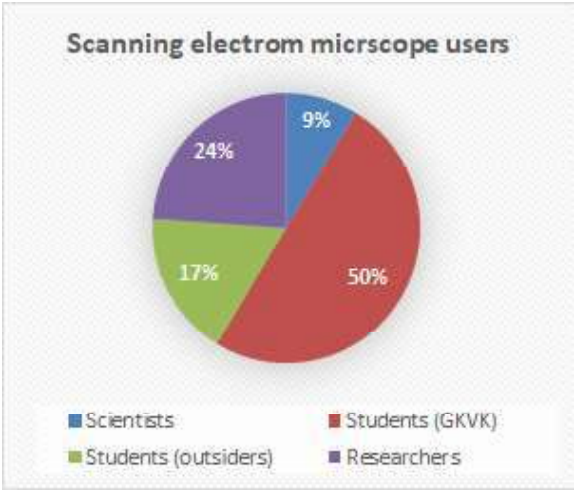
2.16 Skill Development Centre

The University has established Skill Development Center (SDC) under ICAR SC-SP at UAS, GKVK, Bengaluru for the academic year 2019-20. Construction of Skill Development Centre with boarding & lodging facilities for 30-50 beneficiaries is undertaken. During 2021-22, Skill Development Centre has sponsored 38 programmes. Among these 24 were under SC-SP and 14 were under TSP. Further, 19 were Entrepreneurship Development Programmes, 13 were Training & Capacity Building Programmes and 6 were Human Resource Development Programmes. Programmes were useful for rural women, youths, farmers, students and faculty.

2.17 Central Instrumentation Facility

The Central Instrumentation Facility (CIF) was established in the year 2021 under ICAR-NAHEP-CAAST (Centre for Advanced Agricultural Science and Technology) program and the facility was inaugurated by Dr. Trilochan Mohapatra, Honorable Secretary DARE and Director General-ICAR. The CIF houses modern precision scientific instruments such as Scanning Electron Microscope (SEM, Zeiss EVO 18), Critical Point Drier (Quorum K850), Sputter coater (Quorum SC7620), Laser Scanning Confocal Microscope (Leica SP8), and UPLC-GC/MSMS (waters/Agilent GC). The facility is run by highly trained personnel and technicians with main motto on academic research and human resource development activities.





The resource persons at CIF are guiding and helping researchers frame and accomplish research objectives and providing services to the outside UAS-B users like industries, universities and research laboratories against minimal charges. In the financial year 2021-22, the facility received a total number of 46 requests for CIF services, which includes 384 samples for SEM image analysis (over 2000 images) of diverse samples such as fungi, bacteria, plant tissues, seeds, food ingredients, nano-particles, insects and animal tissues, from students, researchers and scientists. A total of 19 practical classes were conducted on SEM, LC-MS/MS and Confocal microscope benefitting 256 UG and PG students. In-house training and workshops were conducted with the help of service engineers to share latest information on the instrumentation.

Chapter III

3. Agricultural Research and Development

Agriculture in the State is dominated by small and marginal farmers, who have small holdings. Raising productivity is likely the single most important factor, if income of this group is to be doubled. The research in UAS, Bangalore has a vision to generate cutting edge farm technologies for transforming agriculture to make it profitable for the farmers and to meet the growing demand for food. The emphasis is on developing technologies with local relevance that is both sustainable and environmentally sound.

Adoption of new varieties as well as new production technologies can potentially strengthen farmers cropping systems by increasing yields, improving drought resilience, boosting resistance to pests and diseases and also capture new market opportunities.

The University also coordinates location specific, strategic and anticipatory research programmes in 13 Agricultural Research Stations situated in 10 Southern Districts of the state, mainly to address issues of small and marginal farmers to improve their standard of living while ensuring food security by enhancing productivity and enhancing agricultural resources efficiency with no adverse effects.

3.1 Agricultural Research Stations and Climatic Zones

Location specific and farmer centric Research Programmes have been formulated to solve the challenges faced by the farmers in 13 Agricultural Research Stations located in 10 Southern Districts of the State under the jurisdiction of UAS (B). The 13 Agricultural Research Stations in different zones are outlined below:

Zone	Research Station
4	Agricultural Research Station, Pavagada
5	Zonal Agricultural Research Station, GKVK
5	Main Research Station, Hebbal
5	Agricultural Research Station, Chintamani
5	Agricultural Research Station, Balajigapade
5	Agricultural Research Station, Nelamakanahalli
6	Zonal Agricultural Research Station, Mandya
6	Organic Farming Research Station, Nagenahalli
6	Agricultural Research Station, Madenur
6	Agricultural Research Station, Kunigal
6	Agricultural Research Station, Arasikere
6	Agricultural Research Station, Tiptur
7	Agricultural Research Station, Gunjevu

3.2 Projects in Operation (As on 31-03-2022)

In total, 268 research projects are in operation, of which 31 are All India Coordinated Research Projects, 4-Voluntary Centre's,1-Project Coordinating Unit on small millets,1-Network unit on Agricultural Acarology, 14-RKVY projects, 5-Emeritus Scientists, 7-ICAR Ad-hoc projects; 85-Government of India Projects (DST/DBT);

44-Government of Karnataka Projects; 43-projects funded by other agencies and 33-Research projects (UAS Sponsored: 19- Projects on Varietal Development and Value-addition; 6-Farmer Centric& 8-Climate Smart Agriculture) sponsored by the University to tackle the problems of the farmers in the State in general.

New Research Projects

In total, 39 new research projects (RKVY: 3, ICAR Ad-hoc project: 1, Government of India:18, Government of Karnataka:4 and Other funding agencies:7) have been sanctioned to the University during 2021-22 by various funding agencies with a total outlay of Rs.5378.5 lakhs. University has sponsored 6 Research Projects [Varietal development and value addition-3, Farmer Centric-2 and Climate Smart Agriculture-1] based on local problems.

Table 31 : Abstract of projects sanctioned during 2021-22

Sl. No	Particulars	Project No.	Amount (lakhs)
1.	RKVY Projects	3	741.00
2.	ICAR *Ad-hoc* Projects	1	7.00
3.	Government of India (DST / DBT)	18	2394.77
4.	Government of Karnataka	4	1388.19
5.	Other Funding Agencies	7	847.54
	External Funding Agencies		**5378.50**
6.	UAS Sponsored: Varietal Development	3	5.85
7.	UAS Sponsored: Climate Smart Agriculture	1	1.50
8.	UAS Sponsored: Farmer Centric	2	8.75
	Total	**39**	**16.1**

3.3 MoUs Signed

A total of 8 MoUs / MoAs / MTA were signed with different institutions for conducting collaborative research of mutual interest

3.4 New Chemicals/Varieties/Molecules Tested

The University has undertaken the testing of 474 new varieties /lines/ chemicals/molecules for control of pests / diseases / weeds / soil analysis and agricultural equipment and generated revenue of Rs.616.49 lakhs.

3.4.1 Patent for Invention

Five patents has been granted to UAS, Bangalore during the year 2021-22

Title of invention	Patent no.	Date of grant
Enhanced loop-mediated isothermal amplification method for detecting latent xap Infection in pomegranate	IP Australia 2021101342	28.4.2021
An apparatus for sugarcane propagation and a method thereof	IP Australia 2021102640	16.6.2021
Rapid genotyping of the rice r genes resistant to bacterial leaf blight using lamp technology	IP Australia 2021103516	

Title of invention	Patent no.	Date of grant
Multiplex detection of magnaporthe oryzae and sarocladium oryzae in rice seed using a foldable membrane platform based on lamp technology	IP Australia 2021103517	28.7.2021
Duplex detection of Magnaporthe oryzae in rice-seed using single-fold platform-based-on LAMP technology in resource-limited settings	IP Germany 202022100598	2.3.2022

3.5 Break-through Research

3.5.1 : Horsegram Genome was decoded first time in the World. Variety PHG-9 was sequenced using the combination of Illumina and Pacbio technologies. Horsegram has the lowest repeat content among the legumes sequenced so far, its genome is a rich source of gene repertoire for multiple stress tolerance and nutraceutical properties. The genome is abundant in proteinase inhibitors that could be used as functional food ingredients in the near future. Overall, this draft genome sequence provides many opportunities to explore this crop for its desirable traits like drought tolerance, antioxidant activity, antimicrobial properties and high protein

3.5.2 : During 2021-22, a total of 103 (ITS 2 - 78; Mt COI - 25) DNA sequences of twenty-eight species of mites are submitted to NCBI - GenBank database. To study the genetic variability of polyphagous species across host plants and geographical locations, nuclear gene (ITS2) sequences of the following mite species were deposited and accessioned in the GenBank database; Tetranychus urticae -72 (+8) populations, T. macfarlanei -61 (+9), T. neocaledonicus -48 (+14), T. truncatus -34 (+7), T. ludeni -29 (+6), T. udaipurensis -18 (+2), T. lombardinii -20 (+7), T. okinawanus -9 (+1) & T. turkestani - 6 (+2)

3.6 New Technologies Developed and Released

3.6.1 Varieties recommended for release: 9

Nine varieties have been recommended for release during 2021-22. The details of the same are given below:

Table 32 : Varieties / hybrids recommended for release during 2021-22

Crops	No.	Variety / Hybrid	Zone Recommended
Paddy		KMP-225	Zone 6
		RNR-15048*	Zone 6
Maize		MAH-14-138	Zone 5 & 6
Browntop Millet		GPUBT-2	Zone 5 & 6
Field Bean		HA-5	Zone 5
Sesamum		GKVKS-1	Zone 5
Niger		KBN-2	Zone 5
Castor		ICH-66*	Zone 5 & 6
Fodder sorghum		CNFS-1	Zone-6

*ಅನುಮೋದಿಸಲಾಗಿದೆ / Endorsed

Paddy : *KMP-225* : This is a short duration variety that can be harvested in 120 to 125 days after sowing. This variety can be sown during July 3rd to 4th week in southern dry zone of Karnataka (Zone-6). The grains of this variety are long & bold that are very much similar to grains of IR-64 rice variety. It is moderately resistant to both leaf and neck blast diseases. Hence, KMP-225 can be grown as an alternative to blast susceptible IR-64 variety. The grain yield potential of this variety is 24-26 q/acre. It is recommended for cultivation in Zone - 6

Paddy : *RNR-15048* : This is a short duration variety that can be harvested in 120 to 125 days after sowing. This variety can be sown during July 3rd to 4th week in southern dry zone of Karnataka (Zone-6). The medium slender grains of this variety possess better cooking quality. Grain yield potential of this variety is 22-24 q/acre. It is endorsed for cultivation in Zone-6

Maize : *MAH-14-138* : This is a single cross maize hybrid developed using potential parents. This hybrid with medium maturity (115-120 days), stays green even at harvest and possess high yield potential (85-95 q/ha). It is resistant to Turcicum leaf blight and moderately resistant to Sorghum downy mildew diseases. Long cobs with attractive light orange grains fetches higher price in the market. It is recommended for cultivation in Zone - 5 & 6.

Browntop Millet : *GPUBT-2* : It is a semi-tall (110-120 cm), medium duration (85-90 days) variety with 15-20 tillers and long & compact shaped inflorescence. It has high grain yield potential of 6-8 q/acre and straw yield of 1-1.2 t /acre. This variety is resistant to leaf blight disease. It is recommended for cultivation in Zone - 5 & 6

Field Bean: *HA-5*: It's a short duration variety (90-95 days) with high green / fresh pod yield (13-14 q/acre) and seed yield (2.5-3.0 q/acre) potential. This variety is photo period insensitive and possess semi determinate growth habit. It is recommended for cultivation in Zone-5

Sesamum : *GKVKS-1*:- It's a short duration variety (80-85 days) with more number of branches, filled pods and leaves stays green even at harvest. White seeds of this variety has 47-48 per cent oil content. It has grain yield potential of around 1.8-2.0 q/acre and 90-95 kgs of oil yield per acre It is recommended for cultivation in Zone - 5

Niger: *KBN-2* :- It's a short duration variety (80-85 days) with more number of branches and filled pods. Bold black seeds of this variety has 47-48 per cent oil content. It has grain yield potential of 1.9-2.0 q/acre and 90-100 kgs of oil yield per acre. It is suitable for intercropping. It is recommended for cultivation in Zone - 5.

Castor : *ICH-66* : It is high yielding (6-7 q/acre) medium duration hybrid (95-98 days for primary spike maturity) with red colored stem and semi-spiny capsules. It belongs to triple bloom group (waxy coat is present on stem, lower and upper side of the leaves). It is suitable for Kharif (June- July) season under both rainfed and irrigated ecosystems at zone 4, 5 and 6 of southern Karnataka. This is a wilt resistant and green leaf hopper tolerant hybrid. It is endorsed for cultivation in Zone-4, 5 & 6.

Fodder Sorghum : *CNFS-1*: This variety is suitable for sowing in both Kharif (June-July) and rabi (October-November) with high green fodder yield potential (22-23 t/acre) and enhanced quality (fibre: 35-36% & protein: 9-10 %). It is recommended for cultivation in Zone 6.

3.6.2 New Technologies Developed for Inclusion in Package of Practices (37)

3.6.2.1 Crop production (17)

Agronomy (10)

1. **Optimization of seed rate for tractor operated drill sown finger millet:** Seed rate of 8 kg/acre is found to be optimum for sowing finger millet using tractor drawn seed drill compared to 20 kgs/acre seed rate in broadcasting method saving upto 12 kg/acre seeds.
2. **Studies on pre-emergence chemical weed control in drum seeded rice:** Bensulfuron methyl (0.6% G) @ 60 g + Pretilachlor (6%G) @ 600 g ai/ha (10 kg/ha) at 5 days after sowing as pre-emergence sand mix (25 kg/ha) application in drum seeded rice recorded statistically on par grain yield (4853 kg/ha) and weed control efficiency (95.72%) as compared to two hand weeding (4871 kg/ha and 94.35% respectively).

3. **Nitrogen Management in Bajra Napier Hybrid grass for higher green forge yield and quality:** Application of nitrogen @ 315 kg /ha after each cut (6-7 cuts per annum) in equal splits significantly recorded higher green forage yield (1331 q/ha), dry matter yield (301 q/ha) and crude protein yield (23.2 q/ha) with high net monetary returns (Rs.82,926 /ha) and B:C ratio (2.73:1).

4. **Package of practices for Browntop millet:** Chapter on Browntop millet is included in the package of practices with details on variety, soil, land preparation, seed rate, time of sowing, method of sowing , nutrient requirement,, intercropping, weed management, plant protection and harvest.

5 Spacing & organic nutrient management under organic farming of Nutri-cereals

Crop	Spacing	Nutrients
Foxtail millet	30∗7.5 c.m.	7.5 t/ha Farm yard manure as basal dose + 125% Nitrogen (50 kg N/ha) equivalent organic manure through compost (if compost has 0.8% N content then apply 6.25 t/ha compost)
Little millet Kodo millet Browntop millet Proso millet Barnyard millet	30∗7.5 c.m.	7.5 t Farm yard manure as basal + 125% Nitrogen (25 kg N/ha) Equivalent organic manure through compost (if compost has 0.8% N content then apply 3.125 t/ha compost)

Agriculture Microbiology (1)

1. **Sugarcane trash decomposition using microbial consortium:** Spread the trash after the harvest in alternate rows and irrigate the field. Spread 10 kg/acre of urea and microbial consortium (10 per cent cowdung + 4 kgs/acre of microbial consortium: Phanerochete + Aspergillus + Pleurotus + Trichoderma + Pseudomonas + Bacillus + Cellulomonas in 400 l of water) over the irrigated trash. After 30 days, turn the trash and repeat the same application. Within 75-90 days of application, the trash decomposes and supplies nutrients to the ratoon crop. This saves 25-30 per cent of chemical fertilizer application and enhances soil fertility.

Soil Science & Agricultural Chemistry (5)

1. **Schedule of Water soluble phosphorus for Sugarcane crop through Micro Irrigation:** Providing recommended phosphorus through fertigation with water soluble phosphorus fertilizers @ 25 per cent up to 60 days after planting and remaining 75 per cent up to 180 days after planting enhances the phosphorus use efficiency and increases the cane yield by 30 per cent.

2. **Use of newly formulated micronutrient mixture for enhanced growth and yield of paddy in alkaline soil:** Foliar spray of micronutrients mixture @ 10g/l at 30 and 45 days after transplanting along with the recommended fertilizer reduces chaffyness by 38.4 per cent, enhances grain (15.2%) and straw yield (20.5%) with B:C ratio of 1.4:1.

3. **Application of Phosphorus enriched compost for improved soil properties and enhanced yield under ragi-cowpea cropping systems:** Application of 100 per cent nitrogen and potassium along with 50 per cent phosphorus through enriched compost (P source used for the enrichment is rock phosphate) to phosphorus rich soil recorded B:C ratio of 2.90:1, highest ragi grain (2483.1 kg/ha) and straw (3943.2 kg/ha) yield as compared to 100 per cent recommended dose of fertilizers with FYM (Grain: 2276 kg/ha and straw: 3551 kg/ha).

4. **UAS-B Blackgram micronutrient mixture (MMF1 & MMF2) for enhanced growth and yield of Blackgram:** Application of 750 g/acre of UASB black gram micronutrients mixture MMF1 (Fe + Mn + Zn + Cu + Mo) at 20 days and application of 1 kg/acre of UASB black gram micronutrient mixture MMF2 (Fe + Mn + Zn + Cu + Mo+ B) at 40 days after sowing will enhance black gram yield by 25.37 per cent with the B:C ratio of 3.18:1.

5. **UAS-B Greengram micronutrient mixture (MMF1 & MMF2) for enhanced growth and yield of Greengram:** Application of 750 g/acre of UAS-B green gram micronutrients mixture MMF1 (Fe + Mn + Zn + Cu + Mo) at 20 days and application of 1 kg/acre of UASB green gram micronutrient mixture MMF2 (Fe + Mn + Zn + Cu + Mo+ B) at 40 days after sowing will enhance green gram yield by 34.33 per cent with B:C ratio of 3.34:1.

Sericulture (1)

1. **Foliar spray of cultivated sea plant (*Kappaphycus* sp.) extract for enhanced growth and development of mulberry and silkworm, *Bombyx mori* L.:** Foliar spray of cultivated Sea Plant Extract (*Kappaphycus* sp.) LBS 13 @ 1.5 ml/l acts as growth promoter in mulberry (Chlorophyll: 30 days after pruning - 2.37 mg/g, 45 days - 2.55 mg/g, 60 days - 3.85mg/g) and helps in reducing the incidence of NPV infection (larval mortality: 3.33 % & Disease incidence:11.33 %) in silkworm, *Bombyx mori* L.

Crop Protection (20)

Entomology (7)

1. **Spinetoram Seed treatment of pulses for managing pulse beetle during storage:** After threshing, the pulse seeds should be dried to bring down the seeds moisture below 10 per cent. Then treat the pulse seeds with spinetoram 11.7% SC @ 2.5 ml + 50 ml water/10 kg seed. Shade dry the treated seeds for 3 to 4 hours and store the seed in gunny bag. The treated pulse seed are free from pulse beetle infestation up to 6 months of storage. It also helps in maintaining the seed quality parameters up to 12 months of storage.

2. **Management of wild boar in groundnut field:** Fixing of nylon net around the border of the groundnut field up to 4 feet height from the ground and trailed on the ground up to 2 feet and covered with soil significantly reduced the wild boar menace with B:C ratio of 4.3:1. Or Fixing of used sarees around the border of the groundnut field up to 3 feet height and trailed on the ground up to 3/4 feet and covered with soil significantly reduced the wild boar menace with B:C ratio of 3.7:1

3. **Spraying Spinetoram or chlorantraniliprole for management of tomato pinworm, Tuta absoluta:** Spraying of spinetoram 11.7 SC @ 0.75 ml/l of water (1st spray: when the incidence is observed and second spray if required at 15 days after 1st spray), reduced the pinworm incidence by 80 per cent and enhanced the yield by 62 per cent with B:C ratio of 2.19:1 compared to untreated control or Spraying of chlorantraniliprole 18.5 SC @ 0.3 ml/l of water (1st spray: when the incidence is observed and second spray if required at 15 days after 1st spray), reduced the pinworm incidence by 72 per cent and enhanced the yield by 56 per cent with B:C ratio of 2.11:1 compared to the untreated control.

4. **Spraying of spinetoram for management of thrips on chilli:** Spraying of spinetoram 11.7 SC @ 1 ml/ l of water (1st spray: when the incidence is observed and second spray if required at 15 days after 1st spray), reduced the thrips incidence by 86 per cent and enhanced the yield by 35 per cent with B:C ratio of 3.07:1 compared to untreated control.

5. **Spraying of Flonicamid for management of sucking pest in Cotton:** Spraying of Flonicamid 50 % WG @ 0.3g/l at 45 days after sowing and 2nd spray when the sucking pests crosses the ETL recorded least population of sucking pests (whiteflies, thrips, leafhoppers and aphids) and higher seed cotton yield (20.20 q/ha) with B:C ratio of 3.14:1.

6. **Spraying of entomopathogenic fungi, Lecanicillium lecanii for management of rugose spiraling whitefly in Coconut ecosystem:** Spraying eco-friendly entomopathogenic fungi, Lecanicillium lecanii @ 5g/l (cfu 2x108/g) of water on lower surface of coconut leaves recorded 40.23 and 64.32 per cent reduction in nymphal population of spiraling whitefly at 5 and 10 days after spraying and 44.73 and 90.37 per cent reduction in adult population

7. **Management of rugose spiraling whitefly on coconut using bio rational insecticides:** Spraying on lower surface of coconut palm leaves with azadirachtin 1% @ 2 ml recorded 41.92 and 54.64 per cent reduction in nymphal population of spiraling whitefly at 5 and 10 days after spraying and 39.55 and 63.96 per cent reduction in adult population or Spraying with neem oil @10 ml + soap 10 gram recorded 55.12 and 58.11 per cent reduction in nymphal population of spiraling whitefly at 5 and 10 days after spraying and 51.79 and 61.57 per cent reduction in adult population

Plant Pathology (11)

1. **Spray of chitosan for management of Sheath blight disease in Rice:** Two sprays of chitosan 1 g/l of water at 30 and 60 days after transplanting reduced the rice sheath blight incidence by 62.90 per cent. The yield increased by 35-40 per cent with 52 per cent reduction in grain chaffiness and B:C ratio of 2.46:1.

2. **Seed treatment with Pseudomonas and spraying Trycyclazole & Mancozeb for management of Neck and Finger blast in Fingermillet:** Seed treatment with Pseudomonas fluorescens talc formulation @10g /kg of seed followed by spraying of Trycyclazole 18%+ Mancozeb 62%@ 0.5g/l of water at the time of flowering and if required, second spray at 10-15 days interval was effective in the management of neck and finger blast. It also enhanced the grain yield (2691 Kg/ha) and fodder yield (3900 Kg/ha) with B:C ratio of 2.45:1.

3. **Soil drenching of Bleaching Powder and application of Streptocycline sulphate for management of bacterial stalk rot of maize:** Soil drenching of Bleaching Powder @ 0.1 g/l + Streptocycline sulphate @ 0.4 g/l around the infected plants reduced the disease incidence by 74 per cent and increased the yield up to 141.4 per cent with B:C ratio of 2.18:1 as compared to untreated control.

4. **Integrated disease module for management of Turcicum leaf blight in Maize:** Seed treatment with Trichoderma harzianum @ 10g/kg seed + foliar application of Nimbicidine @ 5ml/litre @ 35 DAS, followed by Azoxystrobin 18.2% + Difenoconazole 11.4% (Amistar Top) spray @ 1 ml/ litre of water at 45 days after sowing reduced the disease incidence by 65 per cent and increased the yield by 75 per cent with 3.8:1 B: C ratio.

5. **Spraying of Propiconazole for management of Leaf blight in brown top millet:** Spraying of Propiconazole 25% EC @ 1 ml/l at 35-40 days after sowing (when the leaf blight symptoms are observed) was effective in reducing leaf blight incidence by 65.43 per cent and increased grain yield by 191.1 per cent with 2.28:1 B: C ratio.

6. **Spraying of Mancozeb + Carbendazim for management of Rust in cowpea:** Spraying of Mancozeb 63% + Carbendazim 12% WP @ 2g/l at 35-40 days after sowing (when rust symptoms are observed: 2-3 rust pustules) was effective in reducing rust incidence by 65.81 per cent and increased yield by 81.48 per cent with 3.17:1 B:C ratio.

7. Spraying of Hexaconazole for Management of Cercospora leaf spot in Cowpea: Spraying of Hexaconazole 5% SC @ 2ml/l at 35 days after sowing (when the leaf spot symptoms are observed) was effective in reducing cowpea leaf spot by 64 per cent and increased the yield by 78.39 per cent with 3.87:1 B: C ratio.

8. **Management of Alternariaster leaf spot:** Seed treatment with 12% Carbendazim + Mancozeb 63% WP @ 2g/kg seed followed by two foliar sprays with Difenconazole 25% + Propiconazole 25% @ 0.25mL/L (First spray at the onset of incidence or 45 days after sowing and if required second spray should be given 15 days after 1st spray) reduces the disease by 64.38 per cent over check, with 28.4 per cent increase in yield and 18.31:1 B:C ratio. In addition, it also controls powdery mildew disease in the crop.

9. **Spraying of Azoxystrobin & Difenconazole for management of Powdery mildew in chilli:** when the disease is noticed, spraying of Azoxystrobin 18.2% + Difenconazole 11.4 % @ 1.2 ml/ L two times at an interval of 15 days was found to be effective in reducing the disease incidence to a tune of 83 per cent with B:C Ratio of 2.03:1

10. **Spraying of Tebuconazole & Trifloxystrobin for management of powdery mildew in mango:** Spraying of Tebuconazole 50% + Trifloxystrobin @ 0.4 g/l during flowering and if disease persists 2nd spray in the interval of 30 days was found to be effective in reducing the disease incidence by 85 per cent with B:C Ratio of 13.11:1

11. **Spraying of fungicides for management of black spot of papaya:** Spraying of Mancozeb 50 WP 2g/l, Difenoconazole 25 EC 1ml/l and Tebuconazole 50 + Trifloxystrobin 25 WG 0.5 g/l after disease initiation at fifteen day interval was found effective in reducing 83.95 and 88.44 per cent black spot symptoms on leaves and fruits respectively with B: C ratio of 3.25:1 and the fruits could be harvested fifteen days after the spray for edible purpose.

Apiculture (2)

1. **Six frame hives for *Apis cerana*:** The initiation of honey was earlier in 6 frame hives compared to 8 frame hives (as in PoP). The absconding behavior was more in 8frame hives (28%) compared with 6 frame hives (16%). Similarly the swarming behavior was recorded higher with existing ISI-8frame hives. The growth and development of colony is significantly higher in 6 frame hive compared to 8 frame hive. Hence the use of 6 frame bee hives will be more suitable for higher honey production.

2. **Pollen substitutes and its feeding methodology in A. cerana colonies:** Honey bees showed better acceptance when pollen substitutes were fed through parchment paper followed by petriplates and polyethene cover. Following Pollen substitutes when supplied reduced the absconding activity during dearth period.

- Ragi flour + Milk Powder+ Yeast+ Honey (1.88+1.88+1.25+5) or
- Ragi flour + Horlicks powder + Honey (1.88+3.12+5) or
- Yeast + Bengal gram + Milk powder + Sugar (4.2+0.4+0.4+5) or
- Green gram flour + Milk Powder+ Yeast+ Honey (1.9+1.9+1.2+5) or
- Green gram flour + Horlicks powder + Honey (1.9+3.1+5) or
- Soy flour + Wheat flour + Yeast + Sugar + Dark rum (1.8+1.8+1.2+5+0.2)

3.7 Research in Progress

3.7.1 Crop Improvement

3.7.1.1 Genetics and Plant breeding

a) Rice

¢ Marker Assisted Back Cross Breeding was employed to improve KMP-175, KCP1, KMP149 and Jyothi. As a result of the crosses done and the selections made, several promising lines harboring Pi9, and Pi54 blast resistance genes, Saltol QTL for salt resistance and Xa13 and Xa21 bacterial leaf blight resistance

genes in different combinations were derived. The screening of these lines for both leaf and neck blast resistance under the conditions favoring blast incidence revealed high degree of resistance to the disease.

b) Small millets

- Finger millet: Entries FMST 16 and FMST 4 recorded 44 and 43 per cent increased grain yield over check GPU 66 respectively.
- Proso millet: Entries PMST-2, PMST-12, and PMST-16 were significantly superior to check GPUP 21 and recorded 30%, 28% and 25% increased grain yield over check GPUP 21 respectively,
- Little millet: Entry LMST-8 and GPUL 11 were significantly superior to check BL-6 and recorded 30.67 % and 30.29 % increased grain yield respectively over check BL 6.
- Foxtail millet: Entry FXST 13 was significantly superior to check SiA 3156 and recorded 27.27% increased grain yield over check SiA 3156.
- Two entries one each in Browntop millet (GPUBT 9) and Proso millet (GPUP 33), contributed to AICRP trials were forwarded from Initial varietal trial to Advanced Varietal trial.
- One entry each in Little millet (GPUL 12), Foxtail millet (GPUF 16) and Proso millet (GPUP 34) were contributed to AICRP trials for inclusion in Initial Varietal Trial.

c) Maize

- Totally 189 new hybrids were developed and evaluated for identification of best performing hybrids. Two promising hybrids MAH-19-2 and MAH-20-44 were found promising in station and multiplication evaluation and they are nominated for coordination evaluation across India during Kharif -2022. Similarly 540 new crosses of maize, sweetcorn & popcorn have been generated.
- Totally 426 inbreds have been characterized and documented for their utilization and conservation

d) Sorghum

- 200 germplasm lines were evaluated and characterized for early and fodder types during kharif 2021-22. Superior genotypes were identified for different desirable traits and these lines will be used as a parental line in further fodder sorghum breeding programme.
- CNS-1, SOR 2116, SOR-4447 & SOR 4171 performed better than gundlupet local. They will be further used for breeding programmes

e) Sunflower

- KBSH 85, new sunflower hybrid completed AHT II and performed very well in zone V of India (Andhra Pradesh, Southern Karnataka,Tamilnadu and Telangana)
- KBSH-85 recorded higher seed yield (2003 kg/ha) than national checks DRSH-1 (1537 kg/ha) and KBSH-44 (1786 kg/ha) which is 39.9% and 14.2% higher than DRSH-1 and KBSH-44, respectively
- KBSH-85 has recorded higher oil yield (662 kg/ha) against the national check hybrids DRSH-1 (551 kg/ha) and KBSH-44 (586 kg/ha). The oil yield advantage of the proposed hybrid, KBSH 85 over the national hybrid checks KBSH-44 and DRSH-1 is 20.1% and 13.1%, respectively.
- Sunflower hybrid KBSH 90 & KBSH 91 was advanced to AHT-I while KBSH 88 was advanced to AHT-II during 2022

f) Pigeonpea.

- **In Initial Varietal Trial (Early),** of among 18 entries evaluated during kharif 2021, for 10 traits, entries 205 (18.52q/ha), 212 (12.87 q/ha) and 207 (12.66 kg/ha) were found promising.
- **In Advance Varietal Trial (Early),** of among 5 entries evaluated for 10 traits, entries 304 (13.06q/ha), 301(11.14 q/ha) and 302 (8.29 kg/ha) were found promising.
- **In Initial Hybrid Trial,** out of Six entries evaluated for 10 traits, entries 301 (23.25 q/ha), 303 (16.19 q/ha), 304 (15.99 q/ha) and 306 (15.74 kg/ha) were found promising.

g) Arid legumes

- **In Cowpea IVT-AVT trial:** Nineteen entries with two checks were evaluated. Among the 19 entries evaluated CP-18 (1852 kg/ha) & CP-19 (1769 kg/ha) recorded higher yield than the best check KBC-2 (1713 kg/ha).
- **In Horse gram IVT:** Eleven entries with a local check and superior lines from 2020-21 were evaluated. Among 11 test entries, HG-4 recorded highest grain yield (542 kg/ha) followed by HG-7 (519 KG/HA), HG-10 (486 kg/ha), HG-13 (468 kg/ha) and HG-14 (449 kg/ha) more than the best local check PHG-9 (431 kg/ha).
- 15 Cowpea and 10 Horse gram front line demonstration on varietal performance were taken in farmer's field at Magadi & Ramanagara Taluk. 7.5 % of higher grain yield was recorded in KBC-9 variety over local check variety of cowpea and 6.1 per cent higher grain yield was recorded in PHG-9 over local check variety

h) Potential Crops

- Initial Varietal Trial: Out of 14 genotypes evaluated, genotype SKNA-1503 was significantly superior to the best check variety KBGA-4.
- Advance Varietal Trial: Out of 13 genotypes evaluated, genotype SKNA-808 (18.67 q/ha) was significantly superior to the best check variety KBGA-4 (16.82 q/ha).

i) Castor

- Multi-location evaluation of trait specific monoecious lines: ICS-139 recorded significantly higher seed yield (1886 kg/ha) followed by SKI-378 (1881 kg/ha), JI-480 (1527 kg/ha) and JM-6 (1466 kg/ha) were next in the order of merit when compared to national check entry DCS-107 (1136 kg/ha).
- Multi-location evaluation of trait specific Female lines: IPC-46 recorded significantly higher seed yield (2374 kg/ha) followed by IPC-42 (1729 kg/ha) and IPC-41 (1648 kg/ha) were next in the order of merit when compared to check entry DPC-9(1136 kg/ha).
- Evaluation and selection of non-spiny, wilt resistant male lines (Second cycle of random mating in isolation): NSPG-11 recorded higher seed yield (670 g/plant) and was followed by NSPG-7 (546 g/plant), NSPG-5 (454 g/plant), NSPG-17 (442 g/plant) and NSPG-14(407 g/plant) were next in the order of merit.

j) Sugarcane

- CoVC 15-33-24 recorded significantly higher cane and sugar yield compared to local standards VCF 0517 and Co 86032 in station varietal trial
- Totally 331 elite clones were forwarded to 1st clonal stage based on quality and morphological characters under 2020 fluff while 3479 seedlings were obtained from the 40 crosses and all the seedlings were transplanted in the ground nursery under 2021 fluff .

k) Forage Crops

- Bajra Napier hybrid variety PBN-342 is developed at Punjab Agriculture university, Ludhiana. Compared to other entries and check BNH-10(1367.0 q/ha), PBN-342 recorded higher green forage (1538.0 q/ha). It is being recommended for farm trials.

- Guinea grass variety, MMG-1 is a non-flowering variety with good quality fodder. It recorded higher green fodder yield (383.2 q/ha) over check JHGG-08-1 (351.5 q/ha) with significantly higher plant height, leaf stem ratio and dry matter yield. MMG-1 possess higher crude protein content of 6.13% over check JHGG-08-1 (5.25%). It is being recommended for farm trials.

3.7.1.2 Crop Physiology

- Global transcriptomic approaches were identified in several novel genes of Mulberry during drought stress and bud growth. The selected genes are being functionally validated in model systems (Tobacco and Arabidopsis). New sets of gene over-expression constructs have been developed and transferred to CSR&TI Mysore for mulberry transformation.

- New sets of gene over-expression constructs for drought stress tolerance and characterization of existing transgenic mulberry have been developed and transferred to CSR&TI Mysore for mulberry transformation.

- A panel of Mulberry germplasm consisting of 192 accessions has been phenotyped for variations in root and WUE traits in two locations and seasons. Significant variability in roots, epicuticular wax content, specific leaf area and leaf yield has been documented among the germplasm. A set of 45 SSR markers have been used to assess the molecular diversity among the germplasm. Stomatal frequency, epicuticular wax deposition and rate of water loss have been assessed and significant genetic variability has been observed. Scanning electron micrographs have shown that the genotypes with higher cuticular wax deposition maintained a significantly lower canopy temperature. Such genotypes with higher wax deposition possess larger stomata. This resulted in a significant increase in WUE without compromising for growth under stress.

- Several mutants differing in Root System architecture and canopy architecture such as narrow and broad leaves have been identified and characterized in rice. The relevance of leaf mass area has been examined extensively. MUTMAP strategy was adopted to identify novel genes governing root system architecture. The relationship between leaf mass area, leaf thickness and water use efficiency was assessed and the molecular regulation of these traits were deciphered.

3.7.1.3 Seed Science & Technology

a) Seed Production and Certification

- State recommended dose of fertilizer @100:50:50 NPK kg/ha showed superiority with respect to seed yield (43.06 q/ha), plant height at harvest (85.79 cm) and seed germination (94.0%) over organic manures (23.66q/ha, 79.0 cm and 93.0% respectively) in paddy crop.

- The groundnut crop could be cultivated with 75% RDF (100% N and K with 75% P) + seed coating of Nano P (Phosphorous) @ 125ml ha^{-1} (100% seed coating) to obtain the maximum seed yield (18.31 q/ha) and quality along with highest net return (Rs. 42869) & higher B:C ratio (1:1.74).

b) Seed Physiology, Storage and Testing

- Seed treatment with Silicon dioxide nano particle @ 50 ppm recorded highest germination (84.83%), vigour index I and II (2079 and 2955), field emergence (76.17 %) and seed yield (8.45 q/ha).

c) Seed Entomology

- The pigeon pea crop treated with emamectin benzoate 5SG @ 0.30 g/l at 50 % pod maturity recorded significantly least per cent of seed damage (0.17 %) at 4th week of storage of seeds. Further, neemazal 10000 ppm @ 6 ml/l at 50 per cent pod maturity registered least seed damage of 0.67 per cent at 4th week of storage. The seed damage in untreated check was significantly highest (4.08 %) at 4th week of storage.
- Pigeonpea cv. BRG-5 recorded least seed infestation (0.58 %) & seed germination (82%), when fresh seeds were solarized in clear polythene (700 gauge) packet for 4 h for 6 days and treated with Neemazal T/ S (Azadiractin 10,000 ppm) @75 ppm (7.5 ml formulation /kg seed).

d) Seed Processing

- Seeds graded with Sieve size of 6.50 mm (R) for Maize hybrid: MAH 14-138; sieve size of 5.00 mm (Round) for Pigeon pea variety BRG-5; 6.00 mm (Round) sieve for Field bean variety HA-5; sieve size of 2.40 x 20 mm (S) for CMS 1103 A; sieve size of 2.80 x 20 mm (S) for RHA 92 and sieve size of 1.20 mm (Round) for Finger millet cv. KMR 340 (White ragi) possess better seed quality parameters with better seed recovery.

3.7.1.4 Plant Biotechnology

- Phytosynthesis of silver nanoparticles has been upscale and characterized. These nanoparticles were tested on groundnut crop TMV 2 (in Kharif of 2020 nd in 2021) and was found to control Late leaf spot disease and significantly enhance groundnut yield by 30%. The application methods have been fine-tuned, and the technology will be tested in multilocation trials in Kharif-2022.
- Parasite host interactions using the Santalum album L root parasite as a model system are being studied. The ability to Santalum album to discriminate and select a suitable host plant and the chemical cross talk, and molecular events leading to a parasitic developmental program is being understood. The findings will be valuable to the conservation and cultivation efforts of the endangered tress sps Santalum album L.
- Bio-NEST AIC: The incubation center is continuously organizing training programmes, webinars, outreach programmes under the Bio-NEST Agri. Innovation Center. Till date 14 programme has been organized and more than 1500 participants have benefited from the programmes organized.

3.7.2 Crop Production

3.7.2.1 Agronomy

Crops

a) Rice

- Soil application of microbial consortium (Microbial consortium = Azospirillum + Bacillus + Pseudomonas + Trichoderma) @ 5.0 kg/ha at 8 to 10 days after transplanting recorded significantly higher paddy grain yield (6545 kg/ha) as compared to untreated check (with only RDF) and was statistically on par with recommended practice of Azospirillum @ 2.0 kg/ha as seedling dip.
- Highest grain yield and soil nutrient status was recorded in the treatment which received 100% NPK+Zn+S along with FYM and green manures than rest of the treatments. In nutrient use efficiency experiment highest grain yield and nutrient status of soil was noticed in the treatment which received 100% N along with P and K. In nano zinc experiment, treatment which received 100% NPK along with 2 sprays of 50ppm nano zinc recorded significantly highest yield and soil nutrient status.

b) Small Millets

- Small millets intercropping with field bean and groundnut were found with more remunerative than horse gram and niger. Between crop associations of 4:2 and 6:2, 4:2 was found more feasible with respect to millet grain equivalent yield and with more economic returns.
- Small millets showed significant response to different doses of potassium application for plant height, days to flowering, days to maturity, straw yield and even economic parameters and higher crop performance was observed from 10 kg to 30 kg K_2O/ha.

c) Pigeonpea

- Foliar application of ZnSo4 0.5 % + FeSo4 0.5 % at flower and pod initiation stage recorded significantly higher seed yield (1162.7 kg/ha) with 1:1.9 of B:C ratio.
- Post emergent application of Sodium Acifluorfen 16.5 % + Clodinafop propargyl 8 % @ 245 g ai/ha at 20-25 DAS + One Inter cultivation at 50 DAS enhanced the yield (1244 kg/ha) with 1:2.38 B:C ratio.
- The productivity was higher in terms of Pigeonpea equivalent yield (PEY) of 2558 kg/ha was recorded with parching sorghum inter cropping followed by sweet corn intercropping (1666 kg/ha). Land equivalent ratio was higher (1.43) in inter cropping with field bean.

d) Sunflower

- Application of pendimethalin @ 1.0 kg a.i./has pre-emergence spray along with Quizalofop-p-ethyl @ 62 g a.i./ha at 15-20 DAS as post emergent spray was found effective in controlling the weeds and it also recorded significantly higher seed yield (1620 kg/ha), net returns (Rs. 64062) and BC Ratio of 1: 3.44.
- Frontline demonstrations of Sunflower hybrid KBSH -78 conducted at Davanagere taluk during Rabi 2021-22 recorded 16.5 per cent higher seed yield with additional net returns of Rs.14500/ha as compared to the farmers growing other sunflower hybrids.

e) Arid legumes

- Foliar application of water soluable fertilizer 19:19:19 @ 1 % at vegetative stage and pod formation stage enhances seed yield (1818.7 kg/ha), net returns (Rs. 80,847) and B:C ratio (2.86)
- Application of Quizalofop ethyl @ 50 g ai/ha as Post emergent herbicide at 15-20 DAS reduces the weed incidence and enhances seed yield (993 kg/ha), net returns (Rs. 24680) & B:C ratio (1:2.45)

f) Potential Crops

- Application of quizalopop ethyl 10% EC @ 50 g a.i /ha recorded significantly lower weed density, weed dry weight, weed control efficiency and higher grain yield
- Application of 50% N equivalent through FYM and 50% N equivalent through pongamia cake recorded significantly higher growth and yield parameters in grain amaranth and grain yield which was on par with application of 50%N equivalent pongemia cake + 50% N equivalent bio digester liquid organic manure as compared to other treatments. Whereas, net returns and B:C ratio was higher with application of 50%N equivalent pongemia cake + 50% N equivalent bio digester liquid organic manure

g) Cotton

- Sowing at May 1st fortnight recorded maximum seed cotton yield (1638 kg/ha), followed by sowing at May-2nd fortnight (1586 kg/ha) and April 2nd fortnight (1545 kg/ha). While, the lowest growth and yield parameters were noticed in sowing at September 1st fortnight.

- Significantly higher seed cotton yield was obtained in permanent bed system with zero tillage and 100 % residue management (1697 kg/ha) followed by PBS+ ZT+ 50 % residue management (1538 kg/ha) and they were on par with conventional practice (1748 kg/ha).

- Significantly higher seed cotton yield was recorded in paired row cotton + black gram (1562 kg/ha) intercropping system, followed by paired row cotton + green gram (1526 kg/ha) and they are found to be on par with each other.

h) Castor

- Castor + finger millet (2:4) recorded significantly higher castor equivalent yield (CEY) during 2020 (18.08 q/ha), 2021 (20.14 q/ha) and pooled basis (19.11 q/ha) then other intercropping system and also sole stand of different component crops.

- Soil application of 75% RDF along with 20 kg zinc sulphate per hectare followed by foliar application of 2% 19:19:19 at 40 DAS recorded significantly higher yield of castor [2020 (1605 kg/ha), 2021(1969 kg/ha) and pooled (1787 kg/ha)].

i) Forage Crops

- Inter-cropping of B x N Hybrid with Agase (2:1) recorded higher green forage (602.4 q/ha), net monetary returns (52,975/- Rs./ha) and B: C ratio (2.23).

- The planting geometry of 2m × 0.5m recorded higher total green forage yield (543.0 q/ha), dry matter yield (98.6 q/ha) and crude protein yield (15.8 q/ha).

- Application of nitrogen @ 315 kg /ha after each cut in splits significantly recorded higher green forage (1331.12 q/ha), dry matter (301.0 q/ha), crude protein yield (23.18 q/ha) & crude protein content (7.80%), dry matter content (22.61%), net returns (Rs.82,926/ha) and B:C ratio (2.73).

- Soil application of 5 kg Zn/ha + 2 kg B/ha followed by foliar spray of Salicylic acid 100 ppm at 30 DAS recorded significantly higher green forage yield (514.5 q/ha) and dry matter yield (137.8 q/ha).

j) Weed Management

- **Evaluation of Pre and post-emergent herbicide in Field bean:** Application of Diclosulum 84% WDG at 22 g/ha and among post emergence herbicides Imazethypyr 10SL + surfactant -EPOE was found to be effective in controlling weeds.

- **Evaluation of herbicides against weed complex of French bean:** One hand weeding at 25 DAS recorded highest pods (9.00t/ha). Among the pre-emergent herbicides, application of pendimethalin @750g /ha recorded highest French bean pods 7.64 t/ha which was harvested for green vegetable.

- Post-emergence application of (Metsulfuron methyl + Chlorimuron ethyl 20 WP 4ga.i./ha followed by 2, 4 D sodium salt 80 WP at 1000 g/ha application recorded lower count of weeds and which was on par with two hand weedings (20 and 40 DAS). However, there was no adverse effect on grain yield of foxtail millet and found to be significantly higher.

