

# Annual Report

## 2020-2021



Higher Education Commission-Pakistan



Higher Education Commission-Pakistan

# ANNUAL REPORT

# 2020-21

# HEC Mission

To Facilitate Institutions of Higher Learning  
to Serve as an Engine of Socio-Economic  
Development of Pakistan.



**Mr. Imran Khan**  
Prime Minister of Pakistan



**Mr. Shafqat Mahmood**  
Federal Minister  
Ministry of Federal Education  
and Professional Training



**Ms. Naheed S. Durrani**  
Federal Secretary  
Ministry of Federal Education  
and Professional Training



**Dr. Shaista Sohail**  
Executive Director  
Higher Education Commission  
Pakistan

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## Executive Summary

The completion of two decades of the Higher Education Commission (HEC) playing its unparalleled role as a torchbearer in the development of higher education sector in Pakistan is around the corner. Facilitating all the stakeholders of the sector, especially the students and faculty, has been the utmost objective of HEC with its concentration on a holistic development of the sector. The report in hand presents, in detail, the state of higher education in the fiscal year 2020-21.

HEC continues to focus on human resource development. In the year under review, 179 scholars completed their PhDs from renowned foreign universities under HEC's Overseas Scholarships schemes. Students from all parts of the country were awarded 218 scholarships under the Indigenous PhD Fellowship for 5000 Scholars (Phase-II), in addition to the award of 473 PhD degrees under the project Phase-I & II.

With its commitment to promoting higher education throughout Pakistan, HEC never forgets the less developed areas of the country. HEC awards scholarships to students from Balochistan and erstwhile FATA under different schemes, including Masters Leading to PhD Programme, Provision of Higher Education Opportunities for Students of Balochistan and FATA and Law Graduate Scholarships Programme for Balochistan for Study Abroad.

HEC plays its role in strengthening Pakistan's relations with different countries as an education diplomacy. It offers scholarship opportunities to foreign students, including students from least developed countries of Organisation of Islamic Cooperation (OIC) and Commonwealth, to study in top Pakistani universities. Under, Allama Muhammad Iqbal Scholarships for Afghan Students (Phase-II), 625 students from Afghanistan were awarded scholarships for undergraduate studies and 282 for postgraduate studies in 2020-21. Total 2789 Afghan students remained onboard for Undergraduate and Postgraduate studies during the year under HEC scholarship schemes. Through its Pak-Sri Lanka Higher Education Cooperation Programme, HEC received 47 Sri Lankan students to join different Pakistani universities in the year.

During the year, 145 scholars proceeded abroad to join their PhD studies under MS Leading to PhD scholarship schemes of HEC including 33 for United States under the US-Pakistan Knowledge Corridor and 43 under Fulbright Scholarship Support Programme. In addition, 273 PhD scholars proceeded abroad under its International Research Support Initiative Programme in 2020-21. Under the Post-Doctoral Fellowships Programme – HEC, 32 scholars proceeded abroad to join their research during 2020-21.

Reinforcing its resolve to promote research culture in the country, HEC has been actively pursuing its R&D goals. It encourages the country's higher education institutions to make R&D their top priority for a sustainable economic growth of the country. The HEC's focus on R&D can be gauged by the fact that there has been over six times increase in the research articles published in impact factor journals. In 2020-21, HEC funded 106 projects under National Research Programme for Universities while 388 projects were completed. Besides, the HEC initiatives covered in a diverse set of research opportunities launched through the Higher Education Development in Pakistan (HEDP) project presented considerable progress in the year.

The HEC-established Business Incubation Centres incubated 315 companies in 2021 and generated a revenue of Rs. 595 million. Similarly, HEC notified three new Offices of Research, Innovation & Commercialisation in the year. HEC continued extending policy support to the existing 29 National Centres of Excellence and also took aboard another nine centres to improve their performance.

In order to ensuring quality of education and research and discourage malpractices in the academia, HEC's Quality Assurance Agency (QAA) is actively systematically implementing the quality enhancement procedures and criteria to attain international compatibility and competitiveness at the institutional and programme levels. To measure the quality of institutions in 2020-21, QAA carried out institutional performance evaluation of 16 degree awarding institutions and reviewed 14 MS/MPhil and another 14 PhD programmes. It also set up eight Quality Enhancement Cells (QECs) in the year.

As mandated, HEC attested a total of 200,027 documents at its Secretariat and 185,323 documents at its regional centres. It processed 6,768 cases of Deeni Asnad, 2,088 cases of undergraduate degree programmes, and 2,919 cases of postgraduate degree programmes with 4,928 foreign equivalence cases in the year.

Like other Divisions of HEC, Planning & Development Division has a very important part in the HEC's overall contribution to the uplift of higher education sector. It identifies, studies, and evaluates policies, procedures, priorities, and proposals in planning or development of innovative educational programmes and projects. In the FY 2020-21, the Government allocated Rs. 29.470 billion to HEC for implementation of 144 development projects. An amount of Rs. 28.060 billion was released to HEC and the higher education institutions.

The upward trajectory in the statistics of growth in all the areas, mentioned in the report, testify how HEC, with the support of Government and the stakeholders, has been committed to its mandate of promoting higher education and nurturing a research culture in Pakistan. HEC is cognisant of its key role in turning the country into a knowledge-based economy. It overlooks none of the aspects crucial for academic development.

**Dr. Shaista Sohail**  
Executive Director

# Research & Innovation

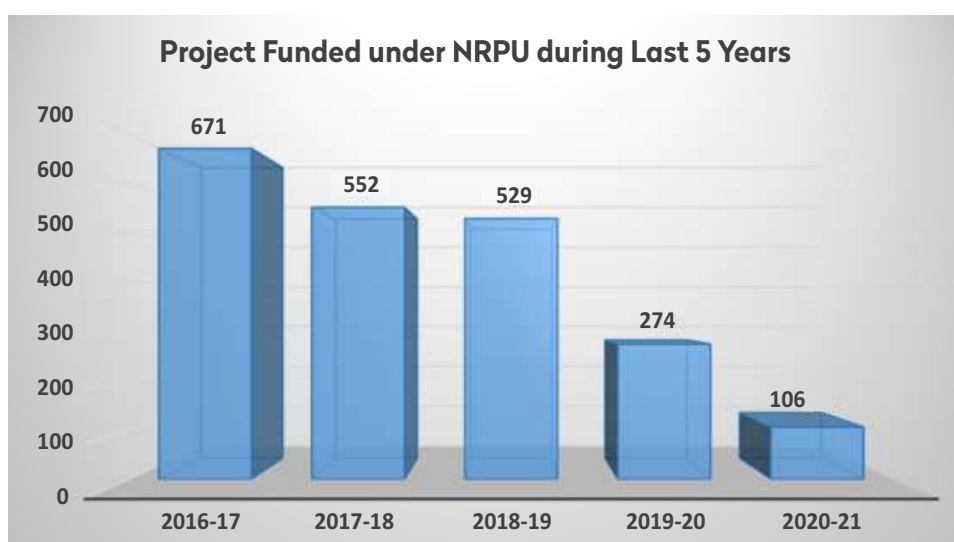


The Higher Education Commission (HEC) aims at motivating and facilitating the higher education institutions (HEIs) to make research their top priority for a sustainable economic growth in the country, turning it into a knowledge economy. A knowledge-based economy demands investment in human capital, innovative research and entrepreneurship, and for this, HEC is committed to radically redesigning and upgrading the universities. A culture of research and innovation is being created and promoted at all public and private sector HEIs to discover and disseminate new knowledge that is a precursor of developing a vibrant, progressive knowledge economy. By putting all efforts in tailoring programmes and formulating policies, it reassures relevant research to address the significant societal issues as well as internationally compatible research for sustainable and progressive research ecosystem in the country. Moreover, additional efforts are being made to connect the innovative research being carried out at HEIs with government policy planners and business and industrial entrepreneurs.

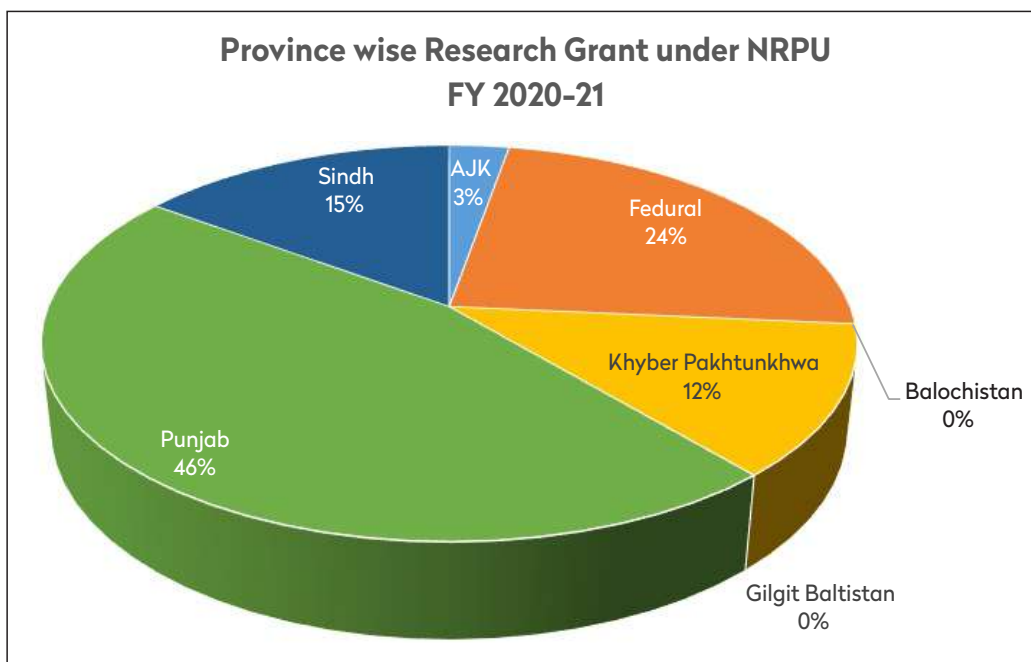
The research activities have witnessed an increase in the public sector institutions, resulting in more than six times increase in the research articles published in impact factor journals. Streamlined research, generated by strategic academic processes that build strong societies and economies, has now paved the way for commercialisation. Business and technology incubators are being established in universities across Pakistan to promote university-industry collaboration. Universities have initiated different research projects related to agriculture, business, and industrial needs, which are shared with the related stakeholders and other sections of the society. In order to sustain the trend and to expand the horizon of research activities in HEIs while reaping the benefits of research in real terms of community impact and research commercialisation, HEC focused on research activities that have direct impact on community well-being and economy of the country. These are:

## National Research Programme for Universities (NRPU)

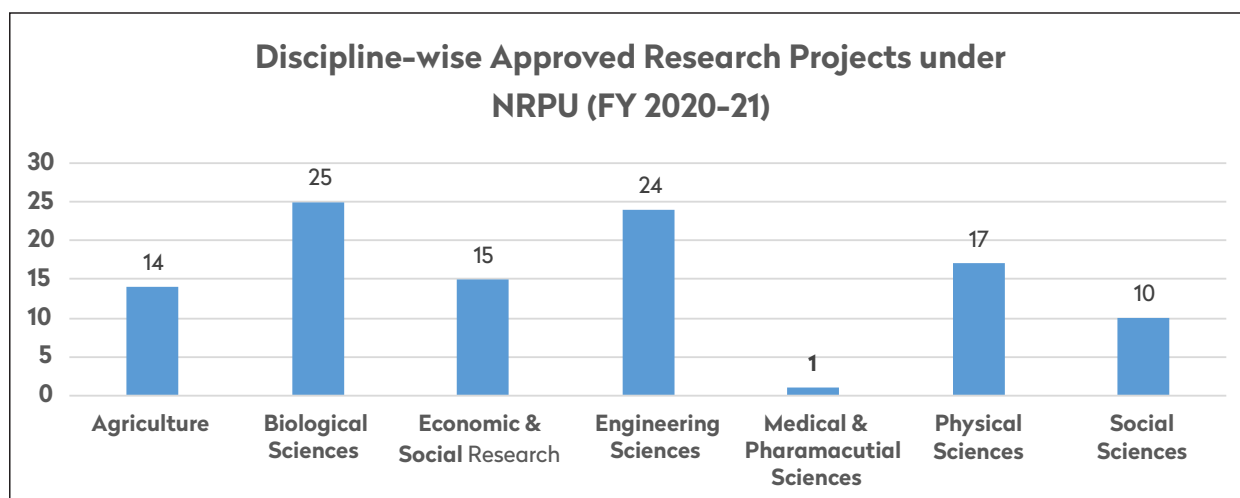
The National Research Programme for Universities (NRPU) is a flagship research programme of HEC. Since 2003, research grants have been provided under NRPU on competitive merit for high-level and promising scientific research projects that demonstrate strategic relevance and impact on local industry and society. During FY 2020-21, a total of 3255 research proposals were received, while 3689 research projects had been carried forward from 2002-2020. Around 106 research projects were funded. A total amount of Rs. 1042.20 million was provided to different universities of Pakistan through NRPU research grants during the financial year 2020-2021. An overall comparative analysis of research proposals approved under NRPU is as follows:



The research grants extended to different provinces reflect that the research activity at universities in Punjab is maximum, while it is at a nascent stage in Gilgit, Balochistan and Azad Jammu & Kashmir.



Of all fields of study, for which NRPU has been in receipt of research proposals, following table gives details of the approved projects.



During the current fiscal year 2020-21, 388 NRPU projects were completed.

## Technology Development Fund (TDF)

HEC initiated "Establishment of Technology Development Fund (TDF) for HEC scholars returning after completion of PhD to introduce new technologies in Pakistan," a PSDP project to strengthen academia-industry linkage with a total allocation of Rs.2, 905 million on approved on October 29, 2015. The project was operationalised on May 31, 2016 as administrative approval of the TDF project was granted for five years with effect from May 31, 2016 to May 31, 2021. It is to enlighten that 1st tranche of funds was released in October 2016, therefore, first call for proposals was made in November 2016. A total of three calls for proposals were launched during FYs 2016-17, 2017-18 and 2018-19 for submission of proposals under TDF. As many as 728 projects were received from different universities for funding under TDF.

|                             |                     |
|-----------------------------|---------------------|
| Individual Grant Value:     | Upto Rs. 14 million |
| Max. project duration:      | 2 years             |
| Total No. of Grants Awarded | 200                 |

To promote a make-in-Pakistan culture and provide industry-academia joint proposals, a way forward was set against three call for proposals during FYs 2016-17, 2017-18 and 2018-19. A total of 200 projects, 35 in 1st TDF call (2016-17), 89 in 2nd TDF call (2017-18) and 76 in 3rd TDF call (2019-20) were carried forward. From 35 projects awarded in TDF first call, 32 projects were successfully completed while three projects are in closing process. Of 89 projects awarded in 2nd TDF call, 68 projects reports were completed and 21 projects are in the closing phase. In the third call's 76 projects, 15 projects were completed and 61 are in process. The projects of third call were affected by COVID 19 lockdowns and faced a little delay.

Against 10 patents as per PC-1 targets of the TDF projects, the projects have so far achieved 36 patents. In terms of prototype development, 75 was the target, while the completed TDF projects have produced results in the form of 115 prototypes development. By looking at Licensing (License Agreements) against the target of 75, so far 91 license agreements have been completed. Overall, the TDF performance is exceptional, as even despite the COVID 19 lockdown, the project has produced remarkable results.

|                              | PC-1 Target | Performance |
|------------------------------|-------------|-------------|
| <b>Patents</b>               | 10          | 36          |
| <b>Prototype Development</b> | 75          | 115         |
| <b>Licensing</b>             | 75          | 91          |

## Higher Education Development in Pakistan (HEDP)

HEC has recently revamped research grants framework in order to meet national and local needs as well as to achieve a much wider societal impact in consultation with the Higher Education Development in Pakistan (HEDP) project. The HEDP project, funded by World Bank, was launched in 2019. HEDP aims to strengthen research capacity and academic excellence of HEIs in Pakistan. HEDP comprises a diverse set of research funding opportunities including Grand Challenge Fund (GCF), Technology Transfer Support Fund (TTSF), Local Challenge Fund (LCF), and Innovator Seed Fund (ISF). In response to COVID-19, Rapid Research & Innovation Initiative was also launched in April 2020.

### Grand Challenge Fund (GCF)

The GCF grant aims to stimulate collaborative interdisciplinary research within the strategic priority areas of relevance to present or future Pakistan-based industry and to society. A consortium of (applicants from) research-intensive universities and other universities along with nationally recognised Excellence in Research Centres will be eligible to submit research proposals. The project participation from industry, public authorities or other relevant organisations will be considered on merit.

Strategic priority areas:

- Food Security
- Water Management and Sustainability
- Sustainable Energy
- Sociology & Philosophy
- Development Economics
- Urban Planning
- Climate Change and Environment
- IT & Telecommunication
- Innovative Governance and Reforms

|                            |                    |
|----------------------------|--------------------|
| Individual Grant Value:    | Rs. 15-225 Million |
| Max. project duration:     | 3 years            |
| Number of grants per year: | 15                 |

### Progress:

- Initially, 738 proposals for GCF at outline stage were received. Out of these proposals, 458 were shortlisted for a detailed review, while the remaining 280 were rejected in the initial review due to non-fulfillment of the eligibility criteria and/or other necessary requirements. Around 458 proposals were passed through a detailed review by field experts/independent reviewer and scientific panels. After independent review, proposals were discussed in panel meeting for selection of proposals for the next stage. Eighty-eight proposals were selected by scientific panels for submission of full proposals.
- Out of 88 successful candidates, 86 full project proposals were received under GCF 2020 call. These project proposals were reviewed in detail by field experts/independent reviewer and scientific panels. After independent review, the proposals were discussed in panel meeting for selection of top ranked proposal. These top ranked proposals were discussed in joint interdisciplinary panel for selection of successful proposals. Five projects were selected for funding.
- Five selected projects, worth Rs. 239 million, were awarded. The first installment of 40% of the total cost was released for these projects.

## Technology Transfer Support Fund (TTSF)

The fund is meant for promising technological research with existing prototype or advanced model for product development/commercialisation and protection of intellectual property rights. It is anticipated that the project proposals will be academia-industry joint ventures leading to products or services which solve a current problem or identify a new opportunity.

The priority sectors for TTSF support include:

- Telecommunications
- Information Technology and its application in health, textile, agriculture and agri-business such as dairy and horticulture
- Engineering sciences, including microelectronics, water, power, energy and fleet management
- Biotechnology
- Material Sciences, for example nano-technology

|                            |                       |
|----------------------------|-----------------------|
| Individual Grant Value:    | Rs. 7.5 to 20 Million |
| Max. project duration:     | 2 years               |
| Number of grants per year: | 20                    |

## Progress:

- Initially, 142 research proposals received under Call for Technology Transfer Support Fund (TTSF) 2020, out of which 100 proposals were shortlisted for detailed review, whereas remaining 42 proposals were not shortlisted due to nonfulfillment of the eligibility criteria and/or other necessary requirements. One hundred shortlisted proposals were thoroughly reviewed by the panel experts and members as per approved SOPs. After independent review, these projects were discussed in the panel meeting in detail and following 17 proposals were selected for funding.
- 17 selected projects were awarded with a total cost of Rs.158 million. The first installment of 40% of the total cost was released to these projects.

## Local Challenge Fund (LCF)

The LCF grants aim to strengthen cross-disciplinary research, addressing any of the 17 Sustainable Development Goals at the local level. Universities with provincial government and local centres of research may identify one local core issue and propose research ideas for possible solutions.

|                            |                      |
|----------------------------|----------------------|
| Individual Grant Value:    | Rs. 7.5- 100 Million |
| Max. project duration:     | 3 years              |
| Number of grants per year: | 20                   |

**Progress:**

- Initially, 287 proposals for LCF at the outline stage were received. Of these proposals, 115 were shortlisted for detailed review. The remaining 172 were rejected due to initial review, non-fulfillment of the eligibility criteria and/or other necessary requirements. The 115 proposals were reviewed in detail by field experts/independent reviewers and scientific panels. After independent review, proposals were discussed in the panel meeting for selection of proposals for the next stage. Thirty proposals were selected by scientific panels for submission of full proposals. Thirty full project proposals were received. These project proposals were reviewed in detail by field experts/independent reviewer & Scientific Panels. After independent review, the proposals were discussed in a panel meeting for selection of top ranked proposals for each panel. Twelve projects were selected for funding.
- Fifteen GCF projects, which were not selected in joint interdisciplinary panel meeting, were called for submission of proposals under LCF Element-II call. Ten full project proposals were received under the call for LCF-II. These project proposals were reviewed in detail by field experts/independent reviewer and scientific panels. After independent review, discussed in panel meeting for selection of top ranked proposals for each panel. 4 projects were selected for funding. One project was closed due to technical issues. Funds of three projects were released.

