

RUB Annual Report
FY 2020-2021



Royal University of Bhutan



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Abbreviations

AB:	Academic Board
APA:	Annual Performance Agreement
APRC:	Academic Planning and Resource Committee
AURG:	Annual University Research Grants
CNR:	College of Natural Resources
CLCS:	College of Language and Culture Studies
CST:	College of Science and Technology
DAA:	Department of Academic Affairs
DDC:	Dzongkha Development Commission
DPR:	Department of Planning and Resources
DRER:	Department of Research and External Relations
GCBS:	Gedu College of Business Studies
GCIT:	Gyalpozhing College of Information Technology
GOI-PTA:	Government of India-Project Tied Assistance
HDR:	Higher Degree Research
ICT:	Information and Communication Technology
IRT:	Independent Review Team
IT:	Information Technology
JNEC:	Jigme Namgyel Engineering College
LISM:	Library Information and Service Manual
MoE:	Ministry of Education
MoLHR:	Ministry of Labour and Human Resources
MoU:	Memorandum of Understanding
OVC:	Office of the Vice Chancellor
PCE:	Paro College of Education
RDC:	Research Degree Committee
REC:	Royal Education Council
REF:	Research Endowment Fund
RUB:	Royal University of Bhuta
RUB:	Royal University of Bhutan
SC:	Sherubtse College
SCE:	Samtse College of Education
SMT:	Senior Management Team
USRC:	University Strategic Response Committee

1 Highlights

- 1.1 Enrolment into postgraduate programmes increased to 1030 students from 836 in the previous year;
- 1.2 66% of the top 500 class 12 students are enrolled into various programmes of RUB;
- 1.3 The PhD in Climate Studies at College of Natural Resources (CNR), which is the first PhD programme in the country, was successfully validated to be launched in July 2022;
- 1.4 Reforms initiated in the admission of students with face-to-face qualitative interview recruitment processes for BEd programmes and introduction of assessment of computational thinking skills for admission to Information Technology (IT) programmes at Gyalpozhing College of Information Technology (GCIT);
- 1.5 Significant contributions by academics and students of RUB includes:
 - Identification of three types of bat species in Bhutan;
 - development of school curriculum and teacher standard;
 - development of Bhutan standards of indoor air quality;
 - development of google apps - Dzongkha for Kids, Druk tales and Dzongkha Dictionary;
- 1.6 A total of 144 research papers were published in various peer reviewed journals. Some of the papers were in high-quality journals such as the Journal of Threatened Taxa, Asian Journal of Education and Social Studies, European Journal of Taxonomy, etc.;
- 1.7 The University secured 23 joint research works and projects collaborating mostly with European Universities through the Erasmus mobility projects, international organizations like UNICEF, JICA and Trans-Eurasia Information Network.

2. Quality and relevance of programmes

2.1 Programmes

Ensuring quality and relevant graduates is the primary focus of the University. To this end, the University, having put through the rigorous internal process has launched and discontinued the following programmes. The Academic Planning and Resource (APRC) accorded planning approval to six programmes which will be launched in the coming years. Five out of the six programmes are postgraduate programme which is an incremental development of the University in terms of higher level of programmes.

Table1: Programmes Launched, Discontinued and approved for development

College	New Programme Launched	Programme Discontinued	Programme approved for further development
CLCS		BA in Bhutan and Himalayan Studies	
CNR		B Sc in Agriculture	MSc by Research in Conservation Biology
CST	Masters in Construction Management (Full-time)		ME in Power System Engineering (Joint with JNEC)
			MSc by Research in Engineering
GCIT		BCA	
JNEC			ME in Power System Engineering (Joint with CST)
NRC	BA in Development Studies (Full time)	BCom	
		BBA	
PCE	BEd in Primary Dzongkha (Full time)		Dip. in Early Childhood Care and Development (full time)
	MEd in Primary English (Full time)		MA in Educational Leadership

	MEd in Primary Science (Full time)		
	MEd in Primary Social Studies (Full time)		
	MEd in Primary Mathematics (Full time)		
RTC		BA in History and Dzongkhag	
SCE		BA in Social Work	PgCert in Higher Education (full time)
		Pg.Dip in Higher Education (part time)	
		Pg.Cert in Higher Education (part -time)	
Scherubtse College		BA in Dzongkha and English	

3. Student Services and Related Activities

Following were some of the new initiatives to improve student services in the financial year:

3.1.1 The University worked on consolidating the various student services and related activities into a single policy. It has resulted in a comprehensive Student Service Management Policy and Guidelines that ensure seamless and meaningful delivery of services in harmony with the academic mission of the University;

3.1.2 The Student Code of Conduct was reviewed with a focus on incorporating corrective measures and interventions to support the students;

3.1.3 In line with the changing needs, a review and revision of the Admission Policy of the University was carried out. The revision mainly aimed at making the Policy more inclusive, relevant to all students including international students. A working committee was constituted to carry out the review;

3.1.4 In order to foster strong relationships and interaction with alumni an Alumni Association Charter was established. It aims to promote personal and professional development, cultivate friendship, facilitate lifelong learning and foster positive connections with the alma mater. The charter has been approved by the 17th USRC Meeting for implementation.

4. Human Resources

The University considers its human resource, particularly the academics, central to the provision of quality education. Therefore, development and management of the human resource is given the highest priority.