- **Evaluation of pre and post emergence application of Soybean:** Pre emergence application of Diclosulam 84% WDG at both the dosage @ 22 g/ha and @ 24 g/ha at 30DAS recorded higher weed control efficiency (91.8 and 91.1) while Post emergent application of Fluazifop -p- butyl 11.1 % + Fomesafen 11.1 % SL 150 g/ha and 250 g/ha recorded higher weed control efficiency.

k) Dry land Agriculture

- Application of 100 per cent nitrogen along with recommended P and K for foliar spraying of Nano N and Nano-Zn twice at 20 - 25 DAS and 40-45 DAS resulted in higher grain yield and yield attributes.
- 42 years of long term application of organics and in-organic fertilizers under Finger millet- monocropping and finger millet rotation viz, use of FYM+RDF (100 % NPK) maintained soil sustainability with higher yield and soil quality. The yield and soil quality was more pronounced in finger millet rotation with legumes than monocropping.
- Horizontal spread of climate resilient practices under "National Innovations in Climate Resilient Agriculture Project" was carried out at 7 villlages viz Chikkaputtayanapalya, Chikkamaranahalli, Chikkamaranahalli colony, Mudalapalya, Hosapalya, Chikkahosapalya and Kambadakallu of Nelamangala taluk, Bengaluru rural district in 78 beneficiary farmer's fields in an area of 20 hectares. Dryland technologies like real time contingent cropping, in-situ and ex-situ moisture conservation, energy management and alternate land use system have been demonstrated with farmer's participation. "Custom hiring centre" with hand tools, bullock/ tractor drawn implements are benefitting the farmers of project villages in carrying out timely agricultural operations. Also climate resilient crop varieties were demonstrated for the benefit of the farmers.

l) Agrometeorology

- **National Initiative on Climate Resilient Agriculture (NICRA):** NICRA project is in operation in Chikkaballapur district since 2011.Agromet advisories are being given weekly twice based on weather forecast for Nayanahalli village. During 2016, Kuthanagere watershed area was added as study area and Durgadanagenahalli, Koratagere taluk, were added during 2018. Impact of weather based agro advisories in grapes during 2015-2021 in Chikkaballapura was carried out. Nearly 200 farmers were monitored under the project out of which 150 were grape growers in an area of 90 hectares. An additional returns due to agromet advisories from sample survey of AAS farmers was Rs. 1,54,800/ha. Tamarind (variety: Gottipura) is sustainable agri-horti system against hail storm and drought in Koratagere Taluk. Here the mango farmers got Rs. 59,455 gross income and Rs.22,145 net income per ha per annum as compared to Rs.2,32,000 and Rs.2,01,350 in tamarind, respectively. Due to the fact that tamarind is less susceptible to hail storm and relatively more suitable to the locality, based on soil site parameters, farmers preference towards tamarind than any other dry land orchard.
- **Forecasting of Agricultural output using Space, Agrometeorology and Land based observation (FASAL):** During 2021, using modified Hendrick and Scholl statistical model yields were forecasted for kharif (rice, cotton, sugarcane, tur and onion), rabi (jowar, rice and Bengal gram) for the allotted districts of Karnataka at vegetative (f1), mid (f2) and pre-harvest (f3) stages. The yields forecasted during 2020 for the above listed crops were validated in 2021 using the actual yields obtained from Directorate of Economics and Statistics, Bangalore. Wherein the deviation between actual yield and forecasted yield (kg/ha) during kharif season (rice ranged between (f1stage: -42.6 to14.0 and f3 stage: -18.5 to 7.9); cotton percent deviation ranged from (f1stage: -45.3 to 40.6 and f3 stage: -53.3 to 49.3); for tur crop (f2 stage) the deviation percent ranged from -45.9 to 55.7 and for sugarcane (f2 stage) the per cent deviation ranged between - 29.4 to 12.7. Whereas crop yield forecasted during rabi season, the per cent deviation between actual yield and forecasted yield (kg/ha), for rice crop (f1 stage) ranged between -5.0 to 6.2; for sorghum (f2 stage) the per cent deviation ranged between -29.5 to 38.4 and for bengal gram (f1 stage) the per cent deviation ranged between - 31.2 to 29.7.
- **Gramin Krishi Mausam Sewa (GKMS:** IAAS): During the year 2021, 98 Agromet Advisory Bulletins were issued and 58 per cent success was achieved. In addition to regular Agromet Advisory Service, GKMS unit also given information regarding extreme events through telephone and SMS alerts through m-kisan.

m) Agroforestry

- **Dry land orchard-based agroforestry system:** Fruit crop viz., Anacardium occidentale, Syzygium cumuni and Mangifera indica based agroforestry system was established during 2010 with inter & intra row spacing of 10 m. Syzygium cumuni recorded maximum above ground (26.58 t/ha), below ground (6.91 t/ha) and total biomass accumulation (33.49 t/ha) when compared to Mangifera indica and Anacardium Occidentale.
- **Teak based Agroforestry system:** The mean tree height was higher in 12 m x 3 m (9.76 m) as compared to 10 m x 3 m (9.72 m) spacing at 11 years of planting. Similar observation was also recorded for highest mean girth at breast height by 12m x 3 m (56.44 cm) 10 m x 3 m (45.50 cm) spacing. 12 m x 3 m spacing accumulated the highest carbon dioxide content 81.7 t/ha when compared to 10 m x 3 m (63.6 t/ha).
- Melia dubia based agroforestry system: Plants in 24X 5 m showed significantly higher tree height of 14.09 m followed by 20X5 m (14.04 m) and 16*5 m (13.65 m). Similar trend was observed in case of GBH, 24X5 m (128.16 cm) followed by 20X5 m (118.23 cm).

n) Organic Farming

- Long term organic manuring experiments on crop productivity and nutrient dynamics in Finger millet-Groundnut cropping sequence: Application of urban compost on 100% N equivalent basis in finger-millet has resulted in higher grain yield (3892 kg/ha) & straw yield (7247 kh/ha)
- Application of 50 % N equivalent compost + 25% N equivalent Oilcake + 25 % N equivalent Jeevamrutha + 2.5 % Panchagavya spray at flowering stage has recorded higher niger seed yield (686.37 kg/ha).
- Application of 50 % N equivalent compost + 25% N equivalent Oilcake + 25 % N equivalent Jeevamrutha + 2.5 % Panchagavya spray at flowering stage has recorded higher sunflower seed yield (2066.95 kg/ha)
- Application of 50 % N equivalent compost + 25% N equivalent Oilcake + 25 % N equivalent Jeevamrutha + 2.5% Panchagavya spray at flowering stage has recorded higher groundnut kernel yield (1731.99 kg/ha).

o) Integrated Farming System

- On - Farm crop response to plant nutrients in predominant cropping systems high productive block (finger millet-tomato): Recommended NPK + ZnSO4 @ 10 kg/ha in finger millet (Kharif) produced significantly higher yield of 5325 kg/ha. Recommended NPK + biofungicides (Trichoderma) produced higher yields of tomato (summer) 27.3 t/ha. The system cost of cultivation was higher in case of recommended NPK + MN (Rs. 247333), maximum system net returns was obtained (Rs. 420222).
- On - Farm crop response to plant nutrients in predominant cropping systems low productive block (Maize - Field bean): Recommended NPK + ZnSO4 in maize (Kharif) produced higher yield of 5245 kg/ha. Recommended NPK + bio fertilizers in field bean (summer) produced higher yield of 4828 kg/ha. The system cost of cultivation and net returns of recommended NPK+MN and FP were 1.05 and 1.31 & 1.07 and 1.19 lakhs, respectively.
- Diversification of existing farming systems under marginal household conditions: In crop + horticulture + dairy +sheep + poultry involving 6 Households with Avg. holding of 0.76 ha earned Rs.257920 indicating 38.7 % increase in mean net income. In Crop+dairy+poultry involving 3 Households with Avg. holding of 0.83 ha earned 75.7% increase in mean net income. In Crop + horticulture + dairy +sheep + poultry system average cost of intervention was Rs.11892 resulting in a return of Rs.72017/-. Capacity building through training on integrated livestock management and demonstration of silage making and urea enrichment improved milk yield of livestock as it provided quality fodder in lean season. Training on trichoderma usage along with FYM and vermicompost usage reduced the cost on fertlizers and PP chemical application

- Under Government of Karnataka funded natural farming project demonstrations in comparison to farmers' practices were undertaken in 2000 ha in each agro-climatic zone 5 and 6 involving two treatments during 2019-20, 2020-21 and 2021-22. Three workshops to provide training to Community Assistant and Community resource persons of Bengaluru urban and rural, Kolar, Chikkaballapura, Ramanagara and Tumkur districts on NF implementation in 2000 ha farmers fields in Zone 5 has been conducted. 124 training programmes to NF farmers have been carried out in 24 taluks of Zone 5. 36 exposure visits to NF farmers covering 24 taluks has been taken up in Zone 5. Three workshops to provide training to Community Assistant and Community resource persons of Mandya, Mysuru, Chamarajanagar, Hassan and Tumkur districts on NF implementation in 2000 ha farmers fields in Zone 6 has been conducted. 76 training programmes to NF farmers have been carried out in 18 taluks of Zone 6. 18 exposure visits to NF farmers covering 18 taluks has been taken up in Zone 6.

3.7.2.2 Soil Science

- Impact of urbanization on soil properties, water and crop productivity in rural, transition and urban areas of Bangalore: in north urban transect of Bangalore at Shyamarajapura except chromium (Cr), remaining heavy metals like lead (Pb) (0.49-0.90 ppm), nickel (Ni) (0.35-4.06 ppm) and cadmium (Cd) (0.05-0.152 ppm) were present in all the soil samples and found very low nitrogen (N) status

a) Soil Test Crop Resonse (STCR)

- **Verification trial of STCR targeted yield equation developed for foxtail millet under dryland condition:** The STCR targeted yield equation developed for foxtail millet during 2018-19 has been evaluated with different fertilizer approaches. Significantly higher grain (15.47 q/ha) and straw yield (17.47 q/ha) was recorded in STCR target of 13 q/ha through purely inorganics. All the STCR targeted yield treatments showed higher grain and straw yield as compared to POP. The higher value cost ratio (VCR) of 4.05 was recorded in STCR target of 13q/ha through inorganics followed by STCR target of 10 q ha-1 through inorganics.

- **Developed targeted yield equation under irrigated condition in Sweet corn:** STCR experiment was conducted to develop targeted yield equation for sweet corn during 2021-22. The results indicates that, among 9 control plots, higher cob yield 18.22 t/ha was recorded in high fertility strip (20 t/ha) FYM was applied without any NPK (0-0-0) fertilizers) and the lowest cob yield 12.44 t/ha was recorded in low fertility strip.

b) Long Term Fertilizer Experiment (LTFE)

- Effect of long term application of fertilizers on finger millet productivity, nutrient uptake, and yield sustainability in finger millet - maize cropping sequence: Application of 150% of Recommended dose of fertilizer of NPK enhanced grain and straw yield (26.1 & 37.3 q/ha), total uptake of major nutrients (N: 55.8, P:35.35 and K:60.37 kg/ha), secondary nutrients (Ca: 21.60, Mg: 16.11 and S: 5.99 kg/ha) and micronutrients (Fe: 549.88, Mn: 640.04, Zn: 148.92 and Cu: 82.43 g/ha) by finger millet

- Effect of manuring on finger millet productivity and nutrient uptake in finger millet -maize cropping sequence after superimposition in selected treatments of long term fertilizer experiment: Upon superimposition of 150% Rec. NPK with two levels of FYM @ 5 and 10 t/ha (33.32 & 38.17 q/ha) gave significantly higher grain yield of finger millet over original 150% of Recommended dose of fertilizer of NPK (31.46 q/ha) treatment but found on par with each other. The grain yield of finger millet was not affected in spite of reducing the P dosage to half the dosage in P build up soils as well as very good response of crop to the application of K and FYM in soils depleted with available K content and in organic matter content.

- Effect of long term application of fertilizers on maize productivity, nutrient uptake, changes in soil quality and sustainability in finger millet - maize cropping sequence: Application of 100% of Recommended dose of fertilizer of NPK + FYM + lime enhanced grain and stover yield of maize (56.82 and 89.44 q/ha) but reduced the soil pH from 6.17 to 4.82.

- Effect of manuring on maize productivity, nutrient uptake, changes in soil quality in finger millet -maize cropping sequence after superimposition in selected treatments of long term fertilizer experiment: Application of 150% of Recommended dose of fertilizer of NPK + FYM @ 10 t/ha enhanced maize grain and stover yield (56.6 & 75.3 q/ha). Continuous use of optimal (100% P2O5) and super optimal dose (150% P2O5) of phosphorus resulted in buildup of available P in soil.

c) Micro and Secondary Nutrients and Pollutants Elements in Soil and Plants

- Delineation and Reassessment of Micro and Secondary Nutrients Deficient Areas and Updating Soil Fertility Maps, geo referenced surface soil samples were collected from Kodagu (300), Yadgir (300), Dharwad (400), Bengaluru rural district (400) and Uttar Kannada (350) districts of Karnataka and subjected for different chemical analysis to delineate and reassess the soil fertility status.

- In Kodagu district, soils are acid to alkaline in soil reaction, non saline, high in organic carbon, medium in available phosphorus, potassium, sulphur, exchangeable calcium, magnesium and high available micronutrients. Nutrient Index was found high for majority of nutrients except available potassium, zinc and boron.

- Yadgir district soils are alkaline, non saline, medium in organic carbon, low in available phosphorus, medium in available potassium, sulphur, high in exchangeable calcium and magnesium and high in available micronutrients. Majority of nutrients were found medium in nutrient index.

- Neutral soil reaction, non salinity, high organic carbon, low available phosphorus, high available potassium, exchangeable calcium, magnesium, sulphur and available micronutrients were noticed in the surface soils of Dharwad district. Except available phosphorus and zinc, all the nutrients were found medium to high in nutrient index.

- Acid soil reaction, non salinity, high organic carbon, high available phosphorus, medium available potassium, high exchangeable calcium, magnesium, available sulphur and micronutrients were recorded in Bengaluru Rural district. High nutrient index was noticed except available potassium and boron.

d) Sujala Project

- Profile studies and sample collection at 2 Benchmark sites and 79 surface sample collections in Tumkur districts. Analysis of profile samples for physico-chemical properties and fertility status. Updation of maps by comparing with LRI data

- Profile studies and sample collection at 2 Benchmark sites and 20 surface sample collections in Chamarajanagar districts. Analysis of profile samples for physico-chemical properties and fertility status. Updation of maps by comparing with LRI data

- Profile studies and sample collection at 2 Benchmark sites and 20 surface sample collections in Davanagere districts. Analysis of profile samples for physico-chemical properties and fertility status. Updation of maps by comparing with LRI data

Particulars	Jan-2020 to Mar-2022
No. of well yield Monitored	716
No. of profile soil Moisture Measurements	1587
No. of surface soil Moisture measurements	3909
No. of LAI Monitored	655
No. of water Samples Collected & Analyzed	508
No. of wells monitored for water level	5444
No. of Surface Run off Monitored (Whenever Stream flow occurs)	14

e) Water Technology Center

- The application of 125 per cent recommended dose of water soluble fertilizers through fertigation for Sugarcane recorded significantly higher yield of 212 & 179 t ha^{-1} in plant cane and pooled ratoon crop respectively as compared fertigation through 75 (195 & 155 t ha^{-1}), 100 (200 & 166 t ha^{-1}) and 150 (205 & 176 t ha^{-1}) and also with soil based application of conventional fertilizers with an yield of 166 & 139 t ha^{-1} in plant cane and ratoon crop respectively.

- The leafy vegetables perform under hydroponics with a salinity / nutrient solution concentration of 1.3dSm^{-1}. Among the leafy vegetables lettuce (Green and Red lettuce) Chinese cabbage and basil perform better w.r.t growth and yield of leafy vegetables under hydroponic system. The Cherry Tomato crop also grown under hydroponics with proper staking perform better w.r.t to plant height, root growth with very few flowers and fruits.

- The study on varied levels of irrigation and nutrient management on growth and yield of baby corn using IoT enabled soil moisture sensors. Application of irrigation @ 70 per cent of field Capacity or 30 per cent depletion of AWC recorded higher cob yield of 4.9 q/acre and fodder yield of 12.2 t/acre as compared to application of irrigation @ 90 per cent of field Capacity or 10 per cent depletion of AWC. Among the nutrient management, application of nutrient through fertigation @ 100 per cent RDF recorded maximum higher cob yield of 5.2 q/acre and fodder yield of 13.5 t/acre as compared to application of nutrient @ 75 per cent RDF through fertigation as well as application of nutrient @ 100 per cent RDF through conventional fertilizers.

- The study on irrigation and nitrogen management on growth and yield finger millet using IoT enabled soil moisture sensors. The results of the study reveal that, yield did not varied significantly with varied levels of available water content as major amount of available water contributed through rainfall during the crop growth period (510 mm). While, significantly highest grain and fodder yield was recorded in 125 % RDN (15.4 q/acre and 2.3t/acre, respectively) as compared to 75 % RDN and 100% RDN.

- A field experiment to study the effect of split application of potassium under different rice establishment methods of rice under varied soil moisture levels using multi point soil moisture sensors. The split application of potassium in System of Rice Intensification (SRI) was recorded higher growth and yield parameters fallowed by Dry Direct Seeded Rice (DDSR) like plant height (134.33 cm and 127.63 cm), number of tillers/m2 (521.30 and 448.22 cm),total dry matter production hill-1 (84.00 g and 71.00 g), number of panicles/ m2(460.33 and 393.56), number of grains panicle-1 (272.67 and 235.10), grain yield (6490.00 and 5937.50 kg/ha) and straw yield (7500.00 and 6966.67kg/ha),compared with conventional method.

3.7.2.3 Apiculture

- In pomegranate, 11 major pollinators were recorded, with peak foraging during 10:00 to 12:00hrs. Peak anthesis was at 08:00-10:00hrs and stigma receptivity was during 10:00-12:00hrs for all 4 days after flowering, with pollen viability only for 2 days after flowering.Significant increase in the yield parameters was obtained with A. cerana pollination as compared to hand and self-pollination treatments. Total number of seeds per fruit was maximum in open pollination (499), followed by *A. cerana* pollination (405.67).

- Artificial domiciliation of Leaf cutter bee (Fam. Megachilidae) were created and evaluated in different locations at GKVK (56 artificial nesting habitats with totally 723 *Ipomoea* reeds in 7 different treatments), 31.26 % of reeds were accepted by bees for nesting throughout the year. The leafcutter bees were identified as *Megachile lanata, M.disjuncta, Megachile* sp. *Euaspis* sp. and *Coelioxyx* sp. A parasitoid *Leucospis* sp and predatory wasps (*Rhynchiumbrunneumi* & *Zelhuscoelonicus*) were also recorded

- Imported plastic queen cell cups, Indigenous plastic queen cell cups and beeswax queen cell cups were compared for mass queen rearing in *Apis cerana indica*, wherein, the number of days taken to seal the queen cups (n=7) was 5 days, number of days taken for emergence of queen in Doolittle method (n=4) was 11.25 days, number of days for queenemergence in natural swarming (n=4) was 14.25 days.Average weight of royal jelly in natural queen cell (n=14) was 33mg

- A survey on nesting and migratory behavior of *Apis dorsata* was conducted in 9 locations of Bengaluru viz., Kundhana, Gottamaaranahalli, Ramagovindapura, Ittasandra, Beechagondana-halli, Nadipinayakanahalli, Gambonahalli, Mallenahalli and Naik Bhavan, GKVK.A regular monitoring from Feb-2020 to January 2021 revealed totally 405 colonies of *A. dorsatain* December 2020 in selected locations, whereas least number of colonies (70) were recorded during July 2020.The total number of wild A.dorsata colonies were reduced in 2022 (88) as compared to 2021 (359) during January. Development of wild bee conservation techniques and creation of awareness on their ecological importance are in progress.

- Totally 58 bee floral plants were recorded in and around Bengaluru, which included trees (25.9%), plantations crops (19%), medicinal plants (5.2%), ornamental plants (17.2%), vegetable crops (20.7 %) and field crops (12.1%). Among trees, 13.8% were only pollen sources and 27.6 % were only nectar sources,while 58.6 % of bee flora offered both nectar and pollen.Of the identified bee flora, 37.9% flowered throughout the year, 29.3 % flowered during honey flow season (October to April) and 12.1% flowered during dearth period (May-September).The total number of 90 permanent pollen slides from various crops were prepared and stored in pollen slides bank for further studies.

- The survey for bee pests and diseases at Bengaluru Urban, Bengaluru Rural, Bellary, Shivamogga, Dakshina Kannada, Hassan, Kolar and Tumkur. Chikkaballapura and Uttara Kannada (n=480 colonies) revealed that 88 colonies (18.33%) had absconded.Wax mothinfestation was recorded as a major pest problem, followed by Thai Sac Brood Virus (TSBV). The lack of flora and management of bee colonies were attributed to absconding of bee colonies, suggesting that beekeepers need to take up all management strategies during dearth period to minimise absconding.

- Morphological and floral biology parameters of dragon fruit varieties (H.undatusand H. polyrhizus) revealed that 17.75 ± 0.96 and 19 ± 2.58 days were required from bud initiation to flower opening in white and pink varieties, respectively.In both the varieties, anthesis started during 19:00 to 19:30 hrs., anther dehiscence (14:00 hrs.) started 5 hrs. before flower opening and pollen became viable (17:00 hrs.) 3 hrs. after anther dehiscence. Stigma receptivity (23:00 hrs.) started 6 hrs. after pollen viability and 4 hrs. after flower opening. Flowers opened fully at 01:30 hrs. and remained fully open up to 03:40 hrs. Next day, flowers closed fully between 11:30 to 12:00 hrs. Flower longevity was 16 hrs. and 30 minutes. Length of the fully opened flower was 29.50±1.83 and 29.55±0.76 cm in white and pink varieties, respectively. The heterostyled and protandrous

flowers required cross pollination (insects), which was favoured by cone shaped stigma lobes and petal's morphological attributes.

- Total soluble solids content of onion nectar was 81 per cent, indicating that onion nectar being rich in TSS content, has high attractiveness to honeybees/floral visitors.

3.7.2.4 Sericulture

- Three budded cuttings under aeroponic system recorded maximum growth (number of primary roots, longest root length, root biomass, number of shoots, longest shoot length, internodal length, plant height, number of leaves, leaf yield) with high quality [leaf nutrient contents (N. P, K, Ca, Mg and S) and protein percentage].
- The self mounting spiral mountage performed superior with respect to spinning larval parameter and cocoon yield attributes when compared to plastic mountage in both crossbreed and bivoltine double hybrids of silkworm Bombyx mori. The cocoon and reeling parameters recorded significantly higher values for those harvested from spiral self mountage than plastic mountage in both the hybrid
- Abamectin 1.9 % EC @ 0.75 ml/l and diafenthiuron 50 % WP @ 1 g/l were on par with the standard check: wettable sulphur 80 % WP @ 2.5 g/l and dimethoate 30 % EC @ 1 ml/l. It can be used as an alternate molecule to DDVP / Dimethoate for managing both mulberry thrips and mites as they found safer to the silkworms at 20 DAS.

3.7.3 Crop Protection

3.7.3.1 Plant Pathology

Crops

a) Maize

- Characterized 19 SDM resistant and 7 TLB and 9 Polysora resistant inbred lines developed at Mandya centre are ready for registration with NBPGR New Delhi
- Totally 55 trials have been conducted including Co-ordinated 19 breeding trials, 16 in TLB, 13 SDM trials and 5 Maize nutrition trials have been conducted for evaluation and screening against the diseases.

b) Small Millets

- Total 130 single spore pure cultures were established from blast samples collected from major small millets growing states of India and preserved for further studies.
- Fungal DNA was isolated from 130 isolates and amplified with primers of ITS, SSU, actin and Calmodulin.
- Magnaporthe isolates of small millets showed variability with respect to cultural and micro morphological characters.
- PCR product was sequenced and sequences were aligned and 520gene sequences were submitted to the NCBI GeneBank and accession numbers were obtained

c) Pigeonpea

- A total of 137 entries were screened for Fusarium wilt and Sterility mosaic virus disease resistance at Bangalore centre and 28 entries showed resistant reaction to Fusarium wilt and 9 entries showed resistant reaction to sterility mosaic virus disease.
- 5.45 % EC @0.08 ml/l is effective in controlling the sterility mosaic disease.

d) Sunflower

- Lines CMS 343B, CSFI 13022 & CSFI 13023 were free of powdery mildew.
- Seed treatment with Imidacloprid 600FS @5ml/kg seed and foliar spray with Diafenthiuron 50WP @1g/l at 30, 45 and 60DAS was significantly reduces necrosis virus disease incidence to 5 per cent in Sunflower crop.
- Seed treatment with Salicylic acid @ 100ppm + Foliar spray of salicylic acid @100ppm at 30days and 45 days after sowing recorded lowest disease incidence of Alternariaster leaf spot (3.9%) and necrosis virus disease (6.7%) .

e) Nematodes

- Soil application (at sowing) of fluensulfone 2% GR @1 kg a.i./ha was best in reducing the population of root-knot nematode, Meloidogyne graminicola both in soil and roots in transplanted rice and recorded highest yield compared to untreated control. Increased plant growth parameters (plant height, root length, root dry weight and shoot dry weight) were also observed in fluensulfone treated plots.
- Rice nursery bed treatment with Biofor pf-2 @20 g/m2 performed better in reducing the final population of M. graminicola both in soil and roots followed nursery bed treatment with Biotime @20 g/m2 . These treatments also recorded least RKI and maximum yield compared to untreated control.
- In brinjal, reduction in final population of root-knot nematode (*M. incognita*) both in 200 cc soil and 5g root was observed in Bacillus subtilis @ 2.5 kg along with 2.5 tons of FYM/ha treated plots compared to untreated control. It also recorded least RKI, number of egg masses/root system and number of eggs/egg mass with reduced wilt incidence with increased yield compared to other treatments.
- Among different bioagents and organic amendments evaluated for the management of root-knot nematode, *M. incognita* infesting tomato nursery, Bacillus amyloliquefaciens @ 2.5 kg along with 2.5 tons of FYM treated nursery was found best that recorded least final nematode population in soil and root with least RKI, number of egg masses/root system and number of egg s/egg mass.
- Soil application of *B. amyloliquefaciens* @ 1g/sq.m at the time of planting of cucumber under protected condition and 45 DAP was found best in reducing the final population of M. incognita both in 200 cc soil and 5g root. It also recorded least RKI, number of egg masses/plant, number of eggs/egg mass and increased yield compared to other treatments.

3.7.3.2 Entomology

Crops

a) Small Millets

- Geographical mapping of shoot flies was developed based on the collection made throughout India. Studies on morphological identification around 24 species of Atherigona were made whereas larval identification of six species were tried to identify based on hypopharyngeal skeleton and anterior and posterior spiracles.
- New record of shoot fly species complex in Teff and Browntop millet is documented. New description for identification of maggots of Atherigona pulla, A. approximata A. falcata and A. Simplex.

b) Pigeonpea

- Bruchid infestation under AVT-2 trials was lowest in entry 305 while in medium duration varieties entry 703 had least pod damage by different pod bores.
- Spraying of Dinetofuron 20 SG@ 0.3g/l recorded least seed damage (2.81%) and higher yield (2193 kg/ha).

c) Cotton

- Screening of breeding material for resistance to insect pests of cotton: Totally 13 genotypes were screened for their reaction to insect pest complex in two replications, Out of those 1, 6, 5 and 01 genotypes shown jassid injury grade I, II, III and IV respectively.
- Seasonal dynamics to develop suitable forecasting model: Among the sucking pests, the incidence of jassids was started from the first week of July and attended maximum during third week of September (7. 5 jassids / 3 leaves). In general, whiteflies population was not noticed at ETL level during crop period. Thrips was noticed in the early stage of the crop. Maximum population was noticed during the first week of August (7.5 thrips/3 leaves). Aphid population was medium to high during the season. The incidence was started from second week of July and increased thereafter. The peak incidence was recorded during second week of September week and declined afterwards due to heavy rains. Predatory population was also recorded along with pest population as they are density dependent, activity was noticed up to fortnight of November. The population of Helicoverpa armigera, Earies spp and Spodaptera litura was not noticed throughout the season. Pink bollworm moths were trapped from 38th std week and maximum moths were catched during the month of November in both Non Bt and Bt Crops (2.5 to 18.6 and 2.2 to 13.5 moths/trap/week, respectively).
- Management of sucking pests in cotton: Spraying of Spinetoram 11.7 % SC @50 g.a.i /ha was found superior over all other treatments by recording significantly least whitefly population at different spray intervals, followed by Flonicamid 50 % WG. Remaining treatments were also found better in reducing whitefly population as compared to control. Similar results were also observed in thrips population. Leafhopper population was reduced significantly in Flonicamid 50 % WG (75 g.a.i/ha) treated plots, followed by Pyriproxyfen 10 % EC @ 100 g.a.i/ha. Same molecules were found superior in Aphid management also by recording more than 80% reduction in aphid population.

d) Sunflower

- The entries GMU 763, GMU 756 & CMS 207 B were found to be most promising and moderately resistant against leaf hoppers
- Spraying of Emamectin benzoate 5%+ Lufenuran 40% WG @ 60g/ha was found to be highly effective in controlling lepidopteran pests

e) Vertebrate Pest Management

- Maximum 76 LBC/ha with trap index of 26.65 was recorded during the harvesting stage of paddy. In cowpea the highest LBC 51 /ha with 21.85 trap index was recorded where as in ragi the highest LBC and trap index was recorded in harvesting stage of the crop (52 LBC/ha, 23.98). In field bean 49 LBC/ha with 19.65 trap index was recorded in harvesting stages of the crop.
- The highest relative abundance of Indian peafowl (22.56%) was recorded in ragi while rose ringed parakeet was abundant in maize (28.53%) and sunflower (21.60%).

- The highest crop damage of 8.5 per cent with 102.3 kg/ha estimated crop loss was recorded in paddy with dominance of Bandicota benglensis, whereas, in cowpea the dominance of Bandicota benglensis and Mus booduga rodent species leading to crop damage of 6.7 per cent (82.56 kg/ha expected yield loss). In ragi, crop damage of 6.8 per cent was recorded with 98.78 kg/ha expected yield loss and Bandicota benglensis, Tatera indica were the dominant rodent species. In field bean the Bandicota bengalensis and Millardia meltada were the dominant rodent species recording the crop damage of 3.8 per cent (57.6 kg/ha expected yield loss)

f) Soil Arthropod Pests

- Initiated taxonomic studies on the genus Holotrichia Hope, 1837 (Scarabaeidae: Melolonthinae) and prepared a checklist of 83 species from India and Sri Lanka.
- Collected beetles of *Hoplia* sp., a unique melolonthine from south India for the first time.
- Developed biogeography maps for four major white grub species of Karnataka in relation with soil types, rainfall and elevation.
- Developed a weather based model to predict emergence of adult beetles of sugarcane white grub, *H. serrata* in Karnataka.
- Enhanced and supplied the nucleus culture of native fungal bioagent, Beauveria brongniartii (UASBBb16 Isolate) to other AINP-SAP centres to test against major white grubs species.

g) Agril. Acarology

- The total developmental time (from egg to adult) of *O. biharensis* across different temperature conditions ranged from 7.23 to 10.05 days & 5.92 to 10.03 days for male on Cassia fistula
- Oligonychus tylus had the total developmental time of 6.10 to 10.15 days on Banana and 6.58 to 11.91 days on Maize for male and 6.49 to 10.36 days on Banana & 6.79 to 11.81 days on Maize for female across three different temperature conditions. O. tylus would be a more potential pest of Maize in course of time with climate-change situations.
- Tetranychus fijiensis was originally collected from Citrus species (Citrus reticulata) from Chettalli region of Kodagu district. Developmental time of T. fijiensis on Citrus across three different temperature was 10.62 to 14.96 days and 8.70 to 13.62 days for female and male, respectively. While, the developmental time of female was 9.01 to 11.92 days and of male was 8.16 to 11.04 days on Papaya across different temperatures.

3.7.4 Horticulture

- The variety 'Presence' (Anthurium)had performed better (Flower stalk girth 18.2 mm, Spathe length: 6.72cm, 7.80cm and 9.43cm at 90, 120 and 150 DAP) under shade net for yield and quality cut flower production for Bangalore condition.
- Application of 0.4 ppm Zinc and 0.4 ppm Boron enhanced the post harvest life cycle (Spadix discoloration: 26.5 days) and produced maximum number of flowers (6.94 flowers /plant & 62.46 flower/m2).
- Standardized the post-harvest processing and product formulations of medicinal and aromatic plants viz., Stevia, Tuberose oil, Cinnamon, Tulsi, Kokum, Amla, Rosemary, Lavender, Turmeric, Ginger, Tamarind, Lemongrass, Citronella, Sage, Thyme oil extraction, Henna, Pepper, Longpepper, Madhunashini, Insulin, Ashwagandha, Brahmi, Bilwa, Noni, Aloevera, Mints, Basale, Chakramuni, Sandal seed fatty acids, Amaranthus seed oil, Ylangylang oil, Turmeric, Champaka, Pomelo oil, Soyabean oil, Kalounji oil, Flax seeds oil extraction, Jasmine oil extraction, Amlasquash, Amla juice, Amla Ginger-lemon squash, Kokum

squash, Jamun squash, Herbal face packs, Herbal teas like Raw sugar tea, Ginger tea, Dash moola tea, Spear mint tea, Herbal hair pack, Handmade soaps with natural aroma, Organic lip balm, Aromatic skin care creams, Aromatic candles, Herbal hair oils (Amla, Mustard, Curry leaves, coconut, castor, Tulasi and Bhringaraja oil).

- Centre for Advanced Agricultural Science and Technology - Horticulture: The rain water was harvested from roof area of 1200 Sqm from polyhouses (6 Polyhouses of area 200sqm) and collected in a storage tank capacity of 3 lakh liters water. 15,55,646 liters of rain water was collected from Oct-2019 to Jan-2021. 2,99,194 liters of collected rain water was utilized for Dolichos bean and 9,16,500 liters of water was utilized for Capsicum crop cultivation. Polyhouse of 1500 sqm was constructed and demonstrated protected cultivation of papaya and banana during Krishimela 2021-22 and earned total income of Rs. 2,21,556/-. Polyhouse of 200 sqm was constructed and demonstrated the protected cultivation of flower crops like chrysanthemum and exotic vegetables in the demo block during the Kishimela 2021-22. Strengthened and repaired the existing shadenet of 1000 sqm.

3.7.5 Inland Fisheries Unit

- The 100% planting of Palak & Lettuce plants has shown the max. Average yield both in Spinach (173 gm) and Lettuce (58 gms) per 3 verticle tubes. The total fish yield from the 20 m2 farm pond was 17.43 kgs (8717 kgs /ha.) in 202 days of culture

  Foliar spray of 125% of the Recommended dosage (5gm / lit.) of vegetable special to spinach has given max. average yield of 165 gms/ 35 net pots. The Koi carps attained marketable size in cement pond and could yield 1.026 kgs/ 3.52m2 / 180 days with 70.31 % survival. Total revenue Rs. 7200/- can be obtained from Koi carp rearing.

- Effect of foliar nutrient spray on the growth performance of Lettuce in floating raft Aquaponics systemindicated that, among the different levels of foliar nutrient spray (vegetable special) given to improve the growth of lettuce, > 25% Recommended Dosage has shown max. growth with average yield of 252.4 gm. /floating raft (26 net pots).The total fish yield from the cement pond was 2.620 kgs /6.02 m2pond (4346 kgs / ha.) with 63.5% survival in 152 days of fish culture

3.7.6 Food and Nutrition

- Production of plant based milk as functional beverages: The Corn milk was developed in different proportion of adding water to the Maize milk and ratio comprising of 1:18 was acceptable by the sensory evaluation panelists.Similarly the ratio comprising of 1:15 was acceptable for maize curd by the sensory evaluation panelists.

- Development of Corn tea-an herbal infusion to boost immunity: Corn tea was developed using lemon juice, sugar, dehydrated Silk powder, Green tea powder, ginger powder, mint leaves and lemon grass. The developed Corn tea was acceptable by the Sensory evaluation panelists. Nutrition composition of corn tea contains Protein (3.15±0.05g), fiber (3.20±0.10g) and zinc (5.08±0.0174mg).

- Valorization of mango peel and seed kernel for food product and poultry feed: Maximum yield (14.23 %) was obtained for C-9 combination (1:20 sample to solution ratio and 6 hours of precipitation time).Colour, moisture, ash and pH ranged from L* 35.24 to 47.20, a* 3.80 to 6.57, b*11.36 to 15.53, 8.48 to 13.93 per cent, 0.12 to 0.33 and 2.24 to 3.24 respectively. Solubility, swelling index, water absorption and bulk density ranged from 49.74 to 72.27 per cent, 2.89 to 5.22g/g, 3.21 to 6.82 ml/g and 1.06 to 1.59 g/cm3. Degree of esterification, equivalent weight, methoxyl content and total anhydrouronic acid ranged from 83.37 to88.98 per cent, 960.5 to 831, 3.83 to 5.28 per cent and 52.30 to 40.5. Jam with extracted pectin (2g/100g pulp) had higher sensory scores than that with commercial pectin. Hence, mango peel can be used to extract pectin in commercial level as it showed better quality parameters than pectin available in the market.

- Assessment of starch digestibility and glycemic index of traditional Rajmudi Vs Sonamasoori rice varieties: The thousand grain weight, volume, bulk density and length-breadth (L/B) ratio varied between 11.67-12.65 g, 58.00 - 63.33 ml, 0.79 -0.89 g/ml and 3.74 -4.22 mm, respectively, between the two varieties. Thousand grain weight (12.65 g) and volume (63.33 ml) were found higher in un polished Rajmudi rice. Similarly, minimum cooking time, water uptake ratio, dispersed solids, and elongation ratio varied in a narrow range of 34.00-38.66 min, 3.00-3.18, 0.18-0.42 and 1.49-1.57 per cent, respectively in rice varieties. However, moisture, protein, fat, dietary fiber, ash, carbohydrate and zinc contents were within the rages of 12.89-12.91, 6.61-6.73, 0.61-0.63, 1.44-1.69, 0.64-0.66, 79.07-79.25 per cent and 9.04- 10.08 mg/kg respectively. Protein (6.73 %) Dietary fiber (1.61 %), Ash (0.66 %) and Amylose (16.46 %) were found higher in Rajmudi rice variety. Thus Rajmudi rice in comparison with most commonly consumed sonamasoori rice will help for consumers to make healthier choice of rice for daily consumption without any compromise.

- Nutrition Smart Village: AICRP on women in agriculture, UAS, Bangalore has selected 5 villages belonging to Shidlaghatta taluk of Chickballapur district viz., Bodaguru, Basavapattana, Yennanguru, Hosapete and Thippenahalli for implementation of nutrition smart village. Intensive awareness campaign and field activities are undertaken for focusing the concept of nutri-village, nutri-food, nutri-diet, nutri-thali etc. for strengthening the Poshan Abhiyan.

- Dietary diversification, nutritional status and lifestyle patterns among lower middle-class households in rural-urban interface of Bangalore: Preliminary findings revealed that, in northern transect, underweight among preschool children was 12 per cent and stunting was 14 per cent. Irrespective of gender, 16.0 per cent of preschool children were underweight, 4 per cent of them were stunted and 8 per cent of them were overweight in southern transect. Prevalence of overweight and obesity was more among men compared to women according to anthropometric indices. Data assessment of other aspects surveyed among rural households and survey of transition households is under progress.

- Extraction, Value Addition & Utilization of Sunflower Ear Head: Hot water blanching for 5 minutes at 80-85^{0}C followed by immediate cooling enhances the procedure by extracting color rich pectin. 1: 30 (solid : solvent ratio) with 115 minutes soaking time in 0.05 % H2So4 resulted into ~10 % crude pectin yield. Among the four varieties tested (KBSH-41, KBSH-44, KBSH-53, KBSH-78), the variety KBSH-53 possess significantly higher crude pectin yield (10.77 %).

- Protein concentrate was extracted from defatted sunflower meal by alkali extraction method. Optimum extraction was achieved by extracting the meal at pH-9, NaCl % -9 and Meal % -10. The yield of protein isolate from defatted oilcake was 32.14%.

- Development of value-added probiotic products from minor millets: foxtail millet and little millet mixes developed are good source of protein (19.53 g and 18.65 g), crude fibre (3.45 g and 3.41 g) and calcium (58.75 mg and 57.45 mg), iron (2.56 mg and 2.35 mg) and zinc (1.56 mg and 1.49 mg/100 g respectively). The developed mixes can be stored upto 6 months without any spoilage. Probiotication with Lactobacillus acidophillus and Saccharomyces boulardii had good vialble count in both the mixes and can be stored upto one month. These two probioticated mixes have very good antioxidant activity and consumer acceptance. Serving size of 5-10gm of mix in 100 ml water with or with out honey is recommended. It costs less than Rs. 1/ per serving.

- Value added products from super food - chia and quinoa seed: Value added products such as quinoa flavoured milk, quinoa nachos, quinoa complementary food, quinoa flakes, chewy honey chia candy, chia frozen cake, chia energy bar and chia cracker were developed and analyzed for proximate, minerals and shelf life. Standardized the protocol for quinoa flakes and assessed glycemic index, The study showed low glycemic index (54) for quinoa flakes. Clinical trials are in progress.

3.7.7 Agricultural Economics

- Economics of irrigation in conjunctive use areas, cost of ground water irrigation and energy costs for pumping ground water were estimated and recommenadtions for policy formulation is submitted to the institute ICAR-IIWM, Bhubaneshwar for further action
- Food and Nutrition Security at Different Stages of Urbanization: Virtual Institutional Ethical Committee meeting was conducted on 28.07.2021 by the Institutional Ethical Committee (UASB), wherein the objectives and methodology of the present project was presented. The project has been approved by the Institutional Ethical Committee (UASB) on 08-09-2021 for collecting anthropometric data. The schedule was developed to analyse food consumption pattern, food and nutritional security, changing lifestyles, employment opportunities, access to irrigation and migration, nutritional status of women and adolescent girls, to assess the diversity in production and commercialization in agriculture etc., After data collection, gaps in the data were identified through examination of raw data.The data analysis is in progress.

3.7.8 Centre of Excellence for Nutri-Cereals

- The farmers, farmwomen, entrepreneurs, wholesale dealers, retailers, start-up companies, incubates of agri-innovation centre, consumers and other stakeholders in value chain of millets have been utilising the small millet incubation facility available at the centre. The centre has processed 2,502 Kgs of millets during the financial year 2021-22 and earned amount of Rs.13,010.
- Developing different value-added products from small millet namely, Instant Dosa Mixes, Instant Idli Mixes and Puliogare Mixes etc… are under progress

3.7.9 Post Harvest Engineering and Technology

- Fabrication of tamarind defibring machine has been completed. It is a trommel type machine having cylindrical drum with square mesh perforations. Performance is being evaluated.
- Designed and developed a hot-air puffing machine suitable for ragi and other small millets; The machine was specially designed for the use of SHGs and Small / Cottage Industry who make value added products from puffed small millets. Application for patent filing for the invention is under process.
- Protein purification was carried out through protein precipitation technique. Quantification of protein content from sunflower de-oiled cake procured from different oil mills. The highest protein content was recorded in Vijaya mill sample around 40.51+ 8.26%. Partially purified protein was subjected to SDC polyacrylamide gel electrophoresis separation. Two groups of proteins having high molecular weight and low molecular weight were identified as 11S globulins (Helianthinin) and 2S albumins in the ratio of 2:1.
- Process protocols for extraction of pectin from sunflower ear-head waste has been developed. The extracted pectin had gelling grade value of about 84 and was found to be suitable for the use in jam making as a gelling agent.
- Different trails on standardization of popping of quinoa grains and preparation of ready-to-eat (RTE) products from popped quinoa grains is under progress. Standardization of quinoa based ready-to-cook (RTC) products with incorporation of other ingredients is under progress. Boiling, soaking and steaming trials of dhal and quinoa with different soaking time, par boiling time for the preparation of Ready to cook (RTC) mixes are under progress. Dehydration trails of vegetables for the preparation of RTC mixes is under progress.
- Dehulling trials of Buck Wheat in different machines (Centrifugal dehuller. Provinder mill, rubber Roll Sheller and Victor millet dehuller) were conducted. Designing of dehuller for Buck Wheat is under Progress.

3.7.10 Bioenergy Research and Quality Assurance Laboratory

- Quality analysis of nearly 360 samples from 52 different sources which includes 302 nos. student research samples of UAS, Bangalore and other colleges in and around Karnataka which includes biofuels, essential oils, bio oils, plant extracts etc., 24 nos. research samples from institutions like CIIRC, CPRI and IWST have been tested. A total of 5 nos. biodiesel samples from BRIDC & Biofuel Park, Madenur Hassan and 29 nos biofuel & other research samples from entrepreneurs have been carried out. NABL accreditation of the Laboratory is under progress
- Advanced Center for Bioenergy Research has been established under CSR Funds from Hindustan Aeronautics Limited. The center is equipped with advanced instruments such as FTIR, HPLC, GC with gas sampling. A training center is also established for training students, farmers etc. under the program. The Centre shall take up research work on Bioenergy; develop improved technology, materials, machinery, process, designs and techniques for promoting the manufacturing & adoption of biofuels. To disseminate the knowledge and technology to farmers on wider scale by training the grass root level workers & officers of concerned state departments
- Mini Vegetable oil Extraction machine and Pongamia Pod decorticator has been developed and 10 Nos. Mini vegetable oil extraction machines and 8 nos. Pongamia Pod decorticators have been distributed to Farmers self- help groups at Hassan District under Young Scientist Project, SEED Division, Department of Science and Technology, Government of India.