**RAPID Research & Innovation Initiative (RRII)**

In response to the emergency situation arising globally due to spread of COVID-19 pandemic, HEC made extraordinary efforts to ensure that the country utilises research capacity of its universities to respond to the pandemic urgently and effectively. A fast track funding mechanism under Rapid Research & Innovation Initiative call was launched to support proposals in applied research, product innovation and commercialisation of potential solutions under various priority themes dealing with topics and issues of severe urgency with regard to availability and/or access to data, facilities or specialised equipment as well as quick-response research on COVID-19. The call comprised of the following funding streams available for the researchers to submit proposals that can help address the challenges created by the pandemic:

- RAPID Research Grant (RRG)
- RAPID Technology Transfer Grant (RTTG)
- RAPID Innovation Seed Fund (RISF)

**Progress:**

- Initially, 308 research proposals were received under call for Rapid Research Grant 2020, out of which 58 proposals were shortlisted for a detailed review. These proposals were thoroughly reviewed by the individual reviewers and panel members as per approved SOPs. After independent review, these projects were discussed in panel meeting in detail and 10 projects were selected for funding.
- Award letters were issued to these 10 accepted projects. Agreements were signed and the first instalment of 50% of the total cost was released.
- 55 research proposals were received under call for Rapid Technology Transfer Grant (RTTG) 2020, out of which 16 proposals were shortlisted for a detailed review. These proposals were thoroughly reviewed by the individual reviewers and panel members as per approved SOPs. After independent review, these projects were discussed in panel meeting in detail and none of these projects were selected for funding.

## Innovative & Collaborative Research Grant (ICRG)

The Innovative & Collaborative Research Grant (ICRG) is one of the initiatives under Pak-UK Education Gateway recently launched funding partnership between HEC and British Council that supports collaborative research activities among Pakistan and UK-based university faculty/researchers ranging from travel grants to collaborative research grants and development of Research Excellence Framework. ICRG supports research partnerships between Pakistani and UK universities, research bodies and existing centres of excellence for cutting-edge research and innovation in emerging disciplines of knowledge/priority areas.

### Key Areas:

- Medical and Allied Health Sciences
- Energy (generation, distribution and conservation)
- Climate Change
- Artificial Intelligence
- Robotics
- Nano Science
- Big Data – Cloud Computing
- Social Sciences

|                         |   |
|-------------------------|---|
| Individual Grant Value: | Upto Rs. 100 Million<br>(Approx 50 Million for each side) |
| Max. project duration:  | 3 years   |
| Number of grants:       | 6   |

### Progress:

- As many as 263 proposals were received under call for ICRG 2019. Of these, 36 proposals were rejected due to non-fulfillment of the eligibility criteria and/or other necessary requirements.
- The shortlisted outline proposals were 227, which were reviewed in detail by field experts/independent reviewer and scientific panels. After independent review, the proposals were discussed in panel meeting for selection of top ranked proposals for each panel. These top ranked proposals were discussed in joint interdisciplinary panel for selection of successful proposals for submission of full project proposals. Sixty-three outline proposals were selected for submission of full proposals.
- Out of 63 successful candidates, 60 full project proposals were received under ICRG call (submission date was January 31, 2020). These project proposals were reviewed in detail by field experts/independent reviewers and Scientific Panels. After independent review, discussed in panel meeting for selection of top ranked proposals for each panel. These top ranked proposals were discussed in joint interdisciplinary panel for selection of successful proposals. Six project proposals were awarded with a total cost of Rs. 749 million. The first installment of around 40% of the total cost was released to these projects.

## CPEC - Collaborative Research Grant (CRG)

The CPEC-Collaborative Research Grant is anticipated to support promising research partnerships between Pakistan and China, aiming at finding solutions to CPEC-related problems through joint research by the universities of Pakistan and China, drawing upon research potential of academia on both sides. Keeping in view the scope and foreseeable impact of CPEC, this initiative will go a long way in supporting collaborative research proposals, addressing problems and issues pertaining to Pakistan's socio-economic development in general and CPEC in particular.

|                         |                     |
|-------------------------|---------------------|
| Individual Grant Value: | Rs. 50- 100 Million |
| Max. project duration:  | 3 years             |
| Number of grants        | Approx 5-10         |

### Progress:

- Initially, 266 project proposals received under CPEC-CRG call, out of which 216 were shortlisted for detailed review, remaining 50 were rejected due to initial review, nonfulfillment of the eligibility criteria and/ or other necessary requirements.
- As many as 216 proposals were shared among seven scientific review panels for detail review as per approved SOPs. After independent review, these projects were discussed in panel meeting, and 28 projects were recommended by these panel for further processing.

|              | No. of Projects | Total cost of projects | 1st Instalment (PKR) |
|--------------|-----------------|------------------------|----------------------|
| GCF          | 5               | 794,354,470            | 317,741,788          |
| LCF-I        | 12              | 276,635,719            | 110,654,288          |
| LCF-II       | 3               | 89,058,513             | 35,623,405           |
| TTSF         | 17              | 158,211,051            | 64,678,514           |
| RRG          | 10              | 110,215,632            | 59,755,906           |
| ICRG         | 6               | 239,333,567            | 95,733,428           |
| <b>Total</b> | <b>53</b>       | <b>1,428,475,385</b>   | <b>14018000</b>      |

## Pak-US Science & Technology Cooperation Programme

For cooperation in science and technology between the Government of Pakistan and the Government of United States of America, an agreement was signed in order to share the benefits of research in the field of science and technology through the mutual cooperation of scientists of both countries. Consequently in 2005, the United States Agency for international Development (USAID) joined the Ministry of Science and Technology and the HEC to support the Pak-US Science and Technology Cooperative Programme. So far, 92 joint Projects have been awarded for a total funding of Rs. 1,290 million and 81 have successfully been completed.



## Pak-France (PERIDOT) Research Programme

PERIDOT is the Franco-Pakistani Hubert Curien Partnership (PHC) Programme providing opportunities to Pakistani and French researchers to interact for joint research activities. The programme is implemented in Pakistan by the Higher Education Commission (HEC) and in France, jointly by the Ministry of Foreign Affairs & International Development (MAEDI) and the Ministry of Higher Education and Research (MESRI). The objective of this programme is to develop new scientific and technological cooperation between French and Pakistani higher education institutions/research laboratories by supporting the mobility of researchers from both sides. Thirty-nine projects have been awarded during the last five years with total funding of Rs. 43.186 million.

| Financial Year 2020-21           |             |
|----------------------------------|-------------|
| No. of Proposals Received        | 23          |
| No. of Projects Approved         | 4           |
| Grant of Approved Projects (PKR) | 1,450,000/- |

## Pak-Turk Researchers' Mobility Grant Programme

The Pak-Turk Researchers' Mobility Grant Programme is one of the outcomes of Turkish-Pakistani cooperation within the scope of internationalisation effort of higher education systems. It is implemented in Turkey by the Council of Higher Education (CoHE) and in Pakistan by HEC to support the academic/research activities under Article-3 of the Agreement of Cooperation in Higher Education between both the countries signed on April 14, 2016.

The objective of this programme is to develop new scientific and technological cooperation between Turkish and Pakistani higher education institutions by supporting the mobility of graduate students and academic staff.

During the financial year 2019-20, 85 proposals were received. However, due to the COVID-19 pandemic, the programme remained on halt in the financial year 2020-2021 as mutually decided by the Turkish authorities and HEC.

## National Digital Library Programme (NDLP)

The National Digital Library Programme (NDLP) was started in 2003. The programme works as backbone to strengthen the research production through the latest knowledge resources. HEC provides state-of-the-art electronic resources that contain peer-reviewed journals, databases, articles and e-Books across a wide range of disciplines. These resources are extended to public and private universities/institutions and non-profit research and development organisations across Pakistan. The main aim of this programme is to enhance research productivity within the country.

To ensure even handed distribution of digital resources and to ensure their optimum utilisation, R&D division has undertaken the following activities:

- **Introduction of Cost Sharing Model**

The Digital Library subscribers are now required to share subscription cost of digital resources on annual basis. This will help manage the increasing financial overhead, equitable distribution of resources and enhancing the digital library database. The details of applicable charges are available at: <https://www.hec.gov.pk/english/services/students/DL/Pages/Applicable-Charges.aspx>

- **In-depth legal vetting of the renewed contracts**

The Digital Library team ensured that all the license agreements to be executed are thoroughly reviewed from legal perspective and necessary clauses are maintained in the agreement to protect interest of HEC and end users.

- **Frequent technical committee meetings**

A new Digital Library technical committee was constituted. Its annual meeting plan has been devised to ensure frequent meetings of the committee in order to speed up the decision-making on the Digital Library-related matters.

- **Capacity Building Activities**

The HEC Digital Library, in collaboration with reputed publishers, has organised trainings and workshops throughout the year for awareness and access of digital library for end users. For the first time, publishers were also engaged to organise seminars/webinars on publications capacity building of local journals.

## **Major Achievements:**

- **Improved Usage**

Due to regular monitoring of usage patterns and frequent capacity building activities, usage of HEC digital library resources has increased.

- **Cost Saving**

Digital library has made a saving of almost Rs.121 million after curtailing meagerly used resources and by removing unused licenses for each resource.

- **Recovery**

The cost sharing model was introduced in 2020. Approx. Rs. 181 million were received from the universities and institutes by the closing of FY 20-21.

- **Even Handed Distribution of Digital Resources**

Efficient usage analysis has helped in proper need assessment so that limited licenses are distributed based on relevance and demand of the subscribing institutions.

- **Managing the Budget Deficit in FY 2020-21**

Above interventions helped in reducing the budget deficit of Digital Library to ensure timely payments of all resources.

- **Negotiation of expedient license agreements**

The Digital Library team ensured that license agreements are finalised after incorporating legal and audit observations to protect HEC's interest. Furthermore, contracts were signed at optimised prices for single year so that HEC will not be bound for payment in subsequent year in case the license is not renewed. Multi-year contracts were only signed for those resources which have very high demand and where percentage increase in price low was offered by the publisher.

## Important Activities and their Impact



**26500+**  
Research Publications



**297+**  
Top Cited Papers



**46**  
Hot Papers



**19500+**  
Impact Factor Publications



**2.8 millions+**  
Downloads



**721**  
Members institutions

## Capacity Building Activities during FY 202-21:

| Date       | Topic of Training   |
|------------|---|
| 25-08-2020 | Journal Hosting in Scopus   |
| 22-10-2020 | Strengthening Research Planning using Elsevier Tools -Scopus, ScienceDirect & Mendeley @ Pakistan   |
| 08-12-2020 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ GCWUF   |
| 22-12-2020 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ UAF   |
| 24-12-2020 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ UMT   |
| 18-01-2021 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ NUCES   |
| 21-01-2021 | Elsevier Workshop on Journal indexing in Scopus   |
| 25-01-2021 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ Quaid-i-Azam University   |
| 29-01-2021 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ COMSATS University  |
| 09-02-2021 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ University of Engineering & Technology, Taxila                  |
| 10-02-2021 | Improving Research Planning skills using Elsevier Tools -Scopus and ScienceDirect @ IBA Karachi   |
| 15-02-2021 | Improving Research Planning skills using Elsevier Tools - ScienceDirect & Scopus@ KFUEIT  |
| 17-02-2021 | Improving Research Planning skills using Elsevier Tools -ScienceDirect and Scopus @ University of Gujrat  |
| 10-03-2021 | Improving Research Planning skills using Elsevier Tools -ScienceDirect & Scopus@ Ghulam Ishaq Khan Institute of Engineering Sciences and Technology |
| 12-03-2021 | Improving Research Planning skills using Elsevier Tools -ScienceDirect & Scopus @ Fatima Jinnah Women University                                    |
| 13-04-2021 | Understanding the Research Landscape using Scopus @ NUST  |

| Date       | Topic of Training  |
|------------|--|
| 15-04-2021 | How to choose Best Suited Journal for Publishing @ NUST  |
| 10-08-2020 | HEC Digital Library Introduction Session   |
| 11-08-2020 | ProQuest Ebook Central Advanced Training   |
| 13-08-2020 | ProQuest Platform Advanced Training  |
| 17-08-2020 | How to Manage Your References Using RefWorks   |
| 19-08-2020 | ProQuest Introduction to Publishing in Academic Journals   |
| 16-09-2020 | ProQuest Ebook Central Advanced Training   |
| 23-09-2020 | ProQuest Ebook Central Advanced Training   |
| 30-09-2020 | ProQuest Ebook Central Advanced Training   |
| 14-10-2020 | Explore the HEC Digital Library Collections for your next scholarly research (ProQuest Resources and Unified Search Engine – Summon) |
| 19-10-2020 | Advanced Training: How to Utilise ProQuest Journals, Dissertations, and Varied Content Types in Teaching and Research                |
| 20-10-2020 | Advanced Training: How to Utilise ProQuest Ebooks Collection in Teaching and Research  |
| 26-10-2020 | How to Manage Your References Using RefWorks   |
| 27-10-2020 | 5 Tips for Getting Published: Maximise Your Chances to Get Your Paper Accepted in Academic Journals                                  |
| 24-11-2020 | Discover ProQuest Dissertations and Theses Global, the largest collection for electronic dissertations and theses in the world       |
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| 19-01-2021 | Dissertations & Theses eLearning Companions & Author Services Marketplace  |
| 02-02-2021 | Boost Your Knowledge With ProQuest Dissertations and Theses Global Database  |
| 16-02-2021 | Boost your knowledge with ProQuest Business Premium Collection Database  |
| 09-03-2021 | Discover HEC resources using Summon search and take your research to the next level using RefWorks reference management tool         |
| 16-03-2021 | Get the necessary knowledge to maximise your chance for your paper to get accepted in academic journals – Part1                      |
| 23-03-2021 | Get the necessary knowledge to maximise your chance for your paper to get accepted in academic journals – Part2                      |
| 21-10-2020 | Research & Publish with IEEE Xplore  |
| 28-10-2020 | Research & Publish with IEEE Xplore  |
| 24-11-2020 | From Research to Publication: an in-depth orientation to IEEE Xplore & Publishing  |
| 26-11-2020 | From Research to Publication: an in-depth orientation to IEEE Xplore & Publishing  |
| 01-12-2020 | From Research to Publication: an in-depth orientation to IEEE Xplore & Publishing  |
| 03-12-2020 | From Research to Publication: an in-depth orientation to IEEE Xplore & Publishing  |
| 25-05-2021 | Literature Review with IEEE Xplore Digital Library   |
| 27-05-2021 | Preparing your research paper for publication: An IEEE Perspective   |
| 01-06-2021 | Publishing your research & innovation with IEEE: Choices & Procedures  |
| 03-06-2021 | IEEE New Resources for your technical research   |
| 27-01-2021 | Dissecting the Scholarly Publishing Process: An Overview and Guidance on Publishing  |
| 13-04-2021 | Tips for Chemistry Journals  |
| 14-04-2021 | Tips for Life Sciences Journals  |
| 16-04-2021 | Tips for Engineering & Physics Journals  |
| 20-04-2021 | Tips for Business and Finance Journals   |
| 14-10-2020 | How to improve productivity using ASTM Standards   |

| Date       | Topic of Training  |
|------------|--|
| 02-07-2020 | Ovid Medline and Journals for HEC Pakistan   |
| 16-07-2020 | Ovid Medline and Journals for HEC Pakistan   |
| 25-05-2021 | Get to know Emerald's online collection and engage in an interactive platform demo training. |
| 31-05-2021 | A comprehensive session on open access publications, modules and process.                    |
| 07-06-2021 | Emerald eCase Collection   |
| 08-06-2021 | Emerald Insight platform training  |
| 14-06-2021 | Becoming an Editor   |
| 14-06-2021 | Reviewer Role  |
| 21-06-2021 | Publish an academic book   |

## Research Journals & Publications

The Research Journal Section of R&I Division, in line with the core mandate of facilitating the academia, scholars, researchers and HEIs, facilitates national research journals published by registered entities (universities or departments of faculties of such entities or registered research institutions or non-profit academic societies) through financial support and capacity building to enhance their academic and publication standards.

Besides, the Research Journal Publication Section is responsible for preparation and implementation of policies governing research journals, evaluation of requests for recognition of research journals in diverse fields, launching capacity building initiatives for editors and researchers, arrangement of meetings of relevant expert committees and the decisions are implemented with the approval of competent authority in the light of deliberations/recommendations of these committees. The Section evaluates requests for recognition of research journals in diverse fields and in the light of deliberations/recommendations of experts, decisions are implemented with the approval of competent authority.

### Achievements of Research Journals Section

- i. An online system called HEC's Journals Recognition System (HJRS) has also been launched w.e.f. July 1, 2020 for accreditation and recognition of national and international research journals. Main objectives of HJRS are:
  - to create such a "recognition and reward ecosystem" where "high quality research" is rewarded and promoted
  - to help HEC, funding agencies and policy-makers to objectively evaluate the prestige of a journal, in a given subject area, and make informed decisions about the prestige of journals where faculty members typically publish
  - to recognise, with high degree of accuracy within the community of researchers, those researchers who aim for the prestigious journals because they are doing world class research
  - finally, it shall act as a policy instrument to distinguish "quality-centric researchers" from the herd journals registered with well-reputed international indexing agencies such as Web of Science or Scopus along with having citation information from different Scientific Impact Measures like Eigen Factor (EGF), Article Influence (AIF), Scimago Journal Rank (SJR), H-Index, Cites per Doc (CD2), Source Normalised Impact per Paper (SNIP) etc. are considered for grant of accreditation. Category-wise minimum threshold for each discipline has been determined and incorporated in the said system by relevant discipline-specific scientific review panels. HJRS is based on selected

Scientific Impact Measures of Scopus and Web of Science. W, X and Y categories of HJRS are determined on the basis of relative JPI score of a Journal in each Subject area. Thresholds for different disciplines/subject areas are determined by the Scientific Review Panels of HEC. The good thing about JPI is that it is computed as a cumulative index of 6 internationally recognised journal prestige measures. More than 28,000 journals are included in HJRS on the basis of data of 2020.

- ii. Processing/evaluation of applications received through Annual Call for Applications of Accreditation and Funding of National Research Journals for the year 2020-21. The details are shared below.

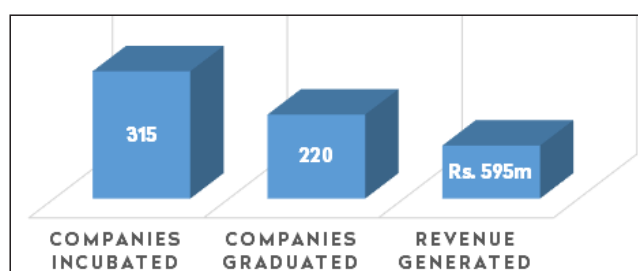
| Item                                      | Number of Journals |
|---|--------------------|
| Recognised Journals for Year 2020 -21     | 307                |
| Journals Rejected during Initial Scrutiny | 49                 |
| Total Application received.               | 356                |

- iii. Revision of SOPs for Journals and Books in the light of Revised set of HEC's Policies. Coordinated with Taylor & Frances, Oxford University Press and Pearson's Publishers for Signing Letter of Intent for HEC Textbook Writing Support Programme.
- iv. Financial Grant Releases to HEC recognised research journals. An amount of Rs. 35.00 Million was disbursed for assistance of national recognised journals.
- v. Organised 12 online Capacity Building Workshops for Editors, Faculty Members and Researchers.
- vi. Continuous follow up of 68 cases of Thematic Research Grants Programme (TRGP) for their closure as per SOPs.
- vii. As a routine matter, guidance to the Pakistani faculty members, Researchers, Academicians, ORICS and QECs of Pakistani HEIs in the matters of Journals and Publications especially with regard to criteria prevailing currently and that which remained applicable from time to time.

### Establishment of Business Incubation Centres (BICs)

The business incubators at HEIs are aimed to support the creation and growth of technology-based companies and emphasising the transfer of results of academic research through spin-offs. Through HEC's BIC programme, a favourable environment is being created in HEIs, enabling the young people to develop their mindset from employees to employers and prepare them to improve their skills and knowledge to create jobs.