4.1 Professional development

4.1.1 A total of 41 long-term professional development programmes have been implemented in the FY 2020-2021 which is double the number compared to FY 2019-2020. This includes 26 academics on Masters studies, nine in PhD studies and six Masters studies for administrative and technical staff;

Table 2: Implementation by level and category of staff

College	Academics		Total	Admin & Technical		Total	Grand Total
	Masters	PhD		Bachelors	Masters		
CLCS	2		2	1	1	2	4
CNR	6	2	8				8
CST	3		3				3
GCBS		3	3	1		1	4
GCIT	5		5	1		1	6
JNEC	8		8	1		1	9
OVC					1	1	1
PCE	1	1	2				2
SCE		1	1				1
Sherubtse	1	2	3				3
Grand Total	26	9	35	4	2	6	41

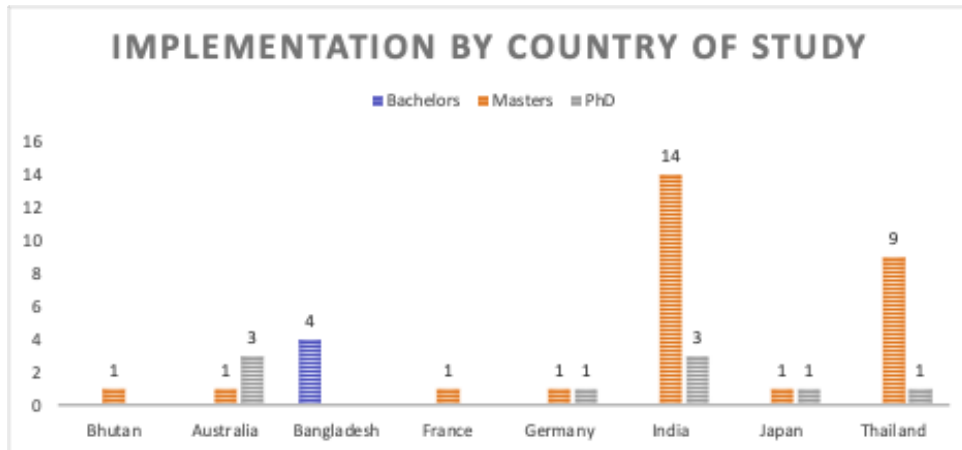


Figure 2: List of countries where academics were sent for Masters and PhDs

4.1.2 Implementation of long-term Professional Development (PD) programmes has been largely supported through HRD fund from the Government and His Majesty's Scholarship at Naresuan University;

4.1.3 In addition, the University has also received support from the Government of India through Nehru-Wangchuck Scholarship and India-Bhutan Friendship scholarships;

4.1.4 Funding was also extended by the College for their staff through full support or cost sharing modality;

4.1.5 A number of studies were implemented through open scholarships secured by staff such as merit / research scholarships from universities and scholarships offered by different countries.

Table 3: Funding sources for HRD

Scholarship/Funding	Academics	Admin & Technical	Grand Total
RgoB	12	3	15
His Majesty's Scholarship	9	-	9
College Fund & Cost-sharing	2	1	3
Nehru-Wangchuck Scholarship	-	2	2
India-Bhutan Friendship Scholarship	2	-	2

DAAD Scholarship	2	-	2
Self-Funding	2	-	2
International Research Scholarships	2	-	2
ADB-JSP Scholarship	1	-	1
Japanese Government (MEXT) Scholarship 2020	1	-	1
JDS Scholarship	1	-	1
Charpak Scholarship	1	-	1
Grand Total	35	6	41

4.1.6 Including those sent on long term studies in the previous years, there are currently 61 academic staff and six administrative and technical staff on studies, as detailed below:

Table 4: Staff on studies

College/ OVC	Academics			Admin & Technical			Grand Total
	Masters	PhD	Total	Bachelors	Masters	Total	
CLCS	3	-	3	1	1	2	5
CNR	7	5	12	-	-	0	12
CST	7	3	10	-	-	0	10
GCBS	-	5	5	1	-	1	6
GCIT	6	-	6	1	-	1	7
JNEC	10	-	10	1	-	1	11
PCE	1 (part-time)	4	5	-	-	0	5
SCE	1	3	4	-	-	0	4
Sherubts e	1	5	6	-	-	0	6
OVC	-	-	0	-	1	1	1

Grand Total	35 + 1 part-time	25	61	4	2	6	67
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4.1.7 A total of 14 academic staff have been conferred with Masters degree and seven academic staff with PhDs upon successful completion of their studies. At the same time, there are 11 academic staff who had reported to the Colleges but yet to receive their degrees.

Table 5: Long term PD completion status of academic staff

College/ OVC	Completed Studies			Reported to College but pending completion		
	Masters	PhD	Total	Masters	PhD	Total
CLCS	2	-	2	1	-	1
CNR	2	2	4	1	2	3
CST	1	2	3	1	2	3
GCBS	1	-	1	-	-	0
GCIT	6	-	6	-	-	0
JNEC	1	-	1	-	-	0
PCE	-	2	5	-	-	0
SCE	-	1	1	-	1	1
Sherubtse	1	-	1	3	-	3
Grand Total	14	7	24	6	5	11

4.2 Recruitment

During the year, 25 new academic staff joined the University against various regular positions in the Colleges, of which four were with Masters degree qualifications and remaining with Bachelors degree qualifications.

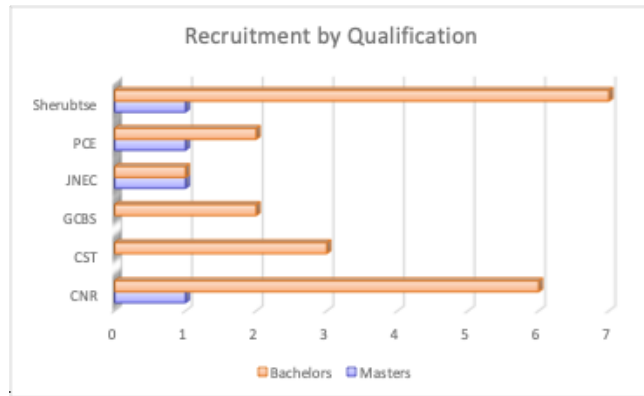


Figure 3: Academic qualification of new recruitment

4.3 Staff Strength

4.3.1 RUB has a total of 551 academic staff and 579 administrative and technical staff. Academic staff includes 39 expatriates and 21 Bhutanese working on fixed term appointment, and 491 regular academic staff;

4.3.2 Of the 551 academic staff, 491 academic staff are on campus while 60 academics are on study leave;

4.3.3 While data indicate 111 academic staff with Bachelors degree qualification, at least 42 academic staff are on the verge of completing their Masters degree. Therefore, 69 academic staff are yet to upgrade their qualifications to Master's degree.