3.7.11 Biofuel Park Project

- 34 on campus Training programs were conducted to farmers and students of Hassan district at Madenur center and 120 Awareness programs on biofuel plant species was held at villages of Hassan district. FPO named Kriushikadu farmers producer company with around 500 share holders was registered at Arasikere in collaboration with NABARD, Hassan and IDF Ltd Tumkur an NGO. 2654 seedlings of bio-fuel crop species (Honge, Hippe, Neem and Simarouba) were planted in 60.1- acres (bunds, margins, waste lands, ravines, community lands etc.). About 1108 farmers and interested people participated in the program with around 50% accounting for women participants.
- Production of Biodiesel from Cooked vegetable oil is initiated and 200 liters of Biodiesel is produced and sold.
- 7 tons of pongamia and 3 tons of neem seeds were procured and 1081 liters of pongamia Biodiesel, 300 liters of Neem oil & 5 tons of oil cake was sold in the reporting year.

3.7.12 Popularization of Biofertilizers and Quality Control Laboratory

- Fouteen tonnes of carrier based biofertilizers and 9378 litres of Liquid bio-inoculants were producred and sold to farmers under "Revolving Fund on Biofertilizers" realizing an income of Rs.30.41 lakhs.
- 306 samples received from 45 commercial biofertilizer companies were analyzed for quality parameters and generated income of Rs. 4.85 lakhs

3.7.13 Seed production- An overview

- AICRP on Seed (Crops) of UAS, Bangalore has under taken breeder and quality seed production in an area of 995.81 ha during 2021-22 in different crop varieties. The breeder seed production has been organized to produce 993.76 quintals as against the indent of 868.59 quintals from the Department of Agriculture, Co-operation and Farmers Welfare (DAC&FW), GOI, GOK and private agencies. Quality seed production programme was also been implemented in an area of 560.82 ha during kharif 2021expecting seed yield of

Table 33 : Breeder Seeds and Quality Seeds Produced during 2021-22 (in quintals)

Sl.No	Crop	Breeder Seeds (q)	Quality Seeds (q)	Total (q)
1.	Cereals	110.55	9724.00	9834.55
2.	Pulses	42.49	740.56	783.05
3.	Oilseeds	840.72	1029.91	1870.63
4.	Other Crops	-	28.70	28.70
	Total	**993.76**	**11523.17**	**12516.93**

7430.32 quintals. Besides, during rabi/summer, seed production programme of around 226.3 ha has also been organized with an anticipated yield of 4093 quintals. Hence, the total quantity of quality seed expected from the programme would be 11523 quintals during 2021-22.

3.8 Indian Council for Agriculture Research-Centre for Advanced Agricultural Science & Technology (CAAST)

India may be at a crossroads in terms of food and nutrient protection following the green revolution. This necessitates the expansion of agricultural productivity through the use of modern technologies and techniques. To maintain yield levels in major crops, the use of precision breeding tools for trait enhancement, models to predict pest and disease outbreaks for successful management, seed microbiome enrichment technologies for mitigating biotic and abiotic stresses, biosensors for crop cultivation performance and judicious natural resource management, among other things, are needed. Based on the existing strengths and research leads, a program on Next Generation Technologies (NGT) in Adaptive Agriculture (AA) in four specific areas has been initiated at the University of Agricultural Sciences, Bangalore (UAS-B) under the Centre for Advance Agriculture Science and Technology (CAAST) scheme of the National Agricultural Higher Education Project (NAHEP) of the Indian Council of Agricultural Research (ICAR). There are four objectives in this program, which include research component, skill development, training and demonstrations and strengthening infra-structure for post-graduate programmes of the UAS-B.

Highlights of Significant Achievements of CAAST

3.8.1 Research

Reduced runoff farming practices for soil moisture distress in Eastern dry zone of Karnataka : Experiments have been carried out with the aim of harvesting runoff water from the micro-watershed and greenhouses for a various application. In various catchment areas, main crops such as French bean, Finger millet; Pigeon pea + Field bean (1:1); Pigeon pea + Field bean (8:2); Kitchen garden (Beans, Chilli, Green pepper, Brinjal, Ridge gourd, Radish, Tomato, Curry leaf, and Drumstick); and annual mixed fruit crops (Pumelos + Guava) were grown. During moisture tension, the water stored in farm ponds is used as preventive irrigation, which has increased crop yield by 20-30 per cent.

Development of value-added products from Kodo Millet : Developed value added products from kodo millet and analysed their nutritional quality and shelf life. Some of the products prepared from kodomillet are Kodo khakhra, Kodo Masala Khakhra, KodoIdli Mix,KodoDosa Mix, KodoPulav Mix, Upma Mix, Roti Mix, Kodo and khoa based barfi and Gulab jamun.

Precision crop breeding: Development and validation of newly designed SSR markers in different crops

Developed and validated 550 SSRs (genomic and EST) using whole genome sequence of Eleucine coracana and E. indica species and also from the EST sequence from NCBI database. Genomic potential of developed

markers was assessed using 38 cultivated species and 8 wild species of Eleusine. A total of 619 SSR markers have been validated on 96 genotypes & 413 polymorphic SSR markers identified in Dolichos bean. A core set of 32 SSR markers that capture maximum genetic diversity as could be captured using complete set (413) of markers was identified. Over 55 per cent of the dolichos bean markers were transferable to horsegram. Two cycles of backcrosses to introgress blast disease resistance genes (pi9 and pi54) to promising quality rice genotype KMP 149 with foreground and background selection completed. One cycle of backcross to introgress LLS resistance conferring QTL to popular variety of TMV-2 Groundnut with foreground and background selection completed. Two cycles of backcrosses to introgress LWD resistance conferring QTL to NAI 137, seed-parent of hybrid Maize Hema with foreground and background selection completed.

Endophyte-enabled seed bio-priming: Over 300 endophytes isolated from plants adapted to extreme habitats have been characterized and endophyte library specially adapted for abiotic stress tolerance has been established. Endophytic fungi capable of imparting salinity and drought stress tolerance to both field and horticultural crops have been identified. The select endophytes improved seedling growth and imparted abiotic stress tolerance in rice, tomato, chilli and maize.

Forecasting pest and disease outbreaks for effective management

With respect to riec blast, we developed a Logistic regression model (accuracy=0.85) and Decision tree models (accuracy=0.96) from the 2017-2019 data, further models were validated using the 2020 data. With the help of models developed from the available data weather advisories have been given to 30 farmers in Mandya district to take up the management practices for the blast disease through WhatsApp group. With respect to Pigeon pea pod borer, a multiple regression analysis equation for pod borer larval population dynamics was developed. The lead time concept was used to identify major weather factors contributing to pigeon pea pod borer complex severity. Stepwise regression analysis equation for pod borer larval population dynamics (Y) = 2.569+(-0.351xTmin) +(0.908xTmax) +(-0.212xRH-I) +(- 0.109xRH-II) +(1.465xWS) with R2 value of 0.496 was built, further advanced analytical models will be taken up to improvise the prediction model. Grape Downy mildew for stepwise regression model and further enhanced with the machine and deep learning techniques like Logistic regression and Decision tree with accuracy of 85 per cent. Mechanistic models related to prediction of infection have been developed in collaborations with School of Agricultural, Food and Environmental Sciences, Piacenza, Italy.

3.8.2. Human resource development

Due to COVID-19 restriction international student and faculty training has been deferred for few faculties. However, nine of the faculty have completed their training at international organisation/institutes and four students have undergone international training.

3.8.3. Demonstration and Deployment

- Comprehensive Reduced Runoff Farming (RRF) facility for livelihood of climatic distressed dry lands is demonstrated at UAS, Bangalore at GKVK campus (Dryland and department of Horticulture)
- Roof top water harvesting storage tank is installed with capacity of 10,53,000 litre
- Web portal - NGT Forewarning Pest and Diseases and Android App (Agricultural Pest Prediction and Advisory - APPA) has been deployed

3.8.4 Strengthening infrastructure facilities

With the generous support from the Indian Council of Agricultural Research (ICAR), the University established one dedicated Common Laboratory Facility (CLF) with basic equipment and working facility to carryout common research activities in the South Block of the GKVK Campus. The University under the aegis of the Centre for

Advanced Agricultural Sciences and Technology (CAAST) program of the National Agricultural Higher Education Project (NAHEP) established a Central Instrumentation Facility (CIF) in the North Block of the GKVK campus. With the high-end scientific instrument, the CIF will further contribute to pursuing research in many areas of modern science and technology and development of the quality human resource, and thus help the University to keep pace internationally.

3.9 Tribal Sub Plan / Scheduled Caste Sub Plan

Following important activities were organised under Tribal Sub Plan and Scheduled caste sub plan implemented by various units of the University.

- AICRP on Dryland Agriculture organized demonstration and distribution of inputs and fertilizers under Scheduled caste sub plan program on 16th June, 2021 at C. Hosahalli, Mulabagal Taluk of Kolar district. In this program seeds viz., Finger millet, cowpea, fieldbean and fodder maize (SA tall) were distributed to 60 (46 men and 14 womenn) beneficiary farmers. AICRP on Dryland Agriculture-NICRA organized demonstration and distribution of inputs and fertilizers under Scheduled caste sub plan program on 16th June, 2021 at D. Hosahalli, Mulabagal Taluk of Kolar district. In this program seeds viz., Finger millet, pigeonpea, cowpea, fieldbean and horsegram were distributed to 55 (47 men and 8 women) beneficiary farmers. AICRP on Dryland Agriculture organized demonstration and distribution of inputs and fertilizers under Scheduled caste sub plan program on 22nd July, 2021 at Malliyappanahalli, Kolar Taluk and District. In this program seeds of viz., Finger millet, cowpea, fieldbean and fodder maize(SA tall) and Horse gram were distributed to 24 (21 men and 3 women) beneficiary farmers. The centre also organized demonstration and distribution of inputs and fertilizers under Scheduled caste sub plan program on 22nd July, 2021 at D. Hosahalli, Mulabagal Taluk of Kolar district. In this program vegetable seeds viz., French beans, Okra, Ridge guard, Cucumber, Bottle guard and Chilli were distributed to 8 (6 men and 2 women) beneficiary farmers. The AICRP organized distribution of cow mats and milk cans under SCSDP program on 23rd December, 2021 at Malliyappanahalli, Kolar Taluk and District to 17 (11 Men & 6 Women) beneficiary farmers.

- AICRP on Long Term Fertilizers Experiments, organized distribution of agricultural inputs and training programme on Integrated Nutrient Management practices and soil test based fertilizers recommendation in enhancing productivity of crops at Jagaravalli village of Shanthigrama Hobli in Hassan District on 12th,July, 2021 under Scheduled Tribe Component (STC) programme and distributed soil health cards, fertilizers (Urea, 15:15:15, ZnSO4 and Lime) and improved Ragi variety seeds of GPU-66. Totally 86 farmers (63 men and 23 women) were benefitted under this programme.

- AICRP on Agroforestry organized training programme on Bund and Boundary Plantation and Distribution of Seedlings & other agricultural inputs to Scheduled Tribes under Tribal Sub Plan on 15th July, 2021 at Puttaparti village, Bagepalli tq, Chikkaballapura district. In this programme seedlings viz.,Silver oak, Melia dubia, Mahagony, Horticulture seedlings: Lemon, Mango, Cashew and Coconut and agricultural implements viz., sickle, basin and Spade were distributed to 100 (70 men and 30 women) tribal beneficiaries. AICRP on Agroforestry organized Training programme on Bund and Boundary Plantation and Distribution of Seedlings & Other Agricultural Inputs to Scheduled Caste under Schedule Caste Sub Plan programme on 20th,July,2021 at Muddalapalli village, Bagepalli tq, Chikkaballapura dist.

- AICRP on Seed Technology organized Tribal Sub Plan programme at Saddupalli and Charlepalli villages, Bagepalli of taluk, Chikkaballapur district on 15th July, 2021. About 119 tribal beneficiaries were identified and distributed 60 kg groundnut, 5 kg ragi, 5 kg of field bean, 2 kg redgram and 2 kg beans seeds were distributed and training programme was organized to disseminate the use of improved varieties seeds to harvest the maximum crop yield. AICRP on Seed Technology also organized Schedule Caste Sub Plan programme at Muddalapalli villages, Bagepalli of taluk, Chikkaballapur district on 20th July 2021. About 59 scheduled caste beneficiaries were identified and distributed 10 kg ragi, 2 kg of field bean, 2 kg redgram and

1 kg beans. Training programme was organized to disseminate the use of improved varieties seeds to harvest the maximum crop yield.

- AICRP on Agrometeorology (NICRA) distributed seeds of field crops, seedlings of plantation crops implements and plant protection chemicals under Schedule Caste Sub Plan (SC-SP) program at Huchahunumegowdana Palya, Janatha colony, Magadi Taluk, Ramanagara District on 16th July 2021. AICRP on Agrometeorology - NICRA, created Awareness about Agrometeorology advisory services and distributed Seedlings of plantation crops (52), Microbial consortia (50) and Aluminum seeds storage bins (26) under Schedule Caste Sub Plan program at Huchahunume gowdana Palya, Janatha colony, Magadi Taluk, Ramanagara District on 4th September 2021. The AICRP on Agrometeorology-NICRA, organised Awareness about Agrometeorology advisory services cum input distribution programme under Scheduled Cast Sub Plan (SCSP) on 29th December 2021 at Janatha Calony, near Huchahunamegowdana Palya village, Magadi taluk, Ramanagara district. 80 Scheduled Caste beneficiaries in the village were grouped into agriculture crop producers (20 No.), dairy farmers (35 No.) and landless labourers (25 No.). Intending to support the livelihood of these SCSP farmers, distributed cow mats and milk cans (35) to dairy farmers, Spade and Pickaxe(35) and 4 weeks old Swarnadhara chicks(25) to beneficiaries. The AICRP on Agrometeorology organised input distribution programme under Scheduled Cast Sub Plan (SCSP) on 29th December 2021 at Janatha Calony, near Huchahunamegowdana Palya village, Magadi taluk, Ramanagar district.

- AICRP on Long Term Fertilizers Experiments, organized Training program on importance of soil testing and Integrated nutrient management for different crops and distribution of fertilizers for Groundnut crop, Maize hybrid seeds (MAH-14-5) and Zinc Sulphate micronutrient fertilizer to 59 Schedule tribe (44 men and 15 women) beneficiaries at Sreenivasapur, Bagepalli taluk of Chikkaballapur District on 22nd July, 2021 under Scheduled Tribe Component (STC) programme

- Skill Development Centre, AICRP on Honey Bees and Pollinators, GKVK, Bengaluru, Department of Apiculture and KVK, Chintamani jointly organized two days beekeeping training programme entitled 'Empowerment of schedule tribe farmers through scientific beekeeping approaches in selected districts of Karnataka' under Tribal Sub Plan/ Scheduled Tribe Component (TSP/STC) programme from 3-4 August, 2021 at Krishi Vignana Kendra, Chintamani, Chikkaballapura district. Skill Development Centre, AICRP on Honey Bees and Pollinators, GKVK, Bengaluru, and Department of Apiculture, GKVK jointly organized two days beekeeping training programme entitled 'Empowerment of schedule tribe farmers through scientific beekeeping approaches in selected districts of Karnataka' under Tribal Sub Plan/ Scheduled Tribe Component (TSP/STC) programme from 10-11th, August, 2021 at Ranga samudra, Pavgada, Tumkur district. Beekeeping training programme was organized by AICRP on Honey Bees and Pollinators on 19th November, 2021 under Tribal Sub Plan at Rangasamudra, Pavagada tq, Tumakuru. Beekeeping equipments Bee box, bee colony, stand, wax sheet, bee suit and Honey PET bottles with labels were distributed to 44 beneficiaries (38 Men & 6 Women).

- AICRP on forage crops and utilization, in collaboration with Samatha Peoples Education for Development Society (NGO), Mysore and Krishi Vigyan Kendra, Chamarajanagara organised training programme on fodder crop production technologies and distribution of fodder seeds along with agricultural implements under Tribal Sub Plan programme at Bavikere, Bovi colony, Saragur taluk, Mysore district on 12th, August, 2021. Under the programme 65 families were selected and distributed seeds of three fodder crops viz., african tall, multicut soghum variety (CoFS 29) and hedge lucerne (Co-1), sickles and plastic trays.

- AICRP on Maize, ZARS, V.C. Farm, Mandya organised a training programme on "Improved maize production technologies and Value addition" under Schedule Caste Sub Plan programme on 12th August, 2021 at Chakkodanahalli of H.D. Kote taluk, Mysore District wherein 52 scheduled caste farmers (Beneficiaries) were distributed inputs like MAH-14-5 Maize seeds, sickle, kurfi, chakkalihollu and a Knap sack sprayer.

Similar programme was organsied on 14th, August, 2021 at Bachanahalli Village, Malavalli taluk, Mandya dist. 42 Scheduled Caste farmers (Beneficiaries) were distributed inputs like MAH-14-5 Maize seeds, sickle, kurfi, chakkalihollu and a Knap sack sprayer (to the group). Again the same programme was organized on 24th, August, 2021 at Garugadoddi Village, Koratageretaluk, Tumakuru district wherein 30 Scheduled Caste farmers (Beneficiaries) were distributed inputs like MAH-14-5 Maize seeds, sickle, kurfi, chakkalihollu and a Knap sack sprayer (to the group). Improved maize production technologies and Value addition" programme was organized on 25th, August, 2021 at Mittemari Village, Bagepalli taluk, Kolar district to 25 Scheduled Caste farmers. The centre organised similar programme on 6th,Sep.,2021 at Lokanahalli, Hunasepalya and Parasegowdanahalli villages of Chamarajanagara district.

- AICRP on Plant parasitic nematodes organized Training program on diseases and nematodes on vegetable crops and agricultural inputs (Knap sack sprayers) distribution under TSP at Arekaduvinadoddi of Hanur taluk, Chamarajanagara District on 25 of August 2021 to 66 tribal families (54men and 12 women).

- AINP on Vertebrate Pest Management organized Training program on Vertebrate pest management and agricultural inputs (wonder traps, storage containers, sickle, plastic tub, pickaxe, and baiting materials) distribution under TSP at Arekaduvinadoddi of Hanur taluk, Chamarajanagara District on 25&26 of August, 2021. 66 tribal families were benefited.

- National Seed Project (Crops), University of Agricultural Sciences, Bangalore in collaboration with Hybrid Rice Project, VC Farm, Mandya jointly organised training cum seed distribution programme under tribal sub plan on 7th September 2021 to 50 tribal farmers at Hanumanthanagra village, Heggadadevankote taluk, Mysore district. Distributed each beneficiary with 15 kgs of new paddy var. MSN-99 and 1 kg of French bean variety Arka Arjun to 50 tribal farmers during the programme. National Seed Project (Crops) organized Training-Cum-Distribution of Seeds under tribal Sub Plan programme at tribal rehabilitation centre, Sollepura village, H. D. Kote taluk, Mysore district on 15th December, 2021 for 100 tribal beneficiaries. Twenty five kgs of Bengal gram, 5 kgs of ragi, 10 kgs of horse gram, one tarpaulin, one sickle and one varwari was distributed to all the selected beneficiaries.

- Under Schedule Caste Sub Plan programme training programmes on Integrated Crop Management in Bengal gram, Integrated Pest Management in Bengal gram and Importance of seed treatment was organized by AICRP on Cotton on 15th September, 2021 at Annuru village of Gundlupet taluk, Chamarajanagara district. Bio-agents: Trichoderma, and Microbial Consortia were distributed to 100 (80 men and 20 women) beneficiaries.

- AICRP on Small Millets, V.C. Farm, Mandya organized Training program on Introduction of improved varieties of Finger Millet and distribution of agricultural inputs (5 Kg Ragi seeds, 50 Kg fertilizer, 1 Kg Weedicide powder to 70 Tribes, seed drill to 10 tribes and Cycle weeder to 5 Tribes), under TSP at Saraguru Village, Vaderahalli on 13th October, 2021, 85 tribal families were benefited. The AICRP organized training programme to FLD farmers on Improved cultivation practices of Finger Millet on 17th December, 2021 at Upakara colony, Gundlupet taluk, Mysore District wherein 50 men and 30 women attended the programme.

- AICRP for Weed Management organized awareness programme on Weeding implements and demonstrated at Hunsepalya, Arepalya, P.G. Palya, Byluru, Hosapalya, Hanur Taluk, Chamrajanagar district under Scheduled caste sub plan program on 27th December, 2021. Implements Spade-102, Basin-102, Guddali-102, Sickle (Big)-102, Sickle (Small)-102, Sprayer-13 and Cycle Weeder-20 were distributed to 102 (69 Men & 33 Women) beneficiary farmers. The AICRP organized awareness programme on Weeding implements and demonstrated at Ardanaripura, Hanur Taluk, Chamrajanagar district under Tribal sub plan program on 27th December, 2021. Implements Spade-102, Basin-102, Guddali-102, Sickle (Big)-102, Sickle (Small)-102, Sprayer-13 and Cycle Weeder-20 were distributed to 102 (69 Men & 33 Women) beneficiary farmers.

- Training programme cum distribution of Tarpaulin & Grain Amaranth seeds for 100 selected scheduled tribal farmers of Banda halli & Changavadi village, Hanur Taluk, Chamarajanagara District was organized by AICRN on Potential Crops under Tribal Sub Plan programme on 21.01.2022 at community hall Bandahalli village.
- All India Co-Ordinated Research Project on Nematodes under Tribal Sub Plan activity distributed the inputs viz., Blade Koluguddali (Big), Kolu Guddali (Small), Spade (Tata), Hand Hoe, Hand Panja, Traveller, Sickle, Kurpa, Weeder and Plastic Pressure Sprayer (2 Lts) to 35 tribal farmers at Ramakal Palya, Magadi taluk, Ramanagar district on 09.02.2022.

Chapter IV

4. Agricultural Extension Education & Services

The University of Agricultural Sciences, Bangalore is performing three prime activities viz., teaching, research and extension. The Directorate of Extension is vested with the responsibility to carry out the extension services in 10 districts of Southern Karnataka viz., Bengaluru Rural, Bengaluru Urban, Ramanagara, Mandya, Kolar, Chikkaballapur, Hassan, Tumakuru, Chamarajanagar and Mysuru.

4.1 Mandates

a) The extension education programmes shall ensure technology assessment and refinement and facilitate adoption of technologies by farmers and others for accelerated agricultural growth. It shall conduct demonstrations and training programmes for the benefit of farmers and other stake holders. Directorate of Extension shall Co-ordinate with different units of the University and other appropriate agencies of the centre and the state.

b) The University shall be responsible for developing suitable models of Agricultural Extension in the state

4.2 Objectives

The University Extension Service has three fold objectives:

a) To provide new, dependable, profitable, socially acceptable, ecologically sustainable and timely information to the farmers

b) To provide feedback on the adoption of new technologies by the farmers to research system in order to examine the problems in adoption and modify/re-orient the technologies, if any and

c) To device ways and means for improving the quality and effectiveness of extension work.

4.3 Functions

In order to accomplish the above stated objectives, the Directorate of Extension is carrying out the following functions:

a) Serving as the primary source of agricultural information to the field extension functionaries and farmers.

b) Rendering advisory services to field extension functionaries and farming community.

c) Conducting farm trials on new research findings and organise front line demonstrations.

d) Organizing training programmes to extension professionals and farmers on latest farm technologies and

e) To stimulate research and impart teaching.

4.4 Units of Directorate of Extension

- Staff Training Unit (STU)
- State Agricultural Management and Extension Training Institute (SAMETI)
- Bakery Training Unit (BTU)
- Farmers Training Institute (FTI)
- Farm Information Unit (FIU)
- Distance Education Unit (DEU)

- Agricultural Technology Information Centre (ATIC)
- Agricultural Sciences Museum (ASM)
- Extension Education Units (EEUs) ; and
- National Agriculture Extension Project (NAEP)
- Krishi Vigyan Kendra (KVKs)

4.4.1 Staff Training Unit (STU)

The mandates of the Staff Training Unit (STU) are to organize need based training programmes to the Staff of University, Developmental Departments and Allied Institutions, to develop Training Programmes in terms of Appropriate Content and Methodology and to coordinate between the University and the Sponsoring Agencies. Keeping the mandates in view during the period the unit has organized two refresher training programmes, in which 29 Associate & Assistant Professors and 30 Field and Lab Assistants participated in the programmes. In addition, also organized 15 days duration sponsored Certificate Course on Integrated Nutrient Management for 60 staff of the South Canara District Central Cooperative Bank Ltd., Mangalore in two batches. The details are provided in Annexure 3.1.

4.4.2 State Agricultural Management and Extension Training Institute-South (SAMETI-South)

During the period the SAMETI (South) organized 34 Online training programmes for 1781 staff of Agriculture Technology Management Agency (ATMA) and organized two ATMA Progress Review workshops for 124 ATMA Staff of 16 Southern districts of Karnataka. The details are provided in Annexure 3.2.

During the period the Diploma in Agricultural Extension Services for Input Dealers (DAESI) programme was conducted in 15 nodal training centers for 30 batches covering 1200 input dealers @ 40 / batch. The details are provided in Annexure 3.3.

4.4.3 Bakery Training Unit (BTU)

The primary objectives of BTU are to impart knowledge on quality baking and bakery; to impart professional management skills and to promote technical personnel in the field of bakery industry. The products of the unit are sold in the university outlets. The details of the training programmes conducted, and other activities are provided in Annexure 3.4.

The unit has organized two programmes of 14 weeks on commercial baking technology for 43 participants and eight baking courses of four weeks duration for 108 participants during 2021-22. Besides, the unit conducted five on-campus short courses of different duration involving 52 trainees, six orientation training programmes organised for 206 members. In addition, 6 collaboration training programmes for 177 members, 6 training programmes under projects for the benefit of 120 trainees and 8 off campus training for 660 members were conducted.

Further, the unit organized 772 method/ skill demonstrations of bakery and value addition products in training programmes on home baking, value added ragi, millets, milk and milk products, spice powders, eggless baked products & special cakes, bakery products, nutritional importance in human health etc., for the benefit of 840 trainees.

4.4.4 Farmers' Training Institute (FTI)

Farmers' Training Institute has the mandate to organize sponsored need-based training programmes to farmers / farm women / Farm Youth /members of Self-Help Groups as per the requirements of sponsoring agencies on agriculture and allied aspects. During 2021-22, in total 56 training programmes were organised for various

departments and organizations *viz.,* Karnataka State Department of Agriculture (KSDA), GoK under General Extension Service (GES), Skill training of rural youths under MANAGE, Hyderabad, AICRP on Agro- forestry, Bangalore, Sanjeevini-Karnataka State Rural Livelihood Promotion Society, GoK, Integrated Farming System (SCSP) and RKVY projects and trained 1915 farmers / farm women / youth. The details are provided in Annexure 3.5

Training Impact : The average knowledge gained by the participants was 17.35 per cent and average Training Management Efficiency Index (TMEI) was 97.54 per cent and Subject Matter Efficiency Index (SMEI) was 96.73 per cent. The details are provided in Annexure 3.6

Field Visit : In all the training programmes, field visits were organised for the benefit of trainees. About 43 field visits were made as a part of training programmes to the progressive farmers field, research centres of State and Central Government, etc. During the field visits, 21 method demonstrations / Skill training on various aspects such as collection of soil samples for soil testing, grafting/layering / mulching, preparation of compost pit, mushroom cultivation, bee keeping, waste management by manuring, value addition and food processing, plant protection techniques and silkworm & mulberry technologies were conducted. Further, organized five method demonstrations to teach skills on soft wood grafting in mango, stone grafting in mango, stone grafting in hibiscus, budding in jackfruit and air layering in Jatropha for the benefits of one year Diploma in Agriculture candidates.

4.4.5 Farm Information Unit (FIU)

The mandates of the Farm Information Unit (FIU) are to co-ordinate with mass media, publication of package of practices, publication of technical literature, organizing / participating in exhibitions and krishimelas and developing audio - visual aids. The unit carried out the following activities during the year.

1. **Press releases:** The unit provided information to the mass media through 57 press releases. The information provided were broadly classified as U.G, P.G and Diploma courses notifications & admissions, convocation, foundation day, Krishimela, seminars / workshops / symposium, celebration of events, awards and achievements of the university.

2. **Press visits and media coverage :** The unit arranged 13 press visits. Both electronic and print media personnel were invited to the University. As many as 383 events were covered through different media.

3. **Press Conference:** It is a customary of the University to call for Press Conference prior to organizing important functions/activities to brief the press about the aims and objectives and to share the achievements of the University as and when it is required by the Vice-Chancellor and Officers of the University. Two press conferences were addressed by the Vice-Chancellor and Officers of the University in view of Convocation and Krishimela.

4. **Popular / success stories:** During the year the unit involved in publication of 12 popular articles on the technologies of the University and success stories of the award winning and progressive farmers / farm women in leading news papers and magazines.

5. **TV / Radio Co-ordinated programmes:** The unit co-ordinated with Prasarbrathi in telecasting / broad casting 201 programmes in Doordarshan (Chandana - channel) and Akashavani (Krishiranga) on University activities and technologies.

6. **Special Article / feature:** The Unit co-ordinated with electronic and print media for publication / telecasting 92 special articles / features on agricultural technologies.

7. **Exhibitions:** The Unit participated in three Krishimelas / exhibitions at regional, state and national level to showcase the technologies of the University. To exhibit the technologies effectively, six exhibits related to

agriculture and allied activities on the important technologies released by UAS (B) were prepared and displayed in the exhibitions.

8. **Participation in Media Co-ordination committee meeting:** The Unit attended seven state level media co-ordination committee meetings.

4.4.6 Distance Education Unit (DEU)

Distance Education Unit was started in the Directorate of Extension since 2012, after merging the distance education programmes functioning at GKVK. This unit is offering following Diploma and certificate programmes for the benefit of farmers and farm youth: (1) Post Graduate Diploma in Agriculture (PGDA). (2) One Year Diploma in Agriculture. (3) Integrated Farming System. (4) Organic Farming. (5) Post-harvest Management of fruits and vegetables. (6) JEENUSAKANE. In addition, the center is acting as Nodal Centre for MANAGE sponsored one year Post Graduate Diploma in Agricultural Extension Management (PGDAEM). The details are provided in Annexure 3.7.

4.4.7 Agricultural Technology Information Centre (ATIC)

Objectives

1. To offer single window delivery system for agricultural information and the products at institutional level
2. To render farm advisory services to solve problems through multidisciplinary approach from different Subject Matter Specialists
3. To provide improved agricultural technologies through publications and other medias to the farmers
4. To establish a mechanism to get the feedback from the users to the University
5. To disseminate technical information through Information and communication tools

To accomplish the objectives, the following activities were taken up during the year.

Advisory Services

The ATIC rendered 44,131 farm advisories comprising of seven field visits, 1774 telephone calls, 1533 consultations, 3127 whatsapp messages. More than 37,690 farmers and extension workers visited to the centre.

Marketing of different products / plants / literature

The ATIC has made total transaction of an amount of Rs. 1,07,63,878/- (Rupees one crore seven lakhs sixty three thousand eight hundred and seventy eight only) by the sale of products, plants, literature, seeds, etc., and the details are provided in Annexure 3.8

4.4.8 Agricultural Sciences Museum (ASM)

Information about history, technologies, innovations and other information related to agriculture have been displayed systemically at Agricultural Sciences Museum for the benefit of students, farmers and general public. The museum has been established at the entrance of GKVK Campus. Posters, charts, photographs, graphics, modals, live specimens and other audio visual format have been developed and employed to depict the information convincingly to the visitors. Nearly 800 Sq.mts building has been constructed exclusively for the said purpose. Exhibits related to history of agriculture, Karnataka agriculture, genesis of growth of agricultural university, sericulture, apiculture, farm forestry, climate change, farm mechanization, bio-energy, grain storage and extension technologies have been developed and displayed. During the year display work with respect to the topics; agriculture marketing, animal husbandry, poultry and fisheries have been developed and implementation is under progress. In spite of Covid-19 during 2021-22, nearly 7,600 people visited the museum.

4.4.9 Extension Education Units (EEUs)

The Extension Education Unit (EEU), Naganahalli (Mysore) and Kolar, has the mandate to evaluate the performance of research findings, to demonstrate the proven research findings, to conduct training programmes and other extension educational activities with the collaboration of developmental departments, input agencies and NGO's. The following activities were performed during the year 2021-22.

Farm trials: The farm trials were conducted to evaluate the performance of research findings on the farmers field as a tail end research. There were 11 farm trials conducted involving 42 farmers. The details are provided in Annexure 3.9

Highlights

1. KMP-225 paddy variety produced higher grain yield of 6687 kg/ha over check variety of IR-64 (5867 kg/ha).The mean yield was increased by 13.98 per cent over check
2. Paddy variety of RNR-15048 resulted higher grain yield of 6400 kg/ha than check variety of Raksha (5267 kg/ha). The mean yield increased by 21.51 per cent than check variety Raksha
3. Brown top millet variety G.P.U.B.T-2 recorded higher grain yield of 1200 kg/ha compared to check (946 kg/ha). The mean yield increased by 26.85 per cent over check (local)
4. Fodder jower varierty CNFS-1 prodcued higher green fodder yield of 33.15 t/ha compared to check variety of MP-Chari (25.24 t/ha). The mean yield increased by 31.34 per cent than check (local).
5. Application of Bisperibac sodium 10% SC at 25g a.i /ha applied at 10 days after sowing in dry paddy nursery resulted in better weed control than hand weeding at 10 days after sowing
6. Application of Bisperibac sodium 10% SC at 25g a.i /ha applied at 10 days after sowing in Wet paddy nursery resulted in better weed control than hand weeding at 10 days after sowing
7. Application of micro nutrient in saline soil resulted in higher grain yield of 3460 kg/ha than farmers practice of 3110 kg/ha. The mean yield was increasd by 11.25 per cent over farmers practice
8. Application of Enriched phosphorus in Ragi - cowpea cropping system recorded higher grain yield of 2772 kg/ha than farmers practice of 2556 kg/ha. The mean yield was increasd by 8.5 per cent over farmers practice
9. MAH-14-138 Maize hybrid produced 7645 kg/ha compared to farmers practice of 7330 kg/ha. The mean yield was increased by 4.12 per cent than MAH-14-5.
10. Application of 175 per cent recommended dose of nitrogen in Napier grass resulted higher fodder yield of 133.5 t/ha compared to 100% reccomneded dose of nitrogen (189.1 t/ha). The mean yield was increased by 41.64 per cent higer green fodder yield then 100 per cent recommended dose of nitrogen.
11. Application of Bensulfuron methyl 0.6 % G @ 60 G + Pretilachlor 6% G @ 600 g/a.i/ha (10 kg/ha) 5 days after sowing in drum seeded rice resulted higher grain yield of 4700 kg/ha over check (hand weeding) (4420kg/ha). The mean yield was increased by 6.33 per cent than check.

Demonstrations: The Extension Education Unit, Naganahalli (Mysuru) has conducted 17 demonstrations in 262 locations involving 254 farmers in an area of 93.60 ha of Mysore, Nanjanagudu, K.R. Nagara, H.D. Kote, Hunasuru and T. Narasipura taluks. The demonstrations were conducted on integrated crop management in paddy, drum seeded rice, wet direct seeded rice, orgainc farming in rice, integrated crop management in Finger millet, maize, Foxtail millet, Redgram var. BRG-5, Blackgram LBG-791 and Fieldbean HA-4, chilli, Tomato, Banana, Ginger, demonstration of oyster mushroom production and establishment of nutritional garden for farm families. The details are provided in Annexure 3.10

Highlights of demonstrations

1. Large scale demonstration of integrated crop management in paddy involving MSN-99 with improved production technologies was conducted in an area of 17.20 ha indicates that mean yield due toadoption of ICM practices is 4925 kg/ha over farmers practice (4377kg/ha). The mean yield due to adoption of ICM in paddy increased by 12.43 per cent than farmers practice (variety Sun madhu).

2. Demonstration of Integrated crop management in paddy involving Hybrid KRH-4 with improved production technologies was implemented in an area of 11.60 ha resulted in 7394 kg/ha higher grain yield than farmer practice of 6422 kg/ha. The mean yield due to adoption of ICM in paddy (KRH-4) increased by 14.93 per cent than farmers practice.

3. Demonstration of wet direct seeded rice in was conducted in an area of 4.0 ha recorded higher grain yield of 4930 kg/ha as against farmers practice of 4274 kg/ha. The mean yield due to adoption of wet direct sedded technologies increased by 15.31 per cent over farmers practice. Besides, 12-15 per cent reduction in cost of prodution compared to conventional method of rice cultivation.

4. Demonstration of drum seeded rice was conducted in an area of 4.0 ha.The demonstration results indicates that higher grain yield of 5150 kg/ha than farmer s practice of conventional method of trans planting (4516 kg/ha). The mean yield due to adoption of drum seeded rice technologies increased by 14.05 per cent over farmers practice and 15-20 per cent reduction in cost of prodution compared to conventional method of rice cultivation.

5. Organic farming practices in rice cultivation was demonstrated in an area of 2.4 ha, resulted higher grain yield pof 4312 kg/ha over farmers practice of organic rice cultivation (3838 kg/ha).The mean yield due to adoption of organic farming practices increased by 12.49 per cent besides improvement in organic carbon content compared to farmer practice of organic rice cultivation.

6. Demonstration of integrated crop management in maize with introduction of MAH 14-5 newly released hybrid and improved production technologies in an area of 8.0 ha produced higher seed yield of 72.38 q/ha than farmers practice of 66.13 q/ha. The mean yield due to adoption of ICM practice in maize was increased by9.46 per cent than farmers practice.

7. Demonstration of integrated crop management in finger millet was conducted in an area of 8.0 ha with introduction of KMR 301 and production technologies resulted in higher grain yield of 2583 kg/ha over farmers practice (2154 kg/ha).The mean yield of demonstration was increased by 18.61 per cent compared to farmers practice (Local variety).

8. Demonstration of foxtail millet variety DHFT-109-03 with improved crop management practice was conducted in an area of 3.32 ha indicates that higher grain yield of 1177 kg/ha compared to farmer practice (978 kg/ha). The mean yield was increased by 20.16 per cent higher grain yield than farmer's practice (Local variety).

9. Demonstration of Blackgram variety LBG-791 was conducted in an area of 10.0 ha following recorded higher seed yield of 8.36 q/ha and less incidence of yellow mosaic virus disease than farmer practice (6.29 q/ha). The mean yield was increased by 32.73 per cent over farmers practice.

10. Demonstration of Redgram variety BRG-5 was implemented in an area of 8.0 ha resulted higher seed yield of 12.08 q/ha than farmer practice (10.26 q/ha). The mean yield was increased by 24.80 per cent over farmers practice.

11. Demonstration of Field bean variety HA-4 was conducted in an area of 12.0 ha by produced higher green pod yield of 3213 kg/ha than farmers practice. The mean yield was increased by 17.97 per cent over farmers practice.

12. Demonstration of ICM practice in Chilli was conducted in an area of 1.6 ha recorded higher fruit yield of 26.30 t/ha as against farmers practice (23.27 t/ha). The mean yield was increased by 13.14 per cent higher yield and reduced pest and disese incidence than farmers practice.

13. Demonstration of ICM practice in tomato was conducted in an area of 1.6 ha produced fruit yield (53.12 t/ ha.) compare to farmers practice (46.57 t/ha). The mean yield was increased by 13.89 per cent higher yield and reduced pest and disese incidence than farmers practice.

14. Demonstration of ICM practice in Ginger was conducted in an area of 3.32 ha recorded higher yield of 44.44 t/ha than farmers practice of 37.80 t/ha. The mean yield was increased by 19.48 per cent higher yield than farmers practice.

Training Programmes

The Units organized 10 on campus training programmes on scientific silage preparation, sheep rearing and management, different composting methods, integrated crop management in paddy, importance of minor millets, integrated farming system, value addition in ragi and dairy products, nutritional kitchen garden and value addition in minor millets, organic farming practices for the benefit of 522 farmers. Further, organized 28 off-campus training programmes on Farmers Field School on Apical stem cutting in potato and chick distribution cum training programme under Development Action Plan for Scheduled Castes (DAPSC), importance of seed treatment, organic farming, production technologies of fodder, importance of Agro-forestry, soil and water conservation practices and rain water harvesting, integrated crop management in rice, ragi, for the benefit of 1777 farmers and 22 online training programmes on Importance of seed treatment in Agriculture and horticulture crops, integrated crop management practices in maize, paddy, ginger, vegetable crops, pulses, minor millets, organic farming practices, soil and water conservation practices, rain water harvesting, fall army worm management in maize and role liquid manures in organic farming for the beniffited 1088 farmers.The details are provided in Annexure 3.11

Training for Extension Personal

The Extension Education Unit, Naganahalli, Mysuru organized one day training for officials of Oragnization for the Development of People (ODP-NGO) on integrated organic farming practices to upgrade their knowledge and skill. Totally 40 officials participated and benifitted the programme.

Skill Training of Rural Youth (STRY)

The Extension Education Unit, Naganahalli, Mysuru organised 6 days two Skill training on animal husbandry and organic farming practices involving 15 rural youths of Mysuru district and totally 30 rural youths were participated and trained under this programme.

Diploma in Agricultural Extension Services for Input dealers (DAESI)

The Extension Education Unit, Naganahalli, Mysuru conducted 2 batches of DAESI programmes with a capacity of 40 students for the 80 input dealers..

Educational activities

The EEUs organized 290 group discussion meetings, 66 method demonstrations, 343 field visits and 11 field days involving 836 farmers, respectively. Further, 02 animal health camps were organised treating 314 animals. The EEU, Kolar organized 03 Krishimelas. The scientists of EEU, Nagenahalli participated in one bimonthly technical workshop. The EEU provided 1471 advisory services to the farmers.

4.4.10 National Agricultural Extension Project (NAEP)

The National Agricultural Extension Project (NAEP) was established to provide training to enhance the knowledge level and to upgrade the skills of extension functionaries of the state department of agriculture and other line departments in the district. The objectives of this project are; to organize district level bi-monthly technical workshops, district level pest and disease surveillance, developing and distribution of literature on crops and agri-enterprises as well as to organize farmers discussion forums. During 2021-22 the following activities were carried out in Bengaluru and Mandya units.

a) Bi-monthly Technical Workshop

23 bi-monthly technical workshops were organized in 10 districts. Taluk wise weather data was analysed, field problems observed by extension functionaries were discussed and suitable solutions were discussed under the guidance of the university scientists. Accordingly 15 lesson plans were developed and advocated to the extension functionaries. Depending on the need, 19 special guest lecturers were arranged. In addition 10 method demonstrations and 15 group discussions meetings were conducted. 37 field visits and 38 consultancy services / advisory services were provided to the farmers.

b) Skill Demonstrations

Skill demonstration on scientific method of mango harvesting practices, demonstration on mango ripening and packing, mechanized sowing of ragi, transplantation of redgram seedlings, demonstration on pest and disease management in irrigated maize, soil sampling for soil testing, skill demonstration on application of water soluble micro nutrients for ginger, preparation of spray solution and its application for effective control of root rot and leaf spot diseases in ginger, application of fertilizers in mango and other technologies were demonstrated.

c) Diagnostic Field Visits

Arranged diagnostic field visits to the Ginger plots affected by diseases and nutritional deficiency at Budigere in Devanahalli taluk and surrounding villages along with scientists of Horticulture University and advocated suitable package of practices to overcome the problems. The officers of sericulture department arranged Diagnostic Field Visits to sericulture farmers fields to observe the pest incident in mulberry and suitable solutions were recommended to control the pests at Neraluru and surrounding villages in Channapattana taluk, Ramanagara district along with officers of the sericulture department, GOK.

d) Field problems reported in the bi-monthly workshop

Different problems identified and reported at bi-monthly workshops were; Rugosa white flies in coconut and areca nut, fall army worm in maize, stem borer in ragi, yellow mosaic virus in bitter gourd, bacterial leaf streak, stem borer, brown spot, leaf blast & case worm in paddy, weed control in ragi, fusarium wilt in tomato, non-availability of sun flower seeds, milling and marketing problem in millets, non-availability of mechanized ragi harvesters during harvesting season, poor crop yields in millets, lodging problem in ragi and non-availability of good quality fodder seeds

e) Visit and supervision of Farm Trials and Demonstration

During the year, farm trails on 13 technologies were conducted *viz.,* GKVK-39 groundnut variety, GPUBT- 2 brown top millet, ICH- 66 castor, GKVKS-1 sesame variety, KBN-2 niger, CGK-SB-42 bambara groundnut, weed management in direct sown paddy, evaluation of post emergent herbicides in millets, evaluation of different sowing windows in millets under changed weather condition, effect of fertilizers and spacing on the

efficiency of brown top millet, use post emergent weedicides in sunflower, fertigation in aerobic rice, MAH-14-138 - maize varietal farm trails were organized. 37 field visits were under taken to the demonstration plots and farm trail plots to observe the performance of the technologies and to guide the field extension functionaries.

f) Field Problems and feedback presented at ZREP Meetings

Crop improvement : Grain and fodder high yield varieties in ragi, non-availability sunflower and caster seeds during the season, non-availability of University maize hybrids (sweet and baby corn), alternate varieties in horsegram and chickpea, lodging problem in ragi - need of lodging resistant, high yielding and suitable to mechanized harvesting varieties in ragi, need of high yielding drumstick varieties and tomato varieties with good keeping quality.

Crop production : Need of package of practices for guni padhathi ragi, need more information on fertigation in horticulture crops, lack of pre- emergent weedicides in ragi, control measures for white flies in coconut, stem borer and shoot hole borer in lime, fruit flies in mango, panama wilt in banana, root nods, root rot, mites and nematode problems in mulberry, flower rot in arecanut, yellow mosaic disease in ridge gourd and little leaf in polbeans.

Crop Protection: Management practices for fruit borer in tomato, integrated management practices for leaf spot disease in papaya, wilt problem in solanaceous crops, wilt resistant varieties in tomato, control of stem borer in drumstick, dieback disease in guava, panama wilt in banana, white flies in management coconut, yellow mosaic in greengram,

Agriculture engineering and processing : Technologies for long shelf life for Navane flour, need of small units for production of mushroom spawn, small drying and cold storage units, small scale processing units for redgram and millets, need for small intercultural equipment in ragi cultivation.