So far, HEC has established 30 BICs across different public sector HEIs. HEC not only funds the BICs so that they may be able to meet their operational expenses for an initial launching period of two years but also rigorously provides capacity building and mentoring programmes for the BIC staff that helps them yield the envisioned results through dedicated performance. HEC released Rs. 6 million to the existing BICs during FY 2020-21 in lieu of their approved funding. The BICs achievement for FY 2020-21 is reflected below:





## Capacity Building, Mentoring & Reforms Initiatives

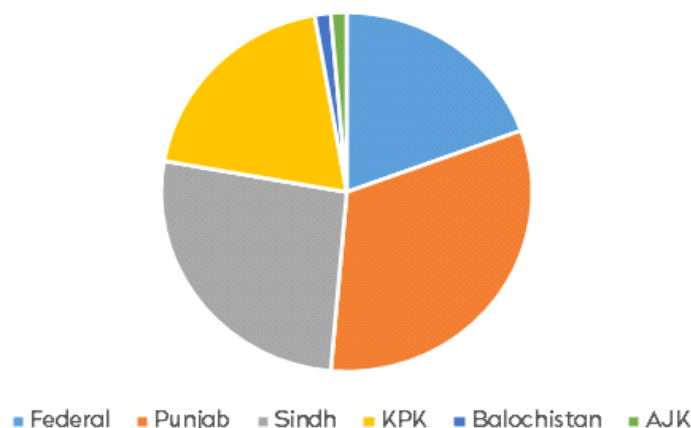
- HEC through its National Committee on Research & Development (NCR&D) approved the revised policies for its flagship programmes, i.e., Establishment of Offices of Research Innovation & Commercialisation (ORIC) and Establishment of Business Incubation Centres (BIC). The revised policies address the major gaps in the research, innovation, and commercialisation ecosystem in line with the international best practices.
- The performance evaluation of ORICs and BICs is carried out through Self-Assessment Scorecards. The revised policies of ORIC and BIC programme have also defined key performance indicators to ensure minimum performance standards for the ORICs and BICs. The self-assessment scorecards for ORICs and BICs were also revised.
- HEC through its Higher Education Development in Pakistan (HEDP) Programme performed the mapping and needs assessment exercise of ORICs and BICs as an integral component of upcoming Innovator Seed Fund (ISF) Grant. Fifty two ORICs and 19 BICs participated in the study.
- HEC in collaboration with IPO Pakistan and WIPO organises webinars/workshops/seminars for the promotion of commercialisation and intellectual property protection awareness in HEIs of Pakistan. In this connection, a webinar titled “Using Patent System by Women Inventors” was held on June 1-2, 2021. Another workshop titled “Identifying and Using Inventions in Public Domain and Digital Resources and Tools” was held on April 8, 2021. These workshops were attended by ORIC, BIC focal persons along with faculty members, researchers, and students of HEIs.
- HEC R&I Wing in its pursuit to develop linkages and collaborations with external entities signed two MoUs with PASTIC and SMEDA. These MoUs will form a base to initiate collaborations and work jointly towards promotion of research, innovation, and commercialisation.
- HEC in collaboration with CLDP participated in AUTUM Annual Conference that was held virtually on March 15-18, 2021. Fifteen ORICs representatives from different HEIs of Pakistan participated in the virtual workshop and had an opportunity to engage with 1500+ professionals on tech transfer, IP laws, licensing, TTOs, innovation strategies, etc.
- HEC and SMEDA jointly agreed on initiating the National Ideas Lab programme under the National SME Policy. The NIL programme will help startups and budding entrepreneurs to access a range of services being offered by SMEDA through dedicated mentoring and coaching. For the first round of NIL, 05 BICs have been shortlisted and the programme will formally launch in December 2021.

## Office of Research, Innovation & Commercialisation (ORICs)

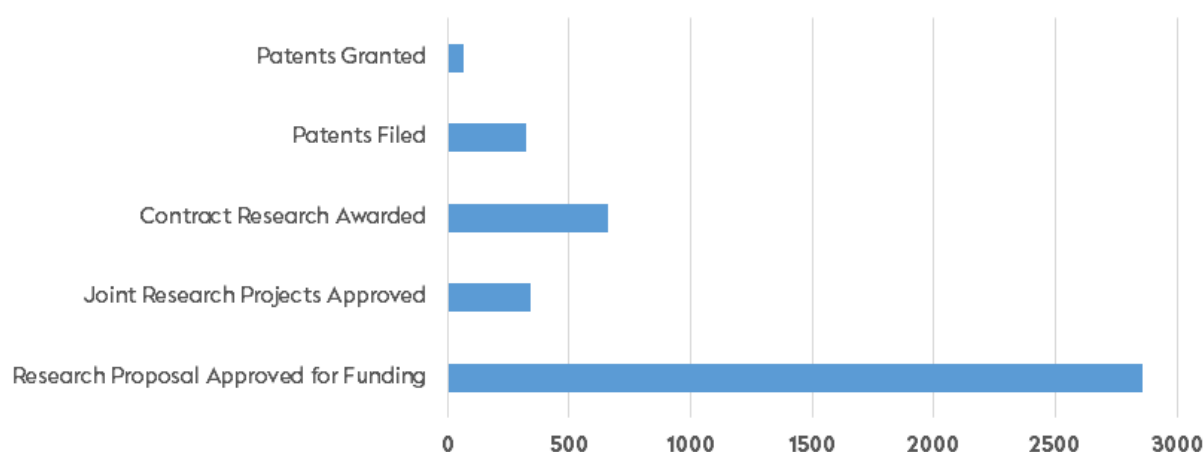
HEC introduced the concept of establishment of Office of Research Innovation & Commercialisation (ORICs) in HEIs across Pakistan in 2010. ORIC has the responsibility to facilitate the research, innovation and commercialisation activities being carried out within a University. HEC envisions ORICs to become a powerhouse of high growth innovation and drive impact based applied research and entrepreneurship. ORICs at HEIs act as a focal point for research activities (beginning from idea conception to submission of proposal and facilitation during the project life), encouraging and highlighting avenues for innovation and commercialisation for the researchers and academicians.

So far, HEC has notified 72 ORICs in different public and private sector HEIs across Pakistan, out of which three ORICs were notified during FY 2020-21. Moreover, HEC arranged different capacity building and mentoring workshops for ORIC personnel.

**Province Wise ORICs Presence**



**ORICs KPIs - 2020-21**



## National Centres of Excellence

During financial year 2020-21, the Centre's team in Research for Innovation Section (RFI) of Research and Innovation Wing (R&IW) continued the policy support, coordination and monitoring of existing 29 Centres established through Act of Parliament and eight Centres established through PSDP.

Nine Centres, established through university statutes but financially supported by HEC, were also taken on board to revamp their performance through Research Performance Based Funding Model. In this regard Centres team in RFI of RI&W developed a detailed policy after rigorous in-house consultation with the senior management and external stakeholders including Directors and teams of Centres and their Chairs of the BoGs (Vice Chancellors of universities where these are established). Furthermore, Annual Plans from Centres were taken analysed to switch their funding on Research Performance Based Funding Model. As per Article 4 of the Centres' acts/protocol, and agreements the core academic and research functions of the above Centres are:

- Engage in goal-oriented high-level teaching and research
- Train research workers



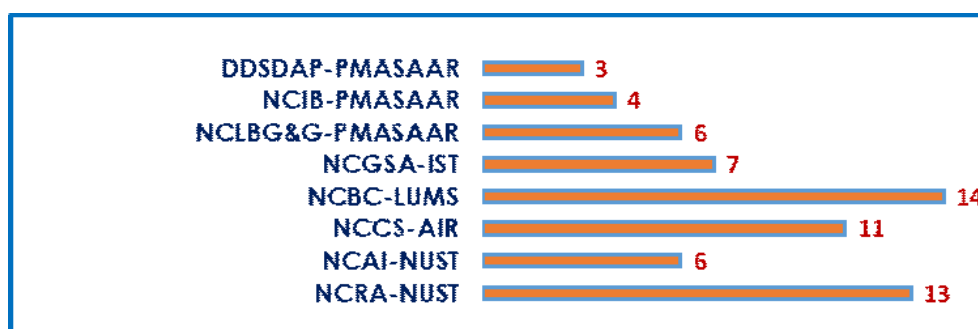
- c) Establish MPhil, PhD, and other programmes in the relevant disciplines in accordance with the standard and requirement of the university in which the Centre is established
- d) Promote cooperation in inter-disciplinary relationship with other teaching and research establishment
- e) Arrange conferences, seminars, and refresher courses for the development of teaching and research; and
- f) Conduct teaching and research in such a field as is assigned to it by the Federal Government in consultation with the university in which the Centre is established.

List of these Centres are given in sections below:

The Centres team in RFI of RI&W continued to provide policy support, coordination and M&E to six National Centres already established through PSDP while two new national Centres are also added to this list.

1. National Centre for Artificial Intelligence at NUST Islamabad (2017-18)
2. National Centre for Cloud Computing and Big Data at LUMS university, Lahore (2017-18)
3. National Centre for Cyber Security at Air University Islamabad (2017-18)
4. National Centre for Livestock Breeding Genetics and Genomics at PMAS AAU Rawalpindi (2018-19)
5. National Centre for Robotics and Automation at EME College, NUST Islamabad (2017-18)
6. National Centre for GIS and Space Applications at IST, Islamabad (2018-19)
7. National Centre for Industrial Biotechnology for Pilot Manufacturing of Bio-products Using Synthetic Biology and Metabolic Engineering Technologies at Pir Mehr Ali Shah Arid Agriculture University, Rawalpindi (2019-20)
8. National Centre for Data Driven Smart Decision-making Digital Platform to Enhance Agricultural Productivity (2019-20)

These centres are developed based on consortia of champion labs in the respective domains to nurture and develop national competence in modern disruptive technologies. 08 national Centres, their lead university established through PSDP and no of constituents' labs in other universities are given below:



### 3.2 Centres Established through Acts of Parliament, bilateral protocols, and USAID

Twenty-nine independent academic units establish through the joint venture of HEC and Ministry of Education through statutes of Parliament, bilateral protocol between government of UAE, and USAID. These include, Centres of Excellence (12), Pakistan Study Centres (six), Area Study Centres (six), and Institutes of Clinical Psychology (two) under Acts/Statutes of Parliament, and Sheikh Zayed Islamic Centres (three).

**Centres of Excellence-CoEs (Total 12)**

| S.No. | Centre's Name / University   |
|-------|--|
| 1.    | Centre of Excellence in Water Resource Engineering, University of Engineering and Technology, Lahore.                      |
| 2.    | National Institute of Psychology, Centre of Excellence, Quaid -i-Azam University, Islamabad.                               |
| 3.    | Centre of Excellence in Marine Biology, University of Karachi, Karachi.  |
| 4.    | Centre of Excellence in Molecular Biology, University of the Punjab, Lahore.   |
| 5.    | Centre of Excellence in Mineralogy, University of Balochistan, Quetta.   |
| 6.    | Centre of Excellence in Solid State Physics, University of the Punjab, Lahore.   |
| 7.    | Centre of Excellence in Arts & Design, Mehran University of Engineering and Technology, Jamshoro.                          |
| 8.    | National Institute of Historical and Cultural Research, (NIHCR) Centre of Excellence, Quaid -i-Azam University, Islamabad. |
| 9.    | National Centre of Excellence in Analytical Chemistry, University of Sindh, Jamshoro.                                      |
| 10.   | National Centre of Excellence in Geology, University of Peshawar, Peshawar.  |
| 11.   | National Centre of Excellence in Physical Chemistry, University of Peshawar, Peshawar.                                     |
| 12.   | Centre of Excellence in Gender Studies, Quaid -i-Azam University, Islamabad.   |

**Pakistan Study Centres-PSCs (Total 6)**

| S.No. | Centre's Name / University   |
|-------|--|
| 1.    | Pakistan Study Centre, University of the Punjab Lahore.                    |
| 2.    | Pakistan Study Centre, University of Sindh, Jamshoro.                      |
| 3.    | Pakistan Study Centre, University of Peshawar.                             |
| 4.    | National Institute of Pakistan Studies, Quaid-i-Azam University Islamabad. |
| 5.    | Pakistan Study Centre, University of Karachi, Karachi.                     |
| 6.    | Pakistan Study Centre, University of Balochistan, Quetta.                  |

**Area Study Centres-ASCs (Total 6)**

| S.No. | Centre's Name / University   |
|-------|--|
| 1.    | Area Study Centre for Middle East and Arab Countries, University of Balochistan, Quetta. |
| 2.    | Area Study Centre for Far East and Southeast Asia, University of Sindh, Jamshoro.        |
| 3.    | Area Study Centre for Africa, North & South America, QAU Islamabad.                      |
| 4.    | Area Study Centre for Russia, China, and Central Asia, University of Peshawar.           |
| 5.    | Area Study Centre for Europe, University of Karachi.                                     |
| 6.    | Area Study Centre for South Asian Studies, University of Punjab, Lahore.                 |

**Centres/Institutes of Clinical Psychology-CCPs(Total 2)**

| S.No. | Centre's Name/University  |
|-------|---|
| 1.    | Centre for Clinical Psychology, University of the Punjab, Lahore. |
| 2.    | Institute of Clinical Psychology, University of Karachi, Karachi. |

**Sheikh Zayed Islamic Centres-SZICs (Total 3)**

| S.No. | Centre's Name / University                                     |
|-------|--|
| 1.    | Sheikh Zayed Islamic Centre, University of the Punjab, Lahore. |
| 2.    | Sheikh Zayed Islamic Centre, University of Karachi.            |
| 3.    | Sheikh Zayed Islamic Centre, University of Peshawar.           |

The audit of these Centres is conducted to check their performance. HEC has due representation in the Board of Governors and Academic Committees of the Centres. HEC representative is the member of Selection Board of the Centre. As per Acts of Parliament, notifications of the MoFE&PT, HEC must play vital role in the appointment of directors of Centre. Furthermore, Centres team of RFI in RI&W devised a mechanism to nominate the subject experts on Boards of Governors and Academic Committees of different Centres based on their expertise and qualification.

### Funding Details:

HEC disbursed a total of Rs. 1.282 billion during financial year 2020-21 to 29 Centres established through Acts, statutes of the Parliament and Bilateral protocol. Meanwhile these Centres have generated minimal revenue from their own resources. The further breakdown on Centre-wise status of funding is given in the graph beside. While USPCASs were owned and managed by respective universities and HEC has advertised and going to award competitive grants, inter alia, for the USPCASs.

#### Funds released to 29 Centers established through Acts, Protocol (Million PKRs)



The following table depicts the performance of Centre's team in RFI Section regarding Centres assignment for different tasks listed below for 2020-21.

| Activity/ Centre   | CoEs | ASCs | PSCs | SZICs | Cumulative |
|--|------|------|------|-------|------------|
| HEC Representation on BoGs   | 20   | 3    | 5    | 5     | 33         |
| HEC Representation on Selection Board  | 0    | 0    | 1    | 0     | 1          |
| Experts Nominated by HEC on BoGs   | 28   | 16   | 12   | 0     | 56         |
| Experts Nominated by HEC on Academic Committees  | 20   | 12   | 10   | 0     | 42         |
| Disposal of Policy papers by ASCs to Prime Minister's office                                       | 0    | 36   | 0    |       | 36         |
| Queries/ Complaints/ Court cases/ Senate/ Assembly Questions, acquisition of information, Activity | 20   | 10   | 13   | 50    | 93         |
| Cumulative Performance   | 88   | 77   | 41   | 91    | 297        |

### Research Performance Based Funding Model

HEC has taken up the matter of funding share of the Centres first with the Chairs of BoGs viz-i-viz Vice Chancellors of the concerned Universities where these Centres are located. An agreement has principally been reached by the Chairs of BoGs to revive their role as R&D think tanks and to develop a view about the optimal structure of programme within the legislated mandate and available resources.

The Centres were requested to prepare a competency statement, an annual plan, and a long-term sustainability plan that include a list of services that they can perform to generate revenue besides securing funding resources other than HEC. Accordingly, these Centres were informed about linking the future funding with the achievement of targets agreed between Centres and HEC on an annual basis. After receiving considerable feedback from the Centres, a comprehensive policy document (Research Performance Based Funding Model) has been prepared after several rounds of meetings with the Directors of the Centres. Ultimately, the Research Performance Based Funding Model has been formally circulated among all the Centres with an advice to share annual plan for FY 2021-22 in accordance with the capacity of the Centre. During preparation of the said annual plan, at least three rounds of meetings

have been scheduled and conducted with each Centre separately. The purpose of these meetings was to assist Centres in preparation of viable annual plan so that targets/objectives set in annual plan may be achieved. The following table enlists the details on key elements of Research Performance Based Funding Model.

| S.No. | Activities                       | KPIs and Measurable                                   |
|-------|----------------------------------|---|
| 1     | <b>Knowledge Products</b>        | Policy Papers   |
| 2     |                                  | Case Studies  |
| 3     |                                  | Effort to secure Research Funding (Grants Applied)    |
| 4     |                                  | Effort to secure Research Funding (Grants Awarded)    |
| 5     |                                  | Science/ Arts and Design Products and Exhibitions     |
| 6     |                                  | Cultivar, Crop Varieties, Livestock breeds or similar |
| 7     |                                  | Specialised research database                         |
| 8     | <b>Publications</b>              | Journal Publication                                   |
| 9     |                                  | Conference Publication (International)                |
| 10    |                                  | Conference Publication (National)                     |
| 11    |                                  | Book (International Publisher)                        |
| 12    |                                  | Book (National Publisher)                             |
| 13    |                                  | Book Chapters (International Publisher)               |
| 14    |                                  | Book Chapters (National Publisher)                    |
| 15    |                                  | Book Review (International)                           |
| 16    |                                  | Book Review (National/ Local)                         |
| 17    |                                  | PhD Thesis/ Monograph                                 |
| 18    | <b>R&amp;D Networking Events</b> | Seminars  |
| 19    |                                  | Exhibitions   |
| 20    |                                  | Civic Engagement Initiatives                          |
| 21    |                                  | Workshop with position papers                         |
| 22    |                                  | Conference with Peer-Reviewed Proceedings             |
| 23    | <b>Patents</b>                   | Patents (Applied)                                     |
| 24    |                                  | Patents (Granted)                                     |
| 25    | <b>Honors/ Awards</b>            | Honors/ Awards (International)                        |
| 26    |                                  | Honors/ Awards (National)                             |

## Centres Established by HEC through University Statutes

In order to realise the prime objective of the establishment of these Centres related to research and development and their impact inter alia, the Centres enlisted below also included in the list of specialised institutes to be govern through Research Performance Based Funding Model. The following list of Centres were handed over to team Centres in FY 2020-21 to provide policy support, Coordination and M&E.