4.3.4 Furthermore, it may be concluded that the current figure of regular academic staff with PhDs is likely to increase from 44 to 74 at least in the next 3-4 years with at least 30 academic staff on the verge of completing their PhDs currently.

Table 6: Total Staff Strength

COLLEGE/OVC	Academic Staff														TOTAL ACADEMICS	TOTAL ADMIN. STAFF	TOTAL STAFF					
	Academics - Regular				Academics - Fixed Term (Bhutanese)				Expatriates (Fixed Term)			Total Academics (Expats.)										
	Diploma/ Advance	Bachelors	Masters	PhD	Total Academics	Advanced Diploma	Bachelors	Masters	PhD	Total Academics (Fixed Term)	Bachelors	Masters	PhD	Total Academics (Bhutanese)				Bachelors	Masters	PhD		
CLCS	-	7	36	1	44	-	2	1	-	3	-	2	1	-	47	-	1	-	1	48	57	105
CNR	-	19	29	12	60	1	-	1	-	2	-	-	-	-	62	-	-	-	0	62	58	120
CST	-	20	41	3	64	-	6	-	-	6	-	6	-	-	70	-	3	1	4	74	58	132
GCBS	-	4	47	-	51	-	-	-	-	0	-	-	-	-	51	-	6	8	14	65	71	136
GCIT	-	6	12	-	18	-	2	4	-	6	-	2	4	-	24	-	3	1	4	28	45	73
JNEC	6	22	30	-	58	-	4	-	-	4	-	4	-	-	62	-	-	-	0	62	67	129
PCE	2	10	45	12	69	-	-	-	-	0	-	-	-	-	69	-	-	-	0	69	43	112
SCE	-	3	30	11	44	-	-	-	-	0	-	-	-	-	44	-	1	-	1	45	48	93
SC	-	20	58	5	83	-	-	-	-	0	-	-	-	-	83	-	7	8	15	98	89	187
OVC	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	0	0	43	43
Grand Total	8	111	328	44	491	1	14	6	0	21	1	14	6	0	512	0	21	18	39	551	579	1130

Table 7: Current Stock of Academic Staff (excluding those on studies)

COLLEGE	Current Stock of Academic Staff (i.e. excluding those on studies)											TOTAL ACADEMICS		
	Academics (Regular)					Academics - Fixed Term (Bhutanese)					Expatriates (Fixed Term)		Total Academics (Expats.)	
	Diploma/ Advance Diploma	Bachelors	Masters	PhD	Total Academics (Regular)	Advanced Diploma	Bachelors	Masters	PhD	Total Academics (Fixed Term)	Masters			PhD
CLCS	-	4	36	1	41	-	2	1	-	3	1	-	1	45
CNR	-	12	24	12	48	1	-	1	-	2	-	-	0	50
CST	-	13	38	3	54	-	6	-	-	6	3	1	4	64
GCBS	-	4	42	-	46	-	-	-	-	0	6	8	14	60
GCIT	-	0	12	-	12	-	2	4	-	6	3	1	4	22
JNEC	6	12	30	-	48	-	4	-	-	4	-	-	0	52
PCE	2	10	41	12	65	-	-	-	-	0	-	-	0	65
SCE	-	2	27	11	40	-	-	-	-	0	1	-	1	41
SC	-	19	53	5	77	-	-	-	-	0	7	8	15	92
Grand Total					431	1	14	6	0	21	21	18	39	491

5. Students

5.1 Student Intake

In 2020, the University admitted 2825 students including postgraduate students. Compared to 2019 the total intake has decreased by 295 students; there was also reportedly, decrease of government scholarship and self-finance students by 248 and 47 respectively.

The tables below provide details of student intake during FY 2020-21 for each College:

Table 8: Intake 2020

College	Government Scholarship		Self-Finance		Total
	Female	Male	Female	Male	
CLCS	127	84	52	33	296
CNR	130	103	59	34	326
CST	65	156	16	21	258
GCBS	141	189	83	89	502
GCIT	28	67	0	0	95
JNEC	87	177	11	23	298
PCE	131	120	12	22	285
SCE	99	135	14	4	252
SC	215	182	66	50	513
	1023	1213	313	276	2825

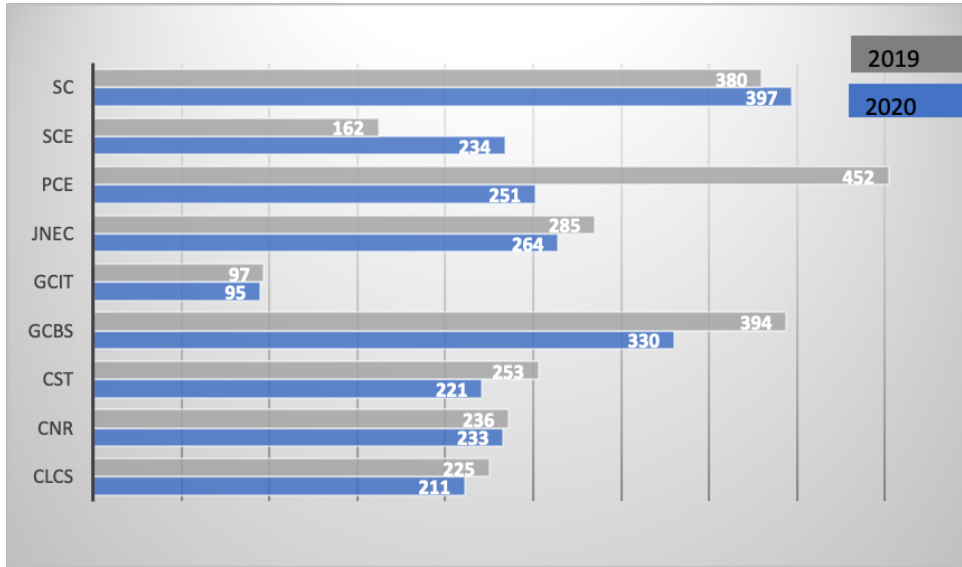


Figure 4: Comparison of Intake in 2019 and 2020

5.2 Total Student Strength

The total number of students in 2020 was 9566 which was less by 234 students as compared to 2019.

