

REPORT

Problems of Researchers in the State Universities and Colleges

Committee constituted by



The Kerala State Higher Education Council

Thiruvananthapuram

July 2021



THE KERALA STATE HIGHER EDUCATION COUNCIL

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Foreword

This study report on the problems of research and researchers in the state is comprehensive, probing into their infrastructural, academic, economic, and juridical sources. Research though a personal, self-directed and curiosity driven enterprise, inevitably necessitates an adequate institutional, infrastructural, academic, economic, and juridical support ensuring hassle free environment. The report has made thorough field observations in and detailed stakeholder discussions of all these aspects. It has arrived at a set of important suggestions for resolving the problems the research, researchers, research centres, and research supervisors encounter. While some of the problems are ensuing from the recent regulations of the UGC and hence not easily resolvable by the state, several others are within the control of the Government and universities. We hope the matters draw the attention of the concerned.

Prof.Rajan Gurukkal

Committee Members

1	Dr. J. Rajan Member of Executive Body, KSHEC	Chairman
2	Dr. Sabu Abdulhameed Associate Professor, School of Life Sciences, Kannur University	Member
3	Dr. Sunil P. Elayidom Indian Languages, Sree Sankaracharya University of Sanskrit, Kalady	Member
4	Dr. S.S. Vivekanandan Associate Professor, Government Sanskrit College, Thiruvananthapuram	Member
5	Dr. Harikumar P.N. Associate Professor, Catholicate College, Pathanamthitta	Member
6	Dr. S. Nazeeb Assistant Professor, University of Kerala, Thiruvananthapuram	Member

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Chapter 1

Introduction

1.1 Background of the Study

There are 15 Universities and approximately 300 Research Centres in our State. The state comparatively has a large number of students who are pursuing academic research in various Universities, College Research Centres and other Research Institutes. A large number of different types of research fellowships are being distributed among the research scholars. A number of supervising teachers undertake the task of supervision in different Centres as per the Regulations prescribed by the University Grants Commission and other Central Apex Bodies and the Universities. But the research environment in the state has not attained the expected level of quality. Thus, there is an urgent need to create a more congenial research environment in the State to reap the benefits of a vibrant knowledge society.

The state has its own specialities in terms of education, health and other social sectors. The State has created many global models especially in the field of general education, health care and social welfare. The research programmes should have a bearing on these core issues. The social dimension in the research programmes is vital but it is understood that this important component has not been given much emphasis in the recent Guidelines and Regulations released by the University Grants Commission and other Central Apex Bodies. It is also learnt that there is an acute shortage of qualified research supervisors and guides in the State.

The paucity of research guides is the result of disallowing retired professors and teachers to continue as Research Guides and Supervisors. The retirement age of teachers in colleges is 56 years whereas it is 60 years in universities. It is an accepted fact that a professor will have more academic maturity and experience at the age of 60 years and above but in the present scenario her/ his research expertise will not be utilised properly for enriching the quality of the research because they would have

retired from service by then. This is a very serious problem affecting the quality and quantity of research output of Indian Universities and Research Centres. This situation warrants a serious study of the problems of the researchers in the State Universities and Colleges in Kerala. In this context this task is undertaken by the Committee to offer viable solutions to enrich the research environment. The outcome of the study should provide material for formulating a feasible State Academic Research Policy.

1.2. The Constitution of the Committee

This is the context in which the Governing Body of the Kerala State Higher Education Council met on 23.01.2018 and decided vide item No. A1 of the minutes which resolved to authorise the Vice Chairman of the Council to constitute a Committee to study the problems of researchers in the State Universities and Colleges. Accordingly, a Committee has been constituted to 'Study the Problems of Researchers in the State Universities and Colleges'.

The composition of the Committee is as follows:

1. **Dr. J. Rajan**, Member of Executive Body, KSHEC [Chairman]
2. **Dr Sabu Abdulhameed**, Associate Professor, School of Life Sciences, Kannur University [Member]
3. **Dr. Sunil P. Elayidom**, Indian Languages, Sree Sankaracharya University of Sanskrit, Kalady [Member]
4. **Dr. S.S. Vivekanandan**, Associate Professor, Government Sanskrit College, Thiruvananthapuram [Member]
5. **Dr. Harikumar P.N.**, Associate Professor, Catholicate College, Pathanamthitta [Member]
6. **Dr. S. Nazeeb**, Assistant Professor, University of Kerala [Member]

The committee under the chairmanship of Prof. J. Rajan has unanimously arrived at the General Terms of References for evolving strategy to address the issue. The terms of references so arrived at given below.

1.3 Terms of References

1. To study the present research environment of the State Universities, Colleges and other Research Centres in Kerala.
2. To examine the problems encountered by the Research Scholars and Faculty Members in their Centres in the smooth conduct of their research process.
3. To study the institutional facilities and inputs provided to the researchers for their research programme at the Centres.
4. To assess the quality of the research programmes and the research output through a critical appraisal based on its academic value, social relevance and utility.
5. To examine the impact of the recent UGC Guidelines and Regulations on the research environment in the state.
6. To provide inputs for creating a healthy research environment in the state to attract capable research scholars, and to retain them in the field of research as well as to invite brain gain.
7. To suggest suitable measures for creating a healthy research environment in the State Universities and Colleges both in terms of physical and intellectual resources.
8. To suggest a mechanism for conversion of the output of academic research to support the needs of the industry and society.
9. To provide inputs for evolving a State Policy on academic research.

1.4. The Sitting Strategy of the Committee

The Committee have conducted public hearing and sittings on various days at the Headquarters and Centres of the Universities to listen to the stakeholders of the research activities in order to understand the issues they face. The Schedules of Visit and Sitting of the Committee were informed well in advance to the Universities and Research Institutions. In order to ensure the proper participation of a justifiable cross section of the stake holders the following steps were taken.

1. Separate meetings of the Supervising Teachers and Research Scholars both in the Universities and affiliated Research Centres and Colleges were arranged and they were heard separately at the respective Head Quarters and Centres of Research.
2. The Research Director/Coordinator/Professor/Official in charge of the University is entrusted to convene the meeting and to provide needed support to the Committee for the hearing.
3. The following documents and statements have been collected from the Research Centres and Universities for consideration.
 - i. A list of the names of Research Departments and affiliated Research Centres or Colleges with address, Phone Numbers and Email ID
 - ii. A copy of the Research regulations/Rules/Procedures of the University concerned.
 - iii. A list showing the total number of PhDs subject wise, awarded by the University from inception up to 31st March, 2018 and the last two years separately.
 - iv. A list of the number of supervising teachers and scholars doing research at present leading to PhD, subject wise and the number of PhD applications pending for allotment of supervisors due to deficiency.
 - v. The participants of the meetings, of both supervising teachers and researchers have presented their views in brief by highlighting the problems and suggestions to improve the quality of the output of academic research.
 - vi. The written copies of all the representations submitted in the meetings by the participants have been filed and were utilised for the purpose of making this report.
 - vii. Interactive sessions were conducted with the presence of Vice-Chancellor, Member syndicate/ Executive Council and other officials in charge of the research in the Universities.