1. School of Biological Sciences, University of the Punjab, Lahore
2. Al-Khawarizmi Institute of Computer Sciences, UET Lahore
3. Water Management Research Centre (WMRC), University of Agriculture, Faisalabad
4. School of Mathematical Sciences, Government College University, Lahore
5. Applied Economics of research Centre, University of Karachi
6. HEJ Research Institute of Chemistry, University of Karachi
7. Third World Centre (TWC) for Science & Technology, University of Karachi
8. Dr. Panjwani Centre for Molecular, Medicine and Drug Research, University of Karachi
9. Dr. A. Q. Khan Institute of Biotechnology and Genetic Engineering, University of Karachi

### Policy Papers to Strategic Policy Planning Cell-National Security Division (SPPC-NSD/Federal Government by the Area Study Centres

This is the most important task carrying out by the Area Study Centres under their own jurisdiction. Each quarter throughout the year, the relevant institutions of the Federal Government send various topics to HEC for research-based policy inputs covering the scenarios around the world. These topics are further disseminated to the relevant Area Study Centre for research. The provision of policy paper by each Area Study Centre during FY 2020-21 is given below:

| S.No. | Name of Area Study Centre   | Number of Policy Papers |
|-------|---|-------------------------|
| 01    | Area Study Centre for Middle East and Arab Countries, University of Balochistan, Quetta | 08                      |
| 02    | Area Study Centre for Far East and Southeast Asia, University of Sindh, Jamshoro.       | 06                      |
| 03    | Area Study Centre for Africa, North & South America, QAU Islamabad                      | 06                      |
| 04    | Area Study Centre for Europe, University of Karachi                                     | 08                      |
| 05    | Area Study Centre for South Asian Studies, University of the Punjab, Lahore             | 07                      |
| 06    | Area Study Centre for Russia, China, and Central Asia, University of Peshawar           | 10                      |

### United States Pakistan Centres of Advanced Studies

The United States Pakistan Centres for Advanced Studies (USPCASs) was a five-year programme started in FY 2014-15 and ended in 2019-20. These Centres of Advanced Studies worked in close collaboration with the concerned universities and R&D organisations and with US partnering Arizona State University (ASU). In addition, USPCASs will proactively pursue research across the board undertaken at all four CASs forming nexus in Energy, Agriculture and Water. These Centres successfully attained the self-sustainability and merged within the parent universities. They have secured competitive funding and met their funding needs along with partial support from universities in which these Centres are established. The list of these Centres given below:

1. Centre for Advance Studies in Energy at NUST (CAS-EN)
2. Centre for Advance Studies in Energy at UET, Peshawar
3. Centre for Advance Studies in Agriculture and Food Security at University of Agriculture Faisalabad
4. Centre for Advance Studies in Water at Mehran University of Engineering and Technology, Jamshoro

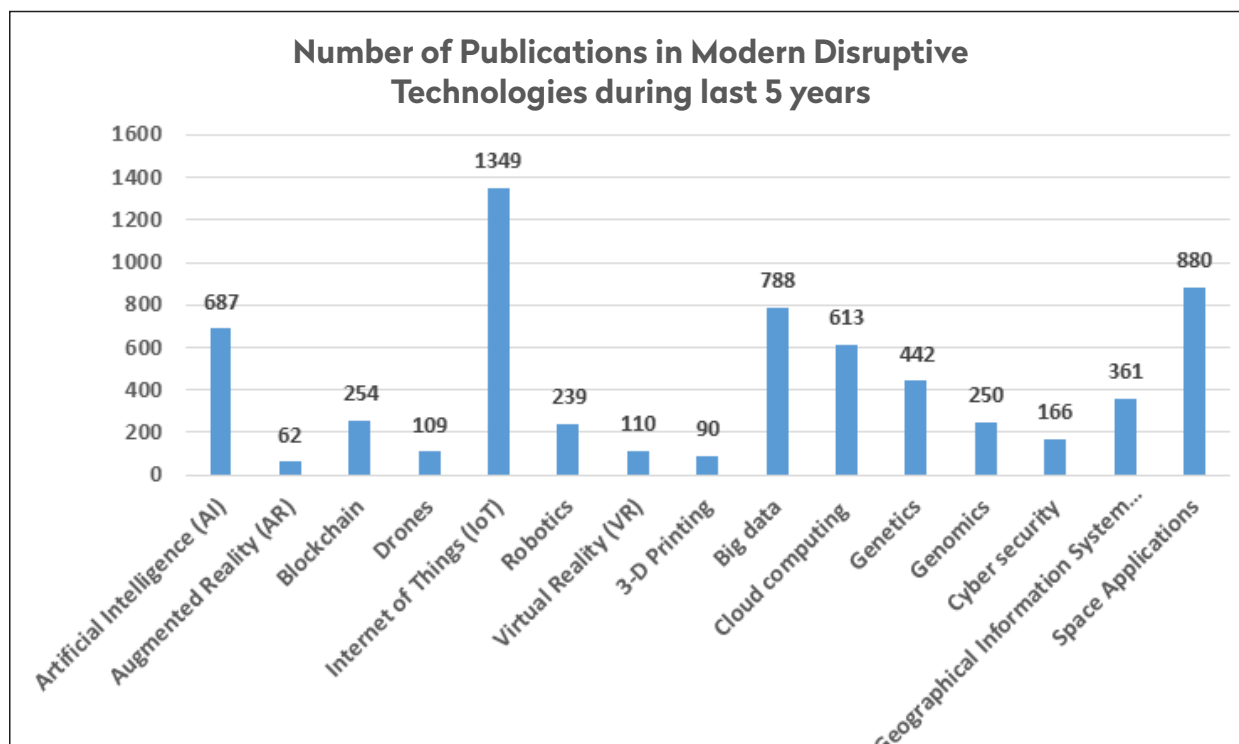
### National Centres Established by HEC through Public Sector Development Programme

HEC has established eight National Centres (Consortia of multiple Labs from different universities) on Cyber Security; Robotics and Automation; Artificial Intelligence; Cloud Computing and Big Data; Livestock Breeding, Genetics Genomics; GIS and Space Applications; Industrial Biotechnology and Data Driven Smart Decision platform to enhance Agricultural Productivity through Public Sector Development Programme (PSDP) during FY 2017-22. The primary purpose of the National Centres has focus on Research & Development and Human Resource Development in the specialised field/ modern disruptive technologies and their practical applications which are important components of Vision 2025. The objectives of the Centres are:

- To take Pakistan ahead through practical applications of these modern disruptive technologies via R&D and making available trained Human Resource for industry and public sector

- To have strong footings at global scale by reducing skill gap, and to make Pakistan self-sustainable in these domain, solution of local problems, provision of high-valued shared services to academia and industrial partners
- Technological readiness and consultation to shift to industry 4.0.

As a result, the research output of our universities has significantly increased and published 4575 Publication in Modern disruptive technologies. This has enabled the universities to move from academic walls and reach to our communities, industries, and businesses to ensure the transfer of knowledge and technology to improve the wellbeing of people, through digitised products and services.



## Management and Operation of the National Centres

Each National Centre is supervised by a National Steering Committee (NSC) and a Scientific and Industrial Advisory Board (SIAB). These forums provide oversight to the management of NC during and after the completion of project. All the Centres i.e., NCAI, NCCS, NCBC, NCRA, NCGSA, NCBLG&G, NCIB and DDSAP have their own NSCs and SIABs. The purpose of the National Steering Committee (NSC) is to provide constructive and timely feedback/input to the Centres and help them improve their performance. It is mandatory that each NC should hold NSC meetings bi-annually or when needed.

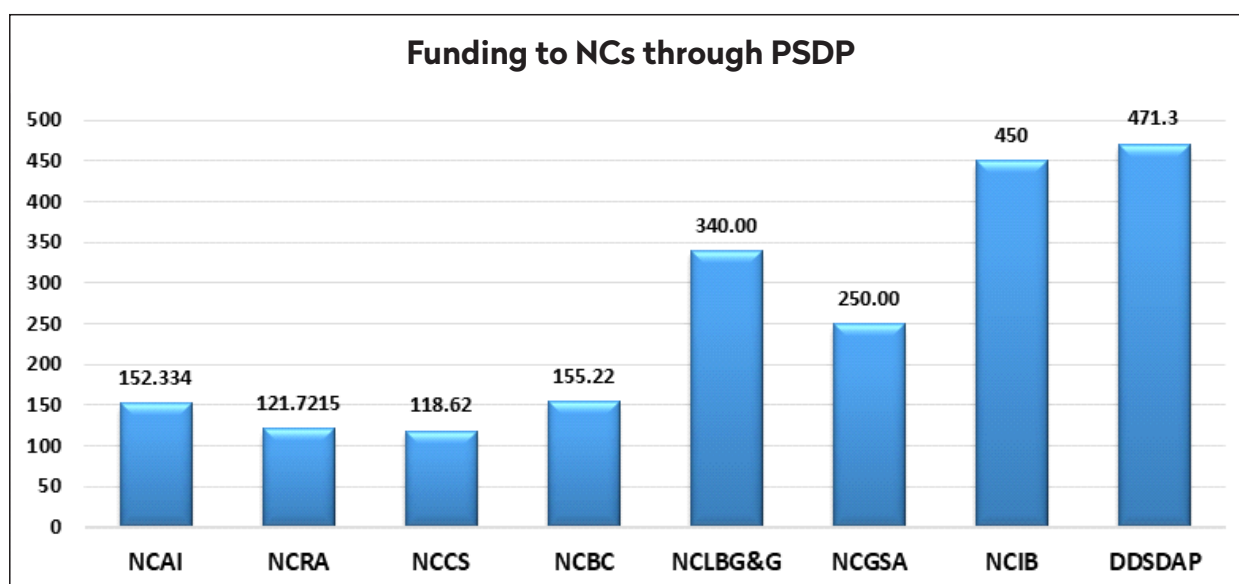
The Scientific and Industry Advisory Board (SIAB) is formed to help and oversee the development of a research agenda for the Centres. The SIAB ensures intake of fresh ideas and integrating of locally relevant research possibilities on the Centres research agenda. This body also help the research centres to connect with the local and international industry to formulate the joint research agenda, to innovate the products and services offered by industry and create businesses and ensure commercialisation of the academic research. SIAB meet once a year or when required. The RFI Section held a total of 14 National Steering Committee meetings during 2021-22 which were chaired by worthy Executive Director HEC. Meanwhile one meeting of the Scientific and Industry Advisory Board was held.

| S. No.       | Centres | NSC Meetings | SIAB Meetings |
|--------------|---------|--------------|---------------|
| 1            | NCAI    | 2            | 0             |
| 2            | NCRA    | 3            | 0             |
| 3            | NCCS    | 3            | 0             |
| 4            | NCBC    | 2            | 1             |
| 5            | NCGSA   | 1            | 0             |
| 6            | NCLBG&G | 3            | 1             |
| 7            | NCIB    | 0*           | 2             |
| 8            | DDSDAP  | 0*           | 1             |
| <b>Total</b> |         | <b>14</b>    | <b>5</b>      |

\*Both NCIB and DDSAP operationalised in 2021, Teams centres of RFI section with M&E and P&D division conducted their kickstart meeting and constitution their National Steering Committees are notified recently, and their meetings are planned in February 2022.

Funding to the National Centres in Fiscal Year 2020-21

HEC provided a total of Rs.1520 million during fiscal year 2020-21. The details of funding each National Centre are shown in following graph:



## Research Fund

Out of eight National Centres, five have Rs. 200 million of approved research fund to award academia-industry joint projects on competitive basis. The details of projects awarded and their cost are given in the table below.

| National Centre | No of Projects Awarded | Cost by Centre | Cost by Industry |
|-----------------|------------------------|----------------|------------------|
| NCAI            | 12                     | 152.33         | 37.041           |
| NCCS            | 9                      | 117.39         | 10.38            |
| NCBC            | 8                      | 111.66         | 11.39            |
| NCRA            | 9                      | 108.66         | 12.41            |
| NCGSA           | 13                     | 134.803        | 15               |



A total of following 51 projects are awarded under the Research Fund of different National Centres.

| <b>National Centre for Big Data and Cloud Computing</b> |  |  |
|---|--|--|
|   | <b>Project Title</b>   | <b>PI &amp; Institution</b>                            |
| 1   | AI empowered anomaly detection system and MITRE Attack Mapping   | Dr. Muhammad Awais Javed, COMSATS University Islamabad |
| 2   | Hetro-Cloud: Developing your own low cost and scalable cloud with heterogeneous computing resources                          | Dr. Husain Parvez, PAF -KIET, Karachi                  |
| 3   | Big Data based Platform to Promote EV Penetration in Pakistan  | Prof. Nauman Ahmad Zaffar, LUMS Lahore                 |
| 4   | Development and Delivery of Personalised Cancer Therapies through a Cloud-based Omics Pipeline and Model Repository          | Dr. Safee Ullah Chaudhary, LUMS Lahore                 |
| 5   | Design and Development of Open National Seismic Catalog and Intelligent Earthquake Detection/Prediction System               | Dr. Sohail Yousaf, UET Peshawar                        |
| 6   | Development of Smart Irrigation System with Weather Forecast (PETRA)   | Dr Zafar Abbas Bangash, CEME NUST Rawalpindi           |
| 7   | Integrated Open-Source Engineering (IOSE)  | Dr. Muhammad Sajid, SMME NUST Islamabad                |
| 8   | Optimal Route Planning using Artificial Intelligence for Last mile Delivery Services: A case of Intelligent Transport System | Dr. Khalid Saleem, Quaid-i-Azam University, Islamabad, |

| <b>National Centre for Cyber Security</b> |   |   |
|---|---|---|
| 1   | Title: SCYDES - Self Cyber Defense Evaluation System  | Dr. Mohammad Imran/ Air University Islamabad            |
| 2   | Title: Intelligent dark web analysis for detecting cybercrimes using machine learning   | Dr. Amanullah Yasin/ Air University Islamabad           |
| 3   | Title: Opensource Intelligence Tool (OSINT): Recon, Exploit, Discovery, and Analytics   | Dr Muhammad Najam ul Islam/ Bahria University Islamabad |
| 4   | Title: Cyber Threat Intelligence using Open-Source Intelligence   | Dr. Muhammad Asim/ FAST Islamabad                       |
| 5   | Title: Privacy Preserving Search over Sensitive Data Stored in the Cloud  | Dr. Hassan Tahir Butt/ NUST MCS Rawalpindi              |
| 6   | Title: Secure Communication for Classified (SCC) Project  | Dr. Muhammad Qaisar Shafi/ CASE Islamabad               |
| 7   | Title: Artificial intelligence-based ad-blocker   | Dr. Muhammad Usman Shahid Khan/ COMSATS Abbottabad      |
| 8   | Title: Protection at the Physical Layer: Towards Building Resiliency against Cyber - attacks for Smart and Sustainable Hyperphysical System | Dr. Muhammad Tahir/ LUMS                                |
| 9   | Title: Integrated Security Framework for Next Generation Industries   | Dr. Ghalib Asadullah/ UET-L                             |



### National Centre for Artificial Intelligence

|    |  |   |
|----|--|---|
| 1  | Point-of-Care Electronic Test Kit for Rapid Detection of Pathogens using Graphene-Transistors as Biosensors            | Dr. Arsalan, Karachi Institute of Economics and Technology (PAF -KIET)  |
| 2  | AIDPath: AI based Digital Pathology for precision cancer diagnostics   | Dr. Hammad Naveed National University of Computer & Emerging Sciences (NUCES-FAST)  |
| 3  | Agri-DMaP: Internet of Things (IoT) and AI enabled system for Crop Disease Monitoring and Prediction                   | Dr. Rafia Mumtaz National University of Sciences and Technology (NUST), School of Electrical Engineering and Computer Science (SEECs) |
| 4  | On-chip Epilepsy Predictor using AI for Chronic Neurological Disorders   | Dr. Muhammad Awais Lahore University of Management Sciences (LUMS)  |
| 5  | Re-Designing E-recruitment using AI for Temporal Analysis  | Dr. Shujaat Hussain National University of Computer and Emerging Sciences   |
| 6  | An AI Based Adaptive Framework for Personalised E-learning   | Dr. Jawwad Shamsi, National University of Computer and Emerging Sciences, Karachi   |
| 7  | A Deep Learning based Automated Defect Detection System for Manufacturing Industry                                     | Dr. Muhammad Khalid, Karachi Institute of Economics and Technology  |
| 8  | Social Solidarity via Physical Distancing  | Dr. Hassan Sajid, National University of Sciences and Technology (NUST)   |
| 9  | Application of Artificial Intelligence in Vascular Disease Management  | Dr. Tanwir Khaliq, Shaheed Zulfiqar Ali Bhutto Medical University   |
| 10 | Artificial Intelligence Based Cardiac Monitoring System with Biotelemetry  | Dr. Zia Mohyudin, Air University, Islamabad   |
| 11 | Autonomous Indoor Environment Management System (AIEMS)  | Dr. Muhammad Sajid, National University of Sciences and Technology (NUST)   |
| 12 | Artificial intelligence as a pathway to reduce industrial Downtime cost through hybrid predictive maintenance (ADVICE) | Dr. Majida Kazmi, NED University of Engineering and Technology  |

### National Centre for Robotics and Automation

|   |   |  |
|---|---|--|
| 1 | Sustainable agricultural production system in urban areas by using CNC kitchen gardening robot                        | Dr. Saqib Ali, University of Agriculture Faisalabad                        |
| 2 | Catalysing Industry 4.0: Development of Framework and IIoT Testbed for Providing Automation Roadmap to the Industries | Dr. Zubair Khalid Lahore University of Management Sciences (LUMS), Lahore  |
| 3 | Development of a comprehensive universal gun barrel Cleaning Mechanism  | Dr. Imran Shafi College of E&ME - NUST, Rawalpindi                         |
| 4 | BCI based Exoskeleton to Assist Elderly and Disabled People Stand and Walk  | Dr. Noman Naseer Air University, Islamabad                                 |
| 5 | RoboDoc: A Social Robot to Protect Healthcare Professionals dealing in contagious diseases                            | Dr. Hashim Raza Khan NED University of Engineering and Technology, Karachi |
| 6 | Indigenous design and manufacturing of full flight motion platform  | Dr. Shahid Baqar PAF-KIET, Karachi   |

|   |  |  |
|---|--|--|
| 7 | Indigenous approach for development of piezoelectric devices   | Dr. Hamid Jabbar<br>College of E&ME - NUST, Rawalpindi |
| 8 | Biocompatible Shape Memory Polymer based Soft Actuator for Biomedical Applications with Dual Operation in Aquatic-Terrestrial Environments | Dr. Jahan Zeb Gul<br>AIR University, Islamabad         |
| 9 | Warehouse Automation of a Textile Factory using Industry 4.0 Technologies  | Dr. Muhammad Gufran Khan<br>FAST NUCES, Lahore         |

### National Centre for GIS and Space Applications

|    |  |   |
|----|--|---|
| 1  | Space Technology Outreach Short Film Production  | Mr. Qazi Akhyar Ahmad, Beaconhouse National University<br>Lahore, Pakistan                    |
| 2  | Integrated and Multidisciplinary Investigations and Early Warning of High - Risk Landslides Using Space, Air and Ground Based Remote Sensing   | Dr. Muhammad Basharat, Uo AJK   |
| 3  | Indigenous development of Magnetometer for geomagnetic field monitoring  | Prof. Dr. Syed Muhammad Usman Ali, NED University of Engineering & Technology<br>Karachi      |
| 4  | Development of a High-Resolution Nano-g MEMS Accelerometer & Gyroscope for applications in Seismic Surveying, Mineral Exploration and Attitude & Orbital Control System (AOCS) of Satellites | Sir Syed CASE Institute of Technology<br>Islamabad  |
| 5  | High Precision location identification for multiple applications using deep neural networks by augmenting GPS with terrain knowledge   | Dr. Muhammad Bilal Kadri, PAF Karachi Institute of Economics and                              |
| 6  | Attitude Determination Through Satellite Tracking for Aerial Platform  | Syed Shakaib Ahmad Maulai, Institute of Space Technology<br>Islamabad                         |
| 7  | Remote-SOS4EEZ: Remote Sensing for Oil Spill Detection in Pakistan's Exclusive Economic Zone   | Dr. Muhammad Adnan Siddique, Information Technology University of the Punjab (ITU),<br>Lahore |
| 8  | Development of Lightweight Sandwich Panels with Cost Effective Techniques for Radiation Shielded Structures of Satellites  | Dr. Sobia Allah Rakha, National Centre of Physics, Islamabad / Institute of Space Technology  |
| 9  | Detection, Analysis and Forecasting of Sunspot Groups (Active Regions) using Advance Machine Learning  | Dr. Muhammad Ali Ismail, NCBC, NED University of Engineering and Technology,<br>Karachi       |
| 10 | Outreach and Learning with Cosmic Ray Muons, Augmented Reality and astrophysics Laboratory Experiments   | Dr. Muhammad Sabieh Anwar, Lahore University of Management Sciences (LUMS),<br>Lahore         |
| 11 | Improving Electricity Distribution System through Dynamic GIS Based Asset Management   | Dr. Naveed Arshad, Lahore University of Management Sciences (LUMS),<br>Lahore                 |

|    |  |  |
|----|--|--|
| 12 | Development of Smart Groundwater Monitoring System to Calibrate and Validate GRACE Data for Real-Time Assessment of Groundwater Storage Depletion          | Prof. Dr. Khan Zaib Jadoon, International Islamic University, Islamabad  |
| 13 | An Autonomous IOT Based Approach Toward Monitoring and Subsequently Identifying Invasive Dengue/Zika Vectors Prevalence and Possible Dengue Outbreak Areas | Dr. Salman Atif, National University of Sciences & Technology, Islamabad |

### Some of the Key Achievements of Eight National Centres

- Pakistan's ranking on global cyber security index improved from 94 to 79
- National Centre on cyber-Security won Erasmus+ collaborative Project (worth of 1 million Euro)
- Beta versions of products started deploying at key strategic partners for validation includes Federal Investigation Agency, military, Pakistan Telecommunication Authority, Ministry of Science & Technology, Ministry of Information Technology and others
- NCCS completed cyber security audit of federal ministries and departments
- President of Pakistan Dr. Arif Alvi is giving patronage to these NCs and participating in their special tech events
- Delivered Smart City Project brief for PSDP to MoST through HEC P&D
- Nations' 1st Bachelor and Master levels curriculum of cyber security and Artificial Intelligence
- National Centre for Robotics and Automation (NCRA) was approached by Prime Minister of Pakistan through MoST to develop Pakistan's 1st National Drone Policy and Civil Drone Regulatory Authority
- On PM's instruction NCRA developed PC1 for "Development of Indigenous UAV Technology in Pakistan"
- President of Pakistan will be joining different events of these National Centres in the coming Quarter which includes (1) Inauguration of National Cyber Security Academia
- 1st time in Pakistan these National Centres hold international IEEE and other conference on themes of these centres
- President of Pakistan Dr Arif participated as Chief Guest and Minister of Federal Education & Professional Training Shafqat Mahmood in the AITECHVERSE by NCAI-NUST and appreciated HEC's efforts
- All National Centres further funded 38 (each worth of 15 million) specialised R&D projects to develop products with industry partners other than their PC1 domain to cover left themes in PC1s.
- National Centre for Big Data and Cloud Computing established Pakistan's first Big Data Open Portal and started integrated with national needs of the different departments
- NCRA was invited by President of Pakistan office to assist on the importance of 3D printing in Pakistan

### Activities of RFI Section during 2020-21 at a Glance:

HEC being the regulatory and funding agency of higher education, acts at the forefront of academic and research initiatives in the academic institutions including NCs and USPCASs. The RFI Section along with Planning & Development & Monitoring and Evaluation Divisions of HEC are striving to transform the Centres seats of excellence in the academic and research arena. During the period Centres team in RFI section accomplished the following activities:

- Developing funding model: Soon after the decision that funding to the Centre will be linked with research performance-based funding in meeting of the worthy Chairman, HEC with Directors of the Centres held on November 14, 2019, funding model was devised. It was negotiated with experts. The model was approved from authorities after rigorous efforts. The model was shared with the Centres in online meetings and their opinions were obtained and incorporated.