Table 9: Total Students

College	Male	Female	Male	Female	Total
CNR	309	463	135	137	1044
CLCS	342	492	43	84	961
CST	569	196	128	77	970
GCBS	720	482	274	265	1741
GCIT	210	94	-	-	304
JNEC	411	172	84	31	698
PCE	576	827	54	52	1509
SCE	338	286	40	59	723
SC	593	614	166	216	1589
YCC	18	9	-	-	27
Total	4086	3635	924	921	9566

6. Infrastructure Development

6.1 Project Tied Assistance Construction Works

In the 12th Five-Year Plan (FYP), the Government allocated Nu. 1.080 billion for capital works, mostly construction of infrastructure in the Colleges. It accounts for 90% of the whole 12th FYP capital funding of the University. Similar to the earlier five-year plans, the fund is provided through the Government of India Project-tied Assistance (GOI-PTA).

The following table provides the details of the construction works and the progress made during the FY 2020-2021.

Table 10: Details of construction works

College	Construction	Outlay (Nu. In mill.)	Financial Progress June 2021 (Nu in million)	Physical Progress as on June 2021
CLCS	Staff residence	54.06	21.04	67%
	Football and gallery	10.02	8.15	93%
CNR	Student hostel	81.86	40.05	45%
	Food processing laboratory	6.54	2.27	30%
CST	Student hostel	58.69	8.47	30%
	Convention hall	30.61	5.55	8%
	Water reservoir	2.00	2.00	100%
GCBS	Student hostel	122.53	53.19	37%
	Remodeling hostel & auditorium	28.00	27.60	72%
GCIT	IT and library building	431.49		All construction Works are halted from 24th October 2020.
	Administration building			
	Staff residence			
	Water treatment & sewerage plant			

	Student hostel			
JNEC	Mechanical Lab & Classrooms	61.05	29.36	25%
PCE	Sports laboratory & fitness center	40.00	23.97	63%
SCE	Postgraduate block	41.22	22.95	46%
	Staff residence	32.70		
SC	Water treatment & sewerage plant	52.74	5.57	38%
Total		1080.49	248.16	

6.2 Space Norms

The University Council approved the RUB Space Norms 2020 in its 40th meeting held in May 2021. The Space Norm provides a framework with some general parameters and standards that will help the University to assess its facilities and identify gaps for future development

6.2.1 The Norms are developed through a comprehensive study of existing practices and aligning with national and international best practices;

6.2.2 The national standards referred to were Bhutan Building Code 2018 and Rules for Establishment of Colleges in Bhutan 2017. International best practices were also explored through online resources to learn the standards used by other universities;

6.2.3 The norms will serve as a framework to help the University assess the current utilisation of infrastructure and facilities, identify exact need for development of new infrastructure and to improve conditions of its infrastructure and facilities. It will also provide the basis for allocation of resources to develop infrastructure and facilities. It is an attempt to ensure uniformity in development of facilities across the Colleges;

6.2.4 The Norms will be used as the basis for setting priority in the formulation of 13th FYP.

7. Annual Performance Agreement

7.1 Study on Effectiveness of Annual Performance Management System

Having used the APA system for four years, the University decided it was timely to reflect on its effectiveness and if the system has achieved its intended objectives. The study was conducted with the aim to improve the APA system and its processes. It is intended to help reflect on the system by taking stock of the current issues and suggestions for improvement.

The following is the summary of the finding of the study:

- 7.1.1 APA is viewed to help translate the University strategic plan to College and individual level work planning. It is also viewed to have helped set clear targets and provide an overall direction with a sense of urgency in implementation of annual deliverables, along with impelling employees to work who are otherwise not motivated to do so;
- 7.1.2 The system, up to a certain extent, encourages accountability, however, the study indicated less certainty when it comes to improvement in the overall organizational performance;
- 7.1.3 On the other hand, the study also showed that APA has led to a motivational shift wherein employees are incentivized to perform by APA scores and towards such end it was highlighted that there is “manipulation” in setting targets, assigning weights and reporting achievements. Such practice is seen to be leading to focusing more on increasing their scores rather than improving quality of their services;
- 7.1.4 The study showed that increase in APA scores do not lead to any positive shift overall;
- 7.1.5 The study indicated that result driven system is ineffective in rewarding performance for high performers defeating its purpose of differentiating between performers and non-performers, and in providing effective feedback on performance in general. The study also pointed out that APA score has no bearing on executives and that it may not be useful as a monitoring tool in the context of a public university.
- 7.1.6 Specifically, on the process of developing APA, the study indicated that it is rigid, mechanical and too quantitative.

The following were proposed as the way forward:

- 7.1.7 Review APA preparation guidelines to address many of the issues highlighted by the study;
- 7.1.8 Departments at the OVC to carry out a collaborative study on indicated issues of motivational and mindset change and leadership;
- 7.1.9 Comparative studies of APA systems and performance management systems at a broader level across other public universities to enable RUB to address concerns of respondents requiring APA to be contextualized to a Bhutanese university;
- 7.1.10 In-depth orientation for employees across RUB on the APA and performance management system.

8. Research

Alongside teaching and learning, research is one of the core areas of the University. Since its inception, the University focused on developing and promoting research culture by building capacity and creating enabling conditions for academics to conduct research.

8.1 Research Policies

The following policy and framework were developed to enhance quality of research outputs and create enabling conditions:

8.1.1 A minimum common framework required for the journal in conformation to the international standards was developed;

8.1.2 The Research Degree Framework 2015 was reviewed to accommodate new and evolving requirements of higher degree programmes.

8.2 Research Centres

8.2.1 The Colleges have put in efforts in establishing research centres to develop appropriate infrastructure, enhance research capacity and support, and help maintain a sustainable financial base for research. Over the years, the University has instituted 16 research centres across the Colleges.

8.2.2 SCE established the Centre for Innovation in Educational Practice and Research (CIEPR). The centre will be a hub for innovation in educational practice and research by conducting research in improving learning, teaching and assessment practices in the schools and tertiary institutions of the country.