1.5. Schedule for Visit and sitting followed by the Committee

Table 1.1. Schedule of Visit of the committee with details

Sl. No	Date	University/Centres (Stakeholder Institutions)	Remarks/Venue/Timing
1	10.07.2018 Tuesday [Dr. J. Rajan Dr. S.Nazeeb Dr. P.N. Harikumar Dr.SS. Vivekanandan]	Kerala University APJ Abdul Kalam Technological University Research Institutions Affiliated Colleges	Meeting of supervising teachers and Research Scholars Seminar Hall, Life Science Department, Kariavattom Campus from 11.30 am – 2.15 pm
2	02.08.2018 Thursday [Dr. J. Rajan Dr. S.Nazeeb Dr.SS. Vivekanandan]	Kannur University Centres Research Institutions Affiliated Colleges	Meeting of supervising teachers from 10.30 am – 12.30 pm Meeting of research scholars from 2pm Place of meeting: University Campus, Mangattuparmabu Campus
3	03.08.2018 Friday [Dr. J. Rajan Dr. S.Nazeeb Dr.SS. Vivekanandan]	University of Calicut TEMU Thirur Research Institutions Affiliated Colleges	Meeting of supervising teachers from 10.30 – 12.30 Meeting of research scholars from 2pm- 4pm Place of meeting: Calicut University Campus
4	08.08.2018 Wednesday [Dr. J. Rajan Dr. S.Nazeeb Dr. P.N. Harikumar Dr.S.S.Vivekanandan]	MG University Research Centres	Meeting of supervising teachers and research scholars from 10.30 am – 1.30 pm Place of meeting: Seminar Hall, School of Environmental Sciences, MG University
5	08.08.2018 Wednesday [Dr. J. Rajan Dr. S.Nazeeb Dr. P.N. Harikumar Dr.S.S. Vivekanandan]	Affiliated Colleges and Centres under MG University, Kottayam Research Centres	Meeting of supervising teachers and research scholars from 02.30 am – 4.30 pm Place of meeting:Seminar Hall, Baselius College, Kottayam
6	16.10.2018 Tuesday [Dr. J. Rajan Dr. S.Nazeeb]	CUSAT, Kochi SSUS Kalady NUALS, Kalamassery Research Centres Research Institutions	Meeting of supervising teachers from 10.30 am – 12.30 pm Meeting of research scholars from 2 pm Place of meeting: Government Guest House, Ernakulam

7	17.10.2018 Wednesday [Dr. J. Rajan Dr. S.Nazeeb]	Kerala Agricultural University, Thrissur KUFOS KVASU Kerala Kalamandalam	Meeting of supervising teachers from 10.30 am – 12.30 pm Meeting of research scholars from 2 pm Place of meeting: Government Guest House, Thrissur
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Chapter 2

The Sittings and Visits of the Committee

2.1. Introduction

The Committee's sitting and visits were conducted as per the schedule which was communicated to the officials of the University in advance so as to inform the stakeholders. Both Research Supervisors and Research Scholars were invited to participate in the interactive sessions. The meetings were held in seven regional centres on the basis of the jurisdictional areas of respective Universities and Research Centres. The particulars of the procedure adopted and the opinions and suggestions put forward by both the Supervising Teachers and Research Scholars are included in this chapter.

2.2. The Procedure for Interaction with the Stakeholders

The Committee has held its sittings at various places in accordance to the region so as to enable the stakeholders from various institutions of Universities and affiliated Research Centres of the Colleges to attend the meetings.

2.2.1. The first Sitting was held for Thiruvananthapuram region at Kerala University Kariavattom Campus on **10-07-2018**. It was inaugurated by Prof. Rajan Gurukkal, Vice Chairman of KSHEC, and the chairman of the Committee Prof. J. Rajan has presided over the function. Dr. S Nazeeb, the Committee member welcomed the gathering. Dr. Harikumar and Dr. Vivekanandan, the other Committee members graced the function with their presence. Prof. Rajan Gurukkal in his inaugural talk emphasized the need of improving the quality of research undertaken by the research community in the state. He underlined the necessity of cutting edge technological and science research themes for the society. Quality enhancement is necessary in our State Universities. Student enrolment in research shall be transformed from the status of guide driven research topics to student driven themes and research orientations. Prof. J. Rajan, the Committee chairman presented a broad outlook of the committee and its focus on the

outcome. The sitting of the Committee has enabled the participants to provide their suggestions and opinions about the current scenario and the issues faced by the research community in the campus.

2.2.2. The second sitting was held for Kannur Region-Kannur University at Mangattuparamba Campus on **02-08-2018**. A function was organised there to introduce the objectives and mandate of the Committee by the Chairman of the Committee Dr.J. Rajan. Dr. S. Nazeeb, the member of the committee welcomed the stakeholders and Dr. S.S.Vivekanandan offered felicitations. Dr. Sreejith, the Director of Research and Coordinator of the Committee

made the necessary arrangements for the meeting. The participants placed their opinion and suggestions before the Committee. Dr.Manulal P. Ram, coordinator of the committee offered vote of thanks.

2.2.3. The Committee convened a sitting for Kozhikode Region at Calicut University Main Campus (Aryabhatta Hall) on **03-08-2018**. The Hon'ble Vice Chancellor of the University inaugurated the session and Pro Vice Chancellor, Registrar, Syndicate Members attended the meeting. Following that, an open forum was arranged to note down the various grievances and suggestions raised by the participants regarding the research environment in the University. Many faculty members and research scholars shared their experiences, troubles and suggestions in respect to the process of achieving greater or better standards of research in the Universities and Centres of Affiliated Colleges. Dr.J. Rajan introduced the objectives and mandate of the committee. Dr. S. Nazeeb, Dr. S.S.Vivekanandan, Committee members offered felicitations.

The programme was organised by Dr. Naseer, the Director of Research and he expressed vote of thanks at the end of the function. Sri. Mohanan, Pro Vice Chancellor of the University in his welcome speech commented on the necessity of interlinking research activities with the industry, administration and other organisations in the society. He also urged to fix benchmarks for research quality in various disciplines and the overall outcomes. It is also emphasised that, discussion with the guides and

students must be more dynamic and continuous. In his inaugural address, The Vice Chancellor pointed out that, the job opportunities for research students after the completion of their research is minimal. He said that it is important to focus research on contemporary issues of the society as well as new domains of knowledge.