Others: Due to unscientific storage of pulses incurring losses, low yield and poor quality in tamarind due to improper management of post-harvest technologies, papads prepared from cereals get wrinkled after drying under sun, difficult to pack & transport and ascertain proper dosage of microbial consortium for decomposing sericulture waste.

4.4.11 Krishi Vigyan Kendras (KVKs)

The Indian Council of Agricultural Research (ICAR) has created network of KVKs in the country. The KVKs aims at assessment, refinement and demonstration of technologies & products. The activities of KVKs include on farm testing, frontline demonstrations and training. The KVKs also work as resource and knowledge centres of agricultural technology for supporting initiatives of public, private and voluntary sectors for improving the agricultural economy of the district. At present seven KVKs are working under the jurisdiction of UAS-B with following mandates.

Mandates

a) Conducting on-farm testing to identify the location specificity of agricultural technologies under various farming systems

b) Organizing frontline demonstrations to establish production potentials of various crops and enterprises on the farmers fields

c) Organizing need-based trainings for farmers to update their knowledge and skills in modern agricultural technologies related to technology assessment, refinement and demonstration and training of extension personnel to orient them in the frontier areas of technology development

d) Creating awareness about improved agricultural technologies among various clientels through an appropriate extension programmes

e) Production of quality seeds, planting material, livestock breeds, animal products, bio-products etc. as per the demand and supply the same to different clienteles

f) Work as resource and knowledge centre of agricultural technologies to support the initiatives of public, private and voluntary sectors for improving the agricultural economy of the district

Keeping in view the above mandates. The seven (7) KVKs have been established under the jurisdiction of UAS, Bangalore in the districts *viz.,* Kandali (Hassan), Konehally (Tumakuru), Haradanahalli (Chamarajanagar), V.C.Farm (Mandya), Hadonahalli (Bengaluru Rural), Chintamani (Chickballapur) and Magadi (Ramanagara).

The following activities were carried out by seven KVKs during the period 2021-22 report

4.4.11.1 On Farm Testing (OFTs)

On-Farm Testing trails were conducted to identify the location specificity of agricultural technologies under various farming systems. About 32 technologies were assessed under different disciplines / areas during 2021-22 involving 114 farmers in an area of 36.38 ha. and 5 units. The details are furnished in the Annexure 3.12.

Highlights of On Farm Testing (OFTs)

1. Effect of Nano Nitrogenous fertilizer on Growth and Yield of Maize: Application of 50% N as basal and remaning 50% N in the form of Nano fertilizer (N & Zn 4ml/lit and 2ml/lit) spray at 30 DAS and 50 days after first spray increased plant height (5.24%) over farmers practice (TO1) and 3.27% over recommended practice (TO2) and increase in cob yield 17.11 % and 5.11% over TO1 & TO2.

2. Assessment of foliar nutritional management in mulberry through eco-friendly approach: Application of liquid microbial consortia developed from Agricultural microbiology department UAS, Bangalore after 8 and 25 Days after pruning (DAP) through drip in mulberry crop 3lts/ac/crop increase in leaf yield (22.57%) and cocoon yield (33.11%) over farmers practice.

3. **Assessment of different liquid microbial consortia in mulberry:** The Foliar spray of Waste decomposer solution (100 ltrs/acre/crop) along with recommended dose of fertilizers and FYM in mulberry resulted in an increased leaf yield (25.15 %) compared to farmers' practice (No foliar spray). The cocoon weight also increased by 23.33 per cent compared to farmers' practice that registered 1.8 g/cocoon.

4. **Assessment of Suitable Paddy Variety for Zone-7:** RNR-15048 variety has given 12.20 % higher yield when compared to Thanu (KMP 101) & Gangavathi sona and RNR 15048 variety has found tolerant to blast.

5. Assessment of Bengal gram varieties against wilt: Super Annigeri-1 is found resistant to wilt disease when compared to JAKI-9218 and JG-11 and given 31.46 % increased yield.

6. Assessment of suitable redgram varieties for vegetable purpose: Short duration BRG-3 variety is resistant to Fusarium wilt and sterility mosaic diseases. Transplanted BRG-3 variety recorded higher green pod yield (29.3 q/ha) as compared to BRG-1 (26.7 q/ha) (long duration variety - Direct sowing). BRG-3 variety came in to harvest early for vegetable purpose and fetched good price with B:C ratio of 2.23.

7. Assessment of Nutrient management in marigold: Higher yield parameters viz. no. of branches/plant and no. of flowers/plant (6.44 and 18.76) and maximum flower yield (13.93 t/ha) was recorded on application of 50 t/ha FYM, 90:90:75 kg/ha NPK through basal (50%) and fertigation (50%), method of nutrient management option with one foliar spray (1.25 g MgSo4, 1 g Zn and 0.25 g borax). Farmers practice recorded lower flower yield (11.80 t/ha). B:C ratio was 2.43 and 2.15 respectively.

8. **Assessment on management of thrips and mites in Mulberry:** Maximum leaf yield (47.61 q/ha), higher net returns and B:C ratio (5.58) was recorded with CSR&TI technology. Both CSR&TI and NBAIR technologies were found to be good for management of thrips (5.84 % & 8.97%) in mulberry.

9. **Assessment of white seeded Sesame varieties for pre-kharif:** UAS, Bangalore released GKVK-S-1 has recorded higher capsules per plant (48) and seed yield (3.47 q/ha) followed by DS-5 (44.6 capsules/ plant and seed yield of 3.42 q/ha). As compared to farmers practice (Kanakapura local), GKVK-S-1 has recorded 12.5% higher B:C ratio.

10. **Assessment on effect of different liquid microbial consortia in Mulberry:** The application of liquid bio-fertilizer enhanced organic carbon in soil and increased uptake of nutrients, helped in getting higher good quality leaf yield (524.94 q/ha/yr) and cocoon yield (18.68 q/ha/yr) compared to farmer practice (leaf yield 416.25 q/ha/yr) and cocoon yield (15.03 q/ha/yr)

11. Assessing the performance of Hybrid Napier varieties under Chamarajanagara district: PBN - 342 variety has recorded higher fodder yield, high protein content (Co-3) and less oxalic acid content, PBN - 342 variety recorded higher fodder yield (Co-5) with good palatability, PBN - 342 variety has been accepted for endorsement for zone-VI, Karnataka.

12. Assessment of suitable short duration Turmeric varieties for higher yield and quality: In camparision with local variety (Salem-210days), short duration varieties IISR Pragathi, Rajendra Sonia and Pitambari were 86, 88 & 94 days earlier respectively. Pitambari recorded 79.93% higher yield than the local variety Salem, followed by Pragathi (54.79%) and Rajendra Sonia (46.36%).

13. Assessment of different propagation methods in Potato: In OFT by comparing use of seed tubers (Farmers practice 12.75t/ha.) v/s ARD (Apical rooted cuttings) of Kufri-Jyothi (16.36t/ha.) and Kufri-Himalini (18.20t/ ha) found that ARC Kufri Himalini (20.24t/ha.) is superior with 66.69% higher yield than local variety. ARC Kufri Himalini is found better than number of tubers/pl (7.33), yield /pl (358.66 g) and tuber yield (21.325 t/ ha) characters, Even Kufri Himalini seed tubers also exhibited 44.25% high yield than local variety overall Kufri Himalini tubers and ARC plants were superior with respect to yield as compared to local variety.

14. Assessing the efficiency of Siri Suvarna in (Wider spaced) Tree Mulberry: Usage of waste decomposer helps in reduction in the time taken to decompose the sericulture waste, good quality of manure was obtained only in 85 days helps in soil moisture conservation. The insitu decomposition of organic matter provides good quality leaves along with increase in the yield (10.17%). By providing sufficient nutrients helps in better growth of the plant and organic manure helps in weed supression.

4.4.11.2 Front Line Demonstrations (FLDs)

The Krishi Vigyan Kendras conducted Front Line Demonstrations to demonstrate new proven technologies on farmer's fields. The details of front line demonstrations conducted are furnished in Annexure 3.13. The total Front line demonstrations conducted were 138 in an area of 706.35 ha. and 106 units covering 1295 farmers in the field of crop improvement, production, protection, horticulture, home science, engineering, animal science etc.

Highlights of Frontline Demonstrations

1. **Recycling of seri farm residues with waste decomposer consortia for quality compost production:** Composting of sericulture waste using waste decomposer from National Centre of Organic Farming (NCOF), Ghaziabad results in speed up of decomposition process and obtain good quality compost within 85 days.

2. **Integrated crop management in Cucumber:** Enrichment of farm yard manure with biofertilizers and foliar application of 25 ppm boric acid along with 1% urea at 8 leaf stage helps in improved health of pollen

with reduced flower drop, enhanced number of fruits and fruits length. With additional income of Rs.50966/ha.

3. **Management of leaf roller in mulberry:** The use of tricho cards as a component of IPM in mulberry against leaf roller, Diaphania pulverulentalis reduced the pest damage by 87.23 per cent resulting in higher leaf yield (20.71 %) than the check plot. Further, tricho cards reduce the use of plant protection chemicals and reduces the environmental pollution.

4. **Management of Uzifly (Exorista bombysis) in silkworm rearing:** The pheromone traps used in the management of uzi fly in silkworm rearing house trapped maximum number of uzi (74 flies) than check (38 flies). Hence there was more reduction in defective (uzi pierced) cocoon percentage (60.71 %) and the cocoon price was 3% more than the check.

5. **Demonstration of Rice bean variety KBR-1:** Ricebean (KBR-1) varietal introduction was made along with seed treatment with biofertilizer, INM, IPM technologies were demonstrated. Farmers opined that more yield (14.0 q/ha) and less incidence of yellow mosaic disease was observed.

6. **Integrated crop management in Marigold:** Application of borax, magnesium sulphate and zinc sulphate fertilizers help increase the quality of flowers in Marigold. Bio-control agents like trichoderma reduce the soil borne diseases and neem soap reduces pest and disease incidence. The yield obtained in demonstration plot was 81.15q/ha. compared to farmers plot (69.73q/ha.) and all the above mentioned technologies help in obtaining additional yield of 16.37 q/ha.

7. **Integrated nutrient and pest management in Tomato:** Reduced fertilizer usage due to adoption of fertigation schedule method in tomato crop and spraying of vegetable special enhanced the good quality fruits. Use of Arka Microbial Consortia reduces wilt disease incidence. IPM practices helped in reduction in disease & pest incidence, quality produce. The yield obtained in demonstration plot was 750.42q/ha. compared to farmers plot (687.9q/ha.) and per cent increase in yield was 09.08 and additional income of Rs.126181.

8. **Integrated crop management in Mango:** Timely pruning and use of mango special increases the fruit quality. Use of pheromone traps reduces the fruit fly incidence and IPM practices help in reduced disease & pest incidence, quality produce and enhanced returns. The yield obtained in demonstration plot was 154.75q/ha. compared to farmers plot (135.25q/ha.) and observed 14.40 per cent increased yield in demo plot.

9. **Management of Yellow mosaic virus in Pole bean:** Bio-fertilizers like Trichoderma reduce the soil borne diseases and neem soap reduces pest and disease incidence in polebean. Use of thiomethaxam and salicylic acid reduced the yellow mosaic virus in polebean. IPM practices help in reduced disease & pest incidence, quality produce. The yield obtained in demonstration plot was 379.1q/ha. compared to farmers plot (332.9q/ha.) and per cent increase in yield was 13.80%.

10. **Demonstration of new paddy variety MSN-99:** Paddy variety MSN-99 along with ICM practices (Demo plot) recorded higher grain yield of 67.50 q/ha as compared to check plot MTU-1001 (50.68 q/ha). Similarly, plant height (105.56 cm), no. of tillers (489.80 m2) and no. grains per panicle (178.45) were higher with demo plot as compared to check plot (94.85cm, 445.54m2 and 140.67, respectively). Demo plot recorded 33.18 per cent increase in yield than check plot.

11. **Demonstration of short duration ragi variety KMR-630:** Demonstration of short duration ragi variety KMR 630 along with ICM practices indicated that the yield of ragi was highest in demo plot (34.50q/ha) as compared to check plot (25.10q/ha). The percent increase in yield was 37.45 in demo plot. Similarly, number of tillers per plant, number of fingers per plant and finger length (4.57, 8.35 and 9.32cm, respectively) were higher in demo plot compared to check plot (3.70,6.20 and 7.14cm, respectively).

12. **Integrated Crop Management in Maize:** Integrated crop management in maize resulted in highest yield of 85.00 q/ha as compared to check (67.5 q/ha). Plant height, cob diameter, grains lines/cob, no. of grains/ cob and cob length (215cm, 5.50 cm,15.20, 586 and 18.40 cm, respectively) recorded highest in ICM plot compared to check plot (198cm,4.80 cm,12.40, 475 and 18.20 cm, respectively). The percent increase in yield was 25.92 in ICM plot.

13. **Integrated crop management in Field bean:** The results of the demonstration of ICM in field bean revealed that, as compare to check plot (5.10q/ha.), demo plot (6.87q/ha.) recorded 34.70 % increase in yield. The plant height, no. of branches and no. of pods per plant (52.60 cm, 3.80 and 13.10, respectively) recorded highest in demo plot compared to check plot (45.10, 3.00 and 8.20, respectively).

14. **Nutrient Management in paddy for yield enhancement under salt affected soils:** Demonstration on salt tolerant variety gangavathi sona (33.74q/ha.) and integrated nutrient management in paddy under salt affected soils (43.13q/ha.) have increased the yield to an extent of 27.83 percent.

15. **Precision farming in Capsicum under open field condition:** Use of nutrient schedules, proper water management and pest and disease management at appropriate time in capsicum has led to increase in yield was 22.28 percent in demonstration (367.27q/ha.) as compared to farmers practice (300.32q/ha.).

16. **Integrated crop management in Potato:** Demonstration on integrated crop management in potato includes management methods of nutrients and disease which lead to improved tuber size and shape and increase in yield upto 29.15% over farmers practice

17. **Integrated crop management in cabbage:** The main important pest noticed on cabbage in mandya district was diamond back moth. Farmers were indiscriminately spraying the pesticide to overcome this. Therefore, IPM for cabbage was demonstrated in farmer's field which was recorded only 10.2% DBM incidence and increase in yield (15.23%) was observed.

18. **Integrated murda complex management in chilli:** Arka Kyati hybrid is tolerant to CMV virus and by following integrated pest management practices murda complex disease severity was less and hybrid recorded 20.88% high yield.

19. **Integrated Crop Management in Banana:** Integrated crop management in banana (Yelakki) effectively reduces the panama(3.43%) and sigatoka (12.80%) incidence and high bunch weight (10.20kg), more number of hands per bunch (10.20), number of fingers per hand (12.40) with high yield (36.80 t/ha).

20. **Integrated Crop Management in Ridge Gourd:** Ridge gourd hybrid Arka Vikram recorded more number of fruits per vine (14), fruit length (44.20cm), average fruit weight (410g) and early flowering (41 Days after sowing) with good yield (325 q/ha). It recorded lowest fruit fly infestation (6.50%).

21. **Integrated Crop Management in ginger:** Integrated crop management in ginger lead to high yield (236q/ha) and less incidence of rhizome rot (4.5 % at 6 Months after sowing).

22. **Demonstration on growth regulator GA3 foliar spray in enhancing yield of Chrysanthemum var. CO-1:** Spraying of GA3 on chrysanthemum resulted in more number of branches (8.8), Number of flowers per plant (35), fresh flower weight (3.85g), flower size at harvest (5.4cm) and especially flowering initiated 22days earlier with a higher yield (145q/ha).

23. **Demonstration of improved silkworm hybrid FC-1 X FC-2:** In Mandya District 70-80% of the farmers are rearing PM x CSR2 which yields less cocoon yield and post cocoon parameters. After implementation of Rearing of Productive bivoltine double hybrid (FC-1 X FC-2) with better crop stability among commercial farmers and cocoon yield increased upto 16.97% with more income.

24. **Demonstration on Phytoecdysteroid (Sampoorna) for Synchronized Maturation of Silkworms:** Spraying diluted sampoorna over mulberry leaves and administering orally to silkworms at the onset of spinning helps larvae reach maturity within 12-18 hours after spray, more over the crop can be saved under exigency conditions (leaf shortage). By using sampoorna during spinning time observed uniform spinning and increases cocoon yield (6.19%) and saving of labour.

25. **Terrace Gardening**

- Before implementation of TG, farm families were used to purchase 181 Kg of vegetables by spending Rs.7240/- whereas on TG intervention farm families were able to produce 313 Kg of vegetables by spending only Rs. 5500 and farm families can save Rs.1740/2 seasons.
- After implementation of TG activities with respect to availability of vegetables per person/day was 326g, when compared to before intervention (188g).
- After implementation of TG the frequency of consuming different vegetables increased to 6 days /week when compared to before intervention (3days/week).
- Urban people gained the knowledge on composting of household waste.

26. **Demonstration of nutri farms for year-round nutrition security among farm families:** Before implementation of Kitchen garden, the intake of all the food groups of farm women was below the Recommemded Dietary Allowances (RDA) except cereals. Whereas after implementation of Kitchen garden, intake of all the food groups were on par with RDA. Before implementation of NG, farm families were used to purchase 164.16 Kg of vegetables by spending Rs.6566/- whereas due to NG intervention farm families were able to produce 448.32 Kg of vegetables by spending only Rs. 2000/- and farm families can save Rs.4566/2 season. With respect to vegetable consumption after implementation of NG activities, the percent adequacy was 93.0 when compared to before intervention (34.2 %)

27. **French bean as a intercrop in younger Arecanut garden:** French Bean yield recorded 43.77q/ha which increases additional income, decreases in weed menace and improved soil fertility status and reduced weeds in arecanut garden

28. **Demonstration of composting methodology for areca husk:** in demonstration plot there is higher Lignin (43-44%), Cellulose (41-42%), Hemi Cellulose (70-80%), OC (62-65%) in chemical properties of Areca husk. Hence there is formation of compost in 180 days. Compared to check (FYM) there in increase in Ca (26.75%), N (0.98%), P (0.62%), K (1.95%) and micro nutrients.

29. **ICM in castor (NFSM-oilseeds):** FLD was conducted in 10ha for 25 farmers. Castor ICH-66 recorded 8.20q/ha (42.6%) compare to check variety DCH-177. Due to excess rainfall recoded during November month compared to normal rainfall crop had higher black blight disease (38.5%) hence there is reduction in yield.

30. **Management of dairy cow during the transition phase through supplementation of bypass Feed:** Demonstration recorded higher milk yield 2085 litre/120 days (37.63%) compare to check.

31. **Integrated scientific management in Sheep/Goats:** FLD was conducted to 50 sheep. Weight gain of 24.8kg at 8th month age recorded in demonstration.

32. **Addressing drought and blast Vulnerability in finger millet through Cowpea - Finger millet double cropping system:** Double cropping system recorded 18.9 % increase in yield with 17.6 q/ha as compared to control. Additional income and B:C ratio of 1.65 was realized in double cropping system due to cowpea as first crop and finger millet as second crop. Average incidence of blast severity was 7.3% in demo plot and it was 13.9 % in check plot.

33. Demonstration of multicut fodder sorghum: COFS-31 for green fodder: Maximum number of tillers (10.8) and yield (841.7 q/ha) were obtained from 4 cuttings in demo plot as compared to control (348.4 q/ha) in two cuttings. Maximum B:C ratio (1.75) and good palatability (89.7%) was recorded in demo plot.

34. **Demonstration of Blackgram variety LBG-791:** Demonstration of blackgram variety LBG-791 with integrated crop management was done. The per cent yellow mosoic incidence was more (66.6%) in farmers variety as compared to demo variety LBG-791(0%). This has resulted in increased grain yield of 95.7% in demonstration.

35. **Demonstration of drum seeded Rice:** Adoption of drum seeded rice helped taking sowing at right time. This saved 65.7% on seed cost (Rs.828/Acre) and 76.9 % (Rs. 3845/Acre) saving in transplanting cost. Adoption of IWM practices reduced the weed cost by 59.4 % (Rs. 4725/ Acre). Drum seeded rice matured 8-10 days earlier than farmers practice.

36. **Sugarcane trash management:** Sugarcane trash decomposed in 68 to 80 days. Improves the soil carbon content (0.63%) compare to trash burn plot (0.51%). The scientific trash management helps in better weed management.

37. **Integrated Crop management in Water-melon :** The ICM resulted in 95 per cent reduction of wilt disease as well as thrips incidence have been recorded in demonstration plots as compare to check plots. Besides, four sprays reduced per ha it results in reduction of plant protection cost Rs. 12100 / ha and 16.32 per cent increased yield has been recorded in demo plots as compared to check plot.

38. **Popularization short duration improved turmeric variety IISR Pragathi :** IISR Pragathi had 48.47% higher yield than local variety Salem in 188.30 days. It is 89.30 days earlier. Than local and per day production of IISR pragathi is 203.73 kg/day compared to 93.16 kg/day in local variety, which shows the superiorty of IISR Pragathi.

39. **Integrated management of pest and diseases in small onion:** In demo plots, recorded 91 per cent reduction of Alternaria leaf spot disease incidence and 95 per cent reduction of twister disease complex as compare to check plots. Total six sprays reduced as a result cost in plant protection saved Rs.12000 /ha. The yield obtained in demo plot was 115q/ha, as compare to check plot (82.50q/ha.) and per cent increased yield was 28.26.

40. **Integrated crop management in Cabbage:** Demonstration plots have recorded 88 per cent reduction of black rot disease incidence and 90 per cent reduction of diamond back moth incidence as compared to check plots. Additionally, four sprays reduced, Rs.19000 /ha plant protection cost beside that 22.22 per cent higher yield has been recorded as compare to check plots.

4.4.11.3 Training Programmes

The details of training programmes ie., on campus and off campus organised by KVKs during 2021-22 are furnished in Annexure 3.14.

1. **On-campus training programmes:** The KVKs organized 332 need based on campus training programmes and trained benefiting 13,331 farmers, farm women and youth in the discipline of crop production, protection, horticulture, animal science, home science, sericulture, soil science, agricultural engineering , agricultural extension, veterinary etc. to upgrade their knowledge and skill.

2. **Off-campus training programmes:** To reach large number of farmers, the KVKs organized 230 need based off campus training programmes benefitting 6131 farmers, farm women and youth in the discipline of crop production, protection, horticulture, animal science, home science, sericulture, soil science, agricultural engineering, gricultural extension, veterinary etc. to upgrade their knowledge and skill.

3. **Training for extension personnel:** The KVKs also organized trainings for extensional personal of line departments / organizations / NGOs to up grade their knowledge and skill. In total 35 training programmes benefiting 1453 extension personal in various disciplines of agriculture and allied subject were conducted.

4.4.11.4 Technological Services Provided

In addition to providing advisory service the KVKs provided quality seed, planting materials and other inputs like - bio-control agents, micro nutrients, the farming communities, livestock etc., Accordingly the KVKs produced following inputs during the year under the report for the benefit of farming community.

- KVKs together analyzed 2975 soil samples and 2198 water samples from farmers and provided suitable recommendations and advisories
- Produced 299.17q. of quality seeds of cereals, pulses etc., In addition quality planting material (372051) units viz., fodder slips, mango, papaya, cury leaf, drum stick, vegetable seedlings were produced and sold to farmers
- Produced and sold 4504.18 kgs of bio-control agents like Trichoderma, Pseudomonas etc., and 6244 kgs. micro nutrients mixture (vegetable, mango, banana special)
- Provided 2550.88 kgs live stock (sheep, goat, pig, poultry etc.) to farmers
- 259 cycle weeders, 51 mango harvester, 9 tender coconut openers were sold to farmers

4.4.11.5 Village adoption Programme

Each KVK has adopted one village to demonstrate all the proven technical interventions in the field of agriculture, allied subjects involving animal husbandry, forestry, health, nutrition and swachha Bharath, to demonstrate the changes in the farming system so as to create an impact among farmers and other stake holders for a period of three years in collaboration with development departments. During the year various activities *viz.,* 28 on campus training programmes involving 636 farmers, 61 off campus training programmes for 2036 farmers, 10 whatsapp groups were created involving 531 farmers and 1179 whatsapp messages were sent to the farmers. Field visits- 240 (1505), crop / livestock demonstrations 36 (487), animal health camps-9 (829), human health camps-4 (238), soil health camps-8 (339), exposure visits-9 (263) and 7 (346) other activities were organised for the benefit of the farmers.

4.4.11.6 National Initiative on Climate Resilient Agriculture (NICRA)

KVK Chintamani, Chikkaballapura district is implementing the project to develop resilience to climate and to enhance productivity of crops / live stocks through various technologies at Hanumaigarahalli of Chintamani taluk. Various technological interventions implemented during the year were construction of two check dam and one Nalabund construction under progress. The crop/ livestock demonstrations on various technologies *viz.,* introduction of wilt resisitant and highly yielding Redgram variety (BRG-5) short duration and improved finger millet variety (KMR-630), multicut sorghum variety COFS-31, up-gradation of Backyard poultry, preservation of green fodder as silage during lean period, supplementation of mineral mixture for livestock were conducted.

In addition, demonstration of use of Drone technology in spraying of vegetable special in tomato, brinjal and beetroot and spraying of mango special in mango was conducted. Around 707 animals were vaccinated in animal health camps and in soil health camp awareness on importance of soil testing and soil sample collection were demonstrated. Training programmes (6), educational tour, kisan mela were also organized for the benefit of the farmers.

4.4.11.7 Attracting and Retaining Youth in Agriculture (ARYA)

The KVK Hadonahalli, Bengaluru Rural district has implemented skill trainings on Vermi composting, Bee keeping and ICM in Coconut and tree climbing. The activities carried out during the period were six on campus training prgrammes for 120 rural youth, 06 field visits and established 03 Commodity Based Associations.

4.4.11.8 Linking KVK to FPOs for technical support under CHD scheme

All the KVKs technically supported 12 FPOs under CHD scheme of Department of Horticulture. The activities carried out are Front Line Demonstrations of Horticulture crops (6), Training programmes (14) and Field visits (25)

4.4.11.9 Other Extension Activities

The KVKs organized various extension educational activities to create awareness among larger number of farmers and other stakeholders on improved agriculture and allied technologies. Accordingly, the following extension educational activities were organized.

- Organized 86 group discussion meetings, 944 field visits, 120 diagnostic visits, 01 farmers field schools, 79 Radio / TV programmes, 21 work-shops and 68 popular articles were published.
- Organized 139 important days, 28 exhibitions, 97 field days, 194 method demonstrations, 18 animal health camps, 18 bi-monthly technical workshops, (66 whatsapp group) 209 messages were sent to 5874 farmers, 60 messages were sent to 4068 registered face book viewers. Provided consultancy for 26556 farmers and 382 SMS were sent to 256629 registered farmers of KVKs.
- The KVK Scientists delivered 630 lectures as resource persons, 301 news paper coverage's and 91 extension literature were published and 2587 farmer's scientists' interactions were also organised.

4.4.11.10 New Initiatives

a) **Agriculture Skill Council of India sponsered Skill Trainings:** With the financial assistance of ICAR, New Delhi, the KVK Hassan, Chikkaballapura, Charamarajanagara, Bangalore Rural provided skill training for 90 farm youth / women for 25 days duration on Mushroom cultivation, scientific bee keeping, Nursery Worker and mulberry cultivation.

b) **MANAGE sponsored Skill Training of Rural Youth:** KVK Hassan, Chikkaballapura, Chamrajanagara, Ramanagara, Tumkuru, Mandya and Bangalore Rural districts have organised Skill Training for Rural Youth in 15 batches on Apical rooted potato nursery raising techniques, Scientific silkworm rearing techniques, Cocoon biocraft, Organic farming, IPDM in agriculture, Seed production technologies, Sheep/ Goat rearing, scientific bee keeping, Horticulture, Mushroom cultivation, Value addition of nutri millets and Protective cultivation of high value flower crops etc., for six days duration for 225 rural youth were conducted.

c) **District Agro Met Units (DAMU):** KVK Ramanagara, Tumkuru, Mandya & Chamarajanagara are having District Agro Met Units with the financial assistance from Indian Metrological Department and ICAR to provide agro advisory services to the farmers.

The units are providing weather forecast and weather based agro advisories to the farmers on every tuesday and friday in a week through Meghadoot app, whatsapp group-1700 (34251 farmers), kisan portal-92796 farmers 04 weather based agro messages, news paper articles-115, field visits-226 (906 farmers), 45 on campus training programmes for 1517 farmers, 66 off campus training programmes for 2590 farmers, 08 online training programmes for 277 farmers, 1517 telephone calls, 1697 face to face, 06 publication, 960 consultancy services (19051 farmers), farmers awareness programme- 111 (1303 farmers), radio talk- 01 , TV programme- 09 and other activities 3 (3421) were organised.

d) **Capacity development of farmers on profitable dairying and livestock management:** KVK Hassan has organised five training programmes of 3 days duration each on scientific sheep, goat, poultry and pig rearing for 200 farmers/farm women with the financial support from ATARI-Zone-XI, Hebbal, Bengaluru

under the programme entitled capacity development of farmers on profitable dairying and livestock management.

e) **Petroleum conservation in Agriculture:** All the Seven KVKs in collaboration with petroleum conservation research association southern region have organised one day duration five programmes on petroleum conservation in Agriculture workshops on sensitization of farmers in minimization and conservation techniques of petrol in agriculture.

4.4.12 Krishimela-2021

The University of Agricultural Sciences, Bangalore organized Krishimela-2021 from 11th to 14th November, 2021 at GKVK campus, Bangalore as an annual event of the University with the theme "Agricultural technologies for Doubling of farmers Income" in both Physical and virtual mode. As a part of Krishimela, the agricultural exhibition in collaboration with Development Departments of Govt. of Karnataka, the Farm Universities of the state, ICAR institutes, Private and Public sector organisations was organised to create awareness among the farming community on the frontier technologies in agriculture and allied activities. The event was inaugurated by Mrs. Prema Dasappa, tribal farm women from HD Kote of Mysore district. During the event, ten crop varieties and 18 new farm technologies were released. In four days of the mela, 140 awards were given to the progressive farmers of Tumkur, Chikkaballapur, Chamarajanagara, Hassan, Kolar, Mandya Mysore, Bangalore rural, Bangalore urban and Ramanagara districts and seven state level awards of Best Farmer and Extension workers were given during Krishimela-2021. There were more than 500 exhibition stalls which included agriculture inputs stalls, development department stalls, Start-up Company stalls, food stalls and other companies exhibited their technologies for the benefit of farming community. About 8 lakhs of people visited the Krishimela-2021 in-person and 38.11 lakhs of people have participated in the mela virtually. The special attractions of the Mela were 800 kg OX brought by Mr. Boregowda from Malavalli, one lakh worth sheep, drone sorayer, liquid nano fertlizers and the demonstration model of doubling of farmers income.

4.4.13 Significant Achievements

1. e-krishiuasb portal (http://e.krishiuasb.karnataka.gov.in) has been functioning at ATIC which contains technical information of cultivation practices of agricultural and horticultural crops, animal husbandry, sericulture, fisheries and supplementary information to give real time technical solutions to the farmers and the other stake holders besides regular weather alerts, agriculture news, training calendars of KVK's etc. Along with this, the link has given to websites of agriculture and other allied developmental departments and farm universities of Karnataka state. So far 38,87,252 visitors viewed the Agri. Portal (up to March 31, 2022) and during 2021-2022 the visitors were 7,32,435 visitors viewed.
2. Agricultural Technology Information Centre has started 'RAITHA MITHRA' column being published in Vijayavani Daily Newspaper' every Monday from 06.09.2021 in which technical staff of ATIC gives suitable advice for farmers to the frequently asked questions / problems of the week. So, far 30 columns have been published and answered for 73 questions / problems (up to March 31, 2022). This paper has got more than 8 lakh subscription in the state.
3. MOU between UAS, Bangalore and Shrmajeevi T.V. for quick transfer of Agricultural Technologies.
4. Soft copy of Improved Package of Practices in Agriculture was sent to 2,85,065 farmers and farmers groups through WhatsApp.
5. Improved Package of Practices in Sericulture was released by Sri Thawar Chand Geholot, Hon'ble Governor of Karnataka during Krishimela - 2021.
6. Demonstration on use of drones for spraying of chemicals was carried out by ICAR, KVK, Chintamani at NICRA Village on 14.01.2022. Farmers were explained about the efficiency of drones in agriculture.

Demonstration was carried out in tomato, brinjal, mango and beetroot crops. Farmers were also explained about advantages of saving of water, chemical and manpower by using drones.

7. ICAR-KVK Hassan in collaboration with GIZ and international potato centre has introduced the apical rooted cuttings (ARC)/apical stem cuttings technology in potato to provide quality planting materials like tubers/ saplings to the farmers in the district for the first time in the country through demonstrations. The result demonstrations revealed that a total of 36.98 tons of G-0 generation tubers were produced during 2020-21 *Kharif* season were used as a seed and sown in 21 ha during *Rab*i season and harvested 410 tons of G-1 generation tubers which is used as a seed for 228 ha during 2021-22. Further produced seeds can be used as seed material upto 3rd and 4th generation. This helped the farmers of the district to get good quality seed materials with less cost, and 17 lakh potato saplings produced during 2021-22. In the next five years, the technology will spread to 5000 hectares and will provide employment to over 2.5 lakh villagers in the district through the production of 50 crore potato saplings and seed tubers.

8. Krishi Vigyan Kendra, V.C.Farm, Mandya in association with the technical Team from GARUDA AEROSPACE PRIVATE LIMITED, CHENNAI organized a demonstration on spraying pesticides using drones on 03.08.2021 at KVK farm. Farmers from in and around villages of KVK, Students of DAESI, FPOs and Extension Functionaries participated in the event and gained knowledge on drone spraying.

9. UAS-B Agri. War unit again started functioning at ATIC during COVID -19 pandemic situation with a team of scientists from different disciplines. Further, district level committees were also formed by KVKs and EEU's to provide technical advisory services and also to facilitate linkage between farmers and the consumers for marketing of Agriculture produce. The units/KVKs provided 1472 consultancy services on various aspects viz., technical guidance on crop production (355) and plant protection (151), Availability of seeds (380) and planting material (345), animal husbandry (79), market linkages and other aspects (162). The units/KVKs have organised direct sale of fruits (11,325 metric tonnes) and vegetables (18,828 metric tonnes), by the farmers' to the consumers. Besides this, the unit answered 545 whatsapp queries and sent PDF format of Package of practices to 993 members through whatsapp.

10. Online training programmes/Webinars during COVID-19 situation was organized by KVKs/Units online trainings/webinars (227) on various topics viz., Strengthening and feed management in sheep and goat rearing, Construction and maintenance of sheep and goat rearing house, Mushroom cultivation for sustainable livelihood, Soil health in sustainable agriculture, Importance of milk & milk production , Clean milk production, Fertilizer awareness campaign, Management of pests & disease in flower crops, Entrepreneurship opportunities in floriculture and Improved Coconut production practices to 10656 farmers have benefitted from training programmes..

11. Bakery Training Unit, Hebbal, Bangalore organized ICAR sponsored 10 days short course on 'Advances in Research Methods and Applications in Social Sciences' from 17.02.2022 to 26.02.2022 and twenty three assistant professors and above cadre from various states were participated in the programme.

4.4.14 Extension Projects

The Directorate of Extension handled 24 externally funded by different agencies which are in operation. The details are provided in the Annexure 3.15

Chapter V

5. *Events Organised, Capacity Building Programmes, Awards & Recognitions and Publications*

Details of Celebration of State, National Days and International Events by the University; Presentation of papers by the faculty, Number of conferences /seminars /workshops /Training programmes, etc., attended and organised; Nominations for different assignments; Extension activities organised and number of Publications brought out by the faculty are presented in this chapter

5.1 Celebration of important State, National and International Days / Events & Programmes

All the Colleges / Units of different Directorates of the University celebrated many State, National and International Days/Events, the details of which are given below :

- World Honey Bee day and webinar was organized on 20.05.2021 by the Department of Apiculture, AICRP (HB&P), UAS-B in collaboration with NABARD.
- World Environmental Day was organized on 5th June 2021 by the Department of Forestry & Environmental Science, CoA, GKVK, Bengaluru. College of Sericulture, Chintamani; College of Agriculture, Hassan; College of Agriculture, Mandya; All the KVKs/Units of the University celebrated the event.
- 7th International Yoga Day was organized at College of Agriculture, GKVK on 21.06.2021 at GKVK Campus, Bengaluru. College of Sericulture, Chintamani also organised the Yoga Day on 21st June 2020.
- College of Agriculture, Hassan celebrated "National Doctors Day" by felicitating Campus Doctor on 01.07.2021.
- The 75th Independence Day was celebrated religiously on 15th August, 2021 at GKVK, Bengaluru. Dr. S. Rajendra Prasad, Vice-Chancellor hoisted the tricolour National Flag accompanied by Dr. T. Narendrappa, Dean, Student Welfare in commemoration of completing 74 years of India's freedom from British rule. All the constituent Colleges, Units and KVKs also celebrated the events.
- The College of Agriculture, GKVK celebrated "Fit India Run" on 18.09.2021 conducted as part of Sadbhavana Day 2021 at GKVK Campus in co-ordination with state NSS Cell. NSS Unit of College of Sericulture, Chintamani and CoA, Mandya also organized Fit India Freedom Run-2.0 on 18.09.2021 as part of the Azadi ka Amrit Mohotsav which Commemorates the 75th Independence day.
- Vigilance Awareness Week 2021 was celebrated (26.10.2021 to 01.11.2021) on 28.10.2021 at College of Agriculture, V.C. Farm, Mandya
- On the occasion of birth anniversary of Sri. Sardar Vallabhai Patel, National Unity/Rashtriya Ekta Divas was celebrated at College of Agriculture, GKVK, Chamarajanagara, Hassan, Mandya and College of Sericulture, Chintamani on 31-10-2021
- The College of Agriculture, GKVK celebrated Constitutional Day' on 26.11.2021 at GKVK, Campus in co-ordination with SC/ST Cell.
- Youth Red Cross Society Unit, College of Agriculture, Hassan in collaboration with, NSS Unit, CoA, Hassan, Lions Club, Hassan and District Heath & Family Welfare Department, Hassan organized World AIDS Day 2021 on 3rd December 2021

- The Agriculture Education Day-2021 and Women in Agriculture Day-2021 was celebrated jointly by College of Agriculture, Chamarajanagar, KVK, Chamarajanagar and AICRP on Cotton and Sorghum, Chamarajanagar on 04-12-2021. College of Agriculture, Hassan also celebrated the event.
- Jai Kisan Jai Vigyan Week and Kisan Day was celebrated by all the KVKs/Units of UAS-B and constituent Colleges at Chintamani, Hassan, Mandya on 23rd December, 2021 to commemorate the remembrance of Shri. Chaudhary Charan Singh and Shri Bihari Vajpayee, Former Prime Ministers of India and their contribution to Agriculture and Technology
- 73nd Republic Day was celebrated at GKVK, UAS, Bangalore with great gratification and joy on 26th January 2022 wherein Dr. S. Rajendra Prasad, Vice-Chancellor unfurled the National flag. The day was celebrated across all the Colleges/KVKs/Units/ARSs of the University
- The National Youth Day was celebrated at College of Agriculture, Chamarajanagar, with a theme "Its all in the Mind" on 12-01-2022.
- AICRP on Pigeonpea and Arid Legumes, GKVK organized the 'World Pulses Day-2022' under the theme 'Pulses to empower youth in achieving sustainable agro-food systems' at Zonal Agricultural Research Station, GKVK on 10.02.2022. The day was orgnaised in all the KVKs of the University.
- 86th Birth anniversary of Prof. M. D. Nanjundaswamy was organized on 14th February, 2022 under the aegis of Prof. MDN Research Chair, Department of Agricultural Economics, University of Agricultural Sciences, GKVK.
- World Forest day was organized on 21.03.2022 by the Department of Forestry and Environmental Science, UAS, GKVK, Bangalore.
- College of Agriculture, Karekere, Hassan organized several events as a part of Centenary of Parliamentary Democracy and Electoral System: on 30th & 31st March 2022
- Colleges/KVKs/Units/ARSs coming under the jurisdiction of UAS-B celebrated World Environment day on 05.06.2021, World Yoga day on 21.06.2021, Parthenium Awareness week, Gandhi Jayanthi on 02.10.2021, World Food Day on 16.10.2021, Women in Agriculture Day on 04.12.2021, World Soil day (with the theme 'Halt Soil Stalinization and Boost soil productivity') on 05.12.2021, Farmers Day on 23.12.2021, International Women's day on 08.03.2022 and World Water Day on 22.03.2022 to create awareness among the farmers and students.
- All the Krishi Vigyan Kendras, Farmers training unit and Extension Education Unit, Mysore organized World Breast Feeding Week, during August-2021; National Nutritional week, Poshan Maha during September-2021; World Honey Bee Day on 20.05.2021; World Milk Day on 01.06.2021; Mahila Kisan Diwas on 15.10.2021; World Diabetic Day programme on 20.11.2021; World women's health day on 12.12.2021 and Poshan Pakwad on 30.03.2022 wherein 8950 farmers and farmwomen were benefited.
- Teachers Day & Kannada Rajyothsava Programme: Teachers Day & Kannada Rajyothsava Programme was organized in co-ordination with Teaching and Nonteaching association.

5.2 Important Conferences / Seminars / Workshops/Training Programmes organized

All the directorates of the University have organised Conferences / Seminars / Workshops / Training Programmes and the details of the important programmes organised are presented below :

- Department of Agricultural Marketing, Co-operation and Business Management, CoA, GKVK, Bengaluru organized Agricultural Business Innovation Day-2021 on 03-04-2021. Organized Vanijya Saptah-2021: Capacity Building Programme for FPOs & Farmers on Exports on 26-09-2021. Organized training

programme on Leadership for Life Training Program for Final year students of B.Sc. Ag Maco on 28-09-2021 and 29-09-2021.

- Bakery Training Unit, Directorate of Extension, UAS, Bangalore organised lecture series on "Healthy lifestyle during COVID-19 pandemic" from 17.05.2021 to 25.05.2021

- AICRP on castor organized a training programme on New varieties/ Hybrids and improved cultivation practices in castor in online mode to farmers of Karnataka on 26th May, 2021. Similar programme was organized in online mode to Frontline demonstration beneficiaries in Turuvekere taluk in Tumkur dist on 4th June 2021.

- Virtual Training programme on Integrated crop management in Small millets was organized to FLD beneficiaries in Karikere, Nonavinakere, Tumkur district on 8thJuly, 2021 by AICRP on Smallmillets, GKVK. About 22 farmers participated in the training programme. Training programme on Improved practices of finger millet to frontline demonstration beneficiaries was organized in Upkara colony, Gundlupete taluk, Chamarajanagara District by AICRP on Small millets, Mandya on 16th July 2021.

- AICRP on Home science (Foods and Nutrition), GKVK organised a webinar on "Nutrigarden for sustainable nutritional security" on 05.08.2021 and also a Webinar on "Dietary approaches for management of overweight and obesity" on 10th August 2021 as part of 75 years of India's Independence (Azadi Ka Amrut Mahotsav) in coordination with Krishi vignana Kendra, Chinthamani. Virtual training programme on Diabetes and Dietary management in Diabetes Mellitus was organized in collaboration with Krishi Vigyan Kendra, Tumkur on 13th July 2021. Virtual training programme on Malnutrition among Women and Children was organized in collaboration with KVK, Mandya on 16th July 2021. Training programme on "Breast feeding" was organised on 6th August 2021 as a part of 75 years of India Independence as Azadi Ka Amrut Mahotsav in coordination with Krishi vignana Kendra, Hadonahalli, Bangalore Rural district. AICRP organized Training cum Method demonstration on value added food products on 9th February 2022 at Basavapattana of Chickaballpura.

- AICRP on Potential crops, GKVK organised a one day workshop on nutri-rich potential crops for food and nutritional security for extension functionaries of ATMA staff from Karnataka State Department of Agriculture on 27th, August, 2021. One day workshop on nutri-rich potential crops for food and nutritional security for rotarians and entrepreneurs was also orgnaised on 28th August, 2021. During the year, under Rashtriya Krishi Vikas Yojana the centre organized 17 training programmes on nutritional importance, cultivation practices, processing, value addition and marketing of Grain amaranth, Quinoa and Chia crops

- AICRP on Vertebrate pest management organized four traning programmes on Vertebrate Pest management on 25.08.2021, 24.09.2021, 26.10.2021 and 04.01.2022 at Arekaduvina doddi, Camarajanagara(76 men and 52 women), Vaddarahalli, Doddaballapura (67 men and 49 women), Iyyanahalli, Doddaballapura (59 men and 43 women) and Idaguru, Tumkur (69 men and 42 women) respectively.

- All India Coordinated Research Project on Dryland Agriculture, GKVK, Bengaluru organised a workshop on Farm Mechanization and Improved Agricultural Implements for 30 officials of Department of Agriculture from different districts of Southern Karnataka on 15 September 2021. Also organized one-day brainstorming workshop for drawing action plan for collaborative research in agriculture and allied sector on Developing Response Farming System in Reducing Climate Risk' at UAS, Bangalore on 29 October 2021. Farmers-Scientist interaction programme- Kisan Goshti was organized at Chikkaputtayanapalya and at GKVK, Bengaluru on 30.8.2021. AICRP on dryland Agriculture organized training programme and input distribution programme at On Farm Research - Rainfed Integrated Farming System (OFR- RIFS) cluster village Gidaganahalli, Tumkuru district on "Improved cultivation practices of fodder crops and Animal nutrition" by introduction of Hi-min: a multi-nutrient mineral mixture (manufacturer: SPICA nutritions, Bangalore) on 04-02-2022.