8.3 Research Output

8.3.1 Peer Reviewed Articles Published

The academics of RUB published a total of 144 peer reviewed articles. Figure 2 displays the number of peer reviewed articles published by academics in each College.

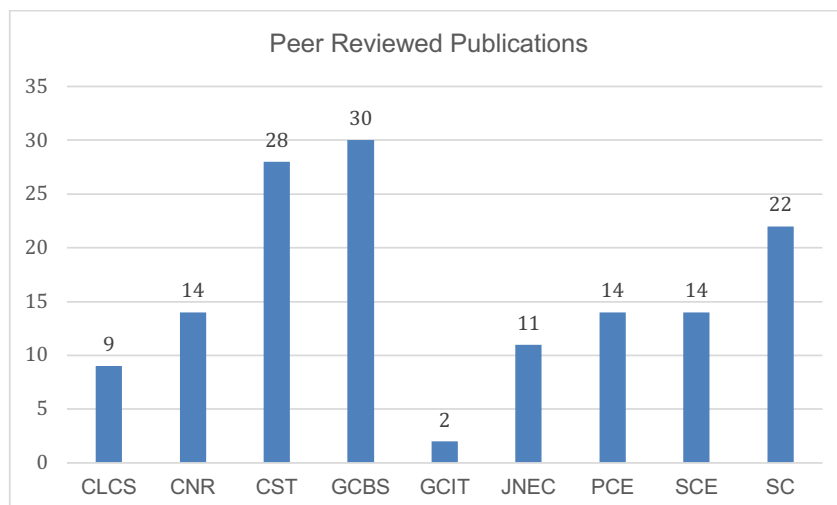


Figure 5: Number of peer reviewed articles published

Table 11: Articles published in high quality international journals:

Article	Authors	Journal	DOI link	College
The Future of Yak Farming from the Perspective of Yak Herders and Livestock Professionals	Dorji, N. Derks, M., Koerkamp, P. W.G.G. and Bokkers, E.A. M.	Journal of Threatened Taxa	http://doi:10.3390/su12104217	CNR
Freshwater conservation planning in the context of nature needs half and protected area dynamism in Bhutan	Dorji, T., Linke, S., & Sheldon, F.	Journal of Threatened Taxa	https://scihub.ru/https://www.sciencedirect.com/science/article/pii/S0006320720308430?casa_token=V03d1Pu0H_kAAAAA:sTolxGr3YJYvwZEzTvYxSQDbBog_Z7f3hrGbSS36w7DVXVSJ9zWoDQBtOgm0byN8np8tgb0QOxz	CNR
Composition and Diversity Pattern of Climbers in Tropical Forest of Langchenphu, Jomotshangkha Wildlife Sanctuary	Nepal, A and Dorji, U.	Journal of Threatened Taxa	https://doi.org/10.17102/cnr.2020.44	CNR

Teachers' Difficulty in Teaching Classes VII and VIII Sciences in Bhutanese Schools: A Case Study in Gasa, Punakha and Wangdue Phodrang Districts	Norbu wangdi and Karma Utha;	Asian Journal of Education and Social Studies	http://www.sdiarticle4.com/review-history/60002	SCE
Situating the Efficacy of Certificate Course in Social Work: A Case of First-Ever Course in Bhutan	Ramesh Kumar Chettri Dorji S Tshering Dorji	<i>Sage Journals; Research on Social Work Practice.</i>	https://doi.org/10.1177/10497315211011249	SCE
Bat (Mammalia: Chiroptera) diversity, dominance, and richness in the southwestern region of Bhutan with three new records for the country.	Tshering, S., Gurung, D.B., Sherub, K., Dookia, S., Dorji, K. and Choephyel, P.	Journal of Threatened Taxa	https://doi.org/10.11609/jott.4986.12.1.15114-15128	CNR
Widespread polytypic species or complexes of local species? Revising bumblebees of the subgenus <i>Melanobombus</i> world-wide (Hymenoptera, Apidae, <i>Bombus</i>),	Tshering Nidup	European Journal of Taxonomy	https://europeanjournaloftaxonomy.eu/index.php/ejt/article/view/1107/2849	Sherubtse College
Ab initio study of structural, electronic and optical properties of Mg x Cd 1-xX (X = S, Se, Te) alloys	Gopal Rizal	Elsevier	https://www.sciencedirect.com/science/article/pii/S2214785321042061	Sherubtse College

8.3.2 Journals in RUB

To create a platform for quality research works and research database relevant to the country, Colleges are required to publish their own Journals. As of now, there are eight peer-reviewed journals published regularly.

Increasingly Bhutanese researchers outside of RUB are submitting papers in journals such as BRJD. Papers received are from teachers and Bhutanese pursuing higher studies outside of the country as well. This is an indication that the journal is gaining recognition for its quality publication related to Bhutan.

8.3.3 Research Grants

Research Centres in Colleges actively collaborate with international partners and apply for global research funds. In addition, academics continue to explore external research grants in collaboration with other sectors in the country.

A total of 115 research proposals were submitted by colleges of which 68 proposals were awarded grants. RUB received a total of Nu. 66.49 million as research grants during this financial year from various institutions.

Table 12: List of research proposal and grants secured

College	Proposals Awarded Research Grant	Research Grant (Nu. in million)	Grant Source
CLCS	3	1.80	AURG, UNESCO, Happy Erasmus Project
CNR	6	12.78	Bhutan Trust Fund for Environment, SANDEE, ICIMOD International Foundation for Science (IFS), Sweden
CST	16	2.90	AURG, Asia@Connect project
GCBS	16	7.30	DHI, MoF, RMA, CDCL, AURG, REF, FITI
GCIT	2	0.39	DITT
JNEC	6	0.27	AURG, REF
PCE	5	22.14	Erasmus Plus Project
SCE	9	13.70	AURG, REF, MoE, UNICEF, IBBU
SC	5	5.20	Wasida University, Erasmus, SANDEE, SANH, Rufford Project
<i>Total</i>	68	66.49	