2.2.4. The Fourth sitting was held for Kottayam Region at MG University Athirampuzha Campus on **08-08-2018**. Pro Vice chancellor Dr. Sabu Thomas inaugurated the function, and the Director of Research Dr. Beena Mathew welcomed the audience. Dr. J. Rajan, chairman of the committee made introductory remark on the objectives and functions of the committee. Dr. Harikumar and Dr. S.S. Vivekanandan, the members of the Committee facilitated the function and Dr. S Nazeeb offered vote of thanks. Sri Sabu Thomas, the renowned scientist spoke of the need for corporate social responsibility (CSR) funds for promoting research in Universities and Colleges. The present system of utilisation of Government Grants poses many problems especially from State Treasuries and Audit Departments. He pointed out the need for a solid waste disposal facility in Universities and Research Centres across the State. He also emphasised the exigency of health or safety insurance coverage for students doing research in science disciplines especially those working long hours in the dangerous environment of chemical laboratories. He pointed out the need for a provision to grant supervisory power to those faculties coming under INSPIRE programme, or from external institutions

2.2.5. The Committee held its sitting for Ernakulam region at government Guest House on 16-10-2018 as morning and afternoon sessions in which participants were mainly from Cochin University of Science and Technology and Sanskrit University, Kalady. Teachers and research students from the nearby University Centres and Affiliated Colleges of MG University were also present. Supervising Teachers and Research students submitted their grievances in writing and also expressed their concerns before the Committee.

2.2.6. The final sitting in this regard was held for Thrissur regions on 23-10-2018 at Government Guest House Thrissur. This was mainly to address and listen to the

problems faced by the research communities in Kerala Agricultural University, Thunchath Ezhuthachan Malayalam University, Kalamandalam Deemed to be University, Veterinary University and Kerala University for Fisheries and Ocean Studies. The students and supervising teachers from these institutions expressed their views and grievances before the committee.

2.3. The Grievances and Suggestions received from the Supervising Teachers and Researchers

The Committee has heard the stakeholders who have come forward to present their views and issues in relation with the research in their respective institutions without any prejudice. The issues and grievances which have been raised by the stakeholders range from administrative hurdles to supervisory troubles. They have also placed certain suggestions for improving the research environment of their institutions as well as the State as a whole. It was observed by the Committee that the majority of issues placed by the supervisors and scholars have many similarities regardless of the Universities to which they belong. One of the major issues unanimously raised by them is the negative and unfriendly approach on the part of the administrative sections of the Universities. The issues raised by the Supervising Teachers and Scholars are listed below.

3.3.1 Issues raised by the Research Scholars before the Committee

1. There is a shortage of sufficient number of research supervisors which adversely affect the research opportunities and quality of the research in the university
2. There is an urgent need for enhancement of the postdoctoral opportunities and post research employability especially in the critical disciplines like applied sciences
3. Scarcity of accommodation/hostel facilities for research scholars
4. Scarcity of secure accommodation and hostels of research scholars.

5. There is undue delay in the evaluation process of thesis as it takes more than one year and in certain cases a number of years.
6. The University atmosphere is not very conducive for undertaking quality research. The University campus is used for non-academic activities and research students are often side-lined in terms of academic facilities.
7. University does not give sufficient attention to M.Phil. and PhD programmes
8. Basic infrastructures and other amenities for a good research environment is lacking in the University Centres.
9. There is no comprehensive database for research in the Universities.
10. Fellowship amount, period and duration of the research programme procedure and process are different at different Universities.
11. There is no uniformity in the case of research programmes in the State
12. Administrative staff of the university treat the research students in an unfriendly way.
13. There is no inter departmental coordination among the Research Departments in the same University which seriously affects interdisciplinary research.
14. There is a glaring difference in the amount of fellowship allotted to the scholars from University to University. Certain Universities such as Calicut University and MG University do not give any fellowship amount to the research scholars doing research at the research departments of affiliated colleges.
15. The difference in the research fellowship is between Rs. 5000 to Rs.15000 in different Universities.
16. Certain administrative steps taken by the Universities concerning the researchers are illogical and trivial.

17. A Centralised and common instrumentation facilities needs to be established in the University campus.
18. The University Library Digitalisation is incomplete.
19. The research environment must be more women/ transgender friendly
20. There is no proper mechanism for accessing e-journals, e-publications and e-books.
21. A Comprehensive research policy for the State should be evolved.
22. Academic Research Bodies at the University level should be reconstituted periodically as per the regulations.
23. The PhD process modification such as title change, guide change, conversion from full time to part time and vice-versa and other related issues create difficult situations for the research scholars who are forced to visit the Department and administrative sections a number of times.
24. The research scholars face many difficulties in accessing information and support from the State Government Departments for pursuing their research. They seem to be unfriendly to the researchers.
25. There should have a common interactive platform for students at the University level.
26. There is a lack of dedicated and efficient technicians for operating instruments in Departments and Instrumentation Centres.
27. All the awarded PhD theses should be placed in the University Website.
28. The theses must be published by the Universities.
29. There is a need to evolve a model guideline in the form of 'Kerala Model of Academic Research' as a trend setter that can be adopted by other states.
30. A Research Directorate with a mission is needed for coordinating all activities of research from the time of joining to the final awarding of the research degree. This will definitely speed up the research process and the bureaucratic delay tactics can be minimised

31. It is necessary to establish a database for research statistics discipline wise to smoothen the process of research.
32. All teachers must acquire PhD and becomes guides so that the research opportunities for aspiring students can be increased.
33. Research profiles of scholars and supervisors must be updated based on their academic achievements.
34. The online-information system of the administrative matters of research centres is to be strengthened to make available timely information updates to the researchers.
35. An academic agenda for the research work is to be prepared and published by all research departments and centres.
36. There must be a provision to provide research support and research fellowship to differently abled researchers.

3.3.2 Issues Raised by Research Supervisors before the Committee

1. Research scholars and supervisors shall concentrate more on final outcome of the research rather than the intermittent troubles and benefits. The University and Research Centres shall make the research process smoothly in order to enhance the quality of research outcome.
2. **Steps should be taken to recognise best supervisors and scholars. Good research work must be acknowledged and appreciated by the Universities and incentives should be given by the Universities.**
3. There is an initiative to provide quality journals by the Universities on all core areas of disciplines. Core area journals are still deficient in our society
4. The Administrative atmosphere shall be made more conducive for promoting quality research work and existing practice in this regard should be seriously reconsidered.

5. **Steps should be taken to institute awards for best Ph.D. thesis in each discipline.**
6. The Higher Education Council has to initiate steps to provide funds for Universities
7. The auditing system at the University level must be made more research friendly.
8. The administrative wing of the university must be made more research friendly and flexible to promote quality research
9. There must be a uniform research regulation across the State
10. Research Fellowship amount may be increased and be made uniform across the State.
11. Research in the Affiliated Colleges is affected when the supervisor get transferred from the college and thus there is a provision in the regulation to retain the supervising teachers in the college concerned.
12. There must be a platform to discuss research problems at the University level.
13. There is a need to protect the academic freedom of the research environment in campuses and colleges.
14. The workload of the research teachers in the affiliated colleges may be reduced so that they can concentrate on the research issues of their scholars.
15. The Higher Education Council may develop a special portal for online access of journals and materials for the research students.
16. More research opportunities for the students may be created by incorporating the services of the supervising teachers who have retired from the centres.
17. Immediate attention is required in library expansion with ICT
18. Better facilities of library including digital material to be made available all supervising teachers and scholars.
19. A research database for the State to be created under the aegis of the Higher Education Council.