- Inland Fisheries Unit, Main Research Station, Hebbal organized four "National Hands-on Training Programme on Freshwater Pearl Culture" from 16th to 18th September; 28th to 30th September, 2021; 18th to 20th November, 2021 and from 15th to 17th December, 2021.
- Five Awareness programmes on Bioenergy and biofuel plants was organized by Information and Demonstration Center, Biofuel Park, Madenur on 08.10.2021(22 farm men), 09.10.2021(25 farm men), 26.11.2021 (18 farm men), 9.12.2021 (18 farm men) and 27.12.2021(17 farm men) at Bindenahalli village of Channarayapatna taluk, Thattekere village of Holenarasipura taluk, B.Gollarahatti village of Arasikere taluk, Banakuppe village of Holenarasipura taluk and Kattaya village of Hassan taluk respectively
- AICRP on Cotton organized Training programe on Integrated Crop Management in Cotton to FLD farmers on 6th December 2021 at AICRP on Cotton, Chamarajanagar, 40 farm men and 05 farm women participated in the training programme. Organised training programe on Integrated Pest Management in Cotton to FLD farmers on 9th December 2021 at AICRP on Cotton, Chamarajanagar.
- Training programme on Agroforestry for Rural Youth of Mandya and Tumkur Districts, Karnataka was organized by AICRP on Agroforestry, Bangalore in collaboration with ICAR-Central Agroforestry Research Institute (CAFRI), Jhansi, sub-mission on agro-forestry (SMAF), Karnataka and FTI, GKVK from 14-16, December, 2021.
- Training programme on Weed Management Implements was organized by AICRP on weed Management on 23rd December, 2021 at GKVK, Bengaluru
- Department of Agricultural Economics, CoA, GKVK, Bengaluru organized Kick-off Programme on "International (IVC) 2021 on "Tackling climate change through global learning" on 03-06-2021. Organized Virtual course on "International (IVC) 2021 on "Tackling climate change through global learning" from 14-06-2021 to 21-06-2021. The department also organized International panel discussion on "Mitigation and adaptation strategies to climate change from 30-07-2021 to 03-08-2021. organized training programme on "R- software" from 05-08-2021 to 5-10-2021.
- Workshop-cum-demonstration on "Upgraded UGAM and Newly developed PG Automation software' was conducted by University Examination Centre at College of Agriculture, GKVK, Bangalore and other four constituent campuses from 09.08.2021 to 19.08.2021 to all the UGAM stakeholders
- In coordination with TECSOK, Directorate of Post Graduate Studies, UAS-B organized Faculty Development Training Programme for UAS-B faculties from 24/08/2021 to 26/08/2021 and from 31/08/2021 to 02/09/2021.
- Farmers' Training Institute of UAS-B organized one day Workshop on 'Rural Entrepreneurship and Youth Empowerment' at GKVK, on 27.08.2021.
- College of Sericulture, Chintamani organized ICAR Sponsored Training and Capacity Building Programme for Faculty from 4-8 September, 2021 with the theme 'Booming Teaching and Scientific Professionalism' to update the faculty with emerging tools and techniques in the field of teaching, research and extension
- UASB Science Week 2021: PG Students' Symposium was held from 27thto 30thSeptember, 2021. Due to COVID-19 pandemic, as a precautionary measure this academic year's PG Science Week-2021was organized in "Online" mode
- Department of Crop Physiology, CoA, GKVK organised an international conference ConSept 21: International Dialogue on harnessing Plant Physiology for crop improvement on 25th September, 2021.
- The Department of Processing and Food Engineering, CoAE, GKVK organized one day Training Programme on "Skill Development Training on Maintenance and Servicing of Tractor and Agricultural Machinery for

ST/SC Farmers and Rural Youths on 29.09.2021 at College of Sericulture, Chintamani; on 02.11.2021 at ARS Pavagada; on 07.01.2022 at College of Agriculture, Mandya; on 28.02.2022 at KVK, Chamarajanagar and on 28.03.2022 at KVK, Mandya under Skill Development Centre, UAS, Bangalore.

- The Department of Farma Machinery and Power Engineering, CoAE, GKVK Conducted 21 days Virtual Training programme "Rice Increasing Technology for India" during 24.11.2021 to 14.12.2021 organized by Longping Hightech International training centre in association with Ministry of Commerce of China. Organized Technical Talk on "Application of Drones in Agriculture" presented by Managing Director, Jane Aerospace Pvt. Ltd. Bangalore on 24.02.2022.

- College of Sericulture, Chintamani in association with Technical Consultancy Services Organization of Karnataka (A Government of Karnataka Organization) organized three days entrepreneurship development programme (EDP) for III B.Sc. (Hons.) Agriculture & B.Sc. (Hons.) Sericulture students from 17.09.2021 to 19.09.2021. College of Sericulture, Chintamani organized training programme on "Maintenance and Servicing of Tractor and Agricultural Machinery for ST farmers & Rural Youth on 29.9.2021 at College of Sericulture, Chintamani. One day Training and Capacity Building programme on Repair and Maintenance of Solar Light System was also organised on 04.01.2022 at CoS, Chintamani. District Biofuel and Demonstration Unit, College of Sericulture, Chintamani has organized Biofuel Awareness programme at Hosahudaya village, Chintamani taluk on 10.08.2021; Thummalahalli village, Chintamani taluk on 12.08.2021; Thaladummanahalli village, Chintamani taluk on 14.08.2021; Bakatharahalli village, Chintamani taluk on 15.09.2021 and Madanahalli village, Chintamani taluk on 28.09.2021 for the benefit of farmers. Department of Agricultural Entomology, College of Sericulture, Chintamani has organized One day workshop on 'Beekeeping' for farmers & Rural Youth on 15.9.2021 at College of Sericulture, Chintamani in collaboration with Dept. of Apiculture, GKVK, Bangalore. In collaboration with University Library, orientation programme on "accessing sentential and MyLoft software for the benefit of faculty was organised on 13.12.2021 at CoS, Chintamani.Department of Agricultural Entomology, College of Sericulture, Chintamani also organized two day training programme on Integrate Pest Management (IPM) for farmers & Rural Youth on 08.02.2022 at College of Sericulture, Chintamani.

- College of Agriculture, Hassan organised a Webinar on "Minding the Mind" and "How to be Positive during COVID-19 pandemic" On 10th, 12th and 15th June, 2021. A Webinar on "Recent Trends in Cyber Crime and Preventive Measures" was organized on 11th June 202. A Webinar on "Right Attitude" was organized on 15.06.201. Skill Development Programme on "Organic agriculture" was organized on 12th &13th February, 2022 for the benefit of girls students. CoA, Hassan organised a Training on Digital Empowering of Rural youths on 12.02.2022 in collabaration with tene-solutions, Bengaluru. Workshop on climate change and its impact on Agriculture was organized on 16-02-2022 in collabaration with NABARD, Hassan.

- Department of Agricultural Statistics, Applied Mathematics and Computer Science, GKVK, Bengaluru organized training programme on "Python" Software held on 21st October 2021 to 30th October 2021 for PG Students under ICAR Development Grants.

- Workshop on NAHEP Component-2 activities at UAS (B) on 24th and 25th Nov 2021 organised by ICAR-NODAEC, UAS, Bangalore at GKVK, Bengaluru.

- Department of Horticulture, GKVK, Bengaluru organized two online National webinars on 'Commercial production and Utilization of exotic fruits and vegetables on 16-12-2021 and 'Usance of Medicinal Plants with Special Reference to COVID Pandemic' on 06-01-2022 for Scientists, entrepreneurs, farmers and students.

- College of Agriculture, Chamarajanagara in collaboration with NABARD organized one day workshop on "Schemes for Establishing Agri-Business centers" to 3rd B.Sc. (Hons.) Agri students on 28-12-2021. College of Agriculture, Chamarajanagara organized training programme on Training and demonstration of

Library Information System- MYLOFT, NIPA and LANQUIL software application for staff and students of CoA, Chamarajanagara, on 28-12-2021

- KVK Ramanagara organised a workshop at Zilla Panchayath, Ramangara on coconut products under One district One product on 28.12.2021

- The Staff Training Unit of UAS-B organized ATMA Progress Review workshop on 05-01-2022 for ATMA Staff of Bengaluru, Chikkaballapura, Chitradurga, Davanagere, Kolar, Ramanagara and Tumkuru Districts at GKVK, Bengaluru. The Staff Training Unit organized ATMA Progress Review workshop on 19-02-2022 for ATMA Staff of Chamarajanagara, Chikkamagaluru, Dakshina Kannada Hassan, Kodagu, Mandya, Shivamogga, Udupi and Mysuru at District Agriculture Training Center, Naganahalli, Mysuru.

- International conference on harnessing the potential finger millet for achieving food and nutritional security: Challenges and prospects (ICFM-22) was organised by UAS, Bangalore in collaboration with ICAR-Indian Institute of Millet Research, Hyderabad and International Crops Research Institute for the Semi Arid Tropics, Hyderabad from 19-22, January 2022 at Zonal Agricultural Research Station, Mandya.

- The Department of Sericulture, CoA, GKVK, Bangalore organized two skill development programmes on 03.12.2021 and the other from 28.01.2022 to 29.01.2022

- Department of Apiculture, AICRP (Honeybees & Pollinators), CoA, GKVK, Bengaluru organized one day webinar on Motivational Success Stories in Beekeeping for economic empowerment of beekeepers during pandemic on 20.05.2021 through Online, besides two days training Programme on "Sustainable Techniques and Motivational Success Stories in Beekeeping Sustainable Techniques and Motivational Success Stories in Beekeeping from 5th - 6th August, 2021, 6th - 7th September, 2021, 25th - 26th October, 2021, 14th - 15th December, 2021 and 28th - 29th December, 2021.

- Department of Plant Biotechnology organized two days ICAR sponsored seminar series on "Frontier areas of Biotechnology" from 16.02.2022 to 17.02.2022 at Department of Plant Biotechnology, College of Agriculture, UAS, GKVK, Bangalore

- Department of Food Science & Nutrition, GKVK, Bengaluru organized Entrepreneurs training programme for about 50 farmers at Department of Food Science and Nutrition on 27.08.2021. The department also organized EDP on sewing, dress design and embroidery under Skill Development Centre from 28th to 30th March 2022 for women Entrepreneurs

- College of Agriculture, V.C. Farm, Mandya organized International Conference on Finger millet entitled "Harnessing the potential of finger millet for achieving food and nutritional security: Challenges and prospects (ICFM-2022)" from 19.01.2022 to 22.01.2022

- All the KVKs (7) under the jurisdiction of UAS-B in collaboration with petroleum conservation research association southern region have organised 35 (5 for each KVK) one-day agricultural workshops on sensitization of farmers in minimization and conservation techniques of petrol in agriculture for 950 farmers in their district.

- The Department of Soil Science & Agricultural Chemistry, CoA, GKVK, Bangalore conducted training programme for Bio fertilizer Quality Control Laboratory from 21.02.2022 to 25.02.2022 (Technical staff of Department of Agriculture).

- Department of Agricultural Extension, UAS, GKVK organized ICAR sponsored 21 days Winter School "Agri Startups and Entrepreneurship Development" from 23.02.2022 to 15.03.2022.

- Department of Agricultural Microbiology conducted a Training programme on "Quality Control of Biofertilizers "for ADA and AO's of State Department of Agriculture from 28th February,2022 to 5th March,2022

- The Directorate of Extension, UAS, Bangalore organized participatory workshop on "Enhancing the technical competencies of KVK Scientists" at KVK, Bangalore Rural from 03.03.2022 to 04.03.2022. The Directorate of Extension organized Pre-action plan workshop of KVKs coming under the jurisdiction of UAS, Bangalore at KVK, Chamarajanagara from 16.03.2022 to 18.03.2022.

- AICRP on Seed (Crops) organized training programme on techniques in hybrid maize seed production at Meerasabihalli village, Challakere tq, Chitradurga district on 17.03.2022 for hybrid maize seed producing farmers.

5.3 Participation in Conferences / Seminars / Workshops / Other activities (International)

The details of participation in Conferences / Seminars / Workshops (outside India) by the teachers are presented here under:

- Dr. Murali Mohan, Professor, Department of Entomology, College of Agriculture, GKVK attended the International Training at University of Lleida, Spain on "NGT for forecasting pests and disease outbreaks for effective management" under Centre for Advanced Agricultural Science and Technology (CAAST) of National Agricultural Higher Education Project from 13.01.2022 to 28.03.2022

- Dr. C.N.L, Reddy, Associate Professor, Department of Plant Pathology, College of Agriculture, GKVK attended International Training Programme on "the effect of endophytes on plant virus diseases and novel techniques for sequencing of plant viruses" at Leuven, Belgium from 7th February to 23rd March 2022 under Centre for Advanced Agricultural Science and Technology (CAAST) of National Agricultural Higher Education Project.

- Dr. Rajendra Prasad. B. S., Scientist (Plant Protection) participated in the International Training on 'NGT for forecasting pests and disease outbreaks for effective management' scheduled at University of Leida, Spain from 13-01-2022 to 28.03.2022.

- Dr. Nagesha, S. N, Assistant Professor of Bioinformatics and Dr. Geetha Govind, Assistant Professor College of Agriculture, Hassan has participated in the international training at Friedrich-Schiller University, Jena, Germany under CAAST project form 20.11.2021 to 15.02.20222

- Dr. Siddayya. Professor, Department of Agricultural Marketing, Co-operation and Business Management participated in International Webinar AgriTalks India-Brazil themed Agriculture Innovation & Food Security organized by Elets Technomedia on 28-09-2021. Dr. Mamatha Girish, Assistant Professor participated in online International Webinars on Safety Without Freedom? The Online Safety Bill (on 25-05-2021), The Changing Tax Consensus (on 1-06-2021), The Planning Bill: Serious Reform or Missed Opportunity? (15-06-2021) and organized by Adam Smith Institute, London.

- Dr. G.M. Gaddi, Professor, Dept. of Agricultural Economics, UAS, GKVK, Participated in online International Virtual course 2021 on Tackling Climate Change through Global Learning being (Online) organized by UASB, ZHAW, Switzerland UFGD Brazil & University of Nairobi, Kenya from 15-05-2021 to 20-08-2021. Participated in "SDG Lab Society - Session on Floods in Karnataka -Case Study" organized by Ghent University, Belgium from 22nd to 30th Nov. 2021.

- Dr. Rinku Verma, Assistant Professor, Department of Forestry and Environmental Science, GKVK, Bengaluru participated a virtual workshop on Transforming our world: Agenda for Sustainable Development' on 27.05.2021 organized by Swissnex, Swiss Embassy, Switzerland Science Curio Series.

- Dr. P. S. Srikantha Murthy, Professor, Department Agricultural Economics, UAS, GKVK, participated in SDG Lab Society - Session on "Floods in Karnataka state" organized by Ghent University, Belgium on 29-11-2021 & 30-11-2021. He also participated in "IMRD SDG Lab Society discussion on case study" organized by Ghent University, Belgium on 13-12-2021 & 14-12-2021.

- Dr. N.B. Prakash, Dean (Agri.), UAS, GKVK, Bengaluru participated as a Lead speaker in 1st Biochar Malaysia Association International Conference, organized by Biochar Malaysia Association on 10.11.2021.

- Er. Prasanna Kumar, Associate Professor and Head, Department of Farm Machinery and Power Engineering, CoAE, GKVK participated in the 21 days Virtual Training programme "Rice Increasing Technology for India" during 24.11.2021 to 14.12.2021 organized by Longping Hightech International training centre in association with Ministry of Commerce of China.

- Dr. Marappa, N, Associate Professor of Genetics and Plant Breeding attended international training on "NGT for precision breeding including use of advanced genomics tools and introgressionnomics" at University of Ruhuna, Matara, Sri Lanka from 20.03.2022 to 30.03.2022

- Dr.Parashiva Murthy, Prof., and Head, Department of Seed Science and Technology, College of Agriculture, UAS, GKVK and Dr.K.Vishwanath, AICRP on Seeds (Crops) participated in online training course on Rice yield increasing technology for India sponsored by Ministry of Commerce of China and organized by Yuan Longping High-Tech Agriculture Co.Ltd., Changsha Hunan, China from 24th November to 14th December 2021.

- Dr. Anjan Kumar, M.J., Asst. Prof., (Agril. Economics), AICRP on Integrated Farming Systems participated in one week international virtual workshop (Spectrum 2021) on "Research paradigm organized by Research and Development Cell, St.Francis College, Koramangala, Bangalore from 3-8 May, 2021.

- Dr. K.N. Geetha, Scheme Head, AICRP on Weed Management participated in the International Webinar on "Climate Resilient Agriculture for Food and Health Security on 16th April, 2021.

- Dr. H.M. Atheekur Rehman, Assistant Professor (Agronomy), AICRP on Pigeon pea participated in the international webinar "Microbials - A new tool for Sustainable Agriculture? Under "Sustainable plant webinar series by Food and Agriculture organization (FAO)- Impact Focus Areas (IFA), Berlin on 26th May, 2021

- Dr. B.G. Vasanthi, Associate Professor, AICRP on Dryland Agriculture attended 2nd International Web-Conference of Academy of Natural Resource Conservation and Management (ANRCM) on Smart Agriculture for Resource Conservation and Ecological Stability from 29.10.2021 to 30.10.2021.

5.4 Presentation of Paper in Seminar / Conference (Outside University)

The details of presentation of papers by the teachers/students in Seminar / Conference are detailed below:

- Dr. Rinku Verma, Assistant Professor, Department of Forestry and Environmental Science, GKVK, Bengaluru presented a paper on Google meet, entitled "Plastic waste Pyrolysis" in the online Waste to Resource conference 9th International Symposium, Circular Economy, MBT, MRF and Recycling 2021 organized by Karlsruhe, Germany from 18.05.2021 to 20.05.2021. Presented a paper on Google meet entitled "Clean Water and Sanitation" in the online program on Reusing Recycled Water of Bangalore for nearby Small cities, SDG- 6, Alumni for Sustainable Development Goals: Organized by the German Academic Exchange program on 25.08.2021.

- Dr. Hanamanthappa, D. C., Associate Professor of Agronomy, AICRP on Agroforestry participated in two day National E-seminar on "Ecosystem Restoration"organized by Institute of Science, Gandhi Institute of Technology and Management (GITAM), Visakhapatnam and Presented a paper entitled 'Melia dubia for Sustained Ecological Restoration on 4th and 5th June 2021.

- Er. Babu RM Ray, Assistant Professor, Department of Processing and Food Engineering, CoAE, GKVK Presented Presentation on "Jack fruit functional candies" in the International Conference on Sustainable Approaches in Food Engineering and Technology (SAFETY-2021) at TEZPUR University in collaboration with Georgia University during 24-25th June 2021 (Both oral and poster presentation).

- Shri C.V. Venkatesha Murthy, Associate Professor, STU presented a research paper on "Biogas Technology: A Step Forward In Ensuring The Long-Term Viability of The Environment And The Health Condition of Rural Women In Karnataka" in the ISEE Seminar on "Transforming Indian Agriculture Through Pluralistic & Innovative Extension Approaches for Self Reliant India held at BHU, Varanasi Uttar Pradesh held from 4-6 October 202. Dr. Madhu Prasad.V.L., Head, FTI participated in the Seminar and presented a paper on 'Impact of Livestock based Integrated Farming System(IFS) on Livelihood Security of Family Headed Farm Women in Mandya District'.

- Dr. Umashankar Kumar N, Associate Professor, Department of Plant Pathology, College of Agriculture, Chamarajanagara has participated Virtually in National Symposium on "Sustainable Plant Health Management Amidst Covid Pandemic: Challenges and strategies" from 01-03 December 2021. Organised by Indian Phytopathology Society (South Zone Chapter) in association with ICAR-Central Plantation Crops Research Institute Kudlu.P.O, Kasargod, Kerala, India.

- Dr. Ramakrishna Naika, Profesor of Sericulture presented a paper on 'Bio-ecology and management of mulberry leaf roller with special reference to new generation insecticides' at International Conference-2021 on Global Perspectives in Crop protection for Food Security held 8-12 December 2021 at Tamil Nadu Agricultural University, Coimbatore

- Dr. Usha Ravindra, Professor, Food Science and Nutrition, UAS(B) Received 2nd Best paper award for presenting oral paper on "Role of Micronutrients, Immunity and health, Nutrifarm: A strategy to boost immunity and mitigate micronutrient malnutrition" on 18th and 19th June 2021 in two days international virtual conference organized by Manav Rachna International Institute of research and studies, Haryana.

- Dr. Nataraja Karaba, Professor, Department of Crop Physiology, CoA, UAS, GKVK presented a paper on 'Manipulation of physiological traits using elicitors and hormones' at ConSept21, 25th Sept 2021

- Dr. Sheshshayee, Professor and Head, Department of Crop Physiology, CoA, UAS, GKVK, presented a paper on 'Utilizing physiolo-gical mechanisms of drought tolerance in crop improvement' at ConSept.21 on 25th Sept. 2021

- Dr. B.Krishnamurthy, Professor and Head, Dept. of Agril. Extension, GKVK presented a paper entitled "An Analysis of Consumer Preference towards Fresh Cut Fruits and Vegetables in Modern Retail Formats of Bengaluru city, Karnataka" at Banaras Hindu University, Varanasi during ISEE National Seminar 2021. He also presented a paper entitled "Profile characteristics and constraints faced by farm women in management of Coffee Plantation in Kodagu district, Karnataka"

- Aksay Kumar, T. K. and Dr. H. M. Jayadeva, Prof. & Head, Dept. of Agronomy, CoA, GKVK presented a paper on 'Studies on seed treatment with synthesized nano iron on germination percentage and seed vigour of aerobic rice' in Extended Summaries: 5th International Congress, 23-27 November, 2021 Hyderabad, India.

- Dr. Mallikarjuna, N., Assistant Professo (Pl. Pathology), AICRP on Maize participated in National Conference on Maize for resource sustainabitlity, industrial growth and farmers prosperity held at Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan from 23rd to 25th February, 2022 and presented the paper entitled Confirmation of stable resistance sources to Northern corn leaf blight (Exserohilum turcicum (Pass. Leonard Suggs) in Maize\

- Dr. K. P. Raghu Prasad, Professor and Head, ATIC, GKVK participated and presented a paper in the National conference on "NEP-2020 for Comprehensive Transformation in Agricultural Education - initiatives, challenges and a way forward" held on 15th & 16th March, 2022 organised by UAS, Raichur under ICAR, NAHEP-IG project. Dr. Vinay Kumar R., Assistant Professor, PPMC, virtually participated and presented a poster on "NEP-2020:

- Dr. Kanavi, M.S.P., Associate Professor of GPB, CoA, Hassan made oral presentation of the research paper entitled "Evaluation of germplasm accessions for drought tolerance in green gram [vigna radiata (L.)]" at "International Conference on Chemical, Agriculture, Biological and Environmental Sciences" organised by Global Society for Research and Development at Goa on 20 & 21st March. 2022.

- Dr. Viswanatha Angadi, Assistant Professor of Food Microbiology, CoA, Hasan participated in National conference with the theme 'Microbes beyond Lactic acid Bacteria as emerging Probiobtics' organised by NDRI, Karnal and Dairy Science College, Bangalore on 23rd March 2022 at Dairy Science College, KVAFSU, Bengaluru

5.5 Recognitions /Awards Conferred on Faculty and Students

Many teachers and students have been bestowed with several awards and were recognised for their contribution in the field of teaching / research / extension. The details are given :

Teachers

- Dr. S. Rajendra Prasad, Vice-Chancellor is the receipient of Dr. Chowdiah Shikshana award by Janatha Shikshana Trust (R), Mandya; Honorary Fellowship of Karnataka Science and Technology Academy and Mantralaya Parimala Award, Sri Raghavendra Mat, Mantralaya (Space Media)

- Dr. N.B. Prakash, Dean (Agri), GKVK, has been honoured with FAI award for Excellence in Plant Nutrition by Fertilizer Association of India, New Delhi for his revolutionary research work on silicon in Indian Agriculture on 1st December 2021

- Dr.V.L. Madhuprasad, Professor and Chief Instructor, FTI was awarded M/S Zuari Industries Limited Best Extension worker Award on the occasion of University Foundation Day held on 01-10-2021

- Dr. Rajegowda, Senior Scientist and Head, KVK, Hassan is the recipient of Dr. R. Dwarkinath best extension worker award for the year 2021-22 awarded by from Alumini Association of UAS-B for his contribution in field of agricultural extension

- Dr. K.R. Shreenivasa, Scientist (Plant Protection), KVK, Tumakuru has been bestowed with Dr. R. Dwarkinath Best Extension Worker Award by Alumini Association, UAS, Hebbal, Bangalore on 27.02.2021.

- Dr. A.P. Mallikarjuna Gowda, Senior Scientist & Head, ICAR-Krishi Vigyan Kendra, Bengaluru Rural District is the recipient of Dr. R. Dwarakinath Best Extension Worker Award bestowed during UAS-B Krishi Mela 2021. He is also the recipient of Giriyappa Gowda Best Extension Worker Award given by Alumni Association of UAS-B during March 2022.

- Dr. V.B. Sanath Kumar, Professor & Head, Dept. of Plant Pathology, CoA, Mandya; Dr.K, Murali Mohan, Professor, Department of Agricultural Entomology, College of Agriculture, GKVK and Dr. S.B. Yoganana, Associate Professor, Dept. of Agronomy, CoA, Mandya received University Best teacher Awards-2019-20 at UAS, Bangalore on the occasion of Foundation day held on 01.10.2021

- Dr. Usha Ravindra, Profesor, Department of Food Sceince and Nutrition, CoA, GKVK received State award for 'Best NSS Programme Officer' from State NSS Cell, Ministry of Sports and Youth affairs Government of Karnataka on 12.10.2021.

- Dr. A. Sathish, Professor and Mr. Harsha, Department of Soil Science & Agricultural Chemistry, College of Agriculture, GKVK has been honoured with Prof. B. V. Venkatarao best scientific kannada article Award during Krishi Mela 2021.

- Dr. Dronachari Manvi, Assistant Professor, Department of Agricultural Engineering, College of Agriculture, GKVK secured 4th place in Manthan -2021- State level from FKCCI- Federation of Karnataka Chamber of Commerce and Industry on 04.10.2021.

- Dr. Parashivamurthy, Professor and Head, Department of Seed Science and Technology, College of Agriculture, GKVK has received Excellence in Teaching Award, during ICFAI Conference held on January 2022 at Ranchi, Jharkhand and Best Teacher Award, during Global Management Council Glacier, Journal Research Foundation, held at Ahmedabad.

- Dr. Sowmya, K.J., Technical Assitant, Department of Seed Science and Technology, College of Agriculture, GKVK has received Adarsh Vidhya Saraswati Rashtriya Puraskar, Global Management Council, Glacier Journal Research Foundation, Ahmedbad, January, 2022, National Award of excellance in teaching/ research.

- Dr. Mohith Kumar, G. V., Associate Professor of Agril. Engineering, CoS, Chintamani has been honoured Outstanding Achievement Award on the occasion of 4th International Conference on CAAAHASSE-2021 organized by Agro Environmental Development Society held on March 13-15, 2021 at Uttar Pradesh (India)

- Dr. B. Krishnamurthy, Professor and Head, Department of Agricultural Extension, CoA, UAS, GKVK was awarded Dr. Y.P. Singh Memorial Award - 2021 during ISEE National Seminar 2021 held on 6th October 2021 at Banaras Hindu University, Varanasi.

- Dr. Naveen D.V., Assistant Professor of Soil Science & Agril. Chemistry, College of Sericulture, Chintamani has been honoured Indian Teacher Award 2021 from International Research Association, England, UK

- Mr. Umesh, Asst. Professor (Food Engineering) College of Agriculture, Hassan has been awarded with "Best NSS Programme Officer" State Award for the year 2017-18 in the programme held on 12.10.2021

- Dr. Shankara. M.H, Assistant Professor (Agril. Extension), Dept. of Agricultural Extension, CoA, Hassan is Awarded 'Best Agricultural Scientist Award' by Agricultural Today group, New Delhi for the year 2021

- Dr. L.B. Ashok, Asst. Professor of SS&AC is awarded with 'Young Scientist Award-2021' by Agro Environmental Development Society, Rampur, Uttar Pradesh at 5th International Conference

- Dr. N. G. Ravichandra, Prof., (Pl.Pathology) and Scheme Head, AICRP on Nematodes received Research Excellence Award-2020 by Institute of Scholars, Bangalore

- Dr. Darshan, M.B., Asst. Prof., (Agril. Engineering), AICRP on Post-Harvest Engineering and Technology was awarded Scientist of the Year award by Society for Scientific Development in Agriculture & Technology, Meerut (U.P) on 21.07.2021 at International Web Conference on Innovative and Current Advances in Agriculture & Allied Sciences

- Reviewer excellence award was awarded to Dr.Jadesha,G., Assistant Prof., (Pl.Pathology), AICRP on Maize by Indian journal of Agricultural Research on 30.7.2021

- Dr.V.Palanimuthu, Prof., (Agril. Engineering) and Scheme Head, AICRP on Post Harvest Engineering and Technology was awarded Certificate of Appreciation for encouraging the student to participate in FKCCI MANTHAN-2021 and guiding the student in mentioning Business Plan by FKCCI MANTHAN - 2021

- Dr. Mudalagiriyappa, Prof., (Agronomy) and Scheme Head, All India Coordinated Research Project on Dryland Agriculture was admitted Fellow of the Indian Society of Agronomy (ISA Fellow-2020) in the Fifth International Agronomy Congress On "Agri Innovations to Combat Food and Nutrition Challenges" from November 23-27, 2021 at Prof., Jayashankar Telangana State Agricultural University (PJTSAU), Hyderabad, Telangana in recognition of his outstanding contributions to the discipline of Agronomy
- Dr. Yamanura., Asst.Professor (Plant Breeding) and Head, AICRP on Castor received Young Scientist Award -2021 during International Conference on Recent Advances for Managing Sustainable Soil Health and Crop Production organized by GKV Society, Agra, India from 18 to 20 February, 2022

Students

- Mr. Sidramappa, student of B.Sc. (Agri.) College of Agriculture, GKVK has received the Best National Service Scheme Volunteer award for the year 2018-19 from State NSS Cell, Ministry of Sports and Youth affairs Government of Karnataka on 12.10.2021
- Thirteen students of College of Agricultural Engineering qualified in GATE Examination and one student has cleared the CAT examination.
- M.Tech. (Agri. Engg.) students of CoAE Rakshitha Kamin and Shwetha F Manik stood 4th and 6th place for Business Plan presentation in the MANTHAN Grand Finale 2020-21 organized by FKCCI (Federation of Karnataka Chambers of Commerce and Industries).
- Students of CoA, Chamarajanagar namely, Mr. Yashwanth Gowda M. V. III B.Sc. (Hons.) Agri student represented the University at National Republic Day parade on 26.01.2022 at New Delhi.
- Kavyashree C, Ph.D. scholar, Department of Agricultural Extension, is Awarded Best Presentation on "Agritech start-ups: Redefining Indian Agriculture", during ISEE National Seminar 2021 held at BHU Varnasi, from 4-6 October 2021
- Chaithrashree J. Ph.D. student is awarded State fellowship from Karnataka State Department of Science and Technology
- Veena Bushetti, Ph.D. Student is awarded International Cultural Social Science Research (ICSSR) short time Ph.D. Fellowship from ICSSR, New Delhi.
- Two teams of four students from Dept. of Agricultural Microbiology participated in an event conducted by NAHEP, CAAST and Navsari Agril. University on 5th March, 2022 to present start up ideas for "Hackthon on Smart and Remunerative Farming". One team comprising of Mr. Bharathkumar, III Ph.D. and Ms. Yashaswini, II Ph.D. bagged III prize and are awarded with Rs.10,000/- each.
- Ms. Aryakrishnan, J.U., M.Sc.student of Agricultural Economics, GKVK secured first rank in ICAR-SRF, 2021
- Dr. Deepa, M.P.M., Ph.D. student of Agricultural Economics, GKVK has been awarded with Post-Doctoral fellowship in the area of Developmental Economics under DAAD funded 'A New Passage to India III program' at the Centre for Modern Indian Studies (CeMIS) at the University of Göttingen, Germany for a period of four months from 1st October, 2021 to 31 January 2022
- Mr. Prem Kishore, Ph.D. student is awarded ICSSR, New Delhi Doctoral full time fellowship for his Research programme on "A study on nutritional security and environmental sustainability through urban nutri gardens in Bengaluru"

5.6 Nominations of teachers for different assignment in Government and other agencies

The details of teachers who were nominated for different assignment in Government and other agencies as members during 2021-22 are presented here under

- Dr. S. Rajendra Prasad, Vice-Chancellor has been nominated as member and serving in the following different committees of the Government of Karnataka and Government of India
  - Krishi Kosh Repository with Plagiarism Software and Framing Guidelines
  - Committee of Experts to advise Government of Goa in Agriculture
  - State Level Committee on Standardization (SLSC) nominated by President of India
  - Vision Group on Biotechnology, Govt. of Karnataka
  - Expert Committee of National Education Policy:2020
  - Search Committee for selection of Vice-Chancellor for Odisha University of Agriculture and Technology
  - Selection committee for selection of Director of Research, Coffee Board
  - 24th State Level Export Promotion Committee (SLEPC), Govt. of Karnataka
  - UGC Committee for framing guidelines on Agriculture syllabus for non-Agri graduates
  - Board Member, Karnataka State Rural Development and Panchayat Raj University, Gadag
- Dr. Sheshshayee is nominated as a member of the committees of Government of India namely INSPIRE fellowship program 2021; Interdisciplinary Biological Sciences, 2021; DST committee on International programs in Plant Science and Medical Biology; Member of SERB PAC on Scientific and Useful Profound Research Advancement
- Dr. Nataraja Karaba, Professor, Department of Crop Physiology, College of Agriculture, GKVK is nominated as Fellow of the Karnataka Science and Technology Academy
- Dr. A. Mohan Rao, Professor of Gentics and Plant Breeding has been nominated as member of the PPVFRA, New Delhi Technical Advisory Committee to review "Development of DUS testing guidelines for chilli paprika and bell pepper under protected cultivation
- Dr. S.N. Vasudevan, Dean (Agri.), CoA, Hassan is nominated as the facilitator of the committee constituted by the authority of PPV&FRA, New Delhi for on-site verification of Bhoomi Sustainable Development Society (R), R.C.Rd., Hassan, claimed for PGSC Award
- Dr. N.B. Prakash, Dean (Agri.), CoA, GKVK, Bengaluru served as Peer Review Team (PRT) member, ICAR, New Delhi, for Central Agricultural University, Imphal for the year 2022 and Honoured with International Panel Member of Malaysian Journal of Soil Science from 1st February 2020 till 1st February 2023 (Three Years), Malaysian Society of Soil Science.
- Dr. K. P. Raghuprasad, Professor & Head, ATIC, GKVK is serving as external expert for the scientists promotion committee at ISRO, Bangalore and also served as member on behalf of University for Agriculture section in Administrative Reforms Commission, Govt. of Karnataka
- Dr. M. S. Ganapathy, Professor & Head and University Head, Dr. Siddayya, Professor and Dr. M. R. Girish, Professor from the Department of Agricultural Marketing, Co-operation & Business Management, CoA, GKVK, Bengaluru are nominated as team members for drafting the New Agricultural Policy of Karnataka State, Dept. of Agriculture, GoK. Dr. M. S. Ganapathy is nominated as Member to Board of Studies at NITTE School of Management, Bengaluru. Dr. Siddayya is nominated as Member to FPOs taskforce Committee, Dept. of Horticulture, GoK.

- Dr. Srinivasappa, K.N., Professor of Horticulture is nominated as member for technical committee to scrutinize and recommend drip /sprinkler component producing companies under Pradhan Mantri Krishi Sinchayi Yojana.
- Dr. M. Thippaiah, Professor and Head, Dept. of Entomology nominated by ICAR as Member-Expert in the Assessment committee for the CAS of ARS Scientists
- Dr. V. Kumargouda, Assistant Professor, College of Agricultural Engineering is nominated as Expert Committee Member for Gobardhan scheme under the chairmanship of Development Commissioner and Additional Chief Secretary, Government of Karnataka. He is also nominated as expert committee member on small scale family type biogas plant approval committee under chairmanship of Joint Secretary, MNRE, Government of India.
- Dr. K.S. Rajashekarappa, Professor, Department of Soil amd Water Engineering,College of Agricultural Engineering, GKVK, Bangalore elected as a Committee member for Institution of Engineers (India) represent Agricultural Engineering Division in Karnataka State.
- Senior Scientist and Heads of all seven KVKs of UAS-B are nominated as a members for the district ATMA Chalana Committee, District best farmer award committee, under ATMA programme and National Food Security Mission committee
- Dr. M.N. Venkataramana, Professor & Head of the Department, UAS, GKVK served as Chairman for Selection Committee under the ICAR Career Advancement Scheme in the discipline of Agricultural Economics by ICAR-NIANP, Bengaluru on 23-12-2021. He is also serving as a member of Karnataka Seeds Corporation, Hebbal. Bengaluru from 2020-21.
- Dr. K. B. Umesh, Professor and University Head, Department of Agricultural Economics, COA, GKVK, Bangalore has been Nominated as a Coordinator, Coordinator, NAMASTEE and SWAGATH student and faculty exchange programme with Gottingen University Germany, DBT, GoI from the year 2018. He is nominated as a Coordinator, Indo-German Collaborative Project, DBT, GoI from the year 2018 onwards. He is nominated as Coordinator, International Virtual Summer School, UAS Bangalore from 2020-2025. He is nominated as a member for PG Board of Studies in Agricultural Economics, in Pandit Jawaharlal Nehru College of Agriculture and Research Institute, Karaikal, Pondicherry University from 2019-2022.
- Dr. P. S. Srikantha Murthy, Professor, Department of Agricultural Economics, COA, GKVK, Bangalore has been nominated as a Coordinator, for UASB & Ghent University Belgium from the year 2006
- Dr. G. M. Gaddi, Associate Professor, Dept. Agril. Economics, UAS, GKVK, is nominated as member of Board of Examinations for the Rural Development and Panchayat Raj University, Gadag
- Dr. Rajegowda, Senior Scientist and Head, KVK Hassan is nominated as a member for the Kisan vani programme committee in Akashavani, Hassan
- Dr.S.S. Prakash, Dean (Agri.), College of Agriculture, Mandya has nominated as subject expert for the board of studies of ANNAMALAI UNIVERSITY, Tamil Nadu. He is also nominated as moderator for organizing a webinar series on Desi Cow based Agriculture in association with Srisamsthana Gokarna Sri Ramachandrapura matha.
- Dr. Manjunath Gowda, Professor and Head, Dept. of Sericulture CoA, Bangalore is serving as the member of Research Advisory Committee of CSGRC, Central Silk Board, Hosur since 2021 and as a member of Research Review Committee of Karnataka State Sericulture Research and Development Institute, Thalaghattapura, Bengaluru, since 2018. He is nominate as member of Board of Studies in Sericulture (PG) of University of Mysore, since 2020 and served as the chairman of the three member committee constituted

for Assessment of first year progress of CSR funded Research Associate at the Dept. of Studies in Sericulture, Univ. of Mysore, Mysore on 18.03.2022

- Dr. S. Chandrashekhar, Professor, Department of Sericulture CoA, GKVK has been nominated as an expert for Secondary Agriculture Unit Committee, Department of Sericulture, Govt. of Karnataka from 22-02-2022

- Dr. M.Raju, Professor, Dept. of Sericulture nominated as one of the member of Board of Studies (UG) at Yuvarajas College, Mysore. He is also nominated as member of Board of examination (UG) at Yuvarajas College, Mysore.

- Dr. J. Mahadeva, Assistant Professor of Forestry and Environmental Sciences, CoA, Mandya is nominated as Member of Board of Studies (UG) at JSS University, Mysore. He is also nominated as Board of Studies member (UG), Mandya University, Mandya Govt. Boys College (Autonomous), Mandya

- Dr. B. Krishnamurthy, Professor and Head, Department of Agricultural Extension, CoA, UAS, GKVK is nominated as Member of Board of Studies, Banaras Hindu University, Varanasi. He is nominated as Vice-President, Indian Society of Extension Education, South Zone. He is nominated as Secretary, ISEE, Karnataka Chapter. Serving as Trustee at Can. bank financial Advisory Trust (CFAT), Can. Bank, Head Office, Bengaluru. (2020-21). He served as External Examiner in evaluating thesis and Conducting Viva-voce examination (Online) for Post-Graduation students at IARI, New Delhi; TNAU, Coimbatore; ANGRAU, Tirupati; PJTSAU, Hyderabad; NDRI, Bangalore and UAS, Dharwad .

- Dr. Y.N. Shivalingaiah, Professor, Department of Agricultural Extension, CoA, UAS, GKVK is nominated as Professor - IFFCO Chair. He is nominated as Trustee at Canara Bank Financial Advisory Trust (CFAT), Head Office, Bengaluru during 2021-22

- Dr. K. S. Jagadish, Professor and Head, Dept. of Apiculture, UAS, GKVK, Bangalore, is nominated as Principal Member and Dr. B. V. Shwetha, Assistant Professor, Dept. of Apiculture, CoA, GKVK, Bangalore is nominated as Alternate Member to Apiary Industry, Sectional Committee (FAD 03) of Bureau of Indian Standards, Govt. of India,. w.e.f. 09.06.2020. He served as question paper setter during February, 2022 for the subject Agricultural Entomology for candidates appearing for various gazetted posts at KPSC Bengaluru.

- Dr. M. L. Revanna, Professor, Department of Food Science and Nutrition, UAS(B) conferred as State level Core committee member for the year 2021-22 by Commissioner, Public Education, Vidhan Soudha. GOK for "State level Mid-day meal programme implementation" and he also attended meeting held on 18.08.2021at Vidhan Soudha.

- Dr. S. Ramesh Professor, Department of Genetics and Plant Breeding was nominated as an Expert for scrutiny of questions and model answers pertaining to Genetics and Plant Breeding by Karnataka Public Service Commission on 21-03-2022 and 28-03-2022.

5.7 Abstract of different programmes organised/ participated, extension activities carried out and number of publications brought out by the faculty of UAS-B

Details of number of conferences /seminars /workshops / training programmes etc. attended and organised; Extension activities organised and Number of Publications brought out by the faculty of all the Directorates and colleges are presented in the below tables :

Table 34 : Number of Conferences / Congress / Seminars / Workshops / Summer schools / Training Programmes organised by the faculty during the year 2021-22

Sl. No.	Colleges and other Directorates	Number of Programmes organised				
		Seminars / Workshops	Training Programmes	Conferences	Summer / Winter Schools	Others
1.	College of Agriculture, Bengaluru	30	55	4	3	16
2.	College of Agriculture, Mandya	29	31	15	–	13
3.	College of Agriculture, Hassan	–	1	–	–	–
4.	College of Sericulture, Chintamani	02	19	–	–	–
5.	Directorate of Research	11	–	1	–	43
6.	Directorate of Extension	30	404	–	1	3360
7.	Directorate of Education & PPMC	6	5	–	–	2
	Total	**108**	**515**	**20**	**4**	**3434**

Table 35 : Number of Conferences / Seminars / Workshops / Summer schools / Training Programmes attended by the faculty during the year 2021-22

Sl. No.	Colleges and other Directorates	Number of programmes attended						
		Seminars/Workshops/Congress		Training Programmes		Conferences / Webinars		Summer / Winter Schools
		National	International	National	International	National	International	
1.	College of Agriculture, Bengaluru	186	8	40	–	13	2	6
2.	College of Agriculture, Mandya	09	20	30	01	–	15	–
3.	College of Agriculture, Hassan	07	–	34	04	04	03	03
4.	College of Sericulture, Chintamani	06	–	11	–	19	05	–
5.	College of Agriculture, Chamarajanagar	01	–	32	–	01	–	–
6.	Directorate of Research	85	10	33	03	10	04	02
7.	Directorate of Extension	27	–	141	–	15	–	8
8.	Directorate of Education & PPMC	05	–	02	–	02	–	–
	Total	326	38	323	08	64	29	19

Table 36 : Extension activities carried out by the faculty during the year 2021-22

Sl. No.	Colleges and other Directorates	Number of Extension carried out				
		Radio Talks	TV Programs	Field Visits	Field Days	Others (As Resource Persons / Farm queries etc.)
1.	College of Agriculture, Bengaluru	05	88	629	09	205
2.	College of Agriculture, Mandya	–	–	81	–	75
3.	College of Agriculture, Hassan	06	–	53	–	171
4.	College of Sericulture, Chintamani	02	19	49	12	87
5.	College of Sericulture, Chamarajanagara	01	–	19	08	300
6.	Directorate of Research	09	74	19	10	268
7.	Directorate of Extension	31	96	1294	99	744
8.	Directorate of Education & PPMC	–	–	06	–	09
	Total	54	273	2150	138	1859

Table 37 : Publications brought out by the faculty during the year 2021-22

Sl. No.	Colleges and other Directorates	Number of Publications				
		Research Papers / Notes	Popular Articles	Books / Bulletins	Leaflets/ Folders	Others (As Abstracts/Chapter in Books/Journal/ Newsletter/Annual Reports etc.)
1.	College of Agriculture, Bengaluru	216	16	16	39	58
2.	College of Agriculture, Mandya	54	13	–	–	29
3.	College of Agriculture, Hassan	17	10	04	–	03
4.	College of Sericulture, Chintamani	24	–	01	13	22
5.	College of Sericulture, Chamarajanagara	02	–	–	–	–
6.	Directorate of Research	256	41	8	44	162
7.	Directorate of Extension	25	81	16	84	26
8.	Directorate of Education & PPMC	18	–	01	4	26
	Total	612	161	46	184	326

5.8 Important Research and Review Articles brought out by the faculty

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Chapter VI

6. Financial Resources, Allocation, Accounting and Management

6.1 Source of Finance

The State Government provided grants under Grant-in-aid salaries to continue the ongoing commitments under establishment. Further, the grants under Grant-in-aid general were provided for strengthening the existing programmes and to establish new activities under teaching, research and extension education programmes including general administration. The State Government departments provided certain grants to undertake Ad-hoc research schemes and extension educational activities. Indian Council of Agricultural Research provided funds for the continuation of the existing schemes and establishment of new Teaching, Research and Extension Education Programmes. Grants were also provided under All India Co-ordinated Research Schemes and Ad-hoc Research programmes. Several Departments of Government of India also provided financial assistance to conduct specific research in agriculture. Grants are also being provided quite often by several National and International Organizations/Agencies to conduct Research and Extension Programmes in the University. Revenue is also generated by effectively utilizing the internal resources through crop cultivation, sale of seeds, nursery activities, collection of student's fees etc.