A good number of research proposals received was on the impact of COVID-19 on teaching learning in the University. This is an indication of the RUB academic responding to the immediate issue and need of the Country. The outcomes of the research will greatly benefit the University as it gears towards a blended learning approach. The following table shows the list of proposals accepted:

Table 13: Research Proposal on COVID-19 and its impact on Education

College	Title	Principal Investigator	Co-Investigator
SCE	Effectiveness of Group Work Assignment: Perceptions of Students and Academics of the Royal University of Bhutan	Karma Uthra	Tshering
OVC	Effectiveness of Blended Learning at Royal University of Bhutan	Sonam Penjor	Dr. Sonam Tobgay
PCE	Student teachers' Perceptions on online teaching and learning	Rinchen Tshewang	Thinley Phuntsho Tashi Tobgay Tshewang Tobgay
SCE	Opportunities and Challenges of Online Teaching: An Exploratory Study of the Implementation of Online Teaching in the Colleges of the Royal University of Bhutan	Kinley Seden	Rinchen Dorji, Lhapchu, Dorji Yangzom
GCBS	Effectiveness of online Teaching and Learning among the Colleges of the Royal University of Bhutan.	Tshewang Norbu	
GCBS	Effectiveness of online teaching offered by the faculties of Royal University of Bhutan.—A study from faculty perspective.	Purnendu Basu	Dr Rupa Basu
GCIT	Online Teaching	Thubten Zepa Thegchog	

8.3.4 Joint Research and Projects

Joint research is a recent phenomenon in the University. Besides greater linkages with external agencies and individuals, this endeavor serves a greater vision of cross border collaboration in creating knowledge, sharing of methodological approaches and different perspectives to analysis and interpretations.

Joint research makes it easier for academics to access international research funds and join international networks of knowledge sharing. Joint research has also benefited in terms of enhancing capacity, exposure to various levels of international research and widening their perspectives.

The following were some of the joint research projects carried out:

Table 14: Joint Research and Projects

College	Project Name	Collaborating Agency
CLCS	Environmental Management in a Changing Climate	University of Oslo
CST	Asia@Connect Project on Implementation of eLearning and associated capacity building with identified Schools in Bhutan	Trans Eurasia Information Network[TEIN], Korea funded by EU
	Erasmus+ International Credit Mobility (ICM) Project	Uppsala University, Sweden
	Erasmus+ International Credit Mobility (ICM) Project	Technical University of

		Velencia, Spain
	Staff & Student Exchange funded by Linnaeus-Palme, Swedish	Lund University, Sweden
	EU-Asia Collaboration for accessible Education in Smart Power System (eACCESS)	Institute of Electrical Power Engineering, Lodz University of Technology, Poland
	FABLab Project	JICA, Japan
	Development of Web based BEST-R system for Bar and Entertainment Time & Regulation Monitoring System	RBP, Pling and Department of Trade
	Development of Druk Driglam App for promoting culture	Department of Culture, MoHCA
JNEC	Examining the Influence of University Teachers' Qualification and Experience on Students' Academic Achievement in Mathematics	SCE
	Erasmus+ B+ NESDG	Riga Technical University, Hellenic Open University, Technical University of Cartagena, Nepal Engineering College, Kathmandu University, Pokhara University, Far Western University
	Problem-Based Learning in South Asian Universities	Aalto University, Indian Institute of Technology Bombay, Nepal Engineering College, Asian Institute of Technology and Management, Kathmandu University, Delft University of Technology, Kaunas University of Technology, Sagarmatha Engineering College, Indian Institute of Science Bangalore
	Transformation of STEM Education to IoT STEM AI: Reaching Emerging Technologies to Grassroots	SCE
PCE	Review of ICT Curriculum	MoE
	Edu-Innovation for out of school children	University of Birmingham, UK, Nagoya University, Japan
	Enhancing Mental Health, Counselling, Wellbeing Support for University Students of Bhutan	University of Birmingham, Vrije Universiteit Brussel, ISMAI University Institute of Maia
	Accreditation and Training of Teacher Assistants in Bhutanese Schools	University of Roehampton, University College of Leuven Limburg, Evalag

		Evaluationsagentur Baden Württemberg
SC	Qualitative Research in Higher Education Teaching Approaches for Sustainability and well-being in Bhutan - HAPPY	Inovacijsko-razvojni inštitut Univerze v Ljubljani (IRI UL), Slovenia; Universiteit Leiden, The Netherlands; Univerza v Ljubljani (UL), Slovenia
	South Asian Nitrogen Hub - Role of nitrogen air pollution on forest ecosystem services	UK Centre for Ecology and Hydrology
SCE	The impact of Gender and inclusive Pedagogies on Student Participation and Learning Achievement at Secondary School during the Pandemic	Bangladesh (Lead), Nepal, Timor Leste and Vietnam
	Preparedness of Bhutanese Higher Education Institutions for Inclusive Education; An Exploratory study	UNICEF
	Develop Technological content knowledge (TPACK) and strategies for inclusion for newly qualified middle and secondary school teachers in teaching Science and Mathematics.	Ibrahim Badamasi Babangida University, Nigeria Open University, Tanzania and Tata Institute of Social Sciences, India.
	Austrian Partnership Programme in Higher Education and Research for Development (APPEAR) with the University of Vienna, Austria.	University of Vienna, Austria and PCE

8.3.5 Research events

The following table shows the number of research events such as conferences and seminars organised in RUB.