- The Centres, NCs, USPCASs encouraged and supported to secure grants from national and international funding agencies. They were persuaded to cooperate and collaborate with industry and society.
- All the Centres were communicated to ensure the impactful research which would have commercial liability
- Various SOPs were developed and circulated for implementation
- Technical support was extended whenever required.
- Centres, National Centres and USPCASs were bi-annually evaluated through progress reports.
- HEC representation at statutory bodies i.e., board of Governors, Academic Committees, National Steering Committees were ensured
- Experts on Statutory bodies. i.e., Board of Governors, Academic Committees, National Steering Committees were nominated.

#### Other Assignments:

In addition to the mandated tasks, RFI section has undertaken the following initiatives to make the centre's performance as envisaged in their statutes and conceived by authorities at HEC.

- Research Performance-Based funding Model: RFI section at R&I Division took the Centres on board after their meeting with worthy chairman to revamp the in-question funding model and review the progress of the Centres. After several consultative and debriefing sessions with experts, authorities and Directors of the Centres the Research Performance Funding Model was evolved which was circulated to the Centres. The Centres furnished following achieved Annual Plans for 2021-22 as per instructions conveyed vide the Annual Plan.
- SOPs for the different statutory functions of the Centres enshrined and procedures for reporting and evaluation were worked out.
- Case for "Establish a Centre of Excellence on Digital Learning to Enhance Productivity in Higher Education" to Asian Productivity Organisation, Japan was processed with the coordination of National Productivity Organisation, Pakistan, Virtual University and National Academy of Higher Education, HEC.
- Research activities at the NCs were expedited and the National Centres were guided Centres on its standard operating procedures and implementation as Member of the Board of Research Fund.
- Cases for establishment of Endowment Fund Framework of the National Centre for Livestock Breeding Genetics and Genomics were worked out.
- Six Area Study Centres have been successfully connected with the Strategic Policy Planning Cell, National Security Division for Policy inputs on quarterly basis for the consideration in National/Regional foreign Policy of the country.

The details of different establishing statutes/mechanisms by which different Centres are established.

| S.No. | Centres                                     | Statutes/Mechanism of Establishment                               | Nos. |
|-------|---|---|------|
| 1     | Centres of Excellence                       | Act XXIV of 1974 and amended in IX 1976                           | 12   |
| 2     | Area Study Centre                           | Act XLV of 1975   | 06   |
| 3     | Pakistan Study Centre                       | Act XXVIII of 1976  | 06   |
| 4     | Institutes of Clinical Psychology           | Centres Act 1983  | 02   |
| 5     | Sheikh Zayed Islamic Centres                | Protocol signed between Governments of Pakistan and UAE-1998      | 03   |
| 6     | HEI's Centres                               | Established under HEIs Statutes financed by HEC                   | 09   |
| 7     | US-Pak CASs (Energy, Agriculture and Water) | Centres of Advanced Studies established with the support of USAID | 04   |
| 8     | National Centres                            | Established through PSDP for (03 Years)                           | 08   |

## Academic and Research Performance of Centres during 2020-21

Through multiple collaborations with industry and other stakeholders, these Centres providing platform to introduce R&D for improvement of products and services offered by them. The following tables depicts the academic and research performance of the Centres during FY 2020-21.

|                              | Activity/Centres                              | 12 CoEs | 06 ASCs | 06 PSCs | 02 IoCPs | 03 SZICs | 04 USPCASs | 09 CEUSs | 06 NCs | Cumulative |
|------------------------------|---|---------|---------|---------|----------|----------|------------|----------|--------|------------|
| 1. No. of students graduated | BS (16 year)                                  | 39      | 0       | 191     | 45       | 196      | 12         | 0        | 124    | 607        |
|                              | MS/MPhil                                      | 396     | 72      | 80      | 46       | 45       | 215        | 71       | 154    | 1079       |
|                              | PhD   | 54      | 11      | 15      | 13       | 28       | 5          | 20       | 12     | 158        |
| 2. No. of students enrolled  | BS (16 year)                                  | 87      | 0       | 648     | 129      | 786      | 31         | 0        | 101    | 1782       |
|                              | MS/MPhil                                      | 501     | 126     | 145     | 87       | 134      | 714        | 143      | 346    | 2196       |
|                              | PhD   | 56      | 57      | 68      | 18       | 73       | 78         | 65       | 104    | 519        |
| 3. Publications              | W   | 257     | 1       | 3       | 6        | 1        | 142        | 124      | 213    | 747        |
|                              | X   | 108     | 7       | 3       | 5        | 11       | 41         | 35       | 41     | 251        |
|                              | Y   | 123     | 39      | 30      | 23       | 29       | 17         | 43       | 33     | 337        |
|                              | National conference (peer reviewed only)      | 7       | 0       | 0       | 0        | 0        | 53         | 1        | 53     | 114        |
|                              | International Conference (peer reviewed only) | 74      | 5       | 0       | 0        | 1        | 54         | 18       | 160    | 312        |
|                              | Books Published (National)                    | 8       | 2       | 5       | 0        | 1        | 0          | 0        | 62     | 78         |
|                              | Books Published (International)               | 0       | 2       | 1       | 0        | 0        | 5          | 1        | 4      | 13         |
|                              | Book Chapter Published (National)             | 2       | 0       | 0       | 0        | 0        | 7          | 0        | 0      | 9          |
|                              | Book Chapters Published (International)       | 18      | 0       | 4       | 5        | 0        | 20         | 6        | 13     | 66         |
|                              | Book Reviews (National)                       | 1       | 2       | 1       | 0        | 0        | 0          | 2        | 0      | 6          |
|                              | Book Reviews (International)                  | 0       | 0       | 2       | 0        | 0        | 0          | 0        | 14     | 16         |
|                              | MS Thesis                                     | 367     | 13      | 48      | 14       | 32       | 192        | 59       | 141    | 866        |
|                              | PhD Thesis                                    | 52      | 23      | 9       | 1        | 18       | 5          | 27       | 25     | 160        |
| 4. Events hold by Centre     | Workshop with position paper                  | 2       | 0       | 0       | 1        | 0        | 0          | 0        | 1      | 4          |
|                              | Workshop without position Papers              | 9       | 1       | 7       | 19       | 0        | 0          | 2        | 29     | 67         |
|                              | Seminars                                      | 55      | 55      | 35      | 63       | 19       | 16         | 54       | 171    | 468        |
|                              | Trainings                                     | 11      | 1       | 11      | 10       | 0        | 7          | 29       | 81     | 150        |
|                              | Conferences                                   | 2       | 10      | 10      | 1        | 1        | 2          | 2        | 11     | 39         |

|   | Activity/Centres  | 12<br>CoEs | 06<br>ASCs | 06<br>PSCs | 02<br>IoCPs | 03<br>SZICs | 04<br>USPCASs | 09<br>CEUs | 06<br>NCs | Cumulative |
|---|---|------------|------------|------------|-------------|-------------|---------------|------------|-----------|------------|
| 5. Events attended by Centre            | Workshop with position paper  | 4          | 0          | 26         | 0           | 0           | 1             | 0          | 7         | 38         |
|   | Workshop without position Papers  | 35         | 1          | 8          | 0           | 0           | 0             | 3          | 16        | 63         |
|   | Seminar   | 55         | 91         | 56         | 0           | 5           | 19            | 34         | 111       | 371        |
|   | Trainings   | 25         | 12         | 9          | 15          | 0           | 6             | 10         | 29        | 106        |
|   | Civic/Stakeholder Engagement event/Initiatives                          | 27         | 4          | 20         | 6           | 0           | 34            | 18         | 41        | 150        |
|   | Conferences (Peer reviewed)   | 55         | 8          | 8          | 10          | 11          | 4             | 4          | 42        | 142        |
|   | Conferences (Non Peer reviewed)   | 9          | 40         | 15         | 0           | 0           | 2             | 1          | 18        | 85         |
| 6. Meetings hold                        | Board of Governors/NSCs   | 18         | 4          | 6          | 4           | 5           | 0             | 8          | 14        | 59         |
|   | Academic Committees/ SIAB   | 25         | 4          | 6          | 2           | 1           | 1             | 35         | 52        | 126        |
|   | Any other   | 13         | 16         | 29         | 18          | 1           | 8             | 29         | 90        | 204        |
| 7. Faculty/ Non-Faculty Staff           | Director  | 7          | 3          | 3          | 2           | 3           | 3             | 10         | 23        | 54         |
|   | Professor   | 24         | 3          | 4          | 4           | 4           | 5             | 10         | 26        | 80         |
|   | Associate Professor   | 28         | 2          | 4          | 3           | 3           | 5             | 12         | 41        | 98         |
|   | Assistant Professor   | 69         | 14         | 19         | 9           | 5           | 38            | 18         | 74        | 246        |
|   | Lecturer  | 55         | 7          | 10         | 3           | 28          | 2             | 22         | 25        | 152        |
|   | Non-Faculty Staff   | 507        | 125        | 137        | 85          | 140         | 90            | 390        | 431       | 1905       |
| 8. Research Grants & Knowledge Products | No. of Research Grants awarded  | 21         | 5          | 3          | 3           | 0           | 31            | 15         | 82        | 160        |
|   | Monetary Value in Million of Research grants (awarded)                  | 94.46      | 0.00       | 0.63       | 0.81        | 0.00        | 882.08        | 165.99     | 910.74    | 2054.70    |
|   | No. of Research Grants Applied  | 92         | 6          | 1          | 4           | 0           | 59            | 69         | 242       | 473        |
|   | Monetary Value of research grants (Applied)                             | 563.54     | 7.20       | 0.30       | 100.81      | 0.00        | 1016.92       | 1059.55    | 58.31     | 2806.63    |
|   | Policy Paper  | 6          | 60         | 0          | 0           | 0           | 2             | 0          | 5         | 73         |
|   | Case Studies  | 10         | 0          | 0          | 0           | 0           | 0             | 0          | 18        | 28         |
|   | Cultivar, Crop Varieties, Livestock breeds and similar                  | 2          | 0          | 0          | 0           | 0           | 0             | 0          | 17        | 19         |
|   | Design Products, Exhibitions and Theatre Performances and similar       | 0          | 0          | 3          | 0           | 0           | 0             | 15         | 79        | 97         |
|   | Research Database (Size & Quality of data) relevant to Centre expertise | 9          | 0          | 1          | 0           | 1           | 0             | 1          | 3223      | 3235       |

|                               | Activity/Centres                                | 12<br>CoEs | 06<br>ASCs | 06<br>PSCs | 02<br>IoCPs | 03<br>SZICs | 04<br>USPCASs | 09<br>CEUSs | 06<br>NCs | Cumulative |
|-------------------------------|---|------------|------------|------------|-------------|-------------|---------------|-------------|-----------|------------|
| 9. Patents, Honors and Awards | Patents granted Local                           | 11         | 0          | 0          | 0           | 0           | 0             | 0           | 1         | 12         |
|                               | Patents granted international                   | 0          | 0          | 0          | 0           | 0           | 0             | 0           | 0         | 0          |
|                               | Patents Filed Local                             | 17         | 0          | 0          | 0           | 0           | 3             | 1           | 8         | 29         |
|                               | Patents filed international                     | 0          | 0          | 0          | 0           | 0           | 0             | 1           | 0         | 1          |
|                               | Copy rights/<br>trademark or<br>similar         | 0          | 0          | 0          | 0           | 0           | 0             | 0           | 9         | 9          |
|                               | Honors and awards<br>(local)                    | 12         | 0          | 0          | 2           | 0           | 3             | 0           | 8         | 25         |
|                               | Honors and award<br>International               | 4          | 1          | 2          | 0           | 2           | 0             | 1           | 15        | 25         |
| 10. Collaborations            | Academic<br>Collaborations<br>(National)        | 94         | 13         | 25         | 19          | 0           | 15            | 83          | 257       | 506        |
|                               | Academic<br>Collaborations<br>(International)   | 74         | 8          | 11         | 0           | 0           | 26            | 58          | 75        | 252        |
|                               | Sectoral<br>Collaborations<br>(International)   | 0          | 0          | 0          | 0           | 0           | 3             | 1           | 6         | 10         |
|                               | Sectoral<br>Collaborations<br>(National)        | 23         | 1          | 0          | 3           | 0           | 3             | 10          | 38        | 78         |
|                               | Industrial<br>Collaborations<br>(National)      | 23         | 0          | 0          | 4           | 0           | 4             | 13          | 96        | 140        |
|                               | Industrial<br>Collaborations<br>(International) | 4          | 0          | 0          | 1           | 0           | 0             | 0           | 38        | 43         |

Note: The above progress represents the information received from 47 Centres.

# Human Resource Development



The socio-economic prosperity of a country highly depends on its investments in human resource development. The countries having knowledge-based economies are capturing the markets in the 21<sup>st</sup> century due to innovation in science and technology. The intellectual capital of Pakistan's human resource should be developed, keeping in view the global trends and to find new avenues for economic growth. Institutions of higher learning play a significant role in promoting teaching and research to meet the challenges of socio-economic development of a state. Compared to the institutions of developed countries, Pakistani universities have a very low number of highly qualified faculty. HEC has been concentrating on strengthening the higher education institutions of Pakistan by increasing highly qualified faculty members to improve teaching standards and promote research culture to build a knowledge-based economy.

Since its inception, the Scholarships Division has been executing numerous scholarship programmes to bridge the gap of highly skilled faculty in all disciplines of study at institutions of higher learning and to fulfill the needs of research organisations of Pakistan. HEC has signed a number of cost-effective agreements with international educational agencies and universities for the successful execution of these programmes. Scholarships Division is also managing various foreign funded scholarships for the talented youth of Pakistan.

One of the primary goals of HEC is to provide equal access of higher education to all students. Keeping in view the limited opportunities for the students of less-developed areas of Pakistan, various undergraduate and postgraduate scholarship programmes have been initiated to support the students of these areas. Financially deprived students are also being assisted through several need-based scholarship programmes with the support of the Government of Pakistan and foreign and local donors. Ehsaas Undergraduate Scholarship Programme is a mega project of the current Government in this regard.

Pakistan intends to maintain cordial relations with all friendly states at regional and international level. Some strategic nature scholarship programmes for the foreign nationals are also designed on the directives of President and Prime Minister of Pakistan and being implemented by the HRD Division. These programmes are to aimed strengthen the relationship with respective countries and to improve the image of Pakistan.

## Overseas Scholarships

To meet the demand of the degree awarding institutions and research organisations of Pakistan, many overseas scholarship schemes have been initiated. Scholarships for MS/MPhil and PhD studies are announced every year for study in the best ranking universities of technologically advanced countries. HEC has also negotiated and signed Documents of Understanding (DoUs) with international educational agencies and institutions of higher learning abroad for subsidised tuition, placement, and supervision of the scholars. The details of the present scholarship schemes are as under:

| Achievements FY 2020-21   |
|---|
| 145 Scholars Proceeded Abroad to Join PhD Studies   |
| 33 Scholars were Partially Supported to Complete PhD studies from Abroad                            |
| 179 Scholars Completed their PhD Studies  |
| 273 PhD Scholars Proceeded Abroad under International Research Support Initiative Programme (IRSIP) |
| 175 Potential PhD Applicants Joined GRE Training  |
| 32 Scholars Proceeded Abroad to Join Post-Doctoral Research   |

| S. No. | Name of Project/Programme  |
|--------|--|
| 1      | Overseas Scholarships for PhD in Selected Fields (Phase III)   |
| 2      | Overseas Scholarship for MS/MPhil Leading to PhD in selected Fields (Phase II)   |
| 3      | MS Leading to PhD Programme of Faculty Development for Universities of Engineering, Science and Technology (UESTP) Phase-I |
| 4      | US-Pakistan Knowledge Corridor   |
| 5      | Fulbright Scholarship Support Programme HEC-USAID (Phase-II)   |
| 6      | Faculty Development Programme  |
| 7      | Partial Support Programme for PhD Studies Abroad   |
| 8      | International Research Support Initiative Programme (IRSIP)  |
| 9      | Post-Doctoral Fellowships Programme (Phase III) – HEC  |

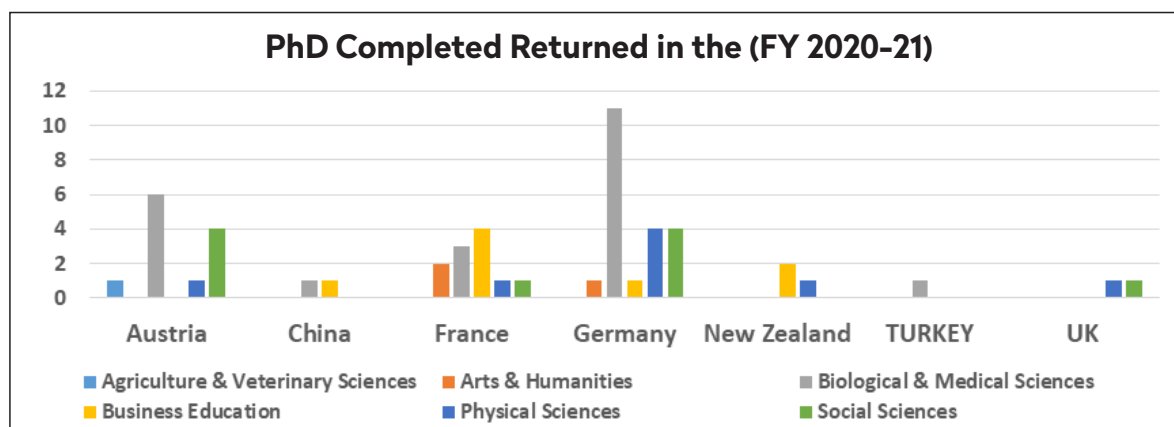
## 1. Overseas Scholarships for PhD in Selected Fields (Phase III)

The project was approved by ECNEC in May, 2018 for the award of 2000 scholarships (1800 for PhD and 200 for MS/MPhil in Engineering & Technology) in foreign universities at a cost of Rs. 22.214 billion. The project would train manpower in the identified fields and areas of research which would support technology upgrading, develop high standards of Science & Technology, Natural and Basic Sciences, Medical & Biological Sciences, Humanities and Business Education and meet the challenging needs of Pakistan's economy. At least two-third of the scholarships each year will be announced against the existing specific requirements of universities. The project, when seen in the overall perspective of the Government of Pakistan Vision 2025, supplements the efforts of HEC in the National Human Resource Development. A total of 163 selected students have joined their studies abroad under the project.

**Physical Progress:** In response to HEC announcement for applications, 3,374 candidates applied for scholarships. HEC organised Higher Education Aptitude Test (HAT), which was qualified by 548 applicants who secured 70 and above marks. Subsequently, merit list was prepared as per approved provincial quota of the Government of Pakistan. Out of 548, under both categories, 492 candidates were shortlisted. These shortlisted candidates are in the process of seeking admission in top 500 world ranked universities. Out of these 492 candidates, 60 scholars have joined foreign universities during the year.