6.2 Receipts 2021-22

6.2.1 Grants from State Government

6.2.1.1 Grant-in-Aid Salary

The State Government has Sanctioned Rs.11544.00 lakhs towards Salary and released Rs.10245.25 lakhs during the year 2021-22 as Grant-in-Aid salaries.

6.2.1.2 Grant-in-Aid Pension

The State Government has released Rs.12161.00 lakhs during the year 2021-22 as Grant-in-Aid Pension.

6.2.1.3 Grant-in-Aid Contract/outsource

The State Government has released Rs.840.00 lakhs during the year 2021-22 as Grant-in-Aid contract /outsource.

6.2.1.4 Grant-in-aid Daily wages

The State Government has released Rs.338.00 lakhs during the year 2021-22 as Grant-in-aid daily wages.

6.2.1.5 Grant-in-Aid General

The State Government has released Rs.942.00 lakhs for Agricultural Research during the year 2021-22 towards the continuation of ongoing activities under Teaching, Research, Extension Education and General Administration.

6.2.1.6 Grant-in-aid Schedules Caste sub Plan (Research)

The State Government has released Rs. 56.00 lakhs under Research head during the year 2021-22 as Grant-in-Aid Schedules Caste sub Plan.

6.2.1.7 Grant-in-aid Tribal Sub Plan-Research

The State Government has released Rs.35.00 lakhs under Research head during the year 2021-22 as Grant-in-Aid Tribal sub Plan.

6.2.1.8 NABARD grants

The State Government has released Rs.350.00 lakhs under NABARD grants during 2021-22

6.2.1.9 RKVY projects of State Government

University received Rs.275.30 lakhs under RKVY projects during the year 2021-22. During 2021-22 the total internal receipt of the University is Rs.5742.09 lakhs.

6.2.1.10 Grants from ICAR

Indian Council of Agricultural Research has released the grants during the year 2021-22 as indicated in the following Table.

Table 38 : Grants Received from ICAR

Sl.No.	Heads	Amount released in Lakhs
1.	Development and strengthening of Agricultural Universities	897.00
2.	All India Co-ordinated Research Projects and Ad-hoc Projects	254.76
3.	Co-ordinated Research Projects (AICRP & KVK)	1735.55
	Total	**2887.31**

6.2.1.11 Grants from Government of India

During 2021-22, University has received Rs.1514.48 lakhs from different Departments of Government of India *viz.,* Ministry of Science & Technology, Department of Biotechnology, CSIR, Department of Agriculture and Farmers Welfare, etc. towards specific research programmes.

6.2.1.12 Schemes sponsored by other Agencies

The fund received by other agencies amounted to Rs.508.54 lakhs during 2021-22.

6.2.1.13 Summary of receipts for the year 2021-22 (Provisional)

The details of total grants received and expenditure incurred (provisional) by the University during 2021-22 is depicted in the table.

6.3 Expenditure during 2021-22

6.3.1 Expenditure towards grants received from State Government

6.3.1.1 Expenditure towards Grant-in-aid Salary

The State Government has sanctioned Rs.11544.00 lakhs towards Salary. Rs.10245.25 lakhs released towards salary has been fully utilized. (The salary for the month of March, 2022 is not drawn in the financial year 2021-22)

6.3.1.2 Expenditure towards Grant-in-aid Pension

The State Government has released Rs.12161.00 lakhs towards pension during the year 2021-22 and has been fully utilized.

Table 39 : Grants and Expenditure during the year 2021-22

(Rs. in lakhs)

Sl.No.	Particulars	Grants	Expenditure	Per cent share (%)
I	***State Government***			
i	Grant-In-Aid Salary 2415-80-004-1-01-101	10245.25	10245.25	27.53
ii	*Grant-In-Aid Pension* 2415-80-004-1-01-118	12161.00	12161.00	32.67
iii	Grant-in -Aid - Contract/outsource 2415-80-004-1-01-115	840.00	840.00	2.25
iv	Daily wages 2415-80-004-1-01-033	338.00	338.00	0.90
v	Grant-in- aid General- Agriculture Research 2415-80-004-1-01-103	942.00	942.00	2.53
vi	SCSP Research 2415-80-277-1-01-422	56.00	56.00	0.15
vii	TSP Research 2415-80-277-1-01-423	35.00	35.00	0.09
viii	NABARD 4401-00-800-1-05-436	350.00	0.00	0.00
ix	RKVY	275.30	1165.97	3.13
x	Internal Receipts	5742.09	5742.09	15.42
	Total - I	**30984.64**	**31525.31**	**84.71**
II	***Indian Council of Agricultural Research***			
i	Development Grants	897.00	897.00	2.41
ii	ICAR / Adhoc Scheme	254.76	264.78	0.71
iii	Co-ordinated Research Projects (AICRP/KVK)	1735.55	2493.27	6.69
	Total - II	**2887.31**	**3655.05**	**9.82**
III	***Government of India***			
i	DBT DST SERB	1514.48	1640.29	4.40
ii	Other Agencies	508.54	397.35	1.06
	Total - III	**2023.02**	**2037.64**	**5.47**
	Grand Total (I+II+III)	**35894.97**	**37218.00**	**100**

*The previous revalidation balance has been included in the expenditure

6.3.1.3 Expenditure towards Grant-in-aid contract/outsource

The State Government has released Rs. 840.00 lakhs towards contract/outsource during the year have been fully utilized.

6.3.1.4 Expenditure towards Grant-in-aid daily wages

The State Government has released Rs. 338.00 lakhs towards daily wages during the year 2021-22 and has been fully utilized.

6.3.1.5 Expenditure towards Grant-in-Aid General

The State Government has released Grant-in-Aid General of Rs.942.00 lakhs towards agricultural0 research during the year 2021-22 and has been fully utilized.

6.3.1.6 Expenditure of Grant-in-Aid towards Schedule Cast Sub Plan (Research)

The State Government has released Rs.56.00 lakhs under Research head towards Schedule Cast Sub Plan during the year 2021-22 and has been fully utilized.

6.3.1.7 Expenditure of Grant-in-aid towards Tribal Sub Plan (Research)

The State Government has released Rs.35.00 lakhs under research head towards Tribal Sub Plan during the year 2021-22 and has been fully utilized.

6.3.1.8 Expenditure towards NABARD Grants

Work related to Agricultural College, Chamarajanagar is currently filed in the High Court of Karnataka with the writ petition number 10709/2021 and the grant is not allowed until the verdict is settled.

6.3.1.9 Under RKVY projects of State Government

University utilized Rs.1165.97 lakhs under RKVY projects during the year 2021-22. During 2021-22 the total Internal Receipt received from University of Rs.5742.09 lakhs is fully utilized.

6.3.1.10 ICAR Funded Project

a) **Development Grants**: Amount spent during 2021-22 for several ICAR approved development programmes was Rs. 897.00 lakhs

b) **Research Projects - ICAR** : An amount of Rs. 264.78 lakhs during 2021-22 has been spent for continued and new programmes (83 projects)

c) **Coordinated Research Projects (AICRP & KVK)**: An amount of Rs.2493.27 lakhs during 2021-22 has been spent for Coordinated Research Projects

6.3.1.11 Schemes funded by various departments of Government of India - DBT, DST & SERB

An amount of Rs.1640.29 lakhs was spent for various projects funded by several departments of Government of India (79 projects).

6.3.1.12 Schemes funded by other agencies

An amount of Rs.397.35 lakhs was spent for various projects funded by other agencies.

6.4 Details of Retirement Benefits

6.4.1 Provident Fund

As on 01.04.2021 there were 690 accounts out of which 69 GPF accounts amounting to Rs. 696.81 lakhs were processed for final settlement and paid to the claimants due to retirement / VRS / death of the subscribers. Thus, as on 31.03.2022 there were 621 accounts. During the period from 01.04.2021 to 31.03.2022, as many as 170 temporary advances and 121 partial final withdrawals amounting to the sum of Rs. 294.27 lakhs and Rs. 272.02 lakhs respectively were disbursed to the subscribers.

6.4.2 Family Benefit Fund

There were 799 members as on 01.04.2021. Admission of members to this fund was stopped w.e.f. 1st August 1991 consequent on the introduction of the Group Savings Linked Insurance Scheme for the benefits of the employees. The fund had 799 accounts as on 31.03.2022

6.4.3 Group Savings Linked Insurance Scheme

Group Savings Linked Insurance Scheme was introduced for the benefit of the employee's w.e.f. 1st August 1991. As on 01.04.2021 there were 858 employees. The claim forms of 70 employees were sent to LIC of India on account of retirement / death / resignation covering Rs.21.87 lakhs As on 31.03.2022, there were 788 employees covered in the above scheme.

6.4.4 Pension Fund

As on 01.04.2021 the University had 2222 pensioners in total comprising of 1554 regular pensioners and 668 family pensioners. During the period from 01.04.2021 to 31.03.2022 payment to 62 new pensioners and 59 family pensioners commenced. The pension has been stopped to 75 pensioners and 29 family pensioners due to their death. Due to non-submission of life certificate, 08 pensioners and 12 family pensioner's pension has been stopped temporarily. 10 pensioners and 15 family pensioners have submitted their life certificate, hence their pension is released. Thus, as on 31.03.2021, there were 2244 pensioners comprising of 1543 regular pensioners and 701 family pensioners. During the period from 01.04.2021 to 31.03.2022 Rs. 12489.52 lakhs was disbursed to pensioners / family pensioners towards Pension, Gratuity & Commutation.

6.5 Details of Loans and Advances

6.5.1 House Building / Site Purchase / House Repair Advances

Two applications were received towards HBA / HPA / HRA / SPA / Redemption of loan and sanctions were accorded for a sum of Rs. 25.85 lakhs to the employees during the year i.e., from 01.04.2021 to 31.03.2022 out of GPF accumulation as per Statute 34 (3) (a) (ii) of University of Agricultural Sciences, Bangalore.

6.5.2 Conveyance Advance

During the year 2021-22, the Conveyance advance sanctions were accorded for a sum of Rs.20.37 lakhs to the employees for the purchase of Motor Car and Motor Cycle (Moped) out of GPF accumulation as per Statute 34 (3)(a)(ii) of University of Agricultural Sciences, Bangalore.

6.6 Audit of Accounts by the Statutory Auditors

The annual accounts for the year 2020-21 are completed. It is submitted to the Secretary, Agriculture Department, Government of Karnataka and the Principal Director of Karnataka State Audit and Additional Director to conduct audit of accounts.

In respect of the Annual Accounts for the year 2021-22, the finalization of accounts is in progress. The annual accounts will be prepared by the end of 30.06.2022 as per the mandate and will be submitted to the Secretary, Agriculture Department, Government of Karnataka and the Principal Director of Karnataka State Audit and Additional Director Government of Karnataka to conduct audit of accounts. After receiving audit reports for 2018-19, replies thereon will be submitted to the Finance Committee and Board of Management. After approval from the Board of Management, the same will be sent to the Govt. of Karnataka. Audit for 2019-20 is in progress.

Chapter VII

7. Human Resource Development

The University has Administrative Office headed by Administrative Officer directly under the control of Vice-Chancellor, looking after the Human Resource Developmental activities from recruitment to retirement of faculty and supporting staff of the University.

7.1 Appointments

During 2021-22, none of the teachers and non-teaching posts were appointed under direct recruitment. However, 09 non-teaching post were filled under compassionate grounds.

7.1.1 Promotions

During the year 2021-22, 93 teachers were promoted from the Assistant Professor to Asst. Professor (Sr. Scale) / Asst. Professor (Sr. Grade) / Associate Professor and Associate Professors were promoted to Professor cadres. Similarly 61 Non-teaching staff were also promoted.

7.2 Staff Position of Teaching and Service Personnel during the year 2021-22

The University has a sanctioned post of 06 Professors (HAG), 49 Professors, 144 Associate Professors and 387 Assistant Professors. Out of 586 sanctioned posts, 363 are filled and 223 (38.05%) are vacant. Efforts are being made to fill up these posts through approved recruitment. Looking into the need, the teachers and non-teaching faculty were appointed on contractual basis also. In addition, the University has 55 sanctioned posts of T4 series out of which 22 are vacant.

The University has 1564 sanctioned posts of supporting staff of which 1010 are vacant. The University is making sincere efforts in approaching the Government to seek permission for recruitments.

Table 40 : Number of Sanctioned, Filled and Vaccant Teaching Positions

Cadre	Sanctioned	Filled	Vacant
Professor (HAG)	06	00	06
Professor	49	28	21
Assoc. Professor	141	101	43
Asst. Professor	387	234	153
Total	**583**	**363**	**223**

Table 41 : Number of Sanctioned, Filled and Vaccant T4 Series positions

Cadre	Sanctioned	Filled	Vacant
Training Assistant	07	07	00
Farm Manager	07	03	04
Programme Asst.	07	05	02
Technical Assistant	30	18	12
Field Supervisor	04	00	04
Total	55	33	22

Table 42 : Number of Sanctioned, Filled and Vaccant Non-Teaching positions

Cadre	Sanctioned	Filled	Vacant
Group-A	56	36	20
Group-B	49	16	33
Group-C	1053	404	649
Group-D	406	98	308
Total	**1564**	**554**	**1010**

7.3 Court Cases, RTI and Enquiries : The details are provided in the following table

Table 43 : Number of enquiries, court cases and RTIs during the the year 2021-22

Particulars / ವಿವರ	Opening Balance / ಬಾಕಿ ಇದ್ದದ್ದು	No. of cases Received / ಸ್ವೀಕರಿಸಿದ್ದು	No. of cases Disposed / ಮುಕ್ತಾಯವಾದದ್ದು	No. of cases Pending / ಬಾಕಿ ಇರುವುದು
Enquiry Cases/ವಿಚಾರಣೆ	02	02	03	01
Writ Petitions/ನ್ಯಾಯಲಯದಲ್ಲಿ ದಾವೆ	44	18	10	52
RTI/ ಮಾಹಿತಿ ಹಕ್ಕು	02	93	84	11

7.4 Retirement

During the period, 05 Officers, 19 teaching faculty and 39 non-teaching staff have been superannuated. Overall, 63. employees of UAS-B attained superannuation during 2021-22. The details are given in the Annexure 4.

Chapter VIII

8. Research Chairs, CARDS and Agri-Innovation Center

8.1 Prof. M.D. Nanjundaswamy Research Chair

8.1.1 Establishment of Prof. M.D. Nanjundaswamy Research Chair

The Hon'ble Chief Minister, Government of Karnataka in his 2018-19 budget speech dated 16-02-2018 had announced the establishment of Prof. Nanjundaswamy Research Chair at the University of Agricultural Sciences, GKVK, Bengaluru with a budget outlay of One crore. The University constituted a committee on 06-06-2018 to prepare an action plan and guidelines for the establishment of Prof. Nanjundaswamy Research chair with Dr. K. B. Umesh as Chairman of the committee and Dr. G. N. Nagaraja, Dr. B. M. Shashidhar, Dr. R. C. Gowda and Dr. G. S. Mahadevaiah as members of the committee. The committee submitted the guidelines and activities to be carried out under Prof. Nanjundaswamy Research chair to the University on 07-08-2018. The University submitted the proposal to the Government of Karnataka on 08-08-2018. The Government of Karnataka released the budget of One crore to the University on 25-03-2019. The University nominated Dr. K. B. Umesh, Professor and University Head of Department of Agricultural Economics, UAS, GKVK, Bengaluru as the chairperson vide the notification dated 17-06-2019. A team of Farmers association along with Lakshmi Narayanagowda (President, Karnataka Rajya Raitha Sangha), Pacche Nanjundaswamy (S/o Prof. Nanjundaswamy) met the Hon'ble Vice-Chancellor, Director of Research and the Chair Professor Dr. K. B. Umesh on 01-07-2019 at the Vice Chancellor's office and discussed the establishment and activities to be taken up under the chair. Finally Prof. Nanjundaswamy Research Chair was inaugurated on 18-07-2019.

8.1.2 Proposed Activities

1) Undertake need based research and outreach activities to address emerging issues in agriculture Viz., conservation of biodiversity, food sovereignty, farmer's direct market and trade in agriculture.
2) Generate empirical research-based evidences and solutions through Post-Graduate research activities and provide policy inputs to enhance the socio-economic status of the farmers.
3) Empowering marginal & small farmers and resource poor rural households through interactive workshops/ symposiums/seminars/conferences for skill development and capacity building.
4) Bring out reports/books/research papers, bulletins, videos on the activities and outcome of the Prof. Nanjundaswamy research chair.
5) Organize special memorial lecture on 13th February every year on Prof. Nanjundaswamy birth anniversary.

8.1.3 Research activities for the year 2021-22

1) Impact of Covid-19 pandemic on vegetables, flowers and fruits growers.
2) Human wildlife conflict in Central Western Ghat.
3) Livelihood security and happiness index of farm households.
4) Bring out reports/books/research papers, bulletins, videos on the activities and outcome of the Prof. Nanjundaswamy research chair.
5) Organize special memorial lecture on 13th February on Prof. Nanjundaswamy birth anniversary.

8.1.4 Ongoing PG research during 2021-22 under Prof. Nanjundaswamy research chair (initiated during November 2021)

1) Economic assessment of impact of covid-19 pandemic on fruits and vegetables growers in Vijayanagara district of Karnataka
2) Economic assessment of impact of covid-19 pandemic on flower growing in Chikkaballapura district of Karnataka
3) An economic analysis of farmer's livelihood vis-à-vis human wildlife conflict in central Western Ghats of Karnataka
4) Livelihood security and happiness index of farm households in Karnataka: An economic analysis

8.1.5 Events organized during 2021-22

- Symposium on "Production and marketing of important vegetables in Kolar, Chikkaballapur and Bengaluru Rural districts" was organized via online on 9th June 2021 for the benefit of farmers especially during the COVID-19 pandemic situation
- As a part of Prof. Nanjundaswamy Research Chair activities, one day training programme on "Agricultural marketing acts and collective marketing through Farmer Producer Organization-Challenges and opportunities" was organized on 17th September 2021 at Gowdeger village, Gauribidanur taluk, Chikkaballapur district.
- One day training programme on "Cattle feed and fodder awareness programme in Kolar district of Karnataka" was organized on 29th October 2021 at Yalvara village, Kolar taluk, Kolar.
- Under the aegis of "Prof. Nanjundaswamy Research Chair" to mark the occasion of National Famer's Day, "Soil and water conservation training programme" was organized on 23th December 2021 at Kumsi village, Shivamogga taluk, Shivamogga district.
- Prof. M. D. Nanjundaswamy's 86th Birth anniversary was organized on 14th February, 2022 under the aegis of Prof. MDN Research Chair, Department of Agricultural Economics, University of Agricultural Sciences, Bangalore

8.2 Centre for Agriculture and Rural Development Studies (CARDS)

8.2.1 About CARDS

The University of Agricultural Sciences, Bangalore established the Centre for Rural Development Studies (CRDS) during the year 1980. Its initial functioning started with the faculty of Agricultural Extension by following informal structure, arrangements and got impetus from the eminent professors of University viz., Prof. Jade Srinivasamurthy, Prof. M.K. Sethu Rao, Prof. K.A. Jalihal, Prof. R. Ramanna, Prof. S. Bisaliah and Prof N.S.P. Rebello. However, during 1990s, the activities of CRDS withered due to the administrative and financial reforms taken by the university. The CRDS is committed towards reaching out to all agencies to conduct the evaluation of schemes or programmes which are focusing on rural society and especially the farming community. CRDS also participate actively towards improving human resource in social science departments for addressing technical, economic policy issues related to the development of agriculture and rural society.

8.2.2 Revival of CARDS

In the recent times, the problem of farmers are more of social and economic in nature, which needs to be addressed through interdisciplinary approach. Hence, it was felt absolute necessity to conduct research studies on present and future problems of agricultural development in particular and rural development in general. CRDS acts as professionally competent independent agency to evaluate the centrally and state sponsored programmes implemented by the various organizations. It is revived as CARDS during July 2014.

Vision : To play a vibrant role in the evaluation of research and impact studies developing rural India through technological transformation and market led development; and participating in addressing policy, financial, development, market, technology, resource and capacity building related needs for livelihood security, farm profitability and sustainability of our environment and agriculture.

Mission: To acquire and transmit new economic knowledge to the farmers and other stakeholders for better informed decision-making and evolving policies in Agricultural Sector

Objectives

1. To Provide a broad range of educational programs in social sciences which contribute to the development of human capital in the field of agriculture and rural development
2. To coordinate and support research that improves understanding of agricultural and rural development issues, problem and opportunities
3. To provide policy support to state and central government on problems confronting rural communities
4. To foster inter-institutional collaboration at regional, national and international levels for research, training and development in select areas

8.2.3 Administration : CARDS has been revived involving the four departments in the social science viz, Department of Agricultural Extension, Agricultural Economics, Agricultural Marketing Cooperation & Business Management and Agricultural Statistics, Applied Mathematics and Computer Science. The effective administration of the center is taken by the steering committee chaired by the Director of Education as its Chairman who meets twice an year and reviews the CARDS activities.

8.2.4 Functions

The important functions of CARDS are

1. Facilitating signing of MOUs with funding agencies
2. Identifying funding institution, schemes/programs evaluation opportunities
3. Facilitating conduct of workshop/symposium/ seminar/conference for the human resource development of Social Science departments in cooperation with heads of departments and university heads
4. Assisting for the smooth conduct of consultancy services coming under the provision of social science departments
5. Undertaking research studies including impact assessment of research received by the UASB

8.2.5 Institutional Linkages

The Centre has close working relationship with State and National level institutes like Karnataka State Department of Agriculture, Karnataka State Department of Horticulture, Karnataka State Marketing Board, National Horticulture Mission, Karnataka Agriculture Price Commission, SAMETI, KVKs, Coffee Board, Silk Board, Tobacco Board, Spice Board, Coconut Board, Farmers Producer Organizations, NGO's etc. Estimating the cost of cultivation of major crops, developing regional agricultural model and implementing collaborative studies with the above institutions/organizations, Research priority setting, Land and Water resource management, Contract Farming, Local Governance and Rural Development, Infrastructure and Diversification, SHG and their participation in mitigating & alleviation of poverty, market intelligence, Value & Supply chain management, Gender studies, Rural Migration etc are the major research areas of interest for CARDS.

8.2.6 Activities carried out under CARDS during 2021-22

- Project proposal entitled, 'Impact of Land Disputes on Farm Productivity and Livelihood Security of Indian Farmers' was submitted successfully to National Agricultural Science Fund (NASF), ICAR, New Delhi on 09.06.2021 by contacting the Cooperating Institutions faculty members of Institute of Agriculture, Visva-Bharathi, West Bengal; Sher-e-Kashmir University of Agricultural Sciences and Technology, Jammu, J&K; MPKV, Rahuri, Maharashtra; Indian Agricultural Research institute, New Delhi; ATARI, Jabbalpur, Madhya Pradesh; ANGR Agril. University, Agricultural College, Bapatla, Andra Pradesh; UAS, Dharwad; College of Fisheries, Central Agricultural University, Imphal, Tripura; Assam Agricultural University, Jorhat, Assam; Krishi Vigyana Kendra, Ambalavayal, Wayanad, Kerala. Collected their institutional budget demand and University profile with their Universities consent.
- The final presentation through online mode on the project proposal entitled, "Impact of Land Disputes on Farm Productivity and Livelihood Security of Indian Farmers" was submitted on 08.04.2022 to the Expert Committee, NASF, ICAR, New Delhi. All the CCPIs also attended. The suggestions were discussed for further improvement of the project. Approval for the project is awaited.
- Experts from National School of Law were consulted to seek the legal matters with respect to the project and review of literature was done with regard to the research project

8.3 Karnataka State Agricultural Marketing Board (KSAMB) Chair

The KSAMB Chair was instituted in the department of Agricultural Marketing and Co-operation, UAS, GKVK, Bengaluru during the year 2006 for the purpose of conducting Teaching, Research and Extension in Agricultural Marketing, identify or forecast the problems in the field of Agricultural Marketing and to suggest suitable remedial measures to the KSAMB. The KSAMB will assign, from time to time, research studies surveys, submission of report and such duties pertaining to the areas of Agricultural Marketing as decided by the Board in consultation with the University.

Following training programmes were conducted under the Marketing Chair during 2021-22

Sl. No.	Place	Training Programmes / Activities
1	Honachanahally	• Online market and E-Trading Training programme • Improved varieties of crops • Bee-keeping training programme • Started Farmer Producer Organisation
2	Sonnamaranahally	• Marketing of field and horticultural produce • Training programme on Online market and E-Trading • Improved Animal Husbandry Practices • Started Farmer Producer Organisation
3	Chikkanayakanahally	• Marketing of field and horticultural produce • Training programme on Online market and e-Trading • Scientific rearing of sheep and goats • Started Farmer Producer Organisation
4	Tirumenahally	• Marketing of field and horticultural produce • Training programme on Online market and e-Trading • Training programme on precision farming

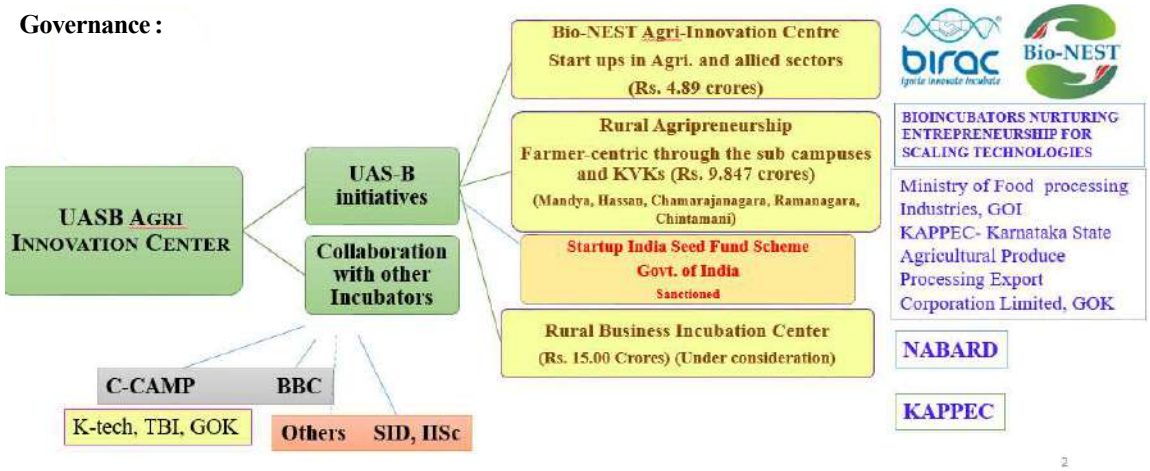
Sl. No.	Place	Training Programmes / Activities
5	Kadehally, Turuvekere	• Marketing of field and horticultural produce • Training programme on Online market and e-Trading • Training programme on cropping systems and cropping pattern • Training programme on improved cultivation practices of crops • Started Farmer Producer Organisation
6	Chamarajanagara	• Marketing of field and horticultural produce • Training programme on Online market and e-Trading • Training programme on borewell recharging • Training programme on climate change
7	Malavally, Mandya	• Marketing of field and horticultural produce • Training programme on Online market and E-Trading • Training programme on Integrated disease management • Training programme on soil and water conservation

8.4 Bio-Nest Agri Innovation Center

8.4.1 About the Agri Innovation Center at UAS-B

Agri-Innovation Center is an incubation center which was established in UAS, Bangalore with the moto of translating the innovative ideas of Start-ups into economically and commercially viable products. The Innovation Centre paves the way for young entrepreneurs, farmers, academicians, agricultural graduates and agriculture Scientists to implement their innovative ideas in developing a successful product/technology. The established laboratories and other infrastructure facilities accommodate the Agri-based entrepreneurs to absorb the emerging technologies and initiate translational programmes to develop products to improve economic returns of the Agriculture sector.

Bio-NEST, AIC UAS (B) started in the month of March, 2021 which is supported and funded by Biotechnology Industry Research Assistance Council (BIRAC), DBT, Department of Science and Technology, GoI. This funding was obtained for the proposal titled "Strengthening of Agri Innovation Center at UASB for Agri Start-ups." The project is headed by the Project Investigators Dr. K.M. Harinikumar, Professor and Head, Department of Plant Biotechnology and Dr. Veena S Anil, Professor, Department of Plant Biotechnology.



8.4.2 Objectives of the Project:

a) Developing and strengthening the Bio NEST Agri Innovation Centre to facilitate incubation of startups, so as to translate innovative ideas to commercially viable products from existing scientific leads/technologies in the area of Agriculture

b) Renovation and extension of the existing building to be utilized as the Nodal Incubation Centre at GKVK Bengaluru with inbuilt lab facilities, meeting rooms, central equipment facilities, a knowledge cell and administration offices

c) Establish a Knowledge Cell to identify relevant technologies that have potential commercial value for agriculture business activities and modalities to establish a Knowledge Cell: A unique Knowledge Cell will be established with its hub at the Nodal Center of the Bio NEST incubator

d) Develop a repository of biological material to facilitate innovation and accelerate the product development process by Entrepreneurs.

8.4.3 Infrastructure development

Bio-NEST AIC is under renovation and extension i.e. refurbishment, of the existing building (Nodal Centre) at second floor of the organic farm building at UAS-B. This nodal center will have the Bio-NEST incubator under the umbrella of AIC Incubation center at UAS (B). The renovated incubation center has laboratory facility, instrumentation rooms, tissue culture lab, cold room, workspace for incubates and office space in the total area of 6,413 square meters. While, the chronological inclusion of establishing different structures at nodal center of Bio NEST will also entail sequential and overlapping activities as supportive to the holistic development of Bio NEST nodal center. The procurement of the equipment to the laboratory has been started.

8.4.4 Establishment of Knowledge Cell and Biological Material Repository

Knowledge Cell will have a committee which includes experts from different areas of Agriculture and will be headed by Director of Extension, UAS (B). Meeting was organized with all the Agri. experts of UAS (B) to discuss about the working of knowledge cell and mentorship. It was decided in the meeting that all the information collected from different sources (published, online and text) will be scrutinized by the committee before uploading it on the site. The major thematic areas of knowledge cell that need to be exploited and addressed are Crop improvement, Crop protection, Crop production, microbiology, Agricultural engineering and post-harvest technology, biofertilizers, bio-pesticides, bio-weedicides, value addition and processing, marketing and digital farming, plant diagnostics, plant breeding and seed production, precision agriculture-protective cultivation, aeroponics etc. for benefit of incubates. The Expert Committee for Biological Material Repository will be headed by Director of Research, UAS B and includes members from different departments like Genetics and Plant breeding, Crop Physiology, Microbiology, Plant Biotechnology etc.

8.4.5 Webinar / Events / Workshops / Seminars Organised

Event	Title of the event	Dates		No. of Participants
		From	To	
Webinar	Women Entrepreneurs in Agriculture	27/05/2021	27/05/2021	88
Webinar	Commercialization of Innovations in Agriculture: Opportunities and Challenges	26/08/2021	26/08/2021	112
Science week	Innovations startups in Agriculture	27/09/2021	27/09/2021	200
Webinar	Funding Opportunities for students Academician and Startups	26/10/2021	26/10/2021	75
Webinar	Organizing Ideathon for students, startups as a part of Tech Bharat-2022	10/12/2021	10/12/2021	90
Webinar	Big awareness Programme with SINE IIT BombaySINE IIT	28/01/2022	28/01/2022	40
Webinar	Big awareness Programme with SINE IIT Bombay SINE IIT	28/01/2022	28/01/2022	40
Webinar	Awareness Programme on Ideathon	16/02/2022	16/02/2022	117
Webinar	Value Addition and Export Opportunities of Pulses	18/02/2022	18/02/2022	117
Connecting event	Tech Bharat connecting event	04/03/2022	05/03/2022	840
Investors Meet	Pitch Day	29/03/2022	29/03/2022	50
Workshop	Biofuels for the future 'Opportunities for entrepreneurship and employment generation	30/03/2022	30/03/2022 '	100
Seminar	Encourage women entrepreneurs	30/03/2022	30/03/2022	51

8.4.6 Future Activities

The AIC UAS-B will continue to select suitable incubates and strengthen incubation activities by conducting regular workshops and training for the resident incubates. In addition it will also conduct several workshops throughout the year for the public who are interested to becomes agripreneurs. The centre would coordinate PMFME projects with 5 centers located at CoA Hassan, ZARS Mandya, KVK Ramanagara, Chamarajanagara and KVK, Chikkaballapura.

Chapter IX

9. Infrastructure Development and Maintenance

The University has Main Campus, Satellite College Campuses, Research Stations and Krishi Vigyan Kendras in the ten southern districts of the University Jurisdiction. In order to develop and maintain the infrastructure in all the campuses, the University has Estate Office headed by Estate Officer and supported by Executive and Assistant Executive Engineers in all the campuses. The Estate Office facilitates the tendering for various activities like procurement of chemicals, glassware, equipment, stationery through centralized Store Purchase Office. Besides, civil works were also tendered as per the KPWD procedures / KTP for the required civil works.

Infrastructure developed and new initiatives taken up by Estate Office during the year 2021-22 (from 1st April, 2021 to 31st March, 2022) under State Grants, ICAR Grants, RKVY Grants, SCSP & TSP Project and Govt. of India Project are detailed below.

9.1 State Grants

1) Establishment of Agriculture Marketing (Halli Santhe) Modern Marketing System & Animal Husbandry models at Agricultural Sciences Museum in GKVK campus is taken up for execution at a total cost of Rs.40.00 Lakhs and the work is under progress

2) Establishment of Poultry & Fisheries and Interactive Electrical Display Screen at Agricultural Sciences Museum in GKVK campus is taken up for execution at a total cost of Rs.20.00 Lakhs and work is under progress

3) Construction of audio visual lab at Agriculture College, Chamarajanagar was taken up for execution at a total cost of Rs.88.00 Lakhs and the work has been completed

4) Construction of skill development centre at GKVK is taken up for execution at a total cost of Rs.180.00 Lakhs and the work is under progress

5) Construction of Green Room for Auditorium at Sericulture College, Chintamani is taken up for execution at a total cost of Rs.21.57 Lakhs and the work has been completed

6) Construction of Green Room for Auditorium at Agriculture College, Mandya is taken up for execution at a total cost of Rs.21.57 Lakhs and the work has been completed

7) Modification & extension of Organic Farming building (Second Floor) at GKVK campus for Agri Innovation Centre Start-up is taken up for execution at a total cost of Rs.145.00 Lakhs and the work has been completed

8) Construction of First floor over existing SAMETI Building at GKVK is taken up for execution at a total cost of Rs.100.00 Lakhs and work is under progress

9) Construction of Raitha Bhavan at ZARS, VC. Farm, Mandya is taken up for execution at a total cost of Rs.390.00 Lakhs and the work is under progress

10) Providing vinyl / carpet flooring with furniture for seating arrangements and Audio system to Auditorium at Sericulture College, Chintamani is taken up for execution at a total cost of Rs.75.00 Lakhs and the work is under progress

11) Providing vinyl / carpet flooring with furniture for seating arrangements and Audio system to Auditorium at Agriculture College, Mandya is taken up for execution at a total cost of Rs.75.00 Lakhs and work is under progress

12) Construction of Bakery Training Unit at GKVK campus is taken up for execution at a total cost of Rs.350.00 Lakhs and the work is under progress

13) Construction of Swimming Pool at GKVK campus is taken up for execution at a total cost of Rs.350.00 Lakhs and the work has to be initiated

14) Construction of Guest House at ARS, Gunjevu is taken up for execution at a total cost of Rs.175.00 Lakhs and the work has to be initiated

15) Maintenance of building works have been taken up for execution at a total cost of Rs.100.00 lakhs and the works are at various stages of completion

9.2 ICAR Grants

1) Construction of Girls Hostel at College of Agriculture, Mandya is taken up for execution at a total cost of Rs.750.00 Lakhs under ICAR grants and the work is completed. (ICAR share: Rs. 300.00 lakhs & State Share : Rs. 450.00 lakhs)

2) Construction of Girls Hostel at College of Agriculture, Hassan is taken up for execution at a total cost of Rs.780.00 Lakhs under ICAR grants and the work is completed. (ICAR share: Rs. 300.00 lakh, Rs. 480.00 lakh State share)

3) ICAR had allocated total of Rs.40.00 lakh during the year 2021-22 under 1st installment towards refurbishing of smart class rooms & information technology at GKVK campus; Agriculture College, Mandya & Agriculture College, Hassan and the works to be initiated

9.3 Government of India Grants

1) Extension of Seed Godown at NSP, GKVK is taken up for execution at a total cost of Rs.48.00 Lakhs and the work has been completed

2) Construction of Laboratory for Quality testing of micro irrigation components by precision farming development centre (PFDS) at GKVK is taken up for execution at a total cost of Rs.145.00 Lakhs and the work is under progress

3) Construction of First Floor HAL-UAS Advanced centre for Bio-energy Research at GKVK is taken up for execution at a total cost of Rs.110.00 Lakhs and the work is completed

4) Providing power supply to building, existing boiler, water purifier and other electrification works for the proposed Coconut Incubation Facility at ICAR-KVK, Ramanagara taken up for execution at a total cost of Rs.22.00 Lakhs and work has to be initiated

5) Renovation of old seed processing unit into Coconut Incubation Facility for Processing of coconut at ICAR, KVK, Ramanagara is taken up for execution at a total cost of Rs.28.00 Lakhs and the work is under progress

6) 24) Repair & renovation of seed godown & office to start tomato incubation center at ICAR-KVK, Chikkaballapura is taken up for execution at a total cost of Rs.35.00 Lakhs and work is under progress

9.4 RKVY Grants

1) Establishment of Agricultural Science Museum in respect of renewable energy, grain storage and extension technologies at GKVK, is taken up for execution at a total cost of Rs. 60.00 Lakhs and the work is completed

2) Construction of Service Area (cafeteria) over the existing First Floor at Cost of Cultivation Scheme building, GKVK campus is taken up for execution at a total cost of Rs. 20.00 Lakhs and the work is completed

3) Providing asphalting to the approach road from main entrance gate to staff quarters at ARS, Kunigal is taken up for execution at a total cost of Rs. 27.56 Lakhs and the work is completed.

4) Construction of fan and pad climate control poly house for commercial seed production unit at NSP, GKVK campus is taken up for execution at a total cost of Rs.60.00 Lakhs and the work is under progress

5) Construction of fan and pad hi-tech precession climate control poly house for hydroponics demonstration unit at NSP, GKVK campus is taken up for execution at a total cost of Rs.67.00 Lakhs and the work is under progress

6) Construction of medium term Gene Bank to house crop resources at GKVK campus is taken up for execution at a total cost of Rs.220.00 Lakhs and the work is completed

Photographs

Governance of UAS, Bangalore

Shri Vajubhai R. Vala
Governor, GoK & Chancellor
(from 1-9-2014 to 6-7-2021)

Shri Thaawar Chand Gehlot
Governor, GoK & Chancellor
(11-7-2021 onwards)

Shri B.C. Patil
Pro-Chancellor
(11.2.2020 onwards)

Dr. S. Rajendra Prasad
Vice-Chancellor &
Chairman, BoM
(17.9.2018 onwards)

Members, Board of Management, UAS-B

Shri Raj Kumar Khatri, IAS
Addl. Secretary to Government
Dept. of Agriculture
(from1-4-2021 to 30-10-2021)

Shri S.R. Umashankar, IAS
Secretary to Government
Dept. of Agriculture
(from 1-11-2021 onwards)

Shri Rajendar Kumar Kataria, IAS
Principal Secretary to Government
Dept. of Horticulture
(from 1-4-2020 onwards)

Shri I. S. N. Prasad, IAS
Addl. Chief Secretary
Dept. of Finance, GoK
(from 1-4-2020 onwards)

Shri M. Krishnappa
MLA
(from 1-9-2020 onwards)

Dr. P.H. Ramanjini Gowda
Member, BoM, UAS-B
(from 6-5-2020)

Shri T.M. Aravind
Member, BoM, UAS-B
(from 6-5-2020)

Shri O.S. Dayananda
Member, BoM, UAS-B
(from 9-7-2020)

Shri M. Suresh
Member, BoM, UAS-B
(from 9-7-2020)

Shri R. Srirama
Member, BoM, UAS-B
(from 9-7-2020)

Dr. P. S. Pandey
ADG ((EP&HS)

Dr. G.N. Dhanapal
Registrar
(from 30-9-2020 to 31-5-2021)

Dr. N. Devakumar
Registrar
(from 31-5-2021 to 1-9-2021)

Dr. Basave Gowda
Registrar
(1-9-2021 onwards

Photos depicting various activities / programmes

Vice-Chancellor receiving award to Youth Red Cross Society of UAS-B from the Hon'ble Governor of Karnataka

Hon'ble Union Minister of State for Agriculture and Farmers Welfare and dignitaries with the awardees during 56th Foundation Day

Vice-Chancellor receiving the award at New Delhi on 28th September 2021 for securing First Position in ICAR-JRF by the University

Dignitaries during the inauguration of Krisimela-2021 held at GKVK, Bengaluru from 11-14 November, 2021

Hon'ble Union Minister interacting with the students of College of Agriculture, Hassan during the programme on PMFBY & Exhibition on 13th March, 2022 at CoA, Hassan

Dignitaries distributing the Gold Medal to the candidate during the certificate distribution programme of 9th Diploma (Agri.) at VC Farm, Mandya on 30th March, 2022

Vice-Chancellor of UAS-B interacting with Vice-Chancellor, International Affairs, University of Leida during his visit to Europe

Dignitaries inaugurating the International Conference on Finger Millet organised at VC Farm, Mandya from 19-22 January, 2022

Vice-Chancellor distributing the certificate to the candidate during Certificate Award Ceremony of DAESI at VC Farm, Mandya on 17th July 2021

During the workshop on Nutri-rich Crops organised by AICRN on Potential Crops on 27th August 2021

Field visit to seed production plot by the Vice-Chancellor and Director of Extension at KVK, Bengaluru Rural

Vice-Chancellor interacting with the Scientists at ARS, Tipaturu during Field Day on 13th October 2021

Vice-Chancellor & Chairman of SAC addressing the members at KVK, Mandya during the SAC meeting held on 29th December 2021

Dignitaries inaugurating the International Woman's Day at GKVK, Bengaluru on 8th March 2022

Hon'ble Minister of Health & Medical Education witnessing the Exhibition organised by RAWEP students of CoA, GKVK at Gowdagere of Gouribidanur taluk

Dean (Agri.) at Crop Museum established by RAWEP students of CoA, GKVK at Hosur of Chikkaballapur taluk

Interaction of students of CoA, Hassan with farmers and Dean (Agri.) at Baladare the RAWEP village

Inauguration of Information Centre established by RAWEP students of CoA, Hassan at Hirehalli

Group Discussion as part of RAWEP in Dudda organised by CoA, Mandya

Demonstration of soil sampling technique at Sunkkatonnur during RAWEP for students of CoA, Mandya and Farmers

Director of Education witnessing the IFS plot established by RAWEP students of CoS, Chintamani at Doddadasanahalli of Sidlaghatta Taluk

Deputy Commissioner of Kolar District and Registrar of UAS-B at Ankatatti of Kolar Taluk during RAWEP organised by CoS, Chintamani

Vice-Chancellor addressing students during Fit India Freedom Run organized by NSS Unit, GKVK, Bengaluru

Dignitaries and students inaugurating South Zone Pre- Republic Day Parade Camp-2021 at GKVK, Bengaluru

ಹೊಸ ತಳಿಗಳು (ಸಂಕರಣ ತಳಿ) / New Varieties (Hybrid)

Hybrid Maize: MAH 14-138

Sesamum : GKVKS 1

Niger : KBN 2

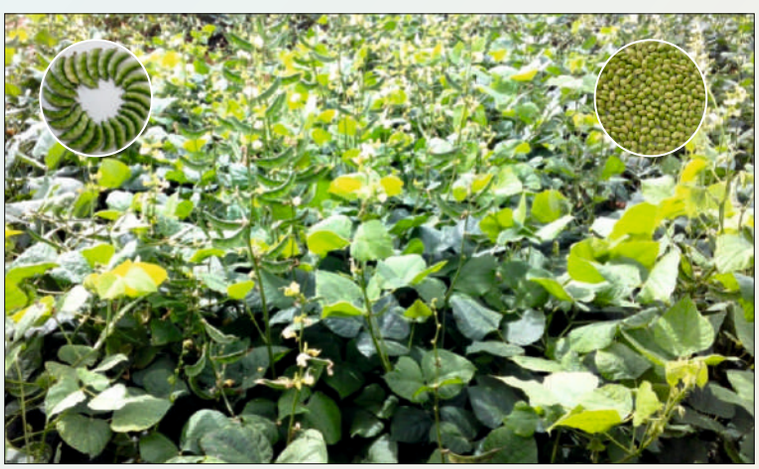
Castor : ICH 66

Paddy : KMP 225

Paddy : RNR 15048

Fodder Sorghum : CNFS 1

Browntop Millet : GPUBT 2



Field Bean : HA 5

Annexures

Annexure 1

1.1: Details of UG programmes and st;udent intake in defferent Colleges 2020-21

Colleges / degree programme	Year of starting	Student intake during 2021-22					
		CET	ICAR	FN	NRI	Lateral entry	Total
1. College of Agriculture, GKVK, Bengaluru							
B. Sc. (Hons.) Agriculture	1965	220	41	14	27	11	313
B.Sc. (Hons.) Agri. Marketing & Business Management	1976	61	-	3	6	-	70
2. College of Agriculture, Mandya							
B. Sc. (Hons.) Agriculture	1991	81	15	5	10	4	115
3. College of Agriculture, Hassan							
B. Sc. (Hons.) Agriculture	1995	82	15	5	10	4	116
B. Tech. (Biotech.)	2006	61	11	4	7	-	83
B. Tech. (Food Technology)	2006	61	11	4	7	-	83
4. College of Sericulture, Chintamani							
B. Sc. (Hons.) Agriculture	2007	72	13	4	9	4	102
B. Sc.(Hons.) Sericulture	1982	31	5	2	4	-	42
5. College of Agriculture, Chamarajanagara							
B. Sc. (Hons.) Agriculture	2018	31	-	2	4	2	39
6. College of Agricultural Engineering, GKVK, Bengaluru							
B.Tech. (Agri. Engineering)	2018	61	11	4	8	3	87
Total		**761**	**122**	**47**	**92**	**28**	**1050**