20. The facilities for a Common Documentation Centre for research materials will be established in the state especially in the case of science subjects.
21. There must be academic, administrative and financial freedom in research for both research scholars and supervising teachers.
22. Subjects of research priorities of the University for the state have to be published regularly.
23. There must be a journal consortium with free access
24. Research guideship must be granted to scientists of reputed research institutions.
25. Thesis submission must be allowed in Malayalam also or at least the summary of theses must be in Malayalam.
26. Trade union culture of teachers is hampering the research culture. So there must be professionalism in the research process.
27. A 24x7 work culture ought to be maintained in the campus to improve the quality of research.
28. Mid-term evaluation of research is necessary to ensure the progress of research work.

3.4 Field Survey to Assess Research Environment and its Results

A field survey among the Research Scholars and Supervising Teachers was conducted by administering a Structured Questionnaire as a part of the study. Separate Questionnaires were prepared to gather information from Research Scholars and supervising teachers. 750 questionnaires were distributed among the Research Scholars who participated in the meeting held at the headquarters of 7 Regions. 300 questionnaires were distributed among the supervising teachers for inferring their opinions on the status of academic research environment in the State. 518 completed questionnaires were received from the Research Students and 214 completed questionnaires from the supervising teachers. The information thus collected from the respondent researchers and supervising teachers were analysed by using SPSS version 24.0. Percentage and Mean Score are the tools of descriptive statistics used for arriving at meaningful conclusion. The results are given below.

3.4.1 The Perception of Research Scholars on the present status of Academic Research in the State

The following four tables are made from the data collected from the researchers for the purpose of the analysis.

a. The discipline of 518 respondent researchers are given below

Table 2.2 Disciplines wise distribution

Sl. No	Name of disciplines	No. of Researchers	Percentage
1	Social Sciences	104	20.1
2	Humanities	134	25.9
3	Commerce and Management	64	12.4
4	Science	216	41.7
	Total No.s	518	100

Source: Primary Data

The table shows that majority of 41.7 per cent of the researchers who have given their opinion in the survey are science scholars. The participation in the study from the part of social science researchers is 21.1 per cent, the scholars of humanities is 21.9 per cent and researchers from commerce and management is only 12.4 per cent.

b. The Mode of Research given in table 2.3.

Table 2.3 Mode of Research wise distribution

Sl. No	Mode of Research	No. of Researchers	Percentage
1	Full time	456	88.0
2	Part time	62	12.0
	Total No.s	518	100

It is seen from the table that 88 per cent of the scholars do their research in Full Time mode and only 12 per cent of researchers are doing research in Part Time mode.

c. The age of the researchers is given in table 2.4.

Table 2.4 Age of researcher wise distribution

Sl. No	Mode of Research	No. of Researchers	Percentage
1	Below 30	150	52.1
2	Above 30	248	47.9
	Total No.s	518	100

Source: Primary Data

Table shows that 52 per cent of researchers belong to the age group of below 30 years and 48 per cent of the researchers belong to the age group of above 30 years.

d. Variables Used for Assessing Research Environment in the State

26 questions were included for assessing the present status of academic research in the State Universities and Research Centres of the Affiliated Colleges. The result of the analysis is presented in table 2.5. Seven questions are included to assess the Relevance and Utility of the research topic. The variables in those questions are; Interest of the researcher in topic, Self interest in selection, Social relevance, Appropriateness of the research problem, Social benefits of the outcome, Career relation with the research and Interdisciplinary approach. The rating of the opinion are measured by using 5 point Likert scale from 5 to 1 in a descending order from 'very high' to 'very low'. The first 6 variables got a rating above 4 which indicate that in the opinion of researchers, their research problems have high social relevance and benefit to both himself and society. The rating for the Interdisciplinary approach is also near to the mean value of 4.

The next 3 questions from 8 to 10 denotes the relationship between supervising teachers and research scholars. The research scholars have high opinion about their supervising teachers. They are both friendly and supportive with got a mean score of above 4.

The next questions from 11 to 14 are related to the institutional facilities. And University administration support got lowest score of less than the mean value of 3 which clearly shows the negative attitude of the University Administration. Whereas other facilities and centre support are on an average level.

Two questions posed regarding fellowship and scholarship, the timely distribution of scholarship got the least score from the research scholars with a mean value of 2.01. This means that the research scholars experience much hardship in getting their fellowships and scholarships from the Universities.

The next four questions are related to the scholars' awareness level regarding research regulation and methodology. All the four questions are rated at the average level but above the mean value of 3. The ability to publish standard research articles is rated

with a mean value of above 3 showing the average capability of the researchers in this area. Awareness of ICT in research and use of library are at the average level. Research support from the peer group is high. While the scholars have opined that their families are highly supportive for doing the academic research with a mean score of 4.40.

Table 2.5. Variables for assessing research environment in the State

Sl No	Research Variables	Very High		High		Average		Low		Very Low		Total		Mean	SD
		N	%	N	%	N	%	N	%	N	%	N	%		
1	Interest in the research topic	330	63.7	144	27.8	14	2.7	20	3.9	10	1.9	518	100	4.67	.526
2	Topic selected by self	252	48.6	178	34.4	64	12.4	12	2.3	12	2.3	518	100	4.32	.809
3	Socially relevant topic	258	49.8	178	34.4	56	10.8	8	1.5	18	3.5	518	100	4.39	.741
4	Research problem is appropriate	238	45.9	206	39.8	54	10.4	6	1.2	14	2.7	518	100	4.36	.714
5	Research outcome will benefit the society	256	49.4	182	35.1	72	13.9	6	1.2	2	.4	518	100	4.32	.784
6	Research outcome will fulfil my career aspirations	176	34.0	226	43.6	82	15.8	14	2.7	20	3.9	518	100	4.17	.794
7	Cross/Multi/Interdisciplinary nature of research	158	30.5	210	40.5	114	22.0	24	4.6	14	2.3	518	100	3.92	.957
8	Availability of the right supervising teacher	258	49.8	134	25.9	90	17.4	28	5.4	8	1.6	518	100	4.20	1.010
9	Doctoral Committee was supportive	202	39.0	206	39.8	82	15.8	20	3.9	8	1.5	518	100	4.11	.913
10	Supervising teacher is friendly	338	65.3	128	24.7	40	7.7	10	1.9	2	.4	518	100	4.53	.754
11	Institutional facilities are good	172	16.6	140	27.0	168	32.4	78	15.1	46	8.9	518	100	3.27	1.171
12	Research Centre is supportive	172	33.2	152	29.3	136	26.3	28	5.4	30	5.8	518	100	3.79	1.137
13	Centre head motivates	192	37.1	154	29.7	128	24.7	32	6.2	12	2.3	518	100	3.93	1.036
14	University Administration support is encouraging	40	7.7	118	22.8	218	42.1	78	15.1	64	12.4	518	100	2.98	1.089
15	Timely distribution of scholarship	16	3.1	50	9.7	102	19.7	104	20.1	246	47.5	518	100	2.01	1.158
16	Research expenses fully met from the scholarship	48	9.3	54	10.4	114	22.0	112	21.6	190	36.7	518	100	2.34	1.315