## 2. Overseas Scholarships for MS/MPhil Leading to PhD in Selected Fields (Phase II)

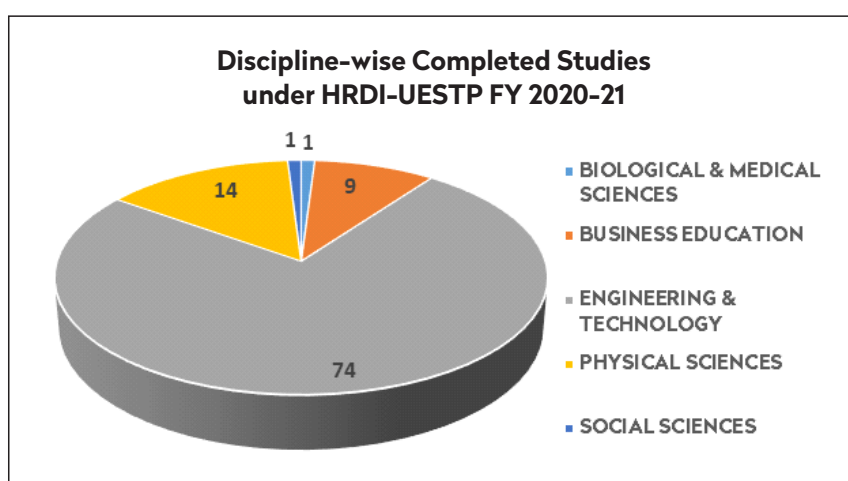
The project was approved by ECNEC in April, 2006 for the award of 2000 MS/MPhil Leading to PhD/Direct PhD scholarships at a cost of Rs. 13.216 billion. The objectives of the project were defined in view the needs of universities, R&D organisations and industry of Pakistan. Since initiation of the project, 1876 candidates have been awarded PhD scholarships and 1,283 scholars have successfully completed their degrees. Fifty two scholars completed their PhD in FY 2020-21. The project is closed for new intake.



### 3. HRD Initiative - MS Leading to PhD Programme of Faculty Development for Universities of Engineering, Science and Technology (UESTP) Phase-I

The project was approved by ECNEC in September 2007 with a total cost of Rs.11.8 billion. The main objective of the project is to produce 1500 PhD level engineers, scientists and technologists by offering them overseas scholarships. After completion of PhD from technologically advanced countries, this valuable human resource would be employed in the country's engineering, science and technology universities/R&D organisations. Since the initiation of the project, 1,245 PhD scholarships have been awarded, out of which 554 scholars have completed their PhD studies. The project is closed for new intake.

| Progress FY 2020-21  |                    |                |
|----------------------|--------------------|----------------|
| Scholarships Awarded | Scholars Proceeded | PhDs Completed |
| 0                    | 0                  | 99             |

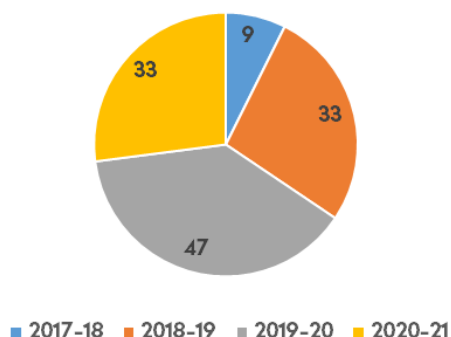


### 4. US-Pakistan Knowledge Corridor

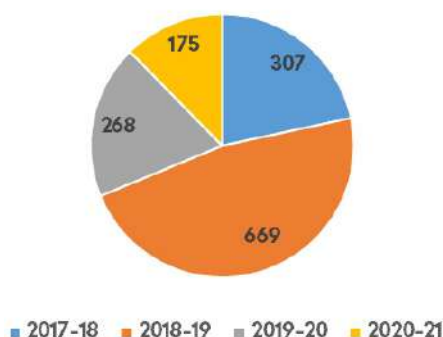
The project was conceptualised to meet the demand of highly qualified faculty by higher education institutions of Pakistan. The objective was to provide opportunities of higher education to 10,000 Pakistani scholars over the next 10 years for doctoral studies at the US universities. The Phase-I of the project was approved by ECNEC in January 2017 at the capital cost of Rs. 18.81 billion with execution period of 84 months to award 1,500 PhD level scholarships to those applicants who would secure 100% tuition support in the shape of waiver or research, teaching and graduate assistantships for the whole period of studies. The project started with highly ambitious target of sending 1,500 PhD scholars to various universities of the United States in five years with zero tuition support. A limited TA/GA is offered to Pakistani students in the US universities. Therefore, revised PC-1 of the project was approved by ECNEC in August 2020 at the capital cost of Rs. 25.22 billion with an extended implementation period of the project up to 132 months while the total number of scholarships has been reduced from 1,500 to 1,000. The reduction in total scholarships is due to the introduction of "with tuition" scholarships which was not part of the original PC-1.

**Physical Progress:** From the initiation of the project, a total of 117 scholarships have been awarded while 33 scholarships have been awarded during the year 2020-21. Under the "Talent Farming" component of the project, 32 comprehensive GRE General Trainings (including seven online) have been conducted and a total of 1,419 participants have been trained while 175 participants have been trained during FY 2020-21.

**Year Wise Scholarships Awarded**



**Year wise GRE General Traininas**



## 5. Fulbright Scholarship Support Programme - HEC-USAID (Phase-II)

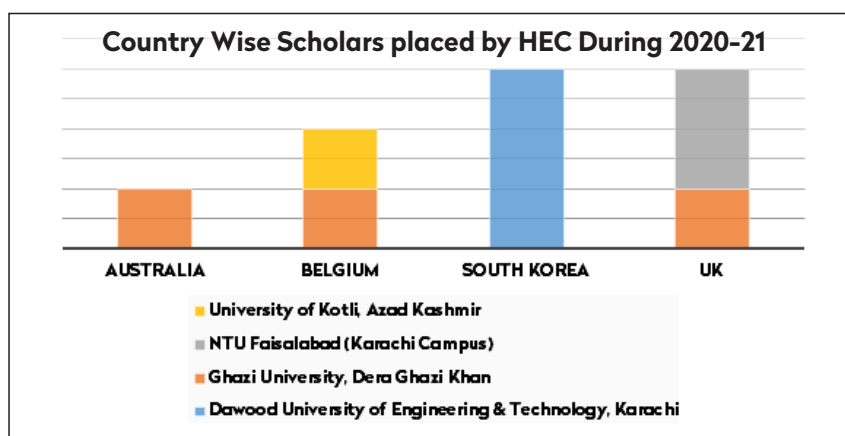
The Fulbright-HEC PhD Scholarship is funded by HEC, Government of Pakistan and the United States Educational Foundation in Pakistan (USEFP). This programme funds graduate study in the United States for MS and PhD degrees, including tuition, required textbooks, airfare, living stipend, and health insurance. Pakistani scholars study in top-ranked universities all over the United States.

The project was approved by ECNEC in 2015 at a cost of Rs.12.6 billion and was revised in 2020 due to the increase in exchange rate. The revised cost is RS. 13.191 billion. Targets of the projects have been achieved by awarding 263 PhD scholarships and 570 MS scholarships, out of which 402 MS and four PhD scholars have completed their degrees.

| Progress FY 2020-21 |         |                    |                   |
|---------------------|---------|--------------------|-------------------|
| Scholarships        | Awarded | Scholars Proceeded | Completed Studies |
| PhD                 | 43      | 43                 | 2                 |

## 6. Faculty Development Programme (Overseas Scholarships)

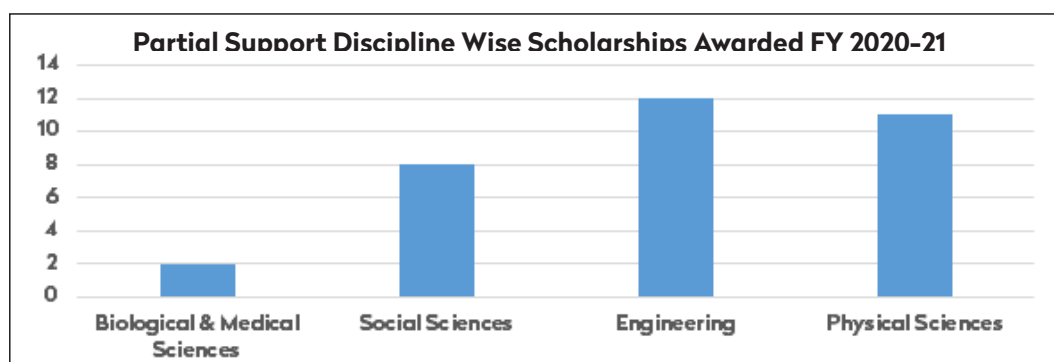
In an effort to uplift and strengthen faculties of public sector universities and degree awarding institutions, MS and PhD scholarships were launched under various PSDP projects for public sector universities. The scholarship component was named as Faculty Development Programme (FDP). Since 2017, HRD Division has published two consolidated advertisements for award of overseas scholarships under FDP. The first advertisement was published in 2017 wherein 19 projects were included. The second advertisement was published in 2019 and 14 projects were included. After capacity building of public sector universities for the implementation of the projects, the projects are now being executed by respective universities. During the year, HRD Division has placed nine scholars in various international universities while three Scholarship Management Committee meetings have been arranged in Islamabad, Peshawar and Kotli for selection of the scholars.



## 7. Partial Support Programme for PhD Studies Abroad

Through this scheme, monetary support is being provided for overseas studies to scholars who require partial assistance (e.g. tuition, thesis evaluation/submission fee, living expenditure, etc.) in the final stages of their doctoral studies and plan to complete studies in a shorter time period so that they can return home. This scheme also extends to faculty members of public sector universities/degree awarding institutions who are enrolled in a PhD programme abroad. It is a recurring programme and remains active throughout the year.

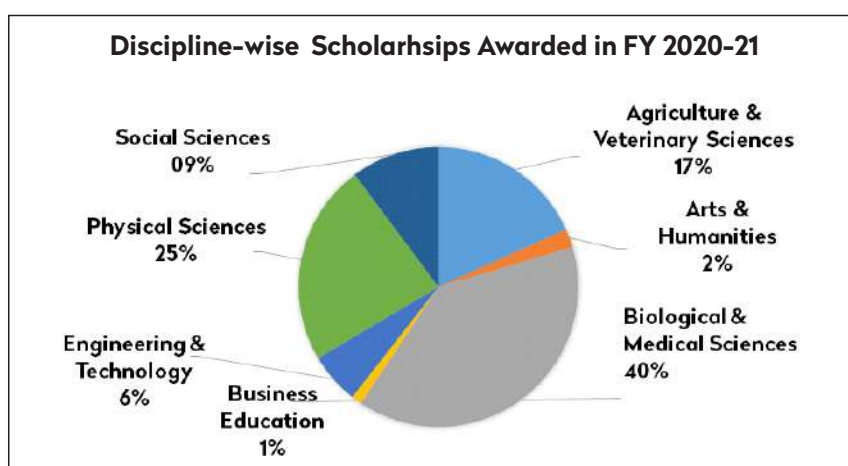
| Progress FY 2020-2021 |                    |                |
|-----------------------|--------------------|----------------|
| Scholarships Awarded  | Scholars Proceeded | PhDs Completed |
| 33                    | 33                 | 26             |



## 8. International Research Support Initiative Programme (IRSIP)

HEC is offering a six-month research fellowship abroad under the programme for top 200 universities of the world to those students who are enrolled as full time PhD students in Pakistani institutions. The fellowship is providing international exposure to PhD scholars, who are keen to enhance their quality of research. It is a recurring programme and remains active throughout the year.

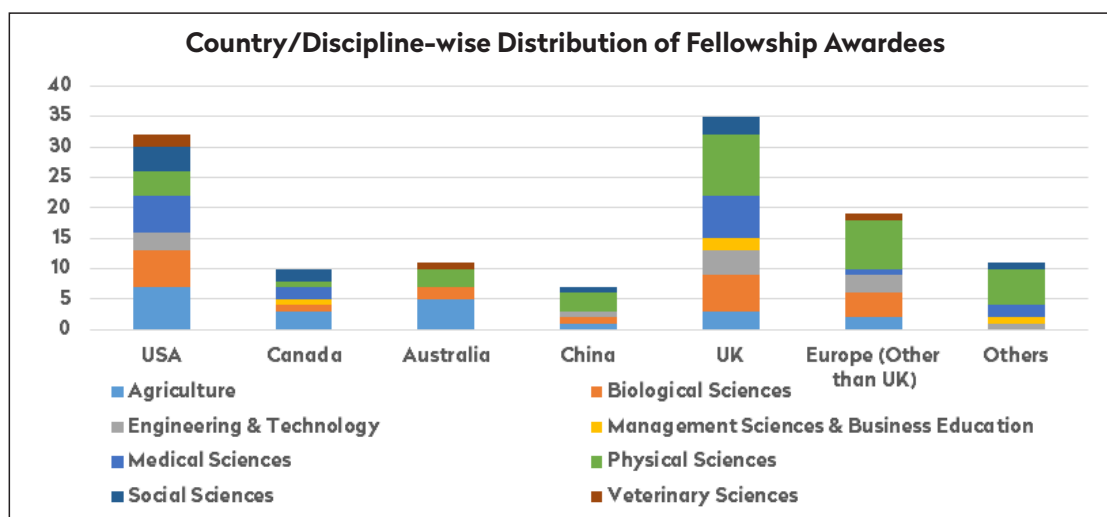
| Progress FY 2020-21  |                    |
|----------------------|--------------------|
| Scholarships Awarded | Scholars Proceeded |
| 533                  | 273                |



## 9. Post-Doctoral Fellowships Programme (Phase III) – HEC

The project titled “Post-Doctoral Fellowships Programme (Phase III) – HEC” was approved by CDWP in January 2016 while the administrative approval was issued in August, 2018. The project was approved at a cost of Rs. 2.771 billion to award 1000 fellowships over a period of five years to the faculty members and researchers holding PhD degrees. The objective of the project is to provide an opportunity to the faculty members and researchers to work in the top-notch universities and state-of-the-art laboratories in technologically advanced countries. Seventy percent fellowships are reserved for faculty members of public sector universities and institutes, 15 percent for private universities and 15 percent for public sector R&D organisations (recognised by PCST) of Pakistan.

The programme was first advertised in 2019 and 125 candidates have been selected under Batch I. Total 32 Post-Doctoral scholars have proceeded abroad during the year and one scholar has completed his fellowship. The others are waiting for issuance of visa as travel restrictions are still in place in most of the developed countries. Due to the continuing uncertainty in the international educational institutions after spread of COVID-19, it was not possible for interested candidates to get invitation/placement letter from top 200 QS World Ranked Universities. Therefore, the programme was not advertised during 2020. In February 2021, Batch-II was announced and the portal remained opened for two months to provide ample time to the applicants. Total 540 applications have been received and initial scrutiny of applications is in the process. The programme will be announced regularly on biannual basis to meet the targets.



### Success Story:



**Dr. Sajid Nazir**, Assistant Professor at COMSATS, Lahore has successfully completed his Post-Doctoral fellowship in the field of Finance from University of Montreal, Canada under the supervision of Prof. Dr. Martin M. Boyer, a Wharton PhD. Dr. Sajid Nazir has published his research work in prestigious research journals. Besides, the scholar has also got an opportunity to collaborate with renowned professors in his domain that helped him to produce six research papers in high impact factor research journals. After completion of his fellowship, he is working as Associate Professor at Institute of Administrative Sciences, University of Punjab, Lahore.



## Indigenous Scholarships

Indigenous PhD scholarship programmes were initiated to provide the opportunities to the students who have research aptitude and intend to improve their qualification to bring it at par with international standards. The qualified PhDs under the HEC schemes not only contributed to fulfilling the demand of faculty but also promoted research culture in the higher education institutions.

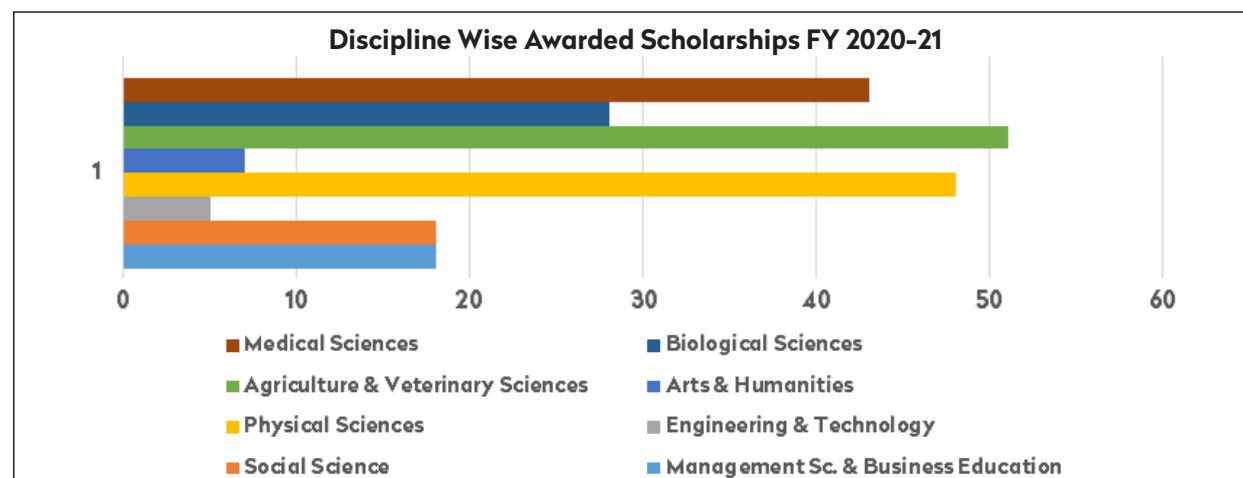
| Achievements FY 2020-21  |  |
|--|--|
| 218 Scholars Joined PhD Studies  |  |
| 473 Scholars Completed PhD Studies   |  |
| Significant Increase in Research Publication by Indigenous PhD scholarship holders |  |

| S. No. | Project/Programme Name                                   |
|--------|--|
| 1      | Indigenous PhD fellowship for 5000 Scholars (Phase-II)   |
| 2      | Indigenous PhD fellowship for 5000 Scholars (Phase-I)    |
| 3      | Faculty Development Programme for Pakistani Universities |

### 1. Indigenous PhD Fellowship for 5000 Scholars (Phase-II)

The project was approved by ECNEC in November 2011 at a cost of Rs. 9972 million and the administrative approval was issued in February 2012. The life of the project is 10 years. The main objective of the project is to award 5,000 MS-PhD and direct PhD scholarships to Pakistani nationals to continue their studies in Pakistani universities. So far, 3,832 candidates have been awarded MS-PhD and direct PhD scholarships under the project and 971 have completed their PhDs. As many as 1,395 new scholarships were offered to candidates after approval from National Scholarship Management Committee in February 2021 under Batch-VI of the scheme. During the year 2020-21, 218 scholarships have been awarded while 263 scholars completed their PhD studies.

| Province Wise Scholarships Awarded FY 2020 -21 |                   |     |         |         |             |         |      |       |
|--|-------------------|-----|---------|---------|-------------|---------|------|-------|
| Province                                       | Punjab/ Islamabad | KPK | Sindh-R | Sindh-U | Balochistan | FATA/GB | AJ&K | Total |
| Scholarships Awarded                           | 142               | 7   | 14      | 29      | 9           | 15      | 2    | 218   |

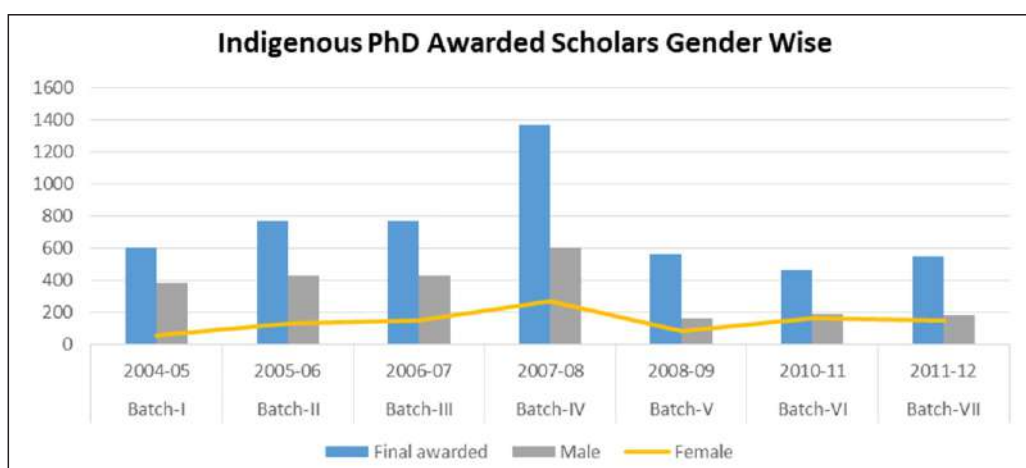




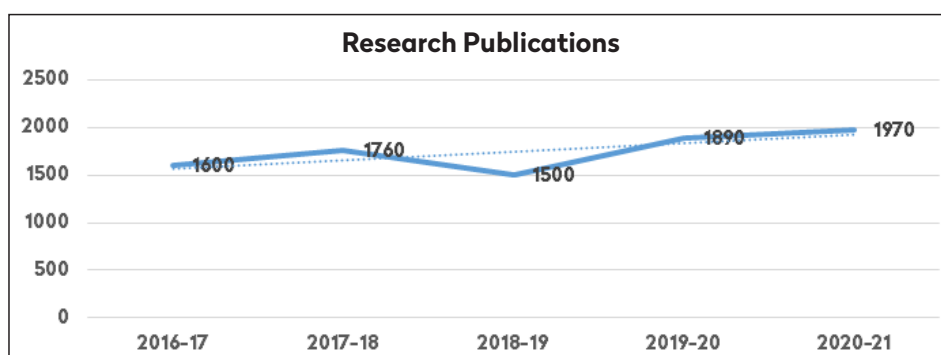
**Dr. Haris Mehmood** completed his BE and MS in Electrical Engineering from National University of Sciences & Technology SEECS, Islamabad and continued PhD studies in the same institution and completed his studies in January 2021. He was awarded TUBITAK Research Fellowship for undertaking his PhD research work at METU Turkey. He attained the required target for Silicon-based device numerically and his work was published in a well-reputed journal with a decent impact factor. It was for the first time in the history of GÜNAM Research Institute in METU that a simulation-based paper was published in a reputed high impact factor journal. Moreover, during his research phase, he also fabricated and characterised the thin-film dopant-free material for carrier-selective contact solar cell at grass-root level, thus, pioneering the research in DASH heterostructure solar cells at METU Turkey.