1.2 : Details of Post-Graduate Degree Programme and intake in different Colleges during 2021–22

Colleges and Departments	Year of starting	University Intake	ICAR Intake	DBT (JNU)	NRI Intake	FN Intake	Total seats
M.Sc. (Agri.) in							
I. Masters degree							
1. College of Agriculture, GKVK, Bengaluru							
M.Sc. (Agri.) in							
Agricultural Economics	1968	10	3	-	1	1	15
Agricultural Entomology	1966	10	3	-	1	1	15
Agricultural Extension	1966	10	3	-	1	1	15
Agricultural Marketing and Business Management	1994	10	3	-	1	1	15
Agricultural Microbiology	1966	10	3	-	1	1	15
Agricultural Statistics	1976	10	3	-	1	1	15
Agronomy	1973	10	3	-	2	1	16
Apiculture	1997	4	1	-	0	0	5
Crop Physiology	1974	10	3	-	1	1	15
Environmental Science	2007	6	2	-	1	1	10
Food Science and Nutrition	1975	10	3	-	1	1	15
Genetics and Plant Breeding	1973	10	3	-	1	1	15
Horticulture	1971	10	3	-	1	1	15
Plant Biochemistry	1976	2	1	-	1	0	4
Plant Biotechnology	1996	10	3	13	1	1	28
Plant Pathology	1996	10	3	-	1	1	15
Seed Science and Technology	1976	10	3	-	3	1	17
Sericulture	1981	10	3	-	1	1	15
Soil Sci. & Agril. Chemistry	1966	10	3	-	1	1	15
Bio Informatics	2021	6	0	-	1	1	8
Agricultural Meteorology	2021	2	0	-	0	0	2
M.Tech. in							
Processing and Food Engineering	1987	10	3	-	1	1	15
Soil & Water Engg.	1989	6	-	-	1	1	8
	Total	**196+27***	**55**	**13**	**24**	**20**	**308+27***
MBA (Agri. Business Management)	2007	30+5*	6	-	3	3	42+5*
	Grand Total	**30+5***	**6**	**-**	**3**	**3**	**42+5***
2. College of Agriculture, Mandya							
Agricultural Entomology	2013	4	1	-	1	-	6
Agronomy	2013	4	1	-	1	-	6
Genetics and Plant Breeding	2013	4	1	-	1	-	6
Plant Pathology	2013	4	1	-	1	-	6
Soil Sci. & Agril. Chemistry	2013	4	1	-	1	-	6
	Total	**20+3***	**5**	**-**	**5**	**-**	**30+3***

*Special Category Intake

Details of Doctrol Degree Programme and intake in different Colleges during 2021-22

Colleges and Departments	Year of starting	University Intake	ICAR Intake	DBT (JNU)	NRI Intake	FN Intake	Total seats
II. Doctor of Philosophy (Ph.D.)							
1. College of Agriculture, GKVK, Bengaluru							
Ph.D. in							
Agricultural Economics	1974	6	2		1	1	10
Agricultural Entomology	1969	6	2		1	1	10
Agricultural Extension	1974	6	2		1	1	10
Agricultural Microbiology	1966	6	2		1	1	10
Agronomy	1975	6	2		1	1	10
Crop Physiology	1976	6	2		1	1	10
Food Science and Nutrition	1991	4	1		1	0	6
Genetics and Plant Breeding	1975	6	2		1	1	10
Plant Biotechnology	2003	4	1	2	1	0	8
Plant Pathology	1969	6	2		1	1	10
Seed Science and Technology	1987	4	1		1	0	6
Sericulture	1986	3	1		1	0	5
Soil Sci. & Agril. Chemistry	1966	6	2		1	1	10
Forestry & Environmental Science	2013	4	0		1	0	5
Horticulture	2016	6	0		1	1	8
Agri. Business Management	2019	4	0		1	0	5
	Total	**83+12**	**22**	**2**	**16**	**10**	**133+12***
2. College of Agriculture, Mandya							
Agronomy	2021	3	-	-	-	-	3
Plant Pathology	2021	3	-	-	-	-	3
Soil Sci. & Agril. Chemistry	2021	3	-	-	-	-	3
	Total	**9+1***	**-**	**-**	**-**	**-**	**9+1***

*Special Category Intake

1.3 : Students enrolled in UG programmes during 2021-22

Class Degree			UG Students on Roll - category wise																																		
			CET Non Kalyana Karnataka																				ICAR						Others									
																			Special Cat						Special Cat												
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR		PC		Others*		ICAR		FN		NRI		Total			
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
College of Agriculture, GKVK, B.sc. (Hons.) Agriculture																																					
I year 2021-22	284	261	5	7	12	16	4	1	2	8	28	16	6	2	17	21	19	4	8	1	7	7	26	13	1	-	-	-	1	2	1	-	17	9	154	107	261
II year 2020-21	284	253	4	9	11	14	2	3	6	4	14	19	2	6	24	22	9	15	7	4	5	11	15	15	1	-	-	-	-	-	1	-	17	10	118	132	250
III year 2019-20	284	266	-	5	13	10	6	2	6	2	26	16	3	3	24	16	15	18	6	5	6	12	16	28	1	-	-	-	-	-	-	-	16	11	138	128	266
IV year 2018-19	277	267	5	6	12	16	2	2	3	5	26	15	1	6	17	16	16	24	3	7	9	8	18	21	-	-	-	-	-	-	-	-	12	17	124	143	267
Total	1129	1047	14	27	48	56	14	8	17	19	94	66	12	17	82	75	59	61	24	17	27	38	75	77	3	-	-	-	1	2	2	-	62	47	534	510	1044

1.3.1 : Students enrolled in B.Sc. (Hons.) Agriculture at CoA, GKVK, Bengaluru {category wise - Gender wise (CET-KK)}

Class Degree: UG Students on Roll - category wise - Gender wise (KCET-KK)

Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	
I year 2021-22	18	15	-	-	-	2	-	2	3	-	1	-	-	-	-	-	6	1	-	-	-	-	10	5	15
II year 2020-21	18	17	-	1	2	-	-	-	1	-	3	1	1	-	-	-	7	-	-	-	-	-	14	3	17
III year 2019-20	18	20	-	1	3	-	-	-	3	1	3	1	-	1	1	1	3	2	-	-	-	-	13	7	20
IV year 2018-19	22	16	-	-	1	1	-	-	-	1	4	1	1	-	1	1	3	2	-	-	-	-	10	6	16
Total / (A)	76	68	-	2	6	3	-	2	7	2	11	3	2	1	2	2	19	5	-	-	-	-	47	21	68

1.3.2 : Students enrolled in B.Sc. (Hons.) Agriculture at CoA, GKVK, Bengaluru {category wise - Gender wise (LE-Non-KK)}

Class Degree																			Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	10	11	-	-	2	-	-	1	1	-	2	-	-	1	2	-	-	1	1	-	-	-	8	3	11
II year 2020-21	10	11	-	-	1	1	1	1	-	1	-	1	-	1	1	-	1	1	1	-	-	-	5	6	11
III year 2019-20	10	11	-	-	-	1	-	1	2	1	1	-	1	-	1	1	1	1	-	-	-	-	6	5	11
IV year 2018-19	10	11	-	-	3	-	1	-	1	-	1	2	-	-	2	-	1	-	-	-	-	-	8	3	11
Total / (A)	40	44	-	-	6	2	2	3	4	2	4	3	1	2	6	1	3	3	2	-	-	-	27	17	44

1.3.3 : Students enrolled in B.Sc. (Hons.) at College of Agriculture, GKVK, Bengaluru, B.Sc., (Hons.) Agriculture (Category wise - Gender wise LE - KK)

Class Degree																											
																			Special Cat								
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total				
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total		
I year 2021-22	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1		
II year 2020-21	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
III year 2019-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
IV year 2018-19	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Total / (A)	4	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	1		

1.3.4 : Students on roll at College of Agriculture, GKVK in B.Sc. (Hons.) Agri. Marketing and Cooperation for III, IV year, B.Sc.(Hons.) ABM for I & II year (Category wise - Gender wise)

Class Degree Year of Admission	Intake	admited	CET Non Kalyana Karnataka																				ICAR						Others						
			GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		ICAR		Special Cat PC		Special Cat Others*		ICAR		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	65	56	-	2	4	6	-	2	2	2	8	9	2	1	4	7	1	2	-	-	2	1	-	-	-	-	-	-	-	-	-	-	1	-	24	32	56
II year 2020-21	65	56	-	-	3	4	2	-	2	2	3	9	-	1	2	13	1	7	-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	1	15	40	55
III year 2019-20	65	55	1	1	3	3	-	2	1	1	4	9	1	-	6	14	2	3	-	-	1	2	-	-	-	-	-	-	-	-	-	-	-	1	19	36	55
IV year 2018-19	76	58	4	3	3	4	1	1	1	1	7	2	2	1	6	7	7	4	-	-	-	3	-	-	-	-	-	-	-	-	-	-	1	-	31	27	58
Total	271	225	5	6	13	17	3	5	6	6	22	29	5	3	18	41	11	16			5	8											2	2	89	135	224

1.3.5 : Students on Roll at College of Agriculture, GKVK in B.Sc. (Hons.) Agri. Marketing and Cooperation for III, IV year, B.Sc.(Hons.) ABM for I & II year (Category wise - Gender wise (KCET-KK)

Class Degree / Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	5	4	-	-	-	-	-	-	-	1	1	-	-	-	2	-	-	-	-	-	-	-	3	1	4
II year 2020-21	5	4	-	-	-	-	-	-	-	-	3	1	-	-	-	-	-	-	-	-	-	-	3	1	4
III year 2019-20	5	4	-	-	-	-	1	-	-	-	1	1	-	-	-	-	-	1	-	-	-	-	2	2	4
IV year 2018-19	6	5	-	-	-	-	-	-	-	-	1	2	-	-	-	1	2	-	-	-	-	-	2	3	5
Total / (A)	21	17	-	-	-	-	1	-	-	1	6	4	-	-	2	1	2	1	-	-	-	-	10	7	17

1.3.6 : UG Students on Roll at College of Agriculture, GKVK in B.Tech. (Agril. Engineering) (Category wise - Gender wise)

Class Degree / Year of Admission	Intake	admited	CET Non Kalyana Karnataka																				ICAR								Others						
			GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		ICAR		Special Cat PC		Special Cat Others*		ICAR W/I		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	79	66	2	-	4	5	1	2	3	2	7	4	-	1	5	6	1	7	-	1	-	2	5	5	-	1	-	-	1	-	-	-	1	-	30	36	66
II year 2020-21	79	67	-	1	3	3	1	1	3	-	3	8	2	1	6	7	8	2	-	-	2	2	5	3	1	-	-	-	2	-	-	-	1	-	37	28	65
III year 2019-20	79	68	-	1	3	4	2	-	1	2	5	7	1	-	9	10	6	1	-	-	-	3	8	3	-	-	-	-	-	1	-	-	-	1	35	33	68
IV year 2018-19	77	68	4	3	5	2	2	1	-	2	8	2	-	1	5	7	6	3	-	-	2	3	10	1	-	-	-	-	-	-	-	-	1	-	43	25	68
Total	314	269	6	5	15	14	6	4	7	6	23	21	3	3	25	30	21	13	-	1	4	10	28	12	1	1			3	1			3	1	145	122	267

1.3.7 : UG Students on Roll C at College of Agriculture, GKVK in B.Tech. (Agril. Engineering) - (Category wise - Gender wise : KCET-KK)

Class Degree																			Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	5	2	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	2
II year 2020-21	5	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	2
III year 2019-20	5	4	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	-	2	2	4
IV year 2018-19	6	3	1	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	1	2	3
Total / (A)	21	11	1	-	-	-	-	-	-	-	5	4	-	-	-	-	1	-	-	-	-	-	7	4	11

1.3.8 : UG Students on Roll at College of Agriculture, GKVK in B.Tech. (Agril. Engineering) (Category wise - Gender wise) (LE-Non-KK)

Class Degree / Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	2	2	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	1	1	2
II year 2020-21	2	2	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	2
III year 2019-20	2	2	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	2
IV year 2018-19	2	3	-	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	3	-	3
Total / (A)	8	9	-	-	2	-	-	-	-	-	4	1	-	-	1	-	1	-	-	-	-	-	8	1	9

1.3.9 : UG Students on Roll at College of Agriculture, GKVK in B.Tech. (Agril. Engineering) (Category wise - Gender wise) (LE - KK)

Class Degree																			Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	1
II year 2020-21	1	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	1
III year 2019-20	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IV year 2018-19	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total / (A)	4	2	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	2	-	2

1.3.10 : Students enrolled in UG programmes for the Academic year 2021-22 - College of Agriculture, Mandya, B.Sc. (Hons.) Agri. (Category wise - Gender wise)

Class Degree			CET Non Kalyana Karnataka																				ICAR						Others						
																			Special Cat						Special Cat											
Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR		PC		Others*		ICAR		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	108	97	15	17	3	5	1	1	3	0	4	4	2	1	1	2	3	0	2	2	0	6	2	3	1	0	0	0	7	2	0	0	9	1	53	44	97
II year 2020-21	106	81	11	24	3	3	1	0	1	2	3	2	1	1	2	0	1	3	2	0	1	3	5	2	0	0	0	0	0	0	0	0	6	4	37	44	81
III year 2019-20	106	94	16	13	3	5	1	1	2	2	4	4	2	0	4	0	4	0	2	1	5	1	4	6	1	0	0	0	4	1	0	0	5	3	57	37	94
IV year 2018-19	107	99	18	17	4	5	2	0	3	0	3	6	0	2	2	2	2	4	0	0	2	3	5	6	0	1	0	0	3	0	0	0	8	1	52	47	99
Total	427	371	60	71	13	18	5	2	9	4	14	16	5	4	9	4	10	7	6	3	8	13	16	17	2	1	0	0	14	3	0	0	28	9	199	172	371

1.3.11 : UG Students on Rolled at College of Agriculture, Mandya - B.Sc. (Hons.) Agri. (Category wise - Gender wise) (KCET-KK)

Class Degree																	Special Cat								
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	5	5	1	1	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	4	1	5
II year 2020-21	5	5	0	2	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	3	5
III year 2019-20	5	5	1	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	4	1	5
IV year 2018-19	5	4	1	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	1	4
Total	20	19	3	4	6	1	0	0	0	0	3	1	0	0	1	0	0	0	0	0	0	0	13	6	19

1.3.12 : UG Students on Roll at College of Agriculture, Mandya - B.Sc. (Hons.) Agri. (Category wise - Gender wise) (LE-Non-KK)

Class Degree																			Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	4	3	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	3	0	3
II year 2020-21	3	2	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
III year 2019-20	3	3	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	3
IV year 2018-19	3	3	2	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3
Total	13	11	5	2	0	1	1	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	8	3	11

1.3.13 : UG Students on Roll at College of Agriculture, Mandya - B.Sc. (Hons.) Agri. (Category wise - Gender wise) (LE - KK)

Class Degree																			Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
II year 2020-21	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
III year 2019-20	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
IV year 2018-19	1	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total	4	4	1	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4

1.3.14 : Students enrolled in UG programmes for the Academic year 2021-22 : College of Agriculture, Hassan - B.Sc. (Hons.) Agriculture (Category wise - Gender wise)

Class Degree			CET Non Kalyana Karnataka																				ICAR													
																	Special Cat								Special Cat												
Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR		PC		Others*		ICAR		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	105	100	10	23	03	05	01	01	01	02	03	05	-	02	02	01	02	02	01	04	-	05	01	03	-	01	-	-	07	04	-	-	06	05	37	63	100
II year 2020-21	105	92	12	17	02	07	01	01	02	01	02	06	02	-	03	01	02	02	02	-	02	04	02	-	-	-	-	-	09	04	-	-	08	-	49	43	92
III year 2019-20	105	91	15	13	04	05	02	-	02	01	07	03	01	01	02	03	02	03	02	03	04	01	03	06	-	-	-	-	05	01	-	-	02	-	51	40	91
IV year 2018-19	103	92	19	18	03	05	01	01	-	01	04	05	-	02	02	02	01	04	01	-	01	03	05	06	-	-	-	-	-	-	-	-	04	04	41	51	92
Total	418	375	56	71	12	22	05	03	05	05	16	19	03	05	09	07	07	11	06	07	07	13	11	15	-	01	-	-	21	09	-	-	20	09	178	197	375

1.3.15 : UG Students on Roll at College of Agriculture, Hassan - B.Sc. (Hons.) Agriculture (Category wise - Gender wise) (KCET-KK)

Class Degree																			Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	07	05	01	01	-	01	-	-	-	-	02	-	-	-	-	-	-	-	-	-	-	-	03	02	05
II year 2020-21	07	06	02	01	02	-	-	-	-	-	01	-	-	-	-	-	-	-	-	-	-	-	05	01	06
III year 2019-20	07	07	01	02	02	-	-	-	-	-	-	02	-	-	-	-	-	-	-	-	-	-	03	04	07
IV year 2018-19	07	05	01	01	01	01	-	-	-	-	01	-	-	-	-	-	-	-	-	-	-	-	03	02	05
ಒಟ್ಟು / **Total**	28	23	05	05	05	02	-	-	-	-	04	02	-	-	-	-	-	-	-	-	-	-	14	09	23

1.3.16 : UG Students on Roll at College of Agriculture, Hassan - B.Sc. (Hons.) Agri. (Category wise - Gender wise) (LE-Non-KK)

Class Degree / Year of Admission	Intake	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	03	03	02	-	-	-	--	-	-	-	-	-	-	-	01	-	-	-	-	-	-	-	03	-	03
II year 2020-21	03	04	01	01	-	-	--	-	-	-	01	-	-	--	-	-	-	-	-	-	01		03	01	04
III year 2019-20	03	04	01	01	-	-	--	-	-	01	-	-	--	-	-	01	-	-	-	-	-	--	01	03	04
IV year 2018-19	03	02	01	01	-	-	--	-	-	-	-	-	-	-	-	--	-	-	-	-	-	-	01	01	02
ಒಟ್ಟು / Total	12	13	05	03	-	-	-	-	-	01	01	-	-	-	01	01	-	-	-	-	01	-	08	05	13

1.3.17 : UG Students on Roll at College of Agriculture, Hassan - B.Sc. (Hons.) Agriculture (category wise - Gender wise) (LE - KK)

Class Degree / Year of Admission	Intake	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat: PC		Special Cat: Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	01	01	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	-	01
II year 2020-21	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
III year 2019-20	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IV year 2018-19	01	01	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	-	01
Total / (A)	04	02	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	02	-	02

1.3.18 : UG Students on RollCollege of Agriculture, Hassan - B.Tech. (Biotechnology) (Category wise - Gender wise)

Class Degree			CET Non Kalyana Karnataka																		ICAR													
																			Special Cat					Special Cat											
Year of Admission	In take	admited	GM		C		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR	PC		Others*		ICAR		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	78	62	10	14	02	07	02	-	-	01	-	08	-	-	02	-	01	01	-	-	01	02	-	01	-	-	-	-	04	06	-	-	-	-	22	40	62
II year 2020-21	78	58	12	17	03	02	-	01	-	02	04	01	-	01	-	02	-	-	-	-	-	03	01	01	-	-	-	-	03	05	-	-	-	-	23	35	58
III year 2019-20	78	55	12	09	02	03	01	-	02	-	04	02	01	-	04	02	02	01	-	-	-	-	05	01	-	-	-	-	03	01	-	-	-	-	36	19	55
IV year 2018-19	74	56	12	12	02	03	01	01	01	01	06	02	-	01	-	02	01	01	-	-	02	02	03	02	-	-	-	-	01	-	-	-	-	-	29	27	56
ಒಟ್ಟು / **Total**	307	231	46	52	09	15	04	02	03	04	14	13	01	02	06	06	04	03	-	-	03	07	09	05	-	-	-	-	11	12	-	-	-	-	110	121	231

1.3.19 : UG Students on Roll at College of Agriculture, Hassan - B.Tech. (Biotechnology), (Category wise - Gender wise) (KCET-KK)

Class Degree																		Special Cat								
Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	05	02	01	-	-	-	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	02	-	02
II year 2020-21	05	04	02	01	-	-	-	-	-	-	-	-	-	-	-	-	01	-	-	-	-	-	03	01	04
III year 2019-20	05	04	02	-	01	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	03	01	04
IV year 2018-19	05	02	-	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	02	02
Total	20	12	05	03	01	01	01	-	-	-	-	-	-	-	-	-	01	-	-	-	-	-	08	04	12

1.3.20 : UG Students on Roll at College of Agriculture, Hassan - B.Tech. (Food Technology) (Category wise - Gender wise)

Class Degree			CET Non Kalyana Karnataka																				ICAR													
																			Special Cat						Special Cat												
Year of Admission	Intake	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR		PC		Others*		ICAR		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	78	61 14	11	03	06	-	01	01	01	03	05	01	-	01	-	02	-	-	-	-	02	05	02	-	-	-	-	01	02	-	-	-	-	31	30	61
II year 2020-21	78	60 09	18	02	04	02	-	01	01	04	01	-	02	01	01	01	-	-	-	01	03	05	-	-	-	-	-	03	01	-	-	-	-	29	31	60
III year 2019-20	78	62 06	18	01	02	02	-	01	01	04	06	01	-	03	02	02	-	-	-	02	02	05	01	-	-	-	-	-	01	01	01	-	-	28	34	62
IV year 2018-19	74	58 10	16	05	02	01	01	01	-	04	02	-	02	02	02	-	02	-	-	01	02	04	01	-	-	-	-	-	-	-	-	-	-	28	30	58
Total	307	241 39	63	11	14	05	02	04	03	15	14	02	04	07	05	05	02	-	-	04	09	19	04	-	-	-	-	04	04	01	01	-	-	116	125	241

1.3.21 : UG Students on Roll at College of Agriculture, Hassan - B.Tech. (Food Technology) (Category wise - Gender wise) (KCET-KK)

Class Degree / Year of Admission	Intake	admitted	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	05	02	01	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	01	02
II year 2020-21	05	04	01	01	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	03	01	04
III year 2019-20	05	01	-	-	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	01	-	01
IV year 2018-19	05	02	01	-	01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	02	-	02
Total	20	09	03	02	04	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	07	02	09

1.3.22 : Students enrolled in UG programmes for the Academic year 2021-22 : College of Sericulture, Chintamani - B.Sc. (Hons.) Agriculture (category wise - Gender wise)

Class Degree			CET Non Kalyana Karnataka																				ICAR												
																			Special Cat					Special Cat												
Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR		PC		Others*		ICAR		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	92	82	0	0	6	3	4	0	2	1	8	5	1	0	7	7	2	10	1	0	4	0	0	0	1	0	0	0	6	6	0	0	5	3	47	35	82
II year 2020-21	92	83	4	0	4	3	2	1	1	2	9	3	3	0	9	8	2	5	1	0	3	6	0	0	1	0	0	0	7	6	0	0	2	1	48	35	83
III year 2019-20	92	88	0	0	2	7	3	0	2	2	4	6	2	1	13	6	7	4	3	1	2	3	3	5	1	0	0	0	1	1	0	0	7	2	50	38	88
IV year 2018-19	92	84	1	2	1	7	2	1	0	2	7	5	2	0	13	6	6	3	0	0	4	1	5	6	0	0	0	0	1	1	0	0	2	6	44	40	84
Total	368	337	5	2	13	20	11	2	5	7	28	19	8	1	42	27	17	22	5	1	13	10	8	11	3	0	0	0	15	14	0	0	16	12	189	148	337

1.3.23 : UG Students on Roll at College of Sericulture, Chintamani - B.Sc. (Hons.) Agriculture (Category wise - Gender wise (CET-KK)

Class Degree																		Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	5	5	0	0	1	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	3	2	5
II year 2020-21	6	5	0	0	0	1	1	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	3	2	5
III year 2019-20	6	4	0	0	1	0	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	0	2	2	4
IV year 2018-19	5	5	0	0	1	0	0	0	0	0	2	1	0	0	0	0	1	0	0	0	0	0	4	1	5
Total	22	19	0	0	3	2	2	0	1	0	4	3	0	0	0	0	2	2	0	0	0	0	12	7	19

1.3.24 : UG Students on Roll at College of Sericulture, Chintamani - B.Sc. (Hons.) Agri. (Category wise - Gender wise) (LE-Non-KK)

Class Degree																			Special Cat						
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	3	3	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3	0	3
II year 2020-21	4	4	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	0	2	2	4
III year 2019-20	3	3	0	0	0	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	2	1	3
IV year 2018-19	3	4	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	4	0	4
Total	13	14	0	0	0	0	2	1	1	0	3	0	1	0	0	1	2	1	0	0	2	0	11	3	14

1.3.25 : UG Students on Roll at College of Sericulture, Chintamani - B.Sc. (Hons.) Agriculture (Category wise - Gender wise) (LE - KK)

Class Degree / Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		ವಿಶೇಷ ವರ್ಗ / Special Cat PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	1
II year 2020-21	2	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	2
III year 2019-20	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
IV year 2018-19	1	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Total	5	6	0	0	0	0	0	2	2	0	1	0	0	0	0	0	0	1	0	0	0	0	3	3	6

1.3.26 : UG Students on Roll at College of Sericulture, Chintamani - B.Sc. (Hons.) Sericulture (Category wise - Gender wise)

Class Degree			CET Non Kalyana Karnataka																				ICAR												
																			Special Cat						Special Cat											
Year of Admission	Intake	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR		PC		Others*		ICAR W/I		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	40	31	1	0	1	4	3	0	0	1	3	5	1	1	2	0	1	2	0	0	0	1	0	0	0	0	0	0	1	4	0	0	0	0	13	18	31
II year 2020-21	40	27	0	0	1	2	0	0	1	1	2	1	1	0	4	4	2	1	0	0	2	0	0	0	0	0	0	0	5	0	0	0	0	0	18	9	27
III year 2019-20	40	31	0	0	0	2	1	0	2	0	4	3	1	0	3	4	4	1	0	0	1	0	1	1	0	0	0	0	1	2	0	0	0	0	18	13	31
IV year 2018-19	40	28	0	0	1	2	0	0	1	1	1	3	1	0	2	5	4	4	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	12	16	28
Total	160	117	1	0	3	10	4	0	4	3	10	12	4	1	11	13	11	8	0	0	4	1	2	2	0	0	0	0	7	6	0	0	0	0	61	56	117

1.3.27 : UG Students on Roll at College of Sericulture, Chintamani - B.Sc. (Hons.) Sericulture (Category wise - Gender wise) (CET-KK)

Class Degree																	Special Cat								
Year of Admi-ssion	In take	adm ited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2
II year 2020-21	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1	2
III year 2019-20	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0	1
IV year 2018-19	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	2	2
Total	9	7	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	0	0	0	3	4	7

1.3.28 : Students enrolled in UG programmes for the Academic year 2021-22 : College of Agriculture, Chamarajanagara - B.Sc. (Hons.) Agriculture (Category wise - Gender wise)

Class Degree			CET Non Kalyana Karnataka																				ICAR														
																			Special Cat				Special Cat														
Year of Admission	Intake	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*		ICAR		PC		Others*		ICAR		FN		NRI		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	36	29	-	1	2	2	-	-	2	-	3	3	-	-	6	1	4	2	-	-	-	2	-	-	-	-	-	-	-	-	-	-	1	-	18	11	29
II year 2020-21	35	25	-	-	-	2	-	-	-	1	1	2	1	-	3	5	3	3	1	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	10	15	25
III year 2019-20	35	28	1		2	1				2	2	2	1	1	4	4	4	2			2		-	-	-	-	-	-	-	-	-	-	-	-	16	12	28
IV year 2018-19	29	28	-	-	1	2	-	-	-	2	4	-	1	-	5	3	4	4	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	15	13	28
Total	135	110	1	1	5	7	-	-	2	5	10	7	3	1	18	13	15	11	1	1	3	5	-	-	-	-	-	-	-	-	-	-	1	-	59	51	110

1.3.29 : UG Students on Roll at College of Agriculture, Chamarajanagara - B.Sc. (Hons.) Agriculture (Category wise - Gender wise) (KCET-KK)

Class Degree / Year of Admission	Intake	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	02	02	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	02
II year 2020-21	02	02	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	2	-	02
III year 2019-20	02	02	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	2	-	02
IV year 2018-19	02	02	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	1	02
Total	08	08	01	-	-	-	01	-	01	-	01	01	-	-	-	-	03	-	-	-	-	-	7	1	08

1.3.30 : UG Students on Roll at College of Agriculture, Chamarajanagara - B.Sc. (Hons.) Agriculture (Category wise - Gender wise) (LE-Non-KK)

Year of Admission	In take	admited	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others*		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	Total
I year 2021-22	03	02	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-	1	1	02
II year 2020-21	03	02	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	1	02
III year 2019-20	03	02	-	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	2	-	02
IV year 2018-19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	09	06	-	-	01	-	-	-	-	-	01	-	-	-	01	02	01	-	-	-	-	-	4	2	06

1.3.31 : Students Enrolled in UG Programme for the Acdemic year 2021-22 at College of Agriculture, Chamarajanagar, - B.Sc. (Hons.) Agriculture Category wise - Gender wise (LE-KK)

Class Degree / Year of Admission	Intake	admitted	GM		SC		ST		Cat-I		IIA		IIB		IIIA		IIIB		Special Cat PC		Special Cat Others		Total		
			B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	G. Total
I year 2021 -22	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
II year 2020 -21	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIIyear 2019 -20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IV year 2018-19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1.4.1 : Students Enrolled in PG Degree Programmes through Non Kalyana Karnataka for the Academic year 2021-22

Class Degree	In take	GM		SC		ST		OBC										Special Cat				ICAR/ JNU		FN		NRI		Deputation		Inservice		Re-admin				Total
								Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*																	
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	
I Ph.D	141	6	4	8	4	0	3	2	2	7	8	1	2	5	12	2	7	2	0	3	3	06	13	3	0	1	0	0	0	0	1	1	2	47	61	108
II Ph.D	118		2	6	5	6	2	0	1	1	6	8	0	4	3	12	3	7	2	0	3	2	5	14	0	0	0	1	0	0	0	0	0	32	61	93
III Ph.D	119		1	7	6	5	0	2	3	4	1	9	2	0	6	10	4	10	3	0	4	1	9	10	3	0	0	1	0	4	0	0	0	1	42	64	106
Total (A)	378		9	17	19	15	2	5	6	7	14	25	3	6	14	34	9	24	7	0	10	6	20	37	6	0	1	2	0	4	0	1	1	3	121	186	307
Jr. M.Sc. (Agri)	299		1	2	11	15	1	6	3	4	17	21	3	5	14	21	12	25	2	1	7	8	23	36	0	0	9	4	0	0	0	0	1	0	104	148	252
Sr. M.Sc. (Agri)	246		6	10	14	10	2	1	2	7	18	15	5	0	10	27	14	18	3	1	4	11	23	39	0	0	6	6	0	0	0	0	1	0	108	145	253
Jr. M.Tech	22		0	0	2	0	2	0	0	2	0	1	0	0	0	0	2	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	07	06	13
Sr. M.Tech	21		0	0	2	0	2	0	2	0	0	2	0	0	3	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	10	05	15
Jr. MBA	45		0	2	1	2	0	0	1	0	7	2	0	0	1	4	2	3	0	0	0	0	1	5	1	0	0	0	0	0	0	0	0	0	14	18	32
Sr. MBA	35		3	2	5	1	0	0	2	0	5	0	0	0	4	3	1	0	0	0	1	1	3	3	0	0	0	0	0	0	0	0	0	0	24	10	34
Total (B)	668		10	16	35	28	7	7	10	13	47	41	8	5	32	56	31	47	5	2	12	20	52	87	1	0	15	10	0	0	0	0	2	0	267	332	599
Total (A+B)	1046		19	33	54	43	9	12	16	20	61	66	11	11	46	90	40	71	12	02	22	26	72	124	07	0	16	12	0	04	0	1	03	3	388	518	906

1.4.1 : (ಮುಂದುವರಿದಿದೆ)

(Continued)

Class Degree	In take	GM		SC		ST		OBC										Special Cat				ICAR/ JNU		FN		NRI		Deputation		Inservice		Re-admin		Total	
								Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*															
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G
I year Ph.D	8	0	05	0	01	0	0	0	0	0	0	0	0	0	01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01	06	07
Total (C)	8	0	05	0	01	0	0	0	0	0	0	0	0	0	01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01	06	07
Jr.MSc.(Agri.), Mandya	31	06	04	02	0	0	0	01	0	0	03	0	0	01	0	0	01	0	0	0	01	02	02	0	0	0	01	01	0	0	0	0	0	13	12	25
Sr. MSc. (Agri.), Mandya	31	04	05	0	02	01	0	01	0	02	0	0	0	01	0	0	01	0	01	0	01	0	04	0	0	0	02	0	0	0	0	0	0	11	14	25
Total (D)	62	10	09	02	02	01	0	02	0	02	03	0	0	02	0	0	02	0	01	0	02	02	06	0	0	0	03	01	0	0	0	0	0	24	26	50
Total (A+B+C+D)	1116	29	47	56	46	10	12	18	20	63	69	11	11	49	90	40	73	12	03	22	28	74	130	07	0	19	13	0	04	0	01	03	03	413	550	963

1.4.2 : Students Enrolled in PG Programmes through Kalyana Karnataka for the Academic year 2021-22

Degree	In take	GM		SC		ST		Cat-I		OBC								Special Cat				B	G	Total
										IIA		IIB		IIIA		IIIB		PC		Others*				
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G			
I Ph.D	06	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01	01	02
II Ph.D	07	1	2	1	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	04	02	06
III Ph.D	06	1	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02	02	04
Total (A)	19	3	5	2	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	07	05	12
Jr. M.Sc. (Agri)	15	6	2	1	0	0	0	0	0	1	1	0	0	0	1	0	1	0	0	0	0	08	05	13
Sr. M.Sc. (Agri)	14	2	5	0	0	1	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	05	05	10
Jr. M.Tech	01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00	00	00
Sr. M.Tech	02	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	01	01	02
Jr. MBA	02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00	00	00
Sr. MBA	02	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	00	00	00
Total (B)	36	9	7	1	0	1	0	0	0	2	2	1	0	0	1	0	1	0	0	0	0	14	11	25
G. Total (A+B)	55	12	12	03	0	1	0	0	0	2	2	2	0	0	1	1	1	0	0	0	0	21	16	37

1.4.2 : (ಮುಂದುವರಿದಿದೆ)
: (Continued)

Degree	In take	GM		SC		ST		Cat-I		OBC								Special Cat				B	G	Total
										IIA		IIB		IIIA		IIIB		PC		Others*				
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G			
I Ph.D., Mandya	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total(C)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jr. M.Sc. (Agri) Mandya	02	01	0	01	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	02	0	02
Sr. M.Sc. (Agri) Mandya	02	01	0	0	0	0	0	0	0	01	0	0	0	0	0	0	0	0	0	0	0	02	0	02
Total (D)	04	02	0	01	0	0	0	0	0	01	0	0	0	0	0	0	0	0	0	0	0	04	0	04
G. Total (A+B+C+D)	60	14	12	04	0	01	0	0	0	03	02	02	0	0	01	01	01	0	0	0	0	25	16	41

1.4.3 : Students Enrolled in PG Programmes for the Academic Year 2021-22

Class Degree	In take	GM		SC		ST		OBC										Special Cat				ICAR/ JNU		FN		NRI		Deputation				Inservice				Re-admin		B	G	Total
								Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*																				
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G			
I Ph.D	147	7	5	8	4	0	3	2	2	7	8	1	2	5	12	2	7	2	0	3	3	06	13	3	0	1	0	0	0	0	1	1	2	48	62	110
II Ph.D	125	3	8	6	6	2	0	1	1	6	8	1	4	3	12	4	7	2	0	3	2	5	14	0	0	0	1	0	0	0	0	0	0	36	63	99
III Ph.D	125	2	9	7	5	0	2	3	4	1	9	2	0	6	10	4	10	3	0	4	1	9	10	3	0	0	1	0	4	0	0	0	1	44	66	110
Total (A)	397	12	22	21	15	2	5	6	7	14	25	4	6	14	34	10	24	7	0	10	6	20	37	6	0	1	2	0	4	0	1	1	3	128	161	319
Jr. M.Sc. (Agri)	314	7	4	12	15	1	6	3	4	18	22	3	5	14	22	12	26	2	1	7	8	23	36	0	0	9	4	0	0	0	0	1	0	112	153	265
Sr. M.Sc. (Agri)	260	8	15	14	10	3	1	2	7	19	15	6	0	10	27	14	18	3	1	4	11	23	39	0	0	6	6	0	0	0	0	1	0	113	150	263
Jr. M.Tech	23	0	0	2	0	2	0	0	2	0	1	0	0	0	0	2	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	07	06	13
Sr. M.Tech	23	1	0	2	0	2	0	2	0	0	3	0	0	3	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	11	06	17
Jr. MBA	47	0	2	1	2	0	0	1	0	7	2	0	0	1	4	2	3	0	0	0	0	1	5	1	0	0	0	0	0	0	0	0	0	14	18	32
Sr. MBA	37	3	2	5	1	0	0	2	0	5	0	0	0	4	3	1	0	0	0	1	1	3	3	0	0	0	0	0	0	0	0	0	0	24	10	34
Total (B)	704	19	23	36	28	8	7	10	13	49	43	9	5	32	57	31	48	5	2	15	20	52	87	01	0	15	10	0	0	0	0	2	0	281	343	624
Grand Total (A+B)	1101	31	45	57	43	10	12	16	20	63	68	13	11	46	91	41	72	12	02	22	26	72	124	07	0	16	12	0	04	0	1	03	3	409	534	943

1.4.3 : (Continued)

Class Degree	In take	GM		SC		ST		OBC										Special Cat				ICAR/ JNU		FN		NRI		Deputation				Inservice		Re-admin		B	G	Total
								Cat-I		IIA		IIB		IIIA		IIIB		PC		Others*																				
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G	B	G			
I Ph.D. Mandya	9	0	5	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01	06	07
Total (C)	9	0	5	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	01	06	07
Jr. M.Sc. (Agri)	33	7	4	3	0	0	0	1	0	0	3	0	0	1	0	0	1	0	0	0	1	2	2	0	0	1	1	0	0	0	0	0	0	0	15	12	27
Sr. M.Sc. (Agri)	33	5	5	0	2	1	0	1	0	3	0	0	0	1	0	0	1	0	1	0	1	0	4	0	0	2	0	0	0	0	0	0	0	0	13	14	27
Total (D)	66	12	9	3	2	1	0	2	0	3	3	0	0	2	0	0	2	0	1	0	2	2	6	0	0	3	1	0	0	0	0	0	0	0	28	26	54
G. Total (A+B+C+D)	1176	43	59	60	46	11	12	18	20	66	71	13	11	49	91	41	74	12	03	22	28	74	130	07	0	19	13	0	04	0	1	03	03	438	566	1004

1.5 : Details of students enrolled for two year Diploma in Agriculture programme at College of Agriculture, Mandya and two year Diploma in Sericulture at College of Sericulture, Chintamani (Year & Gender wise)

College	Course	1st Year		2nd Year		Total		G. Total
		Boys	Girls	Boys	Girls	Boys	Girls	
CoA, Mandya	Two year Diploma in Agriculture	37	12	26	18	63	30	93
CoS, Chintamani	Two year Diploma in Sericulture	07	0	10	1	17	1	18
Total		44	12	36	19	80	31	111

1.6. : Details of students enrolled for two year Diploma in Agriculture programme at College of Agriculture, Mandya and two year Diploma in Sericulture at College of Sericulture, Chintamani (Category & Gender wise)

College	Course		General		OBC (Changed)		SC		ST		Total
			Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	
CoA, Mandya	Two year Diploma in Agriculture	2020-21	12	10	11	5	2	2	1	1	44
		2021-22	16	8	16	1	4	3	1	0	49
CoS, Chintamani	Two year Diploma in Agriculture	2020-21	0	0	6	0	4	1	0	0	11
		2021-22	5	0	0	0	2	0	0	0	7
		Total	33	18	33	6	12	6	2	1	111

1.7 : Details of students who have completed two year Diploma in agriculture (Category & gender wise)

College	Course		General		OBC (Changed)		SC		ST		Total	Grand Total
			Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls		
CoA, Mandya	Two year Diploma in Agriculture	2020-2121	15	0	0	06	0	2	0	44	44	
		2021-220	0	0	0	0	0	0	0	0	0	
Total		21	15	0	0	06	0	2	0	44	44	

1.8 : Details of UG students who have completed Bachelor Degree Programmes in different colleges during 2021-22 (Category & Gender wise)

College	Course	GM		OBC (Changed to Cat, I, II, 2A, 2B, 3A, 3B)		SC		ST		ICAR		Foreign		Total		Total
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	
CoA, Bengaluru	B.Sc. (Hons.) Agril.	16	13	86	47	15	8	3	2	9	11	2	1	131	82	213
	B.Sc. (Hons.) Ag. Markt. Co-op. & Business & Mangt.	1	1	22	14	3	6	-	2	-	-	-	-	26	23	49
	B.Tech. (Agril. Engg.)	6	4	19	20	10	1	1	2	5	1	-	-	41	28	69
CoA, Mandya	B.Sc. (Hons.) Agri.	26	24	12	10	8	3	2	-	6	4	-	-	54	41	95
CoA, Hassan	B.Sc. (Hons.) Agri.	1	4	23	34	9	6	2	-	3	-	-	-	38	44	82
	B.Tech. (Biotechnology)	1	-	24	15	3	5	3	1	1	-	-	-	32	21	53
	B.Tech. (Food Technology)	1	2	15	26	3	5	3	-	4	-	-	-	26	33	59
Chintamani	B.Sc. (Hons.) Agri.	2	5	26	27	7	4	2	3	-	1	-	-	37	40	77
	B.Sc. (Hons.) Seri.	-	-	12	11	3	1	1	-	1	1	-	-	17	13	30
	Total	54	53	239	204	61	39	17	10	29	18	2	1	402	325	727

1.9 : Details of PG students who have completed Master's and Docotoral Degree Programmes in different colleges during 2021-22 (Category & Gender wise)

College	Course	GM		OBC (Changed to Cat, I, II, 2A, 2B, 3A, 3B)		SC		ST		ICAR		Foreign		Total		Total
		B	G	B	G	B	G	B	G	B	G	B	G	B	G	
CoA, Bengaluru	M.Sc. (Agrilculture)	5	8	52	77	12	11	3	-	26	32	2	-	100	128	228
	M.Tech. (Agril. Engg.)	1	1	2	3	1	1	-	-	-	2	-	-	4	7	11
	MBA / (ABM)	-	1	5	-	4	-	-	-	-	2	-	1	9	4	13
	Ph.D	7	8	13	17	2	7	1	1	1	2	-	1	24	36	60
CoA, Mandya	M.Sc. (Agrilculture)	4	9	2	5	-	2	-	-	4	1	-	-	10	17	27
	Total	17	27	74	102	19	21	4	1	31	39	2	2	147	192	339

Annexure 2

2.1 : New Research Projects Sanctioned

Sl. No.	Project No. ABAC NO.	Title of the Project	Budget outlay (Rs. In lakhs)
RKVY Projects			
1.	RKVY	Development of demonstration and business model for soil-less agriculture production system at UAS, Bangalore	409.00
2.	RKVY	Establishing Genomics-enabled Next-Generation Breeding Facility for Development of Climate Resilient Crop Varieties	204.00
3.	RKVY	Establishment of Advanced Center for Skill Development in Mushroom Production Technologies	128.00
		Total	**741.00**
Govt. of India Projects			
1.	GOI-428	Development of valuable products from stubble waste/agricultural straw by bio refinery approach and field trials	74.16
2.	GOI-433	Strengthening of the Agri. Innovation Centre at UAS-B for Agri Start-ups	489.84
3.	GOI-434	Floral and faunal diversity assessment and integrating stingless bees into urban and peri-urban agriculture and urban forests	15.14
4.	GOI-435	Pollination dynamics and fruit yield of dragon fruit (*Hylocereus* spp.) farmers participatory research approach	18.36
5.	GOI-436 (A)	Establishment of Common Incubation Facility for processing of Coconut and Ginger at College of Agriculture, Hassan	209.90
6.	GOI-436 (B)	Establishment of Common Incubation Facility for processing Jaggery and jaggery based products at ZARS, VC Farm, Mandya	159.00
7.	GOI-436 (C)	Establishment of Common Incubation Facility for processing of tomato and other fruits and vegetables at Krishi Vigyan Kendra, Kurubur Farm, Chintamani, Chikkaballapur Dist.	208.50
8.	GOI-436 (D)	Establishment of Common Incubation Facility for processing of turmeric at Krishi Vigyan Kendra, Haradananhalli, Chamarajanagar Dist.	143.30
9.	GOI-436 (E)	Establishment of Common Incubation Facility for processing of Coconut at Krishi Vigyan Kendra, Chandurayanahalli, Magadi, Ramanagar District	264.00
10.	GOI-437	M.Sc. (Agri.) Plant Biotechnology	233.70
11.	GOI-438	Systematics, Phylogeny and Biogeography of the Pollinators (Insecta: Hymenoptera: Apoidea) of South India with Special Reference to Western Ghats	26.29
12.	GOI-439	Pollinator Biodiversity and Bee Floral Resource Optimisation in improving Seed Production in Onion (*Allumcepa* L.)	15.47