17	Understanding about the Research Regulations of UGC/University	34	6.6	18 8	36. 3	21 8	42. 1	58	11. 2	20	3.9	51 8	10 0	3.31	.896
18	Understanding about the Research Methodology	10 8	20. 8	25 8	49. 8	14 2	27. 4	8	1.5	2	.4	51 8	10 0	3.89	.755
19	Awareness about basic and applied research	74	14. 3	25 0	48. 3	15 2	29. 3	18	3.5	24	4.6	51 8	10 0	3.78	.727
20	Awareness about the international standards of research	54	10. 4	22 8	44. 0	19 8	38. 2	32	6.2	6	1.2	51 8	10 0	3.56	.806
21	Ability to publish in national/international journals	76	14. 7	23 0	44. 4	17 2	33. 2	34	6.6	6	1.2	51 8	10 0	3.65	.851
22	Awareness of ICT in research	74	14. 3	18 2	35. 1	20 2	39. 0	38	7.3	22	4.2	51 8	10 0	3.48	.970
23	The level of use of physical library	58	11. 2	19 8	38. 2	19 6	37. 8	48	9.3	18	3.5	51 8	10 0	3.44	.932
24	Top priority of career is teaching	25 4	49. 0	16 0	30. 9	80	15. 4	20	3.9	4	.8	51 8	10 0	4.24	.904
25	Research support of peer group	14 0	27. 0	23 2	44. 8	12 2	23. 6	22	4.2	2	.4	51 8	10 0	3.94	.842
26	Support from family	31 4	60. 6	13 2	25. 5	46	8.9	16	3.1	10	1.9	51 8	10 0	4.40	.915

Source: Primary Data

e. The following findings could be inferred from above analysis:

1. The academic researchers in the state have selected their research topic with a great sense of research interest, social relevance and confidence in the social utility of the outcome.
2. The Research Scholars respect the idea of interdisciplinarity in research.
3. The Supervising Teachers in our state are highly supportive and friendly to the Research Scholars.
4. The research facilities at the research departments and centres are at an average level.
5. The administrative support from the University is not conducive to do research smoothly.
6. The delay in the distribution of research scholarship is the most alarming problem faced by the researchers in the State.

7. The researchers' awareness level on various research regulations and methodology are at average level.
8. The awareness level and ability to publish articles in the national and international journal are also average.
9. The awareness of ICT in research and use of library among the research scholars in Universities and Affiliated Colleges are at a moderate level.
10. The Researchers give top priority for teaching profession as a career.
11. A cohesive and cooperative peer relationship exists among the Research Scholars in the State.
12. The family support to the research scholars for completing their research is highly encouraging.

2.4.2 Perception of Supervising Teachers on the Status of academic Research Environment in the State

The opinion of Supervising Teachers have been collected by administering a questionnaire. It is requested to rate their opinion in a Five point Scale regarding the status of academic research environment prevailing in their respective Research Department and Centres. The results of the survey are portrayed in the following section.

a. Discipline wise distribution of Respondent Supervisors

Table 2.6: Discipline wise distribution of Respondent supervisors

Sl. No	Name of disciplines	Frequency	Percent
1	Social Sciences	29	27.1
2	Humanities	20	18.7
3	Commerce and Management	3	2.8
4	Science	55	51.4
	Total	107	100.0

Source: Primary Data

It is seen from the table 2.6 that more than 51 per cent of the respondent teachers belong to the science discipline whereas 27 per cent and 20 per cent belong to social

sciences and humanities respectively. Only less than 3 Per cent of the respondent teachers come from the discipline of Commerce and Management.

b. Designation wise distribution of respondents

Table 2.7: Designation wise distribution of respondents

Sl. No	Designation	Frequency	Percent
1	Assistant Professor	49	45.8
2	Associate Professor	32	29.9
3	Professor	26	24.3
	Total	107	100.0

Source: Primary Data

It is clear from the table 2.7 that about 46 per cent respondents are Assistant Professors whereas 30 per cent and 24 per cent are Associate Professors and Professors respectively. Thus it can be concluded that the majority of supervising teachers in the State are Assistant Professors by their designation.

c. Supervision Experience of Respondents

Table 2.8 Supervision Experience of Respondents

Sl. No	Years of Experience	Frequency	Percent
1	Below 5 years	48	44.9
2	6-10 years	26	24.3
3	11-20 years	22	20.6
4	Above 20 years	11	10.3
	Total	107	100.0

Source: Primary Data

The result of the table 2.8 shows that 45 per cent of the respondent teachers have less than 5 years of experience as Research Supervisors whereas only 10 per cent of the respondents have more than 20 years of experience in research guidance. 24 per cent of the respondent have a supervision experience in between 6 and 10 years whereas 21 per cent have research guidance experience between 11-20 years. It is clear from the result of the table that majority of PhD supervising teachers in the State have less than 5 years of PhD research guidance experience.

Thus, it can be concluded that the majority of PhD Supervising Teachers in the State are Assistant Professors with less than 5 years of research guidance experience.

d. Variables used for assessing the Research Environment in the State

Table 2.9 Variables for assessing research environment in the State

Sl. No	Research Variables	Very High		High		Average		Low		Very Low		Total		Mean	SD
		N	%	N	%	N	%	N	%	N	%	N	%		
1	Students' interest in the research topic	484	22.4	106	22.0	523	24.3	419	19.9	414	19.9	214	10.0	3.94	.738
2	Extent of utility value of the topic	388	17.8	127	27.4	440	20.6	229	10.9	616	28.8	214	10.0	3.95	.650
3	Degree of social relevance of the topic	600	28.0	969	44.9	482	22.4	122	5.6	216	10.0	214	10.0	3.94	.856
4	Research outcome will benefit the society	500	23.4	881	41.1	629	29.0	166	7.5	214	10.0	214	10.0	3.79	.887
5	Research outcome will fulfil students' career aspirations	484	22.4	106	22.0	523	24.3	419	19.9	414	19.9	214	10.0	3.99	.707
6	Move towards multi/interdisciplinary research	544	25.2	849	39.3	500	23.4	203	9.3	616	28.8	214	10.0	3.75	1.029
7	The quality of students' research work	122	5.6	108	5.0	784	36.4	219	10.0	414	19.9	214	10.0	3.69	.575
8	The extent of cooperation of students	366	16.8	102	22.0	678	31.8	219	10.0	616	28.8	214	10.0	3.83	.707
9	Adequacy of institutional facilities	87	3.7	681	31.8	1002	47.2	288	13.1	816	38.7	214	10.0	3.19	.848