## 2. Indigenous PhD Fellowship for 5000 Scholars (Phase-I)

Indigenous PhD Fellowship for 5000 scholars is the first mega scholarship project of HEC for study at local universities. The main objective of the project is to provide the opportunities to enhance qualification and skills of youths having research aptitude up to international standards and to improve the R&D potential of public & private universities/DAIs and industrial sector. The programme is also aimed to promote a competitive research culture among faculty and graduate students at local universities. A total of 5,000 scholars were selected in seven batches between 2004-05 and 2012-13 for MS/PhD studies. A total of 3581 scholars have earned their PhD degrees while 210 scholars were awarded their degrees during the year.

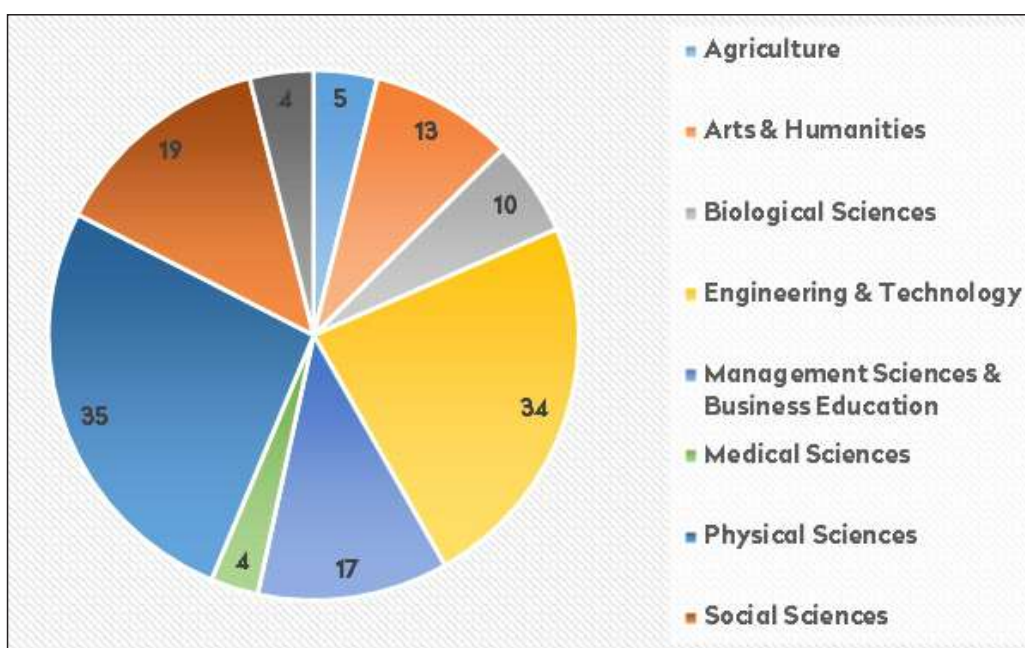


The impact of this project is evident from the fact that these HEC indigenous alumni are currently serving in different HEIs and research-oriented organisations and utilising their skills for the well-being of the society in particular and the country in general. As exhibited below, indigenous researchers contributed significantly in research publications in 2019-2020 and 2020-2021.



### 3. Faculty Development Programme for Pakistani Universities

The project was approved by ECNEC in December 2016 at a cost of Rs. 7,142 million to award 2,000 PhD level scholarships to study in the local universities/DAIs of Pakistan. The Faculty Development Programme supports non-PhD faculty members at HEC-accredited public/private universities. Initially, only faculty members of public sector universities were allowed to apply for the award of scholarship. However, presently private sector university teachers can also benefit from this opportunity. Since 2017, 444 provisional scholarships have been awarded to faculty members across Pakistani universities. So far, HEC has funded 142 faculty members for their PhD studies in Batch I and Batch II. To help the country's socioeconomic development and address the national challenges, the faculty members have started their research collaborations with QS Top Ranked universities.



Discipline Wise Status of 142 Scholars Pursuing PhD at Various Universities of Pakistan

### Scholarship Programmes for Balochistan and Erstwhile FATA

Special scholarship schemes have been initiated for the students of Balochistan and Erstwhile FATA to provide them access to higher education for their capacity building and integrate them into mainstream society. The primary goal is to improve their economic situation on a micro-economic level, which will have a favourable impact on the macro-economic development of Balochistan and the Erstwhile FATA. The details of the scholarship schemes and achievements are as under:

| Achievements FY 2020-21  |
|--|
| Batch V of Undergraduate Programme Advertised for the Students of Erstwhile FATA and Balochistan                       |
| Batch IV of Postgraduate Programme Advertised for the Students of Erstwhile FATA and Balochistan                       |
| 456 Scholars from Erstwhile FATA and Balochistan Joined Undergraduate Studies and 125 Postgraduate Studies in Pakistan |
| 7 Scholars from Balochistan Proceeded Abroad for PhD Studies and 10 Completed PhDs from Abroad                         |
| 27 Indigenous Scholars from Balochistan availed PhD Scholarship and 7 Completed their PhDs from Local Universities     |
| New Batch Announced of Law Graduates Scholarships Programme for Balochistan  |

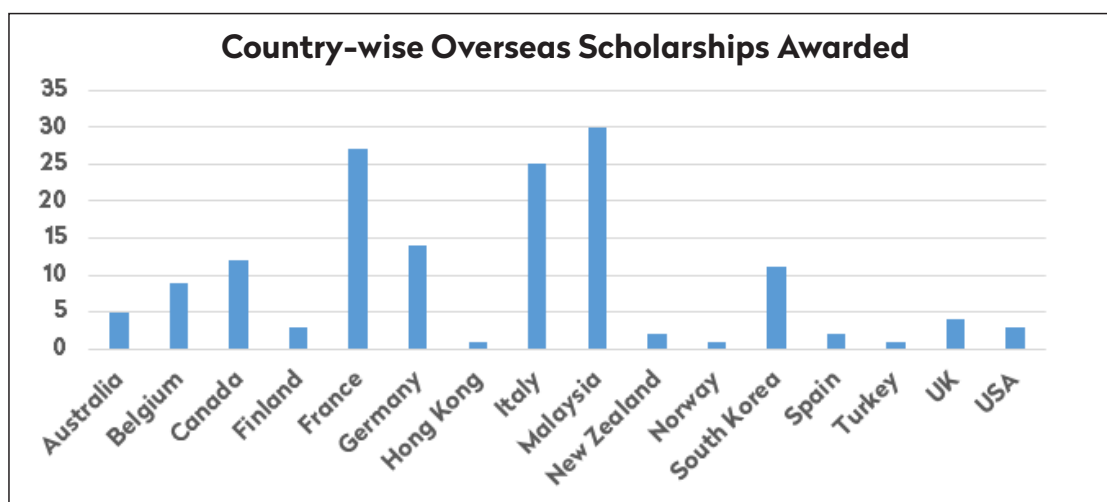
| S. No. | Project/Programme Name  |
|--------|---|
| 1      | Master leading to PhD Scholarship Programme (Indigenous and Overseas) for the students of Balochistan (An initiative of the Aghaz-e-Haqooq-e-Balochistan Package) |
| 2      | Provision of Higher Education Opportunities for Students of Balochistan and FATA (Phase-II)   |
| 3      | Law Graduates Scholarships Programme for Balochistan for Study Abroad   |
| 4      | HEC Scholarships for the students of Gwadar (Chinese Language & Undergraduate Studies)  |

### 1. Master's Leading to PhD Scholarship Programme (Indigenous and Overseas) for the Students of Balochistan (An initiative of the Aghaz-e-Haqooq-e-Balochistan Package)

The project was initiated to provide opportunities for higher education to the youth of Balochistan who despite having academic merit could not pursue higher studies due to financial constraints. The project was approved by ECNEC in November, 2011 at a cost of Rs.3, 138.692 million to award 600 (200 Overseas and 400 Indigenous) MS/MPhil Leading to PhD/PhD scholarships.

#### Overseas Scholarships

Under the Overseas Scholarship category, a total of 442 applicants were offered the scholarships while 150 scholars secured admissions and proceeded abroad to continue their studies. So far 20 scholars have completed their studies successfully.

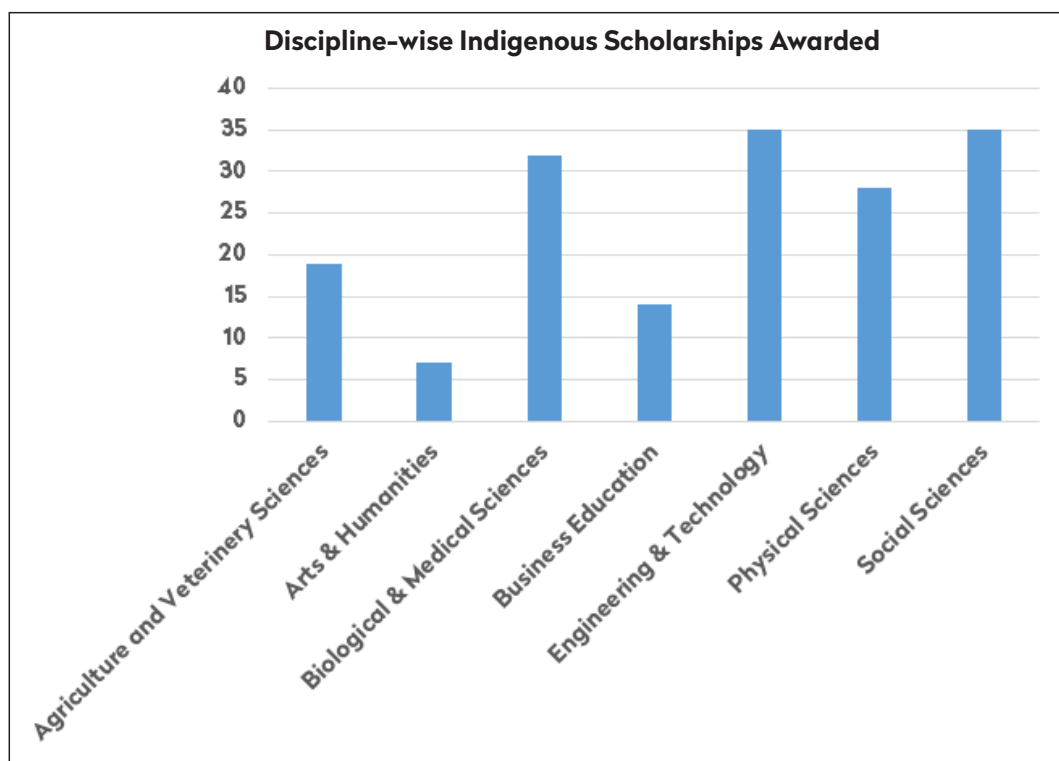


| Progress FY 2020-21 (Overseas Scholarships) |                    |                |
|---|--------------------|----------------|
| Scholarships Awarded                        | Scholars Proceeded | PhDs Completed |
| 9   | 7                  | 10             |

Under Overseas Batch-IV, nine more scholarships were awarded from the waiting list. Due to COVID-19 pandemic, admission offers and visas of some scholars were delayed and they are expected to proceed in the next year.

## Indigenous Scholarships

Under the Indigenous Scholarship category, a total of 761 applicants were offered the scholarship while 170 scholars availed the scholarship and joined their studies. So far, 10 scholars have completed their studies successfully.



| Progress FY 2020-21 Indigenous Scholarships |         |                |
|---|---------|----------------|
| Scholarships Awarded                        | Availed | PhDs Completed |
| Nil   | 27      | 7              |

Twenty seven scholars of Indigenous Batch IV secured admissions and joined their respective universities. The rest of the scholars are expected to secure admissions in next year.

## 2. Provision of Higher Education Opportunities for Students of Balochistan and FATA (Phase-II)

The project was approved by CDWP in October, 2015 to award 3,900 scholarships (2,500 undergraduate and 1,400 postgraduate) to the students having domicile/Local certificate of Balochistan & FATA at the ratio of 50:50 at a cost of Rs. 2983.698 million. The execution period of the project is eight years. The major objective of the project is to provide an opportunity to higher education to the students belonging to FATA and Balochistan to improve their economic condition on a microeconomic level, resulting in positive effects on macroeconomic development of Balochistan and FATA.

Under the undergraduate scholarship category, total 2,499 scholarships have been awarded while 2254 scholars availed the scholarship. Under the postgraduate scholarship category total 588 scholarships have been awarded while 379 scholars have joined their studies. During the year Undergraduate Batch V and Postgraduate Batch IV were advertised. The detail of the scholarships awarded during the year 2020-21 is as under:

| Progress FY 2020-21 |                      |         |
|---------------------|----------------------|---------|
| Programme           | Scholarships Awarded | Availed |
| Undergraduate       | 500                  | 456     |
| Postgraduate        | 188                  | 125     |

The remaining selected applicants of undergraduate and postgraduate scholarships are expected to secure admission in the coming session. Selection of applicants under Batch-IV of postgraduate scholarships is in process.

#### Success Story:



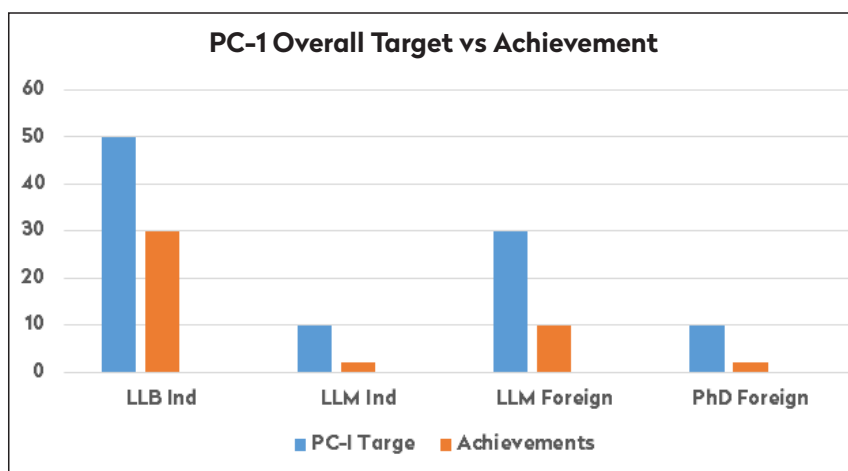
**Mr. Ilyas Khan**, a resident of Khyber Agency, started his education at the primary school of his village. He was determined to complete his education despite the wave of terrorism in the region. Being a competent student, he scored well in the entrance examination and was able to secure admission in Civil Engineering at UET Taxila.

Unfortunately, his family was unable to support his higher education. He applied for the scholarship under “Provision of Higher Education Opportunities for the Students of Balochistan and FATA” for his undergraduate education. He was much excited when he received the news that he has been selected for scholarship under the project in 2017. Now he has successfully completed his studies with good grades. He is thankful to HEC for supporting him as his dream has come true.

### 3. Law Graduates Scholarships Programme for Balochistan for Study Abroad

The project was initiated in the light of the direction of the PM Office to award Law Scholarships to the students of Balochistan to fill the gap of senior lawyers who martyred in the deadly blast of August, 2016 and to strengthen the overall judicial system in the province. The project was approved by CDWP in September 2018 at a cost of Rs. 420.980 million. A total of 100 scholarships in the field of Law studies (50 local LLB, 10 local LLM, 30 foreign LLM and 10 foreign PhD) will be awarded over a period of five years.

Out of already selected 44 scholars (30 Local LLB, 02 Local LLM, 10 foreign LLM and two foreign PhD) 37 scholars (29 local LLB, one local LLM, six foreign LLM and one foreign PhD) have secured admissions in the universities. During the year 2020-21, new batch has been announced to award 31 more scholarships.





#### 4. HEC Scholarships for the Students of Gwadar (Chinese Language & Undergraduate Studies)

The project was initiated in the light of the announcement made by the Prime Minister of Pakistan during his visit to Gwadar in March 2017. The project was approved at the cost of Rs. 143.861 million by CDWP held in July 2017. The objective of the programme is to produce skilled, educated, well-trained, and motivated youth of Gwadar to avail the emerging job opportunities through China-Pakistan Economic Corridor. The programme has two components:

- 50 scholarships - Chinese Language in China.
- 50 scholarships - BS (04 Years) in Punjab-based Universities

All the 50 scholars have completed Chinese Language course from China (14 from Literature Jiang Su University China and 36 from Beijing Institute of Petrochemical Technology, China) and have returned home. Whereas the BS (four-year) scholarships have been availed by 26 scholars despite offering to a large number of applicants. A proposal is under process for the approval from DDWP to change the criteria for consideration of the universities other than Punjab where candidates have secured admissions and studying.

| Overall Progress |               |                 |
|------------------|---------------|-----------------|
| Programme        | Total Awarded | Total Completed |
| Chinese Language | 50            | 50              |
| BS               | 26            | 0               |

#### Scholarship Programmes for Foreign Nationals

Education, science, and research have been increasingly internationalised as a result of cross-border cooperation and mobility. States work together in different fields of life to develop political relations.

Scholarships for international students are being offered worldwide to support each other for the dissemination of knowledge and diversity of students. Some scholarship programmes of strategic nature for foreign nationals have been initiated by HEC on the directive of Government of Pakistan to strengthen the ties with different countries and to build soft image of Pakistan at international level. The details of the programmes and achievements are as under:

| Achievements FY 2020-21   |
|---|
| 625 Undergraduate and 282 Postgraduate Scholarships Awarded to Afghan Students to Study in Pakistan |
| 47 Sri Lankan Scholars Joined Studies in Pakistan   |
| 22 Scholarships Awarded to the Nationals of Least Developed Countries of OIC                        |
| 3 Scholarships Awarded to the Nationals of Least Developed Countries of Commonwealth                |

| S. No. | Project/Programme Name   |
|--------|--|
| 1      | Allama Muhammad Iqbal scholarships for Afghan National (Phase II)                                      |
| 2      | Pak-Sri Lanka Higher Education Cooperation Programme   |
| 3      | Scholarships Offered to International Students under Least Developed Countries of OIC and Commonwealth |

## 1. Allama Muhammad Iqbal scholarships for Afghan National (Phase II)

The Government of Pakistan initiated various programmes under the “Committee for Reconstruction & Rehabilitation of Afghanistan (CRRRA)”. In this context, the project “Award of 3000 Scholarships to Afghan Students from Afghanistan” was initiated under PM’s directives for undergraduate and postgraduate studies at Pakistani universities in various disciplines for their capacity building. The project was approved by ECNEC in September 2015 at a cost of Rs. 4201.160 million. The second phase of the project entitled “Allama Muhammad Iqbal Scholarships for Afghan Nationals” was approved in 2018 at a cost of Rs. 7.3 billion to award 3000 scholarships to the Afghans students. The details of the project are as under:

- Afghan students are selected jointly by HEC and the Embassy of Pakistan in Kabul based on academic qualification and an aptitude test.
- Selected Afghan students attend zero semester before the start of their degree programmes to make them acquainted with the education system in Pakistan.
- An alumni office “Pakistan Alumni Association” has also been established at HEC for Afghan students to entertain their issues, where all the students are getting connected through social network.