Sl. No.	Project No.	Title of the Project	Budget outlay (Rs. In lakhs)
13.	GOI-440	National Certification System for Tissue Culture Raised Plants (NCSTCP)	156.00
14.	GOI-441	Improvement of stress adaptive traits in crops using endphytes under different agroecology	73.45
15.	GOI-442	Strategic understanding of mechanisms that restrict grain yield, grain protein and quality in rice through an interface between clinical nutrition and agriculture research	149.87
16.	GOI-443	Evaluation of impact of elevated CO_2 and temperature on crop and weed interaction, dynamics and herbicide bioefficacy	96.75
17.	GOI-444	Grain discoloration disease of rice: Deciphering pathogen/s dynamics and core-phyllomicrobiome profile for engineering microbiome against grain discoloration disease	9.35
18.	GOI-445	Development and demonstration of pilot scale continuous Multiphase - Multistage Bioreactor (CMMB) System for biofertilizers production using Maize cob as a nutrient source	33.69
19.	GOI-446	Development of DUS testing guidelines for chilli, paprika and bell pepper under protected condition	18.00
		Total	**2394.77**

ICAR -Adhoc Projects

1.	Adhoc-254	Designing efficient cropping system through stimulation modelling for Cauvery command area under changing climate	7.00

Govt. of Karnataka funded Projects

1.	GOK-205	Enhancement of Blackgram productivity through large scale demonstration of new variety of LBG-791 and its production technologies	3.00
2.	GOK-206	Watershed Development to prevent drought (WDPD)	312.38
3.	GOK-207	Social Audit of Schemes implemented under SCSP/TSP	17.20
4.	GOK-208	Establishment of Honey Testing Laboratory at Department of Apiculture, UAS, GKVK, Bengaluru	1055.61
		Total	**1388.19**

Sl. No.	Project No.	Title of the Project	Budget outlay (Rs. In lakhs)
UAS Sponsored: Farmers centric demand driven projects			
1.		Conservation, perpetuation and Popularization of under-utilized and exotic fruit crops	2.00
2.		Establishment and Promotion of Multi-Commodity Special FPOs in UAS Bengaluru Jurisdiction of Karnataka	6.75
		Total	**8.75**
UAS Sponsored: Climate Smart Agriculture			
1.		Development and Standardization of stingless bee honey extractor	1.50
UAS Sponsored: Technology and Varietal Development			
1.		Characterization and management of Rhizoctoniabataticola (Taub) inciting dry root rot in Pigeonpea	2.00
2.		Tagging/Mapping and introgression of genomic regions governing resistance to ChLCV in chilli/pepper (*Capsicum annuum* L.)	3.35
3.		Utilization of Library resources and services by faculty and Post Graduate students-A-Study	0.50
		Total	**5.85**
Collaborative Projects			
1.	T-Coll-244	Demonstration of improved Turmeric variety IISR Pragathi and GAP in Chamarajanagar District	15.43
2.	T-Coll-245	Role of bio stimulants in enhancing crop productivity	56.84
3.	T-Coll-246	In-plantaevaluation of new fungicides, biofungicides against major diseases of crop plants and biostumulants for disease resistance, growth and productivity of important crops of Southern Karnataka	481.00
4.	T-Coll-247	Evaluation of basic steel slag as a soil conditioner and nutrient source for rice and maize in different types of soils of Karnataka	204.01
5.	T-Coll-248	Herbicide tolerance studies in Sorghum	11.18
6.	T-Coll-249	Green synthesis of Boron, Zinc and Sulphurnano fertilizers to enhance the productivity and nutritional quality of Soybean and Tomato	9.96
7.	T-Coll-250	Response of Herbicides and crop rotation on paddy weed seed bank under Cauvery Command area	69.12
		Total	**847.54**

Annexure 3

3.1 Details of sponsored training programmes organized by Staff Training Unit

Sl. No.	Sponsored organization	Title of the Training	Duration Days	No. of Trainings organized	No. of trainees trained
1	UASB	Refresher Training for Field and Lab Assistants of UASB	3 days	01	30
2	UASB	Refresher Training for Assistant and Associate Professors of UASB	4 days	01	29
				Total	**59**
3	Karnataka State Cooperative	Certificate Course on Integrated Nutrient Management for Fertilizer Marketing Dealers Federation Ltd. Bangalore.	15 days	02	60
				Total	**119**

3.2 Details of Training programmes organized by STU under SAMETI (South) online

Sl. No.	Sponsored organization	Title of the Training	Duration Days	No. of Trainings organized	No. of trainees trained
1	SAMETI (S)	Improved Production Technologies and New Varieties on Redgram	1 Day	One	100
2	SAMETI (S)	Improved Cultivation practices in Maize	1 Day	One	100
3	SAMETI (S)	Integrated Crop Management in Ragi	1 Day	One	75
4	SAMETI (S)	Integrated Weed Management in *kharif* Crops	1 Day	One	60
5	SAMETI (S)	Soil and Water Management Technologies for Dryland	1 Day	One	72
6	SAMETI (S)	Integrated Management of Fall Armyworm	1 Day	One	68
7	SAMETI (S)	Importance & Usage of Nano Urea	1 Day	One	75
8	SAMETI (S)	Integrated Farming Systems	1 Day	One	58
9	SAMETI (S)	Precision Farming	1 Day	One	38
10	SAMETI (S)	Integrated Crop Management of Small Millets	1 Day	One	30
11	SAMETI (S)	Integrated Pest Management in Field Crops	1 Day	One	34
12	SAMETI (S)	Integrated Disease Management	1 Day	One	59
13	SAMETI (S)	Agri Marketing and Networking	1 Day	One	29
14	SAMETI (S)	Success Stories -Writing Skills	1 Day	One	65
15	SAMETI (S)	IPM in Paddy	1 Day	One	46
16	SAMETI (S)	Mushroom cultivation	1 Day	One	51
17	SAMETI (S)	Fodder Crops	1 Day	One	27
18	SAMETI (S)	IPM in Sugarcane	1 Day	One	50
19	SAMETI (S)	Disease Management in Vegetable Crops	1 Day	One	25
20	SAMETI (S)	Bee Keeping	1 Day	One	44
21	SAMETI (S)	Value Added Products	1 Day	One	51
22	SAMETI (S)	Advanced Technologies in Sericulture	1 Day	One	37
23	SAMETI (S)	Medicinal & Aromatic Plants	1 Day	One	34
24	SAMETI (S)	Post Harvest Management in Fruits & Vegetables	1 Day	One	51
25	SAMETI (S)	Nursery Management & Propagation Techniques of Important Fruit Crops	1 Day	One	43

Sl. No.	Sponsored organization	Title of the Training	Duration Days	No. of Trainings organized	No. of trainees trained
26	SAMETI (S)	Seed Production and Agricultural Crops	1 Day	One	38
27	SAMETI (S) Online Agencies	Processing, Packaging & Marketing of Agricultural Products through	1 Day	One	39
28	SAMETI (S)	Use of Solar & Pheromone Traps in Horticultural Crops	1 Day	One	63
29	SAMETI (S)	Vermicomposting and Preparation of Low Cost Organic Manures	1 Day	One	76
30	SAMETI (S)	Micronutrients-Role deficiency symptoms and management	1 Day	One	35
31	SAMETI (S)	Value addition in Millets	1 Day	One	57
32	SAMETI (S)	Pest & Disease Management in Bi-Voltine Silkworm	1 Day	One	41
33	SAMETI (S)	Scientific Diary Management	1 Day	One	50
34	SAMETI (S)	Fish Farming in Short Term Standing Water Resources	1 Day	One	60
35	SAMETI (S)	ATMA Progress Review workshop	1 Day	Two	124
				Total	**1905**

3.3 : Details of Nodal Training Centers and candidates enrolled for Diploma in Agricultural Extension Service for Input Dealers (DAESI) coordinated by SAMETI

Sl. No.	Place	Name of the Nodal Training Center	No. of Input Dealers enrolled
1	Bengaluru	KVK Hadonahalli , Bengaluru Rural, Dist. (B-1)	40
		KVK Hadonahalli , Bengaluru Rural, Dist. (B-2)	40
		College of Horticulture Sciences UHS Bangalore Campus	40
		FTI, UAS, GKVK, Bengaluru(B-1)	40
		FTI, UAS, GKVK, Bengaluru(B-2)	40
2	Chamarajanagara	MYRADA Kamagere Kollegala Taluk (B-1)	40
		MYRADA Kamagere Kollegala Taluk (B-2)	40
3	Chikkaballapura	ICAR-KVK Chintamani, Chikkaballapura Dist.(B-1)	40
		ICAR-KVK Chintamani, Chikkaballapura Dist.(B-2)	40
		College of Sericulture, Chintamani, Chikkaballapura Dist.	40
4	Chitradurga	MYRADA Holalkere Chitradurga Dist.	40
		College of Horticulture, Babbur Farm, Hiriyur	40
		DATC Babbur Farm Hiriyur Chitradurga Dist	40
5	Dakshina Kannada	ICAR- KVK, Kankanady, Mangalore	40
6	Davanagere	IAT Davanagere Dist.	40
		DATC Kadajji	40
7	Hassan	College of Agriculture Hassan Dist (B-1)	40
		College of Agriculture Hassan Dist (B-2)	40
8	Kodagu	IIHR KVK Gonikoppalu Kodagu Dist	40
9	Kolar	College of Horticulture, Tamaka, Kolar Dist	40
10	Mandya	College of Agriculture, VC Farm Mandya Dist (B-1)	40
		College of Agriculture, VC Farm Mandya Dist (B-2)	40
11	Mysuru	College of Horticulture, Illuvala, Mysuru Dist.	40
12	Shivamogga	OFRS, Navile, Shivamogga Dist.	40
13	Tumkur	KVK-Hirehalli, Tumkur Dist	40
		ICAR-KVK, Konehalli, (B-1)	40
		ICAR-KVK, Konehalli,(B-2)	40
14	Udupi	KVK, Brahmavara, Udupi Dist.	40
15	Ramanagara	KVK, Chandurayanahalli, Magadi Taluk (B-1)	40
		KVK, Chandurayanahalli, Magadi Taluk (B-2)	40
		Total	**1200**

3.4 Details of courses / training programmes (on-campus and off-campus) organised by Bakery Training Unit

Sl.No.	Title of the training	Number	Duration	No. of Participants
I	**On-Campus**			
1	Bakery Technology (14 weeks)	02	14 weeks	43
2	Commercial Baking (4 Weeks)	08	4 weeks	108
	Total	**10**	**-**	**151**
II	**On-Campus Short courses**			
1	Special cakes	03	3 days	31
2	Value added Eggless bakery products	02	3 days	21
	Total	**05**	**-**	**52**
III.	**Orientation Programmes**			
1	Importance of Bakery and value addition industry for entrepreneurship development	01	1 day	25
2	Bakery andValue-added products Demonstration of coconut cookies	01	1 day	31
3	Importance of nutrition for wellbeing. Bakery products and Equipments Demonstration of coconut cookies	01	1 day	29
4	Scope of Bakery enterprise, Bakery products and Equipments	01	1 day	31
5	Bakery products and Equipmentspreparation of coconut cookies	01	1 day	62
6	Overview of Bakery Training Unit	01	1 day	28
	Total	**06**	**-**	**206**
IV.	**Collaborative/sponsored Training Programmes organized**			
1	Skill Entrepreneurship development programme on Bakery products	01	30 days	25
2	Bakery Products	01	5 days	33
3	Special course on Bakery Science and Technology	01	10 days	16
4	3 months Bakery training programme	01	90 days	23
5	Overview of Bakery training unit and preparation of Healthy bakery products	01	1 day	25
6	Food processing equipment's and Demonstration of preparation of bakery products	01	1 day	55
	Total	**06**	**-**	**177**

Sl.No.	Title of the training	Number	Duration	No. of Participants
V.	**Training programmes organized under the projects**			
1.	Economic Empowerment of Scheduled Caste through Bakery and Value Addition Industry	02	5 days	40
2.	Economic Empowerment of Scheduled Tribes in the field of Bakery and Value Addition Industry	04	5 days	80
	Total	**06**	**-**	**120**
VI.	**Off-campus Training programmes**			
1	Bakery Training (Training programme under RAWE)	06	1 day	495
2	Importance of Nutri- cereals in daily diet and its value addition	01	1 day	85
3	Agro based Food industries	01	1 day	80
	Total	**08**	**-**	**660**

3.5 : Details of training programmes organized by Farmers Training Institute

Sl. No.	Sponsoring agency	Areas of Training	No. of Training organized	No. of Trainees trained
1	Online Training Programmes	28 topics based on farmers needs & interest and season including	28	1087
2	GES	· Crop Harvest, Post Harvesttechnologies and Crop Planning for Rubi and Summer Season	03	57
		· Integrated farming System and Post-Harvest Technology	04	113
		· Watershed Development for farmers /farmwomen	03	80
		· Watershed Developmen for Extension Workers	01	22
3	IFS (SCSP)project	Poultry based Integrated Farming System	04	132
4	RKVY project	Doubling Farmers Income through Precision based Integrated Farming System	10	300
5	AICRP on Agroforestry, Bangalore	Enabling Implementation of National Agroforestry Policy by Enhancing Tree Cover & Production of Wood	01	70
6	Rural Youth Skill Training under MANAGE	Organic Farming	01	11
7	Sanjeevini – Karnataka State Rural Livelihood Promotion Society, GoK	Implementation of Organic Village Clusters and Integrated Farming Clusters	01	43
		Total	**56**	**1915**

3.6 Details of knowledge gain and Training Management Efficiency Index (TMEI) and Subject Matter Efficiency Index (SMEI) of the trainees who have undergone training at FTI

Sl. No.	Training programme	No. of Trainings	No. of participants	Knowledge gain (%)	SMEI (%)	TMEI (%)
1	Online	28	830	-	-	-
2	GES	11	272	16.32	97.78	96.68
3	IFS (SCSP) project	04	132	16.82	96.87	97.44
4	RKVY project	10	300	16.88	97.28	96.66
5	Rural Youth Skill Training under MANAGE	01	11	18.05	98.09	96.67
6	Sanjeevini - Karnataka State Rural Livelihood Promotion Society, GoK	01	43	18.69	97.68	96.24

3.7 : Details of Courses offered under Distance Education

Sl. No	Courses Offered	No. of candidates enrolled	No. of candidates taken examination	No. of candidates passed
Diploma Courses				
1	Post Graduate Diploma in Agricultural Extension Management (PGDAEM)	-	-	-
2	Post Graduate Diploma in Agricultural (PGDA)	26	26	To be completed
3	One year Diploma in Agriculture	328	328	To be completed
Certificate Courses				
1	Integrated Farming System	14	14	To be completed
2	Organic Farming	58	58	To be completed
3	Post-harvest Management of fruits & Vegetables		Not offered	
4	JEENUSAKANE	22	22	To be completed
	Total	**448**	**448**	

3.8: Details of Products / plants / literature sold by Agricultural Technology Information Center

Sl. No.	Particulars	Quantity (in no.)	Amount (in Rs.)
1	POP book on Agriculture, horticulture, animal husbandry and other books	4737 no.	3,71,975
2	CD's bio-fertilizers, organic manure, and biopesticides, horticulture nursery plants and nursery implements	8278 no.6051 kg	16,55,091
3	Seeds	25,083.58 kg10730 no.	17,92,947
4	Planting material	56,214 no.	69,43,865
		Total	**1,07,63,878**

(Out of total amount Rs. 1,07,63,878 10 per cent and 4 per cent of the amount i.e. Rs.0,76,388 realised for revolving fund)

3.9 : Details of Farm Trials conducted by Extension Education Unit, Naganahalli and Kolar

Sl.No	Name of the trial	Yield (Q/ha)		% increase in yield over T_2
		T_1	T_2	
A Extension Education Unit, Naganahalli, Mysuru				
1	Varietal trial of Paddy KMP-225 V/s IR-64 T_1: KMP-225 T_2: IR-64	6687	5867	13.98
2	Varietal trial of Paddy RNR-15048 V/s Raksha T_1: RNR-15048 T_2: Raksha	6400	5267	21.51
3	Varietal trial in Brown top millet (Korale) (G.P.U.B.T-2) V/s Local. T_1: G.P.U.B.T.-2 T_2: Local	1200	946	26.85
4	Varietal trail of Jowar Var. CNFS-1 V/s M.P.Chari T_1: C.N.F.S-1 T_2: M.P.Chari	33150	25240	31.34
5	Post emergent herbicide management in paddy dry nursery T_1: Bispyribac sodium T_2: Hand weeding	Sedges - 5.25 Grasses - 8.25 Broad leaves-8.00	07.50 11.75 11.50	- - -
6	Post emergent herbicide management in paddy wet nursery T_1: Bispyribac sodium T_2: Hand weeding	Sedges - 4.75 Grasses - 11.25 Broad leaves - 4.75	6.00 8.50 8.50	- - -
7	Effect of Micro nutrient in saline soil T_1: Micro nutrient T_2: Farmers practice	3460	3110	11.25
8	Effect of Enriched phosphorus on yield and soil properties in ragi and cowpea cropping system T_1: Enriched Phosphorus T_2: Farmers Practice	2772	2556	8.50
9	Varietal trial of Maize 14-138 vs MAH-14-5 T_1: Maize 14-138 T_2: MAH-14-5	7645	7330	4.12
10	Nitrogen Management in Napier Grass (BNH-10) T_1- 100 % Reccomded Dose of Nitrogen T_2- 175 % Reccomded Dose of Nitrogen	133.5	189.1	41.64
11	Weed management in drum seeded rice T_1 : Bensulphuranmethyl 0.6g @ 60 G + Pretilachlore 6% @ 600 g/a.i (10 kg/ha) 5 days after sowing. T_2: Hand weeding (25 and 45 days after sowing)	4700	4420	6.33

3.10 : The details of demonstrations conducted by EEU, Naganahalli

Sl. No	Name of the Crop	Technologies demonstrated	Yield /Kg/ha)		% increase in yield over check
			T_1	T_2	
1	Paddy	**Integrated crop management in paddy (MSN-99)** • Introduction of high yielding variety (MSN-99) • Seed treatment (Treat the seeds with carbenidizim @4g/kg). • Balanced nutrition (10 t FYM /ha + 100:50:50 kg NPK/ha+20Kg Zinc sulphate) • Timely weed management practices (Pre-emergence application of Bensuphuranmethial + pretillachlore 6.6G@10kg/ha @3-5 DAT • Periodic spray PP chemicals. • Judicious water management practices.	4925	4377	12.43
2	Paddy	**Integrated crop management in paddy (KRH-4)** • Introduction of hybrid (KRH-4) • Seed treatment (Treat the seeds with carbenidizim @4g/kg). • Balanced nutrition (10 t FYM /ha + 125:62.5:50 kg NPK/ha+20Kg Zinc sulphate) • Timely weed management practices (Pre-emergence application of Bensuphuranmethial + pretillachlore 6.6G @ 10kg/ha @3-5 DAT • Periodic spray PP chemicals.Judicious water management Practices.	7394	6442	14.93
3	Paddy	**Direct Wet Seeded Rice (DWSR)** • Seed treatment with carbenidizim (4g/kg of seed) • Weed management (Pre-emergent herbicide Pyrozosulfuron ethyl 250 g/ha at3-5 DAS) • Application of Zinc Sulphate (20 kg/ha) • Periodical spray of plant protection chemical	4930	4274	15.31
4	Paddy	**Drum seeded rice** • Seed treatment with carbenidizim (4g/kg of seed) • Weed management (Pre-emergence application of Bensulfuron methyl + pretillachlore 6.6G @10kg/ha @3-5 DAT • Application of Zinc Sulphate (20 kg/ha) • Periodical spray of plant protection chemical	5150	4516	14.05
5	Paddy	**Organic farming in rice** • Crop rotation: Green manuring of Diancha - rice • Application of FYM /Compost based on 'N' equilent as basal dose. • Soil application of Azospirillum& PSB @ 2.5kg/ha. • Use of Jevamrutha, @ 30 and 60 days after transplanting as top dressing • Neem based plant protection chemicals as and when incidence noticed	4312	3838	12.49

Sl. No	Crop	Technologies demonstrated	Yield /Qtls/ha		% increase in yield over check
			Demo.	Check.	
6	Maize	**Integrated Crop Management in Maize (MAH.14-5)** • Introduction of Maize hybrid (MAH-14-5) • Seed treatment (Treat the seeds with Bio fertilizer : Azospirillum& PSB @ 500g/ha). • Balanced nutrition (10 t FYM /ha+ 100:50:25 kg, NPK/ha+10 Kg Zinc sulphate) • Periodic spray of PP chemicals	7238	6613	9.46
7	Ragi	**Integrated Crop Management in Ragi (KMR 301)** • Introduction of High yielding variety (KMR-301). • Seed treatment with carbendizim @ 2g/kg seeds • Balanced nutrition (100:50:50 kg NPK/ ha for transplanting & 50:40:25 kg NPK /ha for rain fed situation • Transplanting with recommended spacing (22.5 x 10 cm.) • Spray PP chemicals as and when pest & disease noticed	2583	2154	18.61
8	Foxtail millet	**Demonstration of Foxtail millet variety-D.H.F.T-109-3** • Introduction of foxtail millet (Var. D.H.F.T-109-3) • Adoption of Improved crop management practices	1177	978	20.16
9	Black gram	**Demonstration of Black gram variety-LBG-791** • Introduction of LBG-791 Black gram variety • Seed treatment with rhizobium @ 500g/ha • Balanced nutrition (10 t FYM /ha + 12.5:25:25kg NPK/ha +10 Kg zinc sulphate) • Pest & Disease management practices	836	629	32.73
10	Red gram	**Demonstration of Red gram variety-BRG-5** • Introduction of BRG-5 red gram variety • Seed treatment with rhizobium @ 500g/ha • Balanced nutrition (10 t FYM /ha + 25:50:25kg , NPK/ha + 15 Kg zinc sulphate) • Pest & Disease management practices	1208	1026	24.80
11	Field bean	**Demonstration of Field Bean variety- HA-4** • Introduction of High yielding Hebbal Avare 4 var. HA-4. • Seed treatment with rhizobium @ 500g/ha • Balanced nutrition (7.5 t FYM /ha + 25:50:25kg , NPK/ha) (Green pod yield)	3213	2739	17.97

Sl. No	Crop	Technologies demonstrated	Yield /Qtls/ha		% increase in yield over check
			Demo.	Check.	
12	Chilli	**Integrated crop management in Chilli** • Seed treatment with Immidachloprid @0.5ml/lit. fallowed by Bio-fertilizer Azospirillum @ 200g/ 600-700 grams seeds. • Balanced nutrition (10 t FYM /ha + 150:75:75kg ,NPK/ha) • Spraying of Plano fix (NAA) 50 ppm @ full bloom stage of the crop, rouging of infected plants	26.30 (t/ha)	23.27 (t/ha)	13.14
13	Tomato	**Integrated crop management in Tomato** • Balanced nutrition (15 t FYM /ha + 250:250:250kg, NPK/ha) • Spraying of Immidachloprid @ 0.5ml/lt.or Acephate @1g/lit. • Spray PP Chemical at different intervals	53.12 (t/ha)	46.57 (t/ha)	13.89
14	Banana	**Integrated crop management in Banana** • Balanced nutrition (16 t FYM /ha + 540:325:675 kg, NPK/ha) • Micro nutrients: Banana special (30 kg/ha), foliar spray from 4/5th month of planting at monthly interval on the whole plant till the bunch formation and there after two sprays on the bunches.	Continued		
15	Ginger	**Integrated crop management in Ginger** • Balanced nutrition (10 t FYM /ha + 100:50:50 kg NPK/ha) • Spray PP Chemical at different intervals (Streptocyclin sulphate (180g/ha)	44.44 (t/ha)	37.8 (t/ha)	19.48
16	Mushroom	**Demonstration of Oyster mushroom production technologies**	8.0 kg oyster mushrooms per kg of Spawn (quantity of seeds 10kg)		
17	Nutri garden	**Establishment of Nutritional kitchen garden for Farm families** • Establishment of nutritional kitchen garden • Effective utilization of space in and around home. • To improve the nutritional status of family by providing mineral and Vitamin rich fresh vegetables.			

Crop	Area	Average yield (kg/0.01acre)
cowpea	0.01	22 kg
Beans	0.01	20 kg
bhendi	0.01	31 kg
palak	0.01	24 kg
Amaranthus	0.01	22 kg
Onion	0.01	17 kg
chilly	0.01	18 kg
Tomato	0.01	28 kg

3.11 : Details of training programmes organised by Extension Education Units

Sl. No.	Title	Duration (days)	No.of Participants
A)	**EEU, Naganahalli, Mysuru**		
I.	***On Campus***		
1	Integrated crop management practices in paddy	01	28
2	Integrated crop management practices in paddy	01	36
3	Importance of minor millets	01	150
4	Integrated farming system	01	163
5	Value addition in ragi and dairy products	01	35
6	Nutitional kitchen garden and value addition in minor millets	01	25
7	Orgainc farming practices	01	40
		Total	**477**
II.	***Off Campus***		
1	Production technologies of Paddy	01	95
2	Integrated crop management practices in paddy	01	86
3	Integrated crop management practices in paddy	01	78
4	Integrated crop management practices in ragi and avare	01	92
5	Integrated crop management practices in paddy	01	55
6	Integrated crop management practices in chia	01	66
7	Organic farming	01	68
8	Integrated crop management practices in vegetable crops	01	54
9	Production technologies of minor millets	01	68
10	Integrated water, nutrient, pest and disease management in paddy	01	73
11	Importance of soil health management and oraganic farming	01	84
12	Organic farming practices	01	118
13	Value addition in dairy products	01	79
14	Soil health management	01	126
15	Production technologies of pulse crop	01	34
16	Dry fodder enrichment technologies and balance nutrition	01	45
17	Importance of nutritional kitchen garden and mushroom cultivation technologies	01	30
18	Fodder enrichment technology and mineral licking block	01	51
19	Mushroom cultivation technologies	01	26
20	Mushroom cultivation technologies	01	80
21	Mushroom cultivation technologies and mineral licking block	01	18
22	Mushroom cultivation technologies	01	38
23	Mushroom cultivation technologies	01	40
24	Mushroom cultivation technologies and dry fodder enrichment technologies	01	35
25	Production technologies of drum seeded Rice	01	58

Sl. No.	Title	Duration (days)	No.of Participants
26	Production technologies of vegetable crop	01	76
27	Value addition in dairy products and mushroom cultivation technologies	01	42
28	Value addition in dairy products and mushroom cultivation technologies	01	
		Total	**1777**
On-line Training Programmes			
1	Importance of seed treatment in agriculture and horticulture crops	01	25
2	Integrated crop management practices in maize	01	33
3	Importance of green manuring	01	67
4	Integrated weed management practices in paddy	01	53
5	Production technologies of fodder crops	01	39
6	Selection of varieties and hybrids of paddy	01	38
7	Importance of agroforestry	01	59
8	Integrated crop management practices in ginger	01	37
9	Integrated soil and water conservation practices	01	64
10	Rain water harvesting	01	60
11	Integrated crop management practices in ragi	01	58
12	Integrated nutient management in paddy	01	40
13	Integrated pest and disease mangement in pulses	01	32
14	Integrated crop managment practices in paddy	01	58
15	Importance of bio fertilizers in agriculture	01	97
16	Fall army worm management in maize	01	58
17	Integrated crop management practices in minor millets	01	56
18	Selection of improved varieties and hybrids in paddy	01	72
19	Integrated crop management practices in ginger	01	52
20	Nutrient management, pest and disease management in paddy nursery	01	18
21	Integrated crop management practices in vegetable crops	01	38
22	Role of liquid manures in organic farming	01	34
		Total	**1088**

B) **EEU, Kolar**

I. ***On-campus***

1	Scientific silage preparation	01	16
2	Sheep rearing and management	06	15
3	Different composting methods	01	14
	Total	**Total**	**45**

3.12 : Details of On Farming Testings conducted by Krishi Vigyan Kendras

Sl. No.	Crop	Title of OFT	No. of Trails
a. Crop Improvement			
1	Potato	Assessment of economic feasibility of apical stem cutting and tubers in potato	4
2	Jasmine	Assessment of Pruning time in Jasmine (Kakada)	3
3	chilli	Assessment of chilli hybrids for disease resistance and higher productivity.	5
4	Pomegranate	Assessment of bio formulations for improving Quality and plant health management of Pomegranate	3
5	Fodder crops	Assessment of fodder crops as inter crop in coconut garden	5
6	Redgram	Assessment of suitable redgram varieties for vegetable purpose	3
7	Sesamum	Assessment of white seeded Sesame varieties for pre-kharif	3
8	Potato	Assessment of nutrient management in Potato	3
9	Maize	Effect of Nano Nitrogenous fertilizer on Growth and Yield of Maize	2
10	Mulberry	Assessing the efficiency of Trenching and Mulching in (Wider spaced) Tree Mulberry	3
		Sub Total : a	**34**
b.	**Crop Production**		
11	Maize	Assessment of Nano fertilizers(N & Zn) on growth and yield of Maize	15
12	Mulberry	Assessment of foliar nutritional management in mulberry through eco-friendly approach	3
13	Paddy	Assessment of Suitable Paddy Variety for Zone-7	5
14	Potato	Assessment of apical rooted potato saplings (ARC) performance on yield	5
15	marigold	Assessment of nutrient management in marigold	5
16	Fodder	Assessing the performance of Hybrid Napier varieties in Mandya District	3
17	Mulberry	Assessment of Mulberry based cropping system	3
18	Mulberry	Assessment on effect of different liquid microbial consortia in Mulberry	3
19	Fodder	Assessing the performance of Hybrid Napier varieties under Chamarajanagara District	3
20	Turmeric	Assessment of suitable short duration Turmeric varieties for higher yield and quality	2
21	Potato	Assessment of different propagation methods in potato	2
		Sub Total : b	**49**

Sl. No.	Crop	On Farm Testing	Number of Farmers	Area in ha./ units
c. Crop Protection				
22	Mulberry	Assessment on effective management of Mites and Thrips in mulberry		15
23	Mulberry	Assessment of different liquid microbial consortia in mulberry		3
24	Mulberry	Assessment of eco-friendly practices for management of root knot nematodes in mulberry		3
25	Sericulture/ Mulberry	Assessment on management of uzifly in silkworm rearing		5
26	Bengal gram	Assessment of Bengal gram varieties against wilt		3
27	Banana	Assessment of technologies for the management of Panama wilt disease in Banana		2
		Sub Total : c		**31**
		Total : a+b+c		**114**

3.13 : Details of Front Line Demonstrations (FLDs) conducted by KVKs

Sl. No.	Particulars / Crops	No. of FLDS	Participated Farmers	Area (ha) / units
1	Cereals and millets	21	200	69.50
2	Pulses and oil seeds	16	241	92.00
3	Horticulture	47	400	93.4
4	Animal Science			
	a) Fodder	6	65	3.5/20 units
	b) Fishery	2	15	2.2
	c) Dairy	4	43	13 units/ 30 animals
	d) Small animals (Sheep / goat etc.,)	5	37	32 units/ 50 animals
	e) Poultry	1	1	1
5	Home Science	12	163	1.75/ 26 units /5 SHGs / 30 families
6	Agricultural Engineering	1	5	2
7	Commercial crops			
	a) Mulberry	8	140	20
	b) Silkworm reeling	3	20	300 DFLS
	c) Sugarcane	1	20	8
	d) Cotton	-	-	-
	e) Turmeric	1	10	4
	f) Seri waste compost production	1	5	5 units
	g) Bee keeping	1	5	41.6/24 units
	Total	**130**	**1370**	**337.95/121units/ 80 animals/ 5 SHGs/300 DFLs**

3.14 : Details of training programmes organized at Krishi Vigyan Kendras

Sl. No.	Discipline	On Campus		Off campus		Extension functionaries	
		No. of trainings	No. of participants	No. of trainings	No. of participants	No. of trainings	No. of participants
1	Crop Production	55	2009	40	1129	5	152
2	Plant protection	28	1250	40	878	7	350
3	Horticulture	42	1730	21	415	2	59
4	Soil Sci.& Agril.Chem.	39	1533	42	1072	3	109
5	Agril.Extension	18	991	10	382	5	202
6	Agril.Engineering	1	32	5	81	-	0
7	Animal Science	14	533	16	561	2	128
8	Home Science	46	2092	33	1029	9	354
9	Sericulture	14	694	17	387	2	99
10	Bee Keeping	4	80	1	40	-	-
11	Sponsored	40	1624	4	125	-	-
12	Vocational	17	388	-	-	-	-
13	Other (trg. Of farmers by awardee farmers)	14	375	1	32	-	-
	Total	**332**	**13331**	**230**	**6131**	**35**	**1453**
				Over all total Tranining Conducted			**597**
				Over all total No. of trained			**8915**

3.15 : List of externally funded Extension Projects operated in Directorate of Extension during 2021-22

Sl. No	Title of the project	Sponsoring Agency	Total budget Sanctioned (Rs. in Lakhs)	Name of the principal investigator
1	Economic Empowerment of Scheduled Tribes in the field of Bakery and Value Addition Industry	ICAR, New Dehli and SDC, UAS(B)	4.00	Dr. S. V. Suresha
2	Economic Empowerment of Scheduled Caste through Bakery and Value Addition Industry	ICAR, New Dehli and SDC, UAS(B)	1.00	Dr. S. V. Suresha
3	Development and standardization of contemporary millet bakery products for commercialization.	UAS(B)	2.00	Dr. Mamatha, H.S
4	Development of Scheduled Caste Farm Families in 17 Districts of Southern Karnataka through Integrated Farming System (IFS) Approach	KSDA (SCSP), GoK	346.00	Dr. V.L.Madhuprasad
5	Holistic Development of Scheduled Tribe Farm Families through Integrated Farming System (IFS) Approach	KSDA (TSP), GoK	250.00	Dr. V.L.Madhuprasad
6	Holistic Development of Scheduled Caste Farm Families Through Integrated Farming System (IFS) Approach	KSDA (SCSP), GoK	500.00	Dr. V.L.Madhuprasad
7	Empowerment of Scheduled Caste Farm Families Through Integrated Farming System for Sustainable Livelihood	KSDA (SCSP), GoK	200.00	Dr. V.L.Madhuprasad
8	National Innovations in Climate Resilient Agriculture (NICRA)	CRIDA, Hyderabad	20.66	Dr. Papireddy
9	Common Incubation Centre for processing of tomato and other fruits and vegetables under ODOP	Ministry of Food processing Industries (MoFPI), New Delhi	208.50	Dr. Papireddy
10	Development validation and dissemination of IPM techniques for major insect pests and diseases of Mango	NCIPM, New Delhi	2.50	Dr. Papireddy
11	Synthesis, validation and promotion of IPM in tomato in different agro ecological regions	NCIPM, New Delhi	3.00	Dr. Papireddy

Sl. No	Title of the project	Sponsoring Agency	Total budget Sanctioned (Rs. in Lakhs)	Name of the principal investigator
12	Evaluation and introduction of apical rooted potato cuttings saplings	ATMA, department of agriculture, Hassan	1.04	Dr. Rajegowda
13	Studies on yield maximization of black gram (*Vigna mungo* L.) through foliar nutrition in paddy fallow of Cauvery command area.	Dept. of Agriculture Govt. of Karnataka	1.5	Dr. Roopashree D.H.
14	Creation of Seed Hubs for Increasing Indigenous Production of Pulses in India	IIPR, Khanpur	138	Dr. Naresh N.T.
15	Establishment of Information and Demonstration Centre on Biofuel	Karnataka State Biofuel Development Board, Government of Karnataka	3.51	Dr. A.P. Mallikarjuna Gowda
16	Employment and Livelihood Security for Rural Youth through Innovative Entrepreneurship Models (ARYA)	ICAR	21.66	Dr. A.P. Mallikarjuna Gowda
Testing trials				
17	Testing trial on chillie	String Bio Private Limited, Centre for Cellular and Molecular Platforms	1.33	Dr. A.P. Mallikarjuna Gowda
18	Tesing trial on Potato	String Bio Private Limited, Centre for Cellular and Molecular Platforms	1.33	Dr. A.P. Mallikarjuna Gowda
19	Establishment of Common Incubation Facility at ICAR - Krishi Vigyan Kendra, Ramanagara, Karnataka for processing of Coconut	MOFPI. GO	264.00	Dr. Savita S. Manganavar
20	"Enhancing the productivity and livelihood security of paddy growing SC farmers of Chamarajanagara"	IIRR, Rajendra Nagara, Hyderabad	7.00	Dr. Sunil. C.M
21	NICRA project	CRIDA, Hyderabad	5.60	Dr. Chandrakala Hanagi
22	Demonstration of improved Turmeric variety IISR, Pragathi and GAP in	NABARD, Bengaluru Chamarajanagara	12.34	Dr. Mohan Kumar. A.B
23	Enhancement of blackgram productivity through large scale demonstration of new variety of LBG-791 and its production technologies	ATMA, Chamarajanagara	3.00	Dr. Sunil. C.M
24	ODOP - Eshtablishment of common incubation facility for processing of Turmeric	PMFME, New Delhi	1.43	Dr. Chandrakala Hanagi

Annexure 4

4.1 : List of Officers, Teachers and Non-teaching Employees Superannuated during 2021-22

Sl.No.	Name	Designation	Date of Retirement
Officers			
1.	Dr. S. Rajendra Prasad	Professor (HAG) and Present Vice-Chancellor, UAS-B	30–04–2021
2.	Dr. M. Bairegowda	Director of Extension (I/c)	30–04–2021
3.	Dr. Dr. D.L. Savithramma	Dean (Agri.) (I/c)	30–04–2021
4.	Dr. G.N. Dhanapal	Registrar (I/c)	31–05–2021
5.	Dr. N. Sreenivasa	Dean (PGS) (I/c)	31–12–2021
Teaching			
1.	Shri K. Sreekantamurthy	Assistant Professor	30–04–2021
2.	Dr. R.L. Ravikumar	Professor and Head	31–05–2021
3.	Dr. A.A. Phazal	Professor	31–05–2021
4.	Dr. E. Gangappa	Professor	31–05–2021
5.	Dr. K.T. Prasanna	Professor and University Head	30–06–2021
6.	Dr. R.N. Bhaskar	Professor and University Head	30–06–2021
7.	Dr. T. Chikkaramappa	Professor	30–06–2021
8.	Dr. P.J. Devaraju	Professor and University Head	31–07–2021
9.	Dr. B. Narayanaswamy	Professor	31–07–2021
10.	Dr. B.N. Manjunatha	Professor	31–07–2021
11.	Dr. G.S. Nagaraja	Professor	31–07–2021
12.	Dr. A.R. Radhakrishna	Professor	31–08–2021
13.	Dr. V. Manjunatha	Associate Professor	31–08–2021
14.	Dr. B.C. Mallesh	Professor	30–09–2021
15.	Dr. P.K. Basavaraja	Professor	30–09–2021
16.	Dr. Niranjanamurthy	Professor	28–02–2022
17.	Dr. C. Nagarajaiah	Professor and Head	31–03–2022
18.	Dr. K.N. Krishnamurthy	Professor and Head	31–03–2022
19.	Sri B.S. Nandeesh	Associate Professor	31–03–2022

Teaching Voluntary Retirement: Nil

Teaching Death Case

1.	Dr. R. Golyanayak	Professor	17–05–2021 Date of death
2.	Dr. Vijayalakshmi Kamaradi	Assistant Professor	13–08–2021 Date of death
3.	Dr. H.P. Dinaker	Assistant Professor	26–07–2021 Date of death

Sl.No.	Name	Designation	Date of Retirement

Non-Teaching : Superannuation

Superannuation

1.	Shri A.S. Puttaswamachari	Senior Tracer	30–04–2021
2.	Shri C. Raju	Senior Farm Assistant	30–04–2021
3.	Shri Mallesha	Senior Farm Assistant	30–04–2021
4.	Shri B.K. Krishnachari	Farm Laborer	30–04–2021
5.	Smt. Varadamma	Farm Labourer	30–04–2021
6.	Shri Papanna	Farm Labourer	30–04–2021
7.	Shri Kenchappa	Sr. Farm Labourer	30–04–2021
8.	Shri C. Devarasegowda	Sr. Field Assistant	31–05–2021
9.	Shri I.S. Hiremath	Sr. Borewell Helper	31–05–2021
10.	Shri Y.J. Javaraiah	Senior Farm Labour	31–05–2021
11.	Shri T. Rathnamma	Farm Labourer	31–05–2021
12.	Shri H. Ningaiah	Attender	30–06–2021
13.	Smt. Anasuya	Attender	30–06–2021
14.	Shri Chikkaraja	Senior Farm Labourer	30–06–2021
15.	Smt. Maniyamma	Sr. Farm Labourer	30–06–2021
16.	Smt. Yashodhamma	Sr. Farm Labourer	30–06–2021
17.	Smt. Shanthamma	Farm Labourer	30–06–2021
18.	Smt. Pillamma	Farm Labourer	30–06–2021
19.	Shri P. Mylaramurthy	Sr. Lab Assistant	31–07–2021
20.	Shri A. Ramesh	Sr. Field Assistant	31–07–2021
21.	Shri K. Rajaiah	Sr. Field Assistant	31–07–2021
22.	Shri J. Siddhaiah	Sr. Field Assistant	31–07–2021
23.	Shri N. Shanker	Sr. Driver (HV)	31–07–2021
24.	Shri Chikkatammaiah	Sr. Farm Labourer	31–07–2021
25.	Smt. B. Jayamma	Farm Labourer	31–07–2021
26.	Shri K.A. Chandraiah	Sr. Lab Assistant	31–08–2021
27.	Smt. Chandramma	Attender	30–09–2021
28.	Smt. Krishnamma	Guest House Cleaner	30–09–2021
29.	Smt. Channapatnada Gowramma	Sr. Farm Labour	31–10–2021
30.	Smt. J.H. Sumithra	Sr. Lab Assistant	31–12–2021
31.	Shri Ananth	Farm Labourer	31–12–2021
32.	Smt. Papachamma	Farm Labourer	31–12–2021
33.	Shri B. Venkataramaiah	Sr. Filed Assistant	28–02–2022
34.	Smt. T. Narasamma	Sr. Farm Labourer	28–02–2022
35.	Shri C.A Muniraju	Sr. Farm Labourer	28–02–2022
36.	Shri Puttasiddamma	Sr. Farm Labourer	31–03–2022

Sl.No.	Name	Designation	Date of Retirement
37.	Shri Madappa	Sr. Farm Labourer	31–03–2022
38.	Smt. Doddamma	Sr. Farm Labourer	31–03–2022
39.	Smt. S. Vasantha	Farm Labourer	31–03–2022

Non-Teaching : Voluntary Retirement : Nil

Non-Teaching Death Case

1.	Shri Prabhu Diesale	Sr. Field Assistant	27–04–2021 Date of death
2.	Shri B.H. Rudresh	Sr. Caretaker	13–07–2021 Date of death
3.	Shri N. Javaraiah	Sr. Farm Labourer	19–04–2021 Date of death

Annexure 4.2 : List of University Heads of different Disciplines during 2021-22

Sl.No.	Department	Name of the Head
1	Agronomy	Dr. N. Devakumar
2	Crop Physiology	Dr. M.S. Sheshashayee
3	Agricultural Engineering	Dr. V. Palanimuthu
4	Soil Science and Agricultural Chemistry	Dr. H.C. Prakash
5	Agricultural Extension	Dr. K. Narayana Gowda
6	Agricultural Marketing and Business Management	Dr. M.S. Ganapathy
7	Agricultural Microbiology	Dr. N. Eranna
8	Seed Science and Technology	Dr. P. Parashivmurthy
9	Genetics and Plant Breeding	Dr. M.R. Krishnappa
10	Plant Pathology	Dr. T. Narendrappa
11	Agricultural Entomology	Dr. Mohan Eshwar Naik
12	Horticulture	Dr. G. Gopinath
13	Sericulture	Dr. R.N. Bhaskar
14	Food Science & Nutrition	Dr. K. Geetha
15	Agricultural Economics	Dr. K.B. Umesh
16	Plant Biotechnology	Dr. K.M. Harinikumar
17	Forestry and Environmental Science	Dr. C. Nagarajaiah
18	Apiculture	Dr. K.S. Jagadeesh
19	Agricultural Statistics, Applied Mathematics and Computer Science	Dr. K.N. Krishna Murthy
20	Animal Sciences	Dr. O.R. Nataraju

W.P.No.10638 /2021 dtd.21.06.2021

Annexure 4.3 : List of Heads of the Department of different Disciplines during 2021-22

Sl. No.	Department	Name of the Professor
1	Food Science and Nutrition	Dr. K.G. Vijayalakshmi
2	Sericulture	Dr. Manjunath Gowda
3	Agronomy	Dr. H.M. Jayadeva
4	Processing and Food Engineering	Dr.C.T.Ramachandra
5	Soil and Water Engineering	Dr. B.C. Ravikumar
6	Farm Machinery and Power Engineering	Mr. Prasanna Kumar
7	Agril. Entomology	Dr. M. Thippaiah
8	Apiculture	Dr. K.S. Jagadeesh
9	Plant Biotechnology	Dr. K.M. Harinikumar
10	Agril Microbiology	Dr. Suvarna V. Chavannavar
11	Crop Physiology	Dr. M.S. Sheshashayee
12	Plant Pathology	Dr.Y.M.Somashekar
13	Forestry & Environmental Science	Dr. A.S. Devakumar
14	Soil Science and Agril. Chemistry	Dr. C.T. Subbarayappa
15	Seed Science and Technology	Dr. Parashivamurthy
16	Agril. Marketing and Business Management	Dr. M.S. Ganapathy
17	Agricultural Economics	Dr. M.N. Venkataramana
18	Horticulture	Dr. P. Venkatesh Murthy
19	Agril. Statistics, Appl. Mathematics & Computer Science	Dr. K.N. Krishnamurthy
20	Agricultural Extension	Dr. B. Krishna Murthy
21	Genetics and Plant Breeding	Dr. A. Mohan Rao
22	Animal Sciences	Dr. M. Vasundharadevi
23	Kannada Department	Dr. J. Balakrishna

Hon'ble Union Minister of State for Agriculture and Farmers Welfare inaugurating the 56th Foundation Day of the University on 1st October 2021

Hon'ble Director General, ICAR, New Delhi delivering the 55th Convocation address on 21st September 2021 virtually

Browntop Millet : GPUBT 2

Field Bean : HA 5

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