10	Research Centre is supportive	26	121	16	542	60	280	107	42	29	214	100	372	.775
11	Centre Head motivates	50	234	112	523	38	178	628	28	28	214	100	394	.842
12	University Administration is supportive	14	65	74	346	82	383	261	128	84	214	100	321	1.002
13	Timely distribution of research scholarship	10	46	28	131	98	458	461	235	150	214	100	269	1.008
14	Understanding about the Research Regulations of UGC/University	32	150	86	402	84	393	107	42	9	214	100	364	.829
15	Assessment about basic Vs applied research	10	47	88	411	100	467	126	560	19	214	100	341	.752
16	Awareness about the international standards of research	42	196	74	346	72	366	165	70	47	214	100	366	.879
17	Publications in the national/international journals	26	121	82	383	76	355	223	103	83	214	100	352	.839
18	Understanding about ICT in research	26	121	88	411	78	364	184	84	19	214	100	357	.814
19	The availability of Lab/Library facilities	78	364	90	421	14	651	458	18	37	214	100	347	.795
20	The extent of acceptance of pooling of research resources of	4	19	44	206	106	496	485	224	126	214	100	291	.853

	various institutions.														
21	The level of acceptance of the idea of linking academic research with industry	4	1.9	38	17	96	44	58	27	18	84	214	100	2.77	.854
22	The level of acceptance of marketing the research output to the society	8	3.7	34	15	84	39	56	22	32	150	214	100	2.65	1.015
23	The degree of importance provided by the University on research	14	6.5	74	34	98	45	18	84	106	46	214	100	3.32	.868
24	The availability of Supervising Teachers in your discipline	12	5.6	42	19	90	42	46	21	25	112	214	100	2.87	1.038
25	The acceptance level of the idea of State Policy on academic research	14	6.5	56	26	16	52	20	93	68	28	214	100	3.24	.822

Source: Primary Data

25 questions are included in the questionnaire for assessing the opinion of Research Supervisors regarding the present status of academic research environment. The result of the study is presented in table 2.9.

The first 8 questions are related to the research scholars under the guidance of the supervising teachers in respect of their interest in research, the idea of social relevance and benefits, quality of research work, interdisciplinary approach and the cooperation of students. The ratings of all these variables got a mean value of above 3

and near to 4. This means the research students have commitment to the research topic and process at a fair level and the supervising teachers are satisfied on these counts.

Next 3 variables are related to the environment of Research Centres. The respondent supervisors have rated with a mean score of above 3 and it means that the facilities and support from the Research Centres are moderate and supportive. The University administrative support is also moderate in the case of Research Supervisors. They have complained about the undue delay in the distribution of research scholarship and fellowship to the students with a rating of a mean value of less than 3. Their involvement and awareness level regarding the Regulations and methodology, Research publication, Library support, ICT usage are moderate with a rating of more than the mean value of 3.

In the matter of pooling of research resources and institution-industry interface are rated below average by the supervising teachers with less than the value of the threshold mean of 3. The degree of importance of research provided by the Universities is at average level. They have a standing complaint in the matter of scarcity of supervising teachers and in the matter of availability of supervising teachers is rated below the mean value of 3. They have a positive opinion on the idea of a viable State Policy on academic research with a rating of the mean value of more than 3.

The following inferences can be derived from the above analysis related to the opinion of supervising teachers regarding the academic research environment.

1. The Research Scholars have a very positive attitude towards academic research. They have chosen their research topic with great interest, social commitment and career prospects. They are cooperative and enthusiastic in all matters of research.
 2. The research infrastructure and facilities available at the research centres are moderate but require improvement.
 3. The awareness level of the supervising teachers about the Regulations related to research are satisfactory.
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4. The research publication, ICT knowledge of the research supervisors are moderate.
5. They are of opinion that the linkage research with industry and society are at a low level which needs attention and enhancement.
6. The University has extended an average level of administrative and other support to the supervising teachers.
7. They opined that there is a scarcity of Supervising Teachers in various disciplines
8. They are in favour of the idea of a viable State Policy on Academic Research.

Chapter 3

Discussion and Interpretation of the Result

This chapter is purported to present a serious discussion and interpretation of the results of the findings stated in chapter 2 to arrive at meaningful conclusions. It is proposed to include a thought sharing of the Committee, the problems of research raised in the National Education Policy 2020, the problems and issues raised by the Research Scholars and Supervising Teachers and findings of the filed survey.

3.1 Thought sharing of the Committee

3.1.1 Importance of Research

Research is a process of search for knowledge. It is a scientific investigation to uncover the real facts. New knowledge and ideas emerged from the research projects create new opportunities for employment, growth and development. It also enriches the existing stock of knowledge. The absence of research means the death of new knowledge and the social organisation become stagnated. That is why research is considered as a movement of progress. It is a journey of experiment, discovery, innovation and growth. This inquisitiveness is the vital instinct behind the research function.

3.1.2 Academic Vs Applied Research

Academic or basic research is driven by the scientist's or investigator's curiosity or interest in a scientific question. The main motivation of a basic research is to expand the horizon of the knowledge usually there is no intention to create obvious commercial value. But applied research is usually designed to solve practical problems of the world especially that in the transactions of business. Applied Research is often intended for enhancing commercial interest. The goal of commercially oriented applied research is to improve the organisational capability of commercial establishments. Thus it can be seen that academic research is undertaken with a

societal point of view in general whereas the aim of commercial research is to enhance the profitability of industrial establishments. Applied research is also undertaken by Government agencies in order to improve the functions of Government Departments. Thus it is the duty of the Government and society to protect the interest of the academic research through deliberate and meaningful intervention.

3.1.3 The ethical theme of Research

There is an ethical issue that needs to be resolved for both academic and applied research. The following questions are relevant in this respect.

1. Who should be paying for basic research?
2. Should the Government spend less of the tax payer's money on basic research in order to concentrate more funding on research projects that have potential economic value?
3. Should public funds be used to subsidise applied research being carried out by private industrial companies?

These questions need multi-dimensional discussion and debate in the light of their importance on inclusive growth especially the present time of aggressive implementation of neo-liberal policy.

3.1.4 The Current Dilemma in Academic Research

Academic research could be made more meaningful by incorporating certain principles of utility of applied research. The topics for academic research should be drawn from the burning societal and industrial problems in order to provide more relief to the society by way of viable solutions. When the output of the academic research becomes more societally oriented, it will surely get support and encouragement from the community. But the pathetic situation of the present research environment in our Universities and Colleges is that the researchers as well as the authorities are seldom bothered about the societal implications of their academic research. It seems that the research is for the sake of research and getting the highest

University degree i.e., PhD to the main stakeholder. They are not serious about the scientific methodology or the aspect of solution seeking in the course of their study.

3.1.5 The blame is not on the shoulders of the researchers only but the Government?

The blame regarding the present plight of academic research process cannot be put on the shoulders of the researchers alone. The Government agencies are totally blind to the results of the academic research as they are least interested in the solutions that emerge through academic research. There is no mechanism to assess the quality and societal utility of the outcome academic research though lakhs of cores of public money is spent in this venture. Thus Government should come with a viable research policy to link academic research with that of the societal and industrial problems.