Despite the global pandemic restricting on mass-gatherings, Colleges adjusted and adopted to the virtual environments such Zoom, Google and CISCO webinar to maintain contact, attain research events and establish collaborations:

Table 15: Research Events Organized

<i>College</i>	<i>Event</i>
CLCS	National Seminar on Language, Cultures Studies, Buddhism, arts & sciences
CNR	National Level Science Dialogue Series 2
CST	International Conference on Science, Engineering & Technology
	Webinar - Awareness programme on E learning platform & tools for school education
	Seminar on Construction Management

	Webinar - Unveiling the character of frequency in electrical power systems
<i>JNEC</i>	International Webinar on Design Thinking & Innovation Management
<i>PCE</i>	Making Teaching & Learning Interactive & Engaging for Primary Students
<i>SCE</i>	Making Teaching & Learning Interactive, Engaging & Immersive
<i>SC</i>	Webinar on First Edition of Knowledge Summit
<i>DRER</i>	Launching of Book “Reaching New Heights Through Research & Policy Practices” & BHCS website
	BHCS Science Dialogue Series I: Bhutan as a Biodiversity Wonders in the Himalayas
	7 th Annual Conference of Dean of Research & Industrial Linkages
	International seminar on Ethnic Fermented Foods of the Himalayas with reference to Bhutan: Traditional to Metagenomics
	Bhutan Democracy Dialogue
	BHCS Science Dialogue Series II: Food Security and Livelihood in the Himalayas
	Raising Climate Ambition: Voices from Bhutan
	International Seminar on rural Development in Asia-Pacific Region with special reference to North-East India and its Bordering countries.

8.3.6 Higher Degree Research Programmes

RUB started offering HDR programme with the launching of MSc in Natural Resources Management (MSc NRM) at CNR three years ago. The College yet again made history by developing the PhD programme in Climate Studies. The College successfully completed the internal quality assurance requirement to launch the programme by July 2022.

9. External Linkages

The objective of making the university teaching learning relevant is met through its linkages with the industry, its immediate community, government and the society at large. Additionally, its international linkages initiatives connect it to a network of universities, research institutions and other relevant organisations around the world helping it to gain global perspective on higher education and cultural immersion for staff and students.

9.1 International Linkages

The following MoUs were signed to maintain greater international engagement of the University:

New MoU signed with:

- Heriot Watt, UK
- Narusean University, Thailand
- Sustainability Laboratory, US
- National Digital Library, India

Existing MoU renewed

- Lund University, Sweden
- University College Leuven Limburg, Belgium
- South Asian University, India

10. GNH-Inspired Education

In response to the Royal Kasha for education reform, the University developed a strategy paper on GNH Inspired Education. It draws on the inspiration provided by His Majesty's command to the University and the Nation. The strategy paper, among others, provides a comprehensive definition of GNH-Inspired Education, focus areas and implementation strategies:

10.1.1 GNH-inspired education is defined as 'a holistic approach to teaching-learning that strongly identifies with understanding the mind, values and culture, and creates an inclusive, vibrant and enabling learning environment that enhances academic achievement; produces physically, emotionally, and intellectually competent youths characterized by self-awareness, resilience, integrity, commitment, and love and compassion; develops social skills to coexist with harmony; stimulates environmental consciousness; and prepares responsible global citizenship for 21st Century and beyond;'

10.1.2 It will focus on five key values namely, spiritual needs, cultural quotient (emotional needs), psycho-social needs, physical wellbeing and citizenship values;

10.1.3 Key strategies are as follows:

- To train and transform the minds to develop right understanding and right feeling;
- To inculcate social responsibility to live in harmony with the communities;
- To develop culturally responsive youths steeped in the country's history, culture and tradition;'
- To develop environmentally conscious individuals to be able to coexist with nature;
- To foster healthy lifestyles for a healthy society;
- To inculcate moral grounding and build leadership skills for civic engagement in building a more vibrant democratic society and sovereign nation state;
- To equip with skills to adapt to the changing needs;
- To stimulate intellectual growth and professionalism;
- To create knowledge and promote innovation to enhance social progress.

11. Innovation and Entrepreneurship

With the job opportunities declining in both public and corporate sectors, opportunities to develop entrepreneurial mindset and skills among students have become crucial. RUB, therefore, developed a separate theme in its strategic plan to develop capacity and facilities to provide an environment conducive for development of entrepreneurial skills and promotion of innovation.

The following were some activities implemented in individual Colleges:

11.1.1 Students of CLCS, CNR, GCIT collaborated with Loden SEED to conducted entrepreneurship development workshops and trainings;

11.1.2 CNR created a separate space with equipment to put in place a Bio Fab Lab;

11.1.3 CST held a three-day technology-based business ideas competition where 70 students took part. Students also participated in Innovation Idea Challenge organized by UNDP, Start-up Bhutan Hackathon organized by MoLHR and Tarayana Green Technology Challenge;

11.1.4 GCBS organized Fintech idea competition jointly with RMA and Business Idea marathon;

11.1.5 JNEC organized two training sessions on entrepreneurship development and invited four local entrepreneurs to share their experiences as entrepreneurs with the students;

11.1.6 Sherubtse College held a business idea competition and also organized entrepreneurship development courses.

12. Finance

The consolidated financial report of the University for the FY 2020-2021 is presented below. The Financial Statements are based on IFRS / Bhutanese Accounting Standard for Small and Medium Sized Entities 2015.

12.1 Consolidated statement of Financial Position as of June 2021:

(Amount in Nu.)			
Particulars		June 30, 2021	June 30, 2020
ASSETS			
Current Assets			
Cash and Cash Equivalents	4	266,613,321	183,128,174
Financial Assets -Current	5	198,124,768	105,477,657
Inventories	6	2,205,231	11,564,833
Advances/Prepaid Expenses	7	146,476,041	139,982,228
Trade and Other Receivables	8	-	67,414
Other Current Assets	9	3,072,274	2,610,381
Total Current Assets		616,491,634	442,830,686
Non-Current Assets			
Property, Plant and Equipment	3	4,743,128,989	4,693,094,019
Intangible Assets	10	4,039,452	5,009,452
Biological Assets	11	930,400	488,750
Investment in Bonds	12	-	10,000,000
Financial Assets-Non-Current	13	208,219,026	275,038,062
Investment property		-	-
Total Non-Current Assets		4,956,317,867	4,983,630,283
Total Assets		5,572,809,501	5,426,460,969