3.1.6 Industry-University Interface

The Higher Education System in our country has been continuously tuned to create a strong linkage between the industry and society. This creates a situation of no bio-linkage between educational system and society. In the case of advanced and emerging economies in the world, we can see there is a strong industry-institutional interface. In our country there is no mechanism to link the University's Research Departments with the industrial establishments. But there is a wilful neglect on the part of Government authorities to utilise the services of higher learning institutions to improve the life conditions of its members. So the Industry-University interface blockade should be broken through a mandatory action plan implemented by the Government with the concurrence of the stakeholders in the industry.

3.1.7 Making Academic Research More Utility Oriented

Basic research is inevitable for the long term benefits and progress of the society. It is also needed to lay scientific foundation for the progress of the humanity. Applied research is also required for solving societal problems for the individuals and entities at micro and macro levels. So the academic and applied research should be considered as supplementary and complimentary to each other. The Government and other authorities should recognise the fact that one major step for solving societal problems

is making the academic research socially oriented by incorporating the utility principles of applied research, and applied research can be made more societally relevant by incorporating principles and ethics of academic research.

3.1.8 Funding of Research

It is the duty of the Government to provide adequate funding support for undertaking meaningful and socially relevant research projects to the Universities and Affiliated Colleges. It is also the duty of the industry to financially support the higher education system because they are the beneficiaries of the system. They have to provide their Project of Research and Innovation to the academic institutions for mutual benefits. The research output is taken as a criterion for awarding national and international ranking of academic institutions. It is very essential to make concrete tie-ups between the higher learning centres and the industry.

3.2 National Education Policy 2020 and Academic Research

It is relevant to note the remarks and suggestions of National Education Policy 2020 related to the academic research. They are the following.

- i. National Education Policy 2020 declares that knowledge creation and research are known to be critical to growing and sustaining a large and vibrant economy, uplifting society and continuously inspiring a nation to achieve even greater heights. This policy reassumes that a robust ecosystem of research is a must for achieving the above objectives.
- ii. The number of researchers per lakh of population is 15 in India whereas 111 in China, 423 in United States and 225 in Israel (Economic Survey of India, 2016-17). This shows the backwardness of our country in the area of academic research.
- iii. According to the World Intellectual Property Organisation, the patent application submitted by China is 1338503 and USA is 605571 while from India it is 45057. It shows the pathetic position of our country in the area of research and innovations.

- iv. India's share of scientific publication was 4.4 per cent in 2013 whereas the share of USA and China came near 20 per cent each. This is another indicator of poor performance in research and innovation.
- v. The important reasons cited in the Policy for the low level of academic research performance in India are:
 - a. Lack of funding for research
 - b. Lack of a research culture and mindset in India
 - c. Lack of research capability in most Universities

The question is, who is responsible for this pathetic situation in academic research and who is the real culprit?

The National Education Policy has already stated that lack of funding coupled with lack of research capability of Universities are the reasons. Then the answer to the above question is the Government and its failure in making sufficient investment in the Higher Education System.

- vi. The National Education Policy has proposed to establish a National Research Foundation for catalysing and expanding research and innovation in the country. The Foundation is proposed as a panacea for all ills related to academic research in the country. Is it possible for NRF to solve the problem?

3.3 Problems Raised by the Researchers and Supervising Teachers

Both the researchers and supervisors participated in the meeting held at different regional centres have raised important issues and problems confronted by them at various research centres. They have submitted their grievances and suggestions by means of oral presentations as well as written representations. The Committee has discussed the issues and found that the nature of the problems and issues are common for the researchers and supervising teachers across the state irrespective of the Universities and Research Centres. They are combined and summarised as follows.

1. There is scarcity of Research Supervising Teachers in many University Departments and Research Centres. This is one of the reasons why a number
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of teaching posts are vacant over a number of years. That more students are willing to join for research leading to PhD is another reason for this.

2. The University administration shows a negative approach in dealing with the problems of researchers. There is undue delay in all matters related to the research process from the time of joining for research to the time of awarding the PhD degree.
3. The infrastructure facilities of the Departments and Research Centres are not sufficiently equipped to undertake the needs demanded for quality research.
4. The library and laboratory facilities at the Research Centres are minimal. There is a shortage of e-journals and e-books.
5. The lab equipment is not sufficient to do the research work satisfactorily
6. There is no uniformity in the matters of academic research in various Universities; such as the duration, amount of fellowship, disbursement of amount and the like.
7. Another area of concern is the time taken for valuation for research theses. In certain cases there is a delay upto two years from the date of submission of the research report.
8. There is a need to establish a Research Directorate for coordinating all research activities at the University level. The bureaucratic interventions should be minimised through this arrangements.
9. Retired Professors should be permitted to continue as research supervising teachers at the Departments or Centres concerned.
10. The most important issue raised by both the research scholars and the supervising teachers is the inordinate delay in the disbursement of research fellowship and scholarship.

11. It is also suggested that a Common Research Database should be created for the State under the aegis of the Kerala State Higher Education Council.
12. Steps should be taken to publish all awarded PhD Reports in the website of Universities.
13. A State Academic Research Policy should be evolved to make research socially relevant, industry supportive, quality driven and with researcher friendliness.
14. The audit system at the University level should be revamped to respond the needs of the researchers as to follow the audit requirement suggested by the funding agencies.

3.4 Result of Survey among the Research Scholars and Supervising Teachers

The status of the academic research environment prevailing in the University Departments and Affiliated Colleges have been analysed by using the perceptions of the Research Scholars and Supervising Teachers. The opinions expressed by the main stakeholders of academic research about the research environment in the State are more or less the same. They are summarised below.

1. The Research scholars have selected their area of research and the topic with deep research interest, and by considering social relevance and utility.
2. The relationship between supervising teachers and research scholars are congenial and they treat each other with mutual respect.
3. The facilities and amenities for research available at the research centres are at the moderate level.
4. The administrative support extended from the Universities is not conducive to do research smoothly.
5. The Researchers and Supervising Teachers have an average level of awareness in research regulations and procedures.

6. Both Teachers and Scholars have reported that there is an inordinate delay in the disbursement of research fellowships and scholarships.
7. The ability of Researchers and Supervising Teachers to publish research articles in national and international journals is at an average level.
8. The Researchers across the State give top priority for teaching profession as their career.
9. Both groups have favoured the idea of a viable State Policy on Academic Research.

3.5 Inference of the Study

The following inferences can be derived from the above discussion where the aspects are provided by the Thought sharing of the Committee, research issues raised by the National Education Policy 2020, the opinion of research Scholars and Supervising teachers and the Survey results.

1. The Government funding to the Higher Education System and a conducive research ecosystem at Universities is insufficient.
2. Academic research has not been given due importance by the University authorities, Government, industry and the general public.
3. There is an absence of research culture and mindset across the country which is true in the case of our State as well.
4. There is no interface between the industry and higher learning research institutions.
5. The academic research environment prevailing in the State is at a moderate level in terms of number of researchers, research output and research facilities.
6. There is shortage of supervising teachers in all Universities across various disciplines. The number of research aspirants are on the increase year to year.

Their aspirations towards doing academic research could not be addressed due to the shortage of Research Faculty.

7. The research facilities such as library and laboratory, both physical and virtual mode at the Research Centres operate at an average level. All the research scholars are not accommodated as per the research requirement at the Research Centres.
8. The University administration is not supportive and sometimes become unfriendly in handling the research issues of the scholars.
9. There is inordinate delay in the distribution of research fellowships and scholarships.
10. There is no uniformity across the Universities in research administration and management.
11. There is an absence of administrative coordination for handling the issues of the researchers in many Universities. There is a need for establishing a Research Directorate for addressing the issue.
12. Another problem is the undue delay in the valuation of Research Report and there are cases of delay of more than two years.

Chapter 4

Recommendations

4.1 Recommendations

The following recommendations are put forward for resolving the issues raised by the stakeholders of academic research.

1. Increase Central Funding for Research in Universities.

The Government funding to the Higher Education Sector is a policy decision as well as a political issue. Central Government shall take steps to increase the financial support to the education sector to achieve the targeted level of resource allocation to education. (6 per cent of GDP). Deliberate and mandatory financial support is needed to enhance the infrastructure facilities of the Universities and Colleges to equip them to do meaningful research and innovation.

2. Develop Centres of Excellence in State Universities

The State Government/ Universities should earmark funds in the annual budget to strengthen the infrastructure facilities of the State Universities and Research Centres to create a congenial research environment. The State Government has declared the creation of 30 Centres of Excellence in the State Universities in the Budget (2021 -22) which will provide better foundation for academic research.

3. Strengthen Industry - University Linkage

The Central/State Governments should provide provisions for bringing compulsory industry-university interface in the matters of the project of research and innovation. The curriculum of Universities should also be suitably designed to enhance industry academic linkages.

4. Training to Supervising Teachers and Scholars

The Research Supervisors, Teachers and Research Scholars should be given training and education for undertaking socially relevant and beneficial research topics through workshops, seminars and industry visit annually. The Faculty Development Centre (FDC) of the KSHEC and the Human Resource Development Centre (HRDC) in Universities should undertake these training programmes.

5. Enhance Library and Laboratory Facilities in Universities and Colleges

The research infrastructural facilities at the research centres in universities/ colleges should be enhanced to be at par with the international standards especially in the areas of library, laboratory, ICT labs and equipment.

6. Modify PhD Regulation (UGC 2016) to Solve the Problem of Shortage of Supervising Teachers and Enhance the seats for PhD programmes.

One of the burning problems in the academic research environment is the shortage of Supervising Teachers at the Research Centres. Kerala has a unique position in the domain of Higher education as the state GER of 37% is far above the national level and is expected to achieve a GER of 50% in the next fifteen years. This calls for increased facilities in the Higher Education sector including facilities for enrolment in research. As research is a core and vital component of Higher Education the number of seats for Ph.D programmes must be increased in the STEM subjects and in the domain of Arts and Humanities. But due to the restrictive provisions in the UGC regulation of 2016 (6.2) this has become extremely difficult. The decision to disallow retired faculty to act as research supervisors has adversely affected research in the State Universities in Kerala. In Kerala the superannuation age for university/ college teachers is 60 and 56 respectively. In many other States the age of retirement is 65 and in Central universities the faculty have an opportunity to become Emeritus Professor so they have an extension of five more years. Hence

the UGC PhD regulation (2016) should be modified to accommodate the state's concern.

Instead of making the age of retirement as the crucial factor in the research process those who are doing active research should be allowed to guide scholars (or they should be allowed to continue in this capacity up to the age of 65).

7. Strengthen Research Directorates in Universities.

Research Directorate should be strengthened by providing the required funds and sufficient staff to coordinate all the activities related to academic research. This can reduce the delay in research related procedures in Universities. The University laws should be amended accordingly to establish and strengthen Research Directives in all Universities in the state.

8. Adopt Uniform Procedure for Research Related matters in Universities.

There is no uniformity in the matters of procedures of academic research across various Universities such as admission, commencement, tenure and fellowship. Universities should take urgent steps in this regard to make a uniform procedure for academic research programme applicable to all Universities with a fair degree of flexibility.

9. Create Academic Research Database.

The Universities should take steps for publishing their awarded PhD thesis annually in their websites. An Academic Research Database for the State should be created under the aegis of Kerala State Higher Education Council, in consultation with all state Universities.

10. Ensure Timely Disbursal of Fellowships to Research Scholars

A problem raised by all stakeholders in research is the inordinate delay in the distribution of research fellowships / scholarships. It causes much hardship to

the research scholars especially to students belong to the socially and economically backward sections. It is suggested that the State Universities take immediate steps to streamline the procedure for payment of research fellowships and scholarships to the researchers in time as is being followed in the payment of various types of DBT Scheme.

11. Award Ph. D Degree within Six Months of Submission

There is undue delay in the evaluation of PhD thesis submitted by students totally ignoring the untiring effort of the researcher. Time bound action is required on the part of the University authorities in the matter of evaluation of PhD thesis and for declaring its results. Statutory Provisions should be made in this regard, in the Phd Regulations of all Universities in the state, specifying a time limit of six months for adjudicating the PhD thesis, as existing in several national level institutions.

12. Conduct Periodic Review of the Research Centres.

The research facilities and the research process at the Research Centres should be periodically peer reviewed in order to motivate the Supervising teachers and Researchers and to ensure the quality of research at the Departments and Centres. A viable mechanism/ guidelines for clear evaluation of the Research Centres shall be formulated by the Universities in consultation with the Kerala State Higher Education Council.

13. Formulate a State Policy on Academic Research

It is suggested that the Government should take concrete steps for formulating and implementing a State Policy on Academic Research for creating a research culture and conducive research environment in the State.

14. All Ph.D. students must be covered by Teaching or Research Assistant grants

The research scholars must be provided with an opportunity to take up teaching or research assistant positions so that they can be financially independent and the lack of funds will not act as a barrier to doing research in one's chosen domain.

Public education must be affordable by all. For students enrolled in Undergraduate and Masters programmes this means keeping fees, including hostel charges, at a bare minimum level and having a large number of scholarships, as was practiced successfully by universities like the JNU for long. For those enrolled for Ph.D. it must mean that *parents should not be asked to pay for their children's doctoral studies*. All Ph.D. students must be covered by Teaching or Research Assistant grants which take care of their fees and subsistence requirements.

Every Ph.D. student must be asked to take tutorials of undergraduate students each of whom should have to submit one essay every week. One of the greatest weaknesses of our undergraduate programme (which is the advantage that universities like Oxford and Cambridge have over us) is the absence of regular obligatory essay writing. We could improve the entire quality of university education if we insist on undergraduates writing regularly and use research students to read and comment upon these essays (with a faculty member exercising oversight). This way the research students too would be earning their own fees and subsistence.

15. Create Central Instrumentation Facility (CIF) in Universities

Important and scientific equipment worth crores of rupees can be pooled together to create Central Instrumentation Facility (CIF) in Universities. This will avoid duplication of expensive equipment in the University departments. Thus meager research funds available to universities can be effectively utilized.