LIABILITIES			
Current Liabilities			
Deferred Grant Income-Current	14	376,103,602	376,080,200
Student Security Deposit Payable	15	22,393,962	19,979,606
Employee Benefit Obligations - Current	16	9,196,322	15,148,732
Other Current Liabilities	17	146,869,812	80,991,174
Other Grants	18	22,791,173	31,027,096
Total Current Liabilities		577,354,871	523,226,809
Total Non-Current Liabilities			
Deferred Grant Income Non-current	20	4,174,845,294	4,240,704,907
Long-term employee benefit obligations	21	9,211,974	6,386,945
Total Non-Current Liabilities		4,184,057,268	4,247,091,852
Total Liabilities		4,761,412,139	4,770,318,661
EQUITY			
Retained Earnings	22	846,343,794	656,142,309
Total Equity		846,343,794	656,142,309
Total Liabilities and Equity		5,572,809,501	5,426,460,969

12.2 Consolidated statement of Income & Expenditure for the year ended June 30, 2021

(Amount in Nu.)			
Particulars		June 30, 2021	June 30, 2020
INCOME			
Tuition Fees	24	1,056,512,200	974,656,441
Rental Income	25	36,571,994	34,010,200
Grant Income	26	478,743,732	373,926,967
Interest Income	27	28,526,744	28,668,107
Other income	28	44,631,388	39,458,097
Total Income		1,644,986,058	1,450,719,812
EXPENSES			
Employee Cost	29	716,366,808	712,612,193
General and Administrative Expenses	30	116,822,022	178,152,480
Program Development and review expenses	31	14,989,399	17,608,883
Project Expenses	32	8,639,995	20,654,608
Research and Development Expenses	33	17,161,084	13,090,657
Student Service Expenses	34	203,934,450	180,544,085
Teaching and Learning Expenses	35	21,030,638	28,134,129
Depreciation Expenses	3	172,371,414	158,978,800
Total Expenses		1,271,315,810	1,309,775,836
NET INCOME*		373,670,248	140,943,976

12.3 Consolidated Statement of Cash Flow for the year ended June 30, 2021

(Amount in Nu.)			
Particulars		June 30, 2021	June 30, 2020
CASH FLOWS FROM OPERATING ACTIVITIES			
Cash receipts for tuition (direct income)	33	1,025,451,810	945,352,029
Other cash receipts (indirect income)	34	67,141,697	70,750,552
Grant and other receipts	35	101,527,848	13,612,029
Employee benefit obligations	36	(37,407,791)	(29,926,072)
Expenses	37	(985,231,712)	(1,039,211,741)
NET CASH FLOW FROM OPERATING ACTIVITIES		171,481,852	(39,423,204)
CASH FLOW FROM INVESTING ACTIVITIES			
Purchase of assets	38	(73,450,555)	(59,198,243)
Investment in fixed deposit	39	(8,345,812)	15,605,232
NET CASH FLOW FROM INVESTING ACTIVITIES		(81,796,367)	(43,593,011)
NET CASH FLOW FROM FINANCING ACTIVITIES			
	40	(8,002,865)	85,031,979
NET INCREASE/DECREASE IN CASH & CASH EQUIVALENTS		81,682,619	2,015,764
CASH AND CASH EQUIVALENTS, BEGINNING OF THE YEAR	41	181,905,889	179,890,125
CASH AND CASH EQUIVALENTS END OF THE YEAR		263,588,508	181,905,889

12.4 Consolidated Statement of Changes in Equity at June 30, 2021

(Amount in Nu.)		
Description	Retained Earnings	Total Equity
Balance at June 30, 2018	595,801,519	595,801,519
Adjustment	(186,722,271)	(186,722,271)
Profit/loss for the year	143,398,200	143,398,200
Balance at June 30, 2019	552,477,448	552,477,448
Adjustment	(37,279,115)	(37,279,115)
Profit/loss for the year	140,943,976	140,943,976
Balance at June 30, 2020	656,142,309	656,142,309
Adjustment	(183,468,763)	(183,468,763)
Profit/loss for the year	373,670,248	373,670,248
Balance at June 30, 2021	846,343,794	846,343,794

13. Challenges

13.1.1 The selection of academics with master's degree qualification continues to be a challenge owing to the small pool and scarcity in some areas. Similarly, attracting competent in-service people with added industry experience is also a challenge. Rethinking on the possibility of raising the profile of academic positions and appropriate policy interventions are imperative to address these issues;

13.1.2 Retention of staff, particularly those who are in their prime age, is another significant area which requires careful scrutiny. While the reasons for early exit of staff may vary from person to person, study of their motivation and feedback would be relevant for the University to strive towards improving its human resources;

13.1.3 It has been evident that postgraduate programmes are crucial for the Country to create a pool of experts in specific subject areas, promotion of research, and development of academic culture. However, due to lack of policy to support postgraduate programmes, RUB has not been able to enroll students in its various postgraduate studies particularly for master's programmes. This will deter RUB from its goal of promoting lifelong learning in the Country. The development of a policy for committed scholarship funding for postgraduate programmes has become necessary;

13.1.4 Additionally, programmes offered on part-time mode have lost their popularity since it is not recognised by key agencies such as the Royal Civil Service Commission and Election Commission of Bhutan. Looking at the global trends in higher education and more so because of the pandemic, distance learning and online learning have appeared as viable modes of study for higher education. Therefore, an enabling policy environment must be created to enhance remote learning to help improve knowledge and skills of the working populace, who otherwise cannot afford the opportunity to take up higher education in traditional mode of learning;

13.1.5 In terms of research, it is important to recognise the University as a think tank for the Government. The establishment of the National Research Council as envisioned in the Tertiary Education Policy 2010 is crucial for the University to ensure policy as well as financial support from the Government to engage itself as a think tank. In the absence of the central body, it will still be difficult for the country to set research agenda, roadmap and ensure dedicated funding to support RUB in promoting research;

13.1.6 Internationalisation of the University is gaining momentum with the expressed need to produce globally competent graduates. However, student and staff exchange, creating linkages with Universities abroad are challenging within the current immigration and tourism policies. A differential treatment to the University to encourage academic engagement with its global counterpart is necessary;

13.1.7 In keeping with the global trends, the University plans to adopt blended learning in a major way. It will require the University a substantial financial support to put in place all necessary ICT infrastructure, facilities and building capacity. The ICT capital budget which has never featured in our budgeting proposal will now become a crucial component of our future budget planning.