### Objectives of Project:

- To create Pakistan’s goodwill among the people of Afghanistan
- To promote Human Resource Development for reconstruction of Afghanistan
- To develop people-to-people contacts between the two neighboring countries
- To establish linkages between the educational institutions of both the countries

|       |                     | Overall Progress |           | Progress FY 2020-21 |                  |           |         |
|-------|---------------------|------------------|-----------|---------------------|------------------|-----------|---------|
| S.No. | Phase I             | Awarded          | Completed | Awarded             | Enrolled/Onboard | Completed | Dropped |
| 1     | Undergraduate level | 2912             | 2455      | 0                   | 70               | 0         | 387     |
| 2     | Postgraduate Level  | 40               | 34        | 0                   | 6                | 0         | 0       |
|       | <b>Phase II</b>     |                  |           |                     |                  |           |         |
| 1     | Undergraduate level | 2400             | 0         | 625                 | 2395             | 0         | 5       |
| 2     | Postgraduate Level  | 600              | 0         | 282                 | 318              | 0         | 0       |

### Achievements (2020-21)

- Coordination with universities to provide online classes to Afghan students who left for Afghanistan due to COVID-19 pandemic, while making special arrangements for Afghan students who stayed in hostels of different universities of Pakistan.
- Participation of Project Director as a HEC representative in the grand award distribution ceremony held in Kabul, Afghanistan for new Afghan students.
- Arrangement of air tickets for Afghan students and timely coordination with the embassy of Pakistan in Afghanistan and travel agent to make necessary arrangements for travel in the current situation of COVID-19 pandemic.
- Coordination with National Command & Operation Centre and timely provision of Afghan student data for crossing the Torkham Border.
- Completion of zero semester for undergraduate students in four universities and Education Testing Council (ETC) test for final subject-wise placement.
- Coordination with different universities for placement of 900 Afghan students for undergraduate programme and 300 students for PG programme for academic year 2021.
- Preparation of a documentary on Afghan students graduating from different universities in the year.



## 2. Pak-Sri Lanka Higher Education Cooperation Programme

The project was approved by CDWP in March, 2018 at a cost of Rs. 2.43 billion with an objective to promote bilateral academic and professional relations through higher education. The execution period of the project is nine years.

Pakistan and Sri Lanka are strategic partners and are members of South Asian Association for Regional Cooperation. Pakistan's relations with Sri Lanka have always been very warm and cordial. Being two strategically important countries in the region, dire need to extend the cooperation for regional development has always been felt by both the countries. The main objective of the project is to further boost relationship between the two friendly countries through cooperation in the field of higher education and to develop people to people contacts of both the countries.

| Feature   | Description   |
|---|---|
| <b>Scholarships for Sri Lankan Students</b>                                   | <b>800</b> fully and <b>200</b> partially funded scholarships will be offered to Sri Lankan students at different academic levels from undergraduate to doctoral level in the disciplines of medical, engineering, computer science, business administration, mass communication, media studies, basic and social sciences etc. |
| <b>Faculty Exchange</b>   | Exchange visits of <b>50</b> Sri Lankan/Pakistani faculty members to Pakistani/Sri Lankan universities to participate in research seminars, conferences and other academic & research activities  |
| <b>Higher Education Expo</b>  | Organisations of <b>5</b> Pakistan Educational Expo in Sri Lanka by inviting Pakistani higher education institutions to introduce Pakistan education institutions in Sri Lanka and provide information to Sri Lankan students   |
| <b>Training of Sri Lankan Government Officers</b>                             | Short trainings for <b>50</b> Sri Lankan officials in the public administration, governance and leadership etc.   |
| <b>Establishment of Centre of Asian Civilisation in Sri Lankan University</b> | Establishment of <b>Centre of Asian Civilisation</b> in Sri Lankan University   |

| Details of Scholarships |                 |           |               |
|-------------------------|-----------------|-----------|---------------|
| Level                   | Discipline      | Total No. | Annual Intake |
| Undergraduate           | Medical (MBBS)  | 100       | 25            |
|                         | Engineering     | 150       | 30            |
|                         | General         | 350       | 70            |
| Postgraduate            | All Disciplines | 150       | 30            |
| Doctoral                | All Disciplines | 50        | 10            |

### Progress 2020-2021

- Selection and placement of Second Batch of Sri Lankan students in Pakistani universities. Ninety one scholarships have been awarded to Sri Lankan students to pursue BS, MS and PhD programmes. A total of 57 scholars joined their studies in Pakistan, including 47 during the year under review.
- Batch-III to award the scholarships was advertised in Sri Lanka.

### 3. Scholarships Offered to International Students of Least Developed Countries of OIC and Commonwealth

The project “Academic & Research Linkages with Different Countries under Bilateral Agreement - Hungary Scholarships” was revised by CDWP in July, 2018 at a cost of Rs. 353.866 million. Two additional components were added in the revised PC-1 of the project to award 100 scholarships to the students of least developed countries of OIC at a cost of Rs. 147.24 million and 10 scholarships to the students from the least developed countries of Commonwealth at cost of Rs. 11.2 million. Following are the objectives to offer scholarships to the foreign students.

- Improve the reputation of Pakistan as an attractive education destination
- Provide opportunity to Pakistani HEIs to gain the much-needed international recognition
- Improve global reputation and ranking of Pakistani HEIs
- Cultivate international students as long-term representatives of Pakistan in their respective countries
- Local Pakistani students will be exposed to a more diverse peer group and also get greater international exposure.

#### A) Scholarships Offered to Nationals of Least Developed Countries of OIC

The Government of Pakistan announced to award 100 scholarships in sciences, engineering, medicine and agriculture to the students of the least developed countries of OIC in the 15<sup>th</sup> General Assembly Meeting of OIC Ministerial Standing Committee on Scientific and Technological Cooperation (COMSTECH) that was held in Islamabad from May 31, 2016 to June 01, 2016. President of Pakistan also formally announced the provision of these scholarships in first OIC Summit on Science and Technology in Astana (Kazakhstan) held on September 10-11, 2017.

Accordingly, HEC offered 100 fully-funded scholarships (including tuition fee, monthly stipend, hostel charges, book allowance and contribution to return air ticket) for 15 least developed countries of OIC under the PSDP project. The 15 least developed countries of OIC include Afghanistan, Benin, Burkina Faso, Chad, Comoros, Guinea, Guinea-Bissau, Mali, Mozambique, Niger, Sierra Leone, Somalia, Gambia, Togo and Uganda.

HEC received nominations routed through OIC General Secretariat/respective Governments of least developed countries of OIC/Ministry of Foreign Affairs of Pakistan. HEC has awarded a total of 54 scholarships while during the year 2020-21, 22 scholarships (06 Bachelors, 10 Masters, 06 PhD) were awarded to the students of OIC countries.

| Country Wise Breakup of Scholarships Awarded FY 2020-21 |                     |
|---|---------------------|
| Country of Origin                                       | No. of Scholarships |
| Benin   | 04                  |
| Gambia  | 04                  |
| Guinea Bissau   | 02                  |
| Sierra Leone  | 03                  |
| Somalia   | 05                  |
| Uganda  | 02                  |
| Afghanistan   | 02                  |
| <b>Total</b>  | <b>22</b>           |

## B) Scholarships Offered to Nationals of Least Developed Countries of Commonwealth

Commonwealth Heads of Government Meeting 2018 (also known as CHOGM 2018) was held in April 2018 in the United Kingdom. The Association of Commonwealth Universities (ACU) requested the Government of Pakistan to extend its support for Commonwealth Scholarship and Fellowship Plan (CSFP) Endowment Fund which provides scholarships hosted in low and middle – income countries.

In this regard, the Ministry of Foreign Affairs in Islamabad conveyed and recommended to ACU that the Government of Pakistan will consider offering 10 scholarships to the students of Commonwealth countries in Pakistani universities. Accordingly, HEC offered fully-funded 10 scholarships for 13 least developed countries of Commonwealth under the project in the fields of Social Sciences, Arts & Humanities, Management and Business Education, Agriculture and Veterinary Sciences, and Natural Sciences/Physical Sciences. Commonwealth scholarships are only offered for Master's degree programmes. The least developed countries of Commonwealth include Bangladesh, Kiribati, Lesotho, Malawi, Mozambique, Rwanda, Sierra Leone, Solomon Islands, Tuvalu, Uganda, Tanzania, Vanuatu and Zambia.

HEC received nominations routed through the Association of Commonwealth Universities (ACU)/respective Governments of least developed countries of Commonwealth//Ministry of Foreign Affairs of Pakistan. HEC has awarded total nine scholarships. During the year 2020-21, three scholarships were awarded to the students of Commonwealth countries.

| Country Wise Breakup of Scholarships Awarded FY 2020-21 |                     |
|---|---------------------|
| Country of Origin                                       | No. of Scholarships |
| Malawi  | 02                  |
| Sierra Leone  | 01                  |
| <b>Total</b>  | <b>03</b>           |

## Foreign Funded International Scholarships

The Higher Education Commission is making efforts to ensure that Pakistani students have the best possible chance of receiving international scholarships supported by foreign governments. Some Documents of Understanding have also been signed with international organisations to provide scholarships to the Pakistani students. In addition, HEC also advertise foreign scholarship opportunities at its website regularly where students may apply directly. The details of the scholarship opportunities and achievements are as under:

| Achievements FY 2020-21  |
|--|
| New Batch of Stipendium Hungaricum Scholarships Advertised   |
| 146 Pakistani Students Aailed Fully Funded Stipendium Hungaricum Scholarships  |
| 102 Pakistani Students Returned from Hungary after Successful Completion of their Studies  |
| 35 Engineers from across Pakistan Successfully Completed Masters in Transportation Engineering from China under CRBC Scholarship |
| 52 Students Awarded Scholarships under Chinese Government Scholarship Programme through China Scholarship Council                |
| 17 Scholars won Prestigious Commonwealth Scholarship award UK  |
| Nominated 44 Pakistani Scholars under different Foreign Funded Scholarships  |

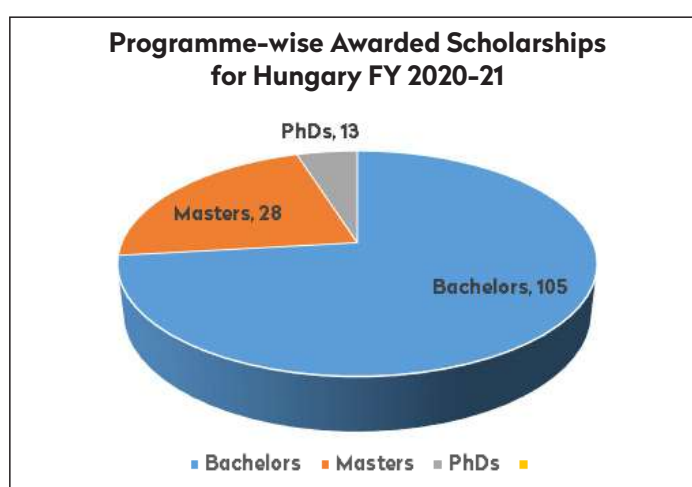
| S. No. | Name of Project/Programme  |
|--------|--|
| 1      | Academic & Research Linkages with different Countries under Bilateral Agreement - Hungary Scholarships |
| 2      | China Road and Bridge Corporation (CRBC) Scholarships for MS Engineering                               |
| 3      | Chinese Government Scholarship   |
| 4      | Commonwealth Scholarships  |
| 5      | Coordination with Different Countries  |

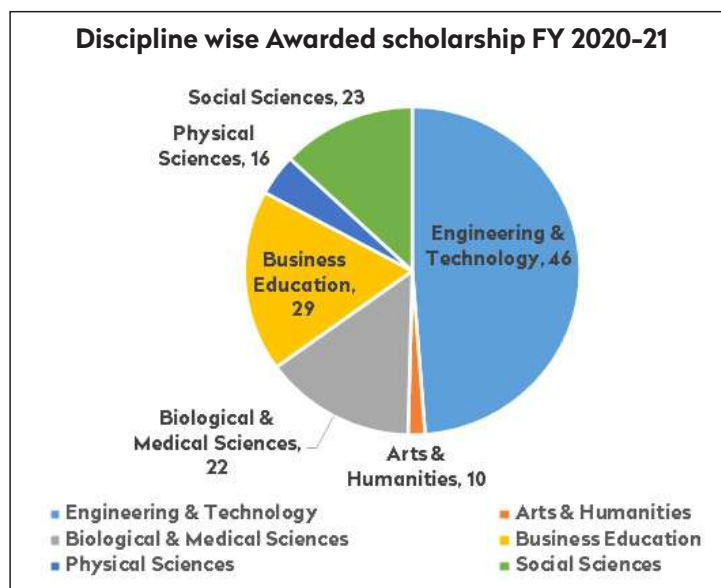
### 1. Academic & Research Linkages with Different Countries under Bilateral Agreement - Hungary Scholarships

The project was approved by CDWP in August, 2016 at a cost of Rs. 340.357 million to award 240 scholarships to Pakistani students for BS, MS and PhD level studies in Hungary. The scholarship emoluments include tuition fee, monthly stipend, free dormitory place/monthly contribution for accommodation and medical insurance. The Government of Pakistan is paying for one return air ticket. Later on, the project was revised by CDWP in July, 2018 with revised cost of Rs. 353.866 million and the scholarships for Hungary were increased to 480. A renewed MoU (till 2022 academic session) was signed by Minister of Hungary from Hungarian side while Federal Minister for Education and Professional Training signed on behalf of HEC, Government of Pakistan on April 30, 2021 at Ministry of Foreign Affairs, Pakistan. The number of scholarships for Hungary was further increased to 1040.

In addition to the award of scholarships to Pakistani students, two other components were added in the revision of PC-1 of the project to award 100 scholarships to the students of least developed countries of OIC with and 10 scholarships to the students from the least developed countries of Commonwealth.

A total of 636 scholarships have been awarded under the project while in 2020-21, 146 Pakistani students availed fully-funded Stipendium Hungaricum scholarships offered by Government of Hungary and proceeded abroad to join their studies. During the year, 102 Pakistani students returned from Hungary after successful completion of their Studies.





In November 2020, as part of new call for applications, HEC Pakistan advertised 200 (125 Bachelor's, 50 Master's, 25 PhD) fully funded Stipendium Hungaricum scholarships offered by Government of Hungary for the academic year 2021-22.

## 2. China Road and Bridge Corporation (CRBC) Scholarships for MS Engineering

HEC signed a Document of Understanding (DoU) in October 2017 with China Road and Bridge Corporation (CRBC), a well reputed state owned company of the People's Republic of China for award of 100 scholarships to Pakistani students to pursue Master's degree in Transportation Engineering in Southeast University, China. The subject programme aims to train the advanced managers and high-end technical personnel for modern transportation industry of Pakistan. This scholarship programme is in line with Government of Pakistan's vision of development through China Pakistan Economic Corridor (CPEC) that works on a well-defined pathway for regional connectivity enhancing people-to-people contact through academic, economic and cultural relations. The scholarship is fully funded and cover the tuition, accommodation, return airfare and living stipend for all awardees.

A total 50 scholarships have been awarded under the project against 74 nominations. A total of 45 students completed their degrees. In FY 2020-21, 35 scholars completed their Masters of Transportation Engineering from Southeast University, China.

## 3. Chinese Government Scholarship

The Chinese Embassy in Islamabad entrusted its national scholarship programme known as Chinese Government Scholarship to HEC Pakistan for providing nominations against seats allocated to Government of Pakistan. Sixty six nominations, based on HEC written test result and previous academic performance, were shared with Chinese Embassy in Islamabad. Out of 66 nominees, 58 students have been awarded scholarships FY 2020-21 under Chinese Government Scholarship Programme. Fifty two scholars accepted the award of the scholarship in the year 2020-21.

#### 4. Commonwealth Scholarships

The Commonwealth Scholarship Commission (CSC) mandated HEC with selection/nomination of two different types of scholarship schemes for Pakistani students, i.e., Commonwealth General Scholarships in Master's and PhD. Both these scholarship schemes are targeted to enhance skills of professionals from general and academia fields, as CSC contributes to development needs of Commonwealth countries by providing training for skilled and qualified professionals and academics. CSC also contributes to the UK higher education and foreign policy aims by encouraging collaboration and linkages.

HEC nominated 56 scholars (26 for Master's degree programmes and 30 for PhD programmes under Commonwealth General Scholarships), who were finally awarded scholarships.

#### 5. Coordination with Different Countries through Ministry of Foreign Affairs and Economic Affairs Division, Islamabad

During 2020-21, the following foreign funded programmes were advertised and processed (including call for applications, advertisement, application receiving, scrutiny of documents, test/interviews, finalising merit and sending the final nominations to donor) by HEC through "Learning Opportunities Abroad".

| Foreign Funded Scholarship Details FY 2020-21 |  |               |                 |
|---|--|---------------|-----------------|
| S. No.  | Scholarship Scheme   | Donor Country | HEC Nominations |
| I.  | NAM Countries Scholarships for Azerbaijan                          | Azerbaijan    | 04              |
| II.   | Moroccan Scholarship Programme                                     | Morocco       | 09              |
| III.  | Scholarship of Medicine Undergraduate Studies by the Govt. of Cuba | Cuba          | 01              |
| IV.   | Xi'an Jiaotong University, China                                   | China         | 10              |
| V.  | IUT Dhaka University Scholarships                                  | Bangladesh    | 13              |
| VI.   | New Zealand Government Scholarship for Commonwealth Countries      | New Zealand   | 02              |
| VII.  | Brunei Darussalam Scholarship                                      | Brunei        | 05              |
| Total   |  |               | 44              |

In addition, HEC also advertised direct foreign/donor funded scholarship opportunities at its website. A total of 40 such scholarships were advertised in the year 2020-21 through HEC website.

#### Need Based Scholarships

Keeping in view that talented students should not be deprived of higher education because of financial restraints, HEC is offering Need Based Scholarships under different local and foreign funded programmes. The Government of Pakistan acknowledges the difficulties of financially deprived segment of society and has assigned Ehsaas Undergraduate Scholarship Project to HEC to facilitate the deserving students in pursuit of their higher education. The details of the Need Based Scholarship schemes and achievements are as under:

**Achievements FY 2020-21**

|  |
|--|
| Award of 41,241 Undergraduate Needs Based Scholarships under Ehsaas Undergraduate Scholarship Project (EUSP) |
| Award of 3,030 HEC Need Based Scholarships   |
| Expansion Plan of USAID funded Merit and Needs Based Scholarship Programme Phase-II                          |
| Talent Grooming and Career Counselling Workshops under USAID Programme                                       |
| Award of 314 OGDCL Need Based Scholarships   |

| S. No. | Project/Programme Name  |
|--------|---|
| 1      | Ehsaas Undergraduate Scholarship Project (EUSP)                 |
| 2      | Pak-USAID Merit and Need based Scholarships Programmes Phase-II |
| 3      | HEC Need Based Scholarships Programme                           |
| 4      | OGDCL Need Based Scholarships Programme through HEC             |

**1. Ehsaas Undergraduate Scholarship Project (EUSP)**

HEC inked an agreement with Benazir Income Support Programme on September 20, 2020 to launch Ehsaas Undergraduate Scholarship Project (EUSP) which pledged to provide 50,000 Need Based Scholarships per annum in next four-to-five years for the financially disadvantaged students especially females and persons with different abilities. EUSP is the largest undergraduate need based scholarship project which envisaged to give influx of scholarships at the undergraduate level within the existing financial aid systems of the universities. Supporting the cause of female education, EUSP has reserved 50% of the scholarships for talented women.

In FY 2020-21, Batch-II of Ehsaas Undergraduate Scholarship Project was announced and applications were called from the students of 129 HEC recognised public sector universities.

**Progress of EUSP in FY 2020-21**

| Province/<br>Region                              | No. of<br>applications<br>received | No. of<br>HEIs | Scholarships Awarded<br>EUSP Batch-II |                     | Total          |
|--|------------------------------------|----------------|---------------------------------------|---------------------|----------------|
|  |                                    |                | Male                                  | Female              |                |
| Punjab   | 57,366                             | 45             | 10,551                                | 9,492               | 20,043 (48.5%) |
| Sindh  | 16,708                             | 26             | 2,835                                 | 1,479               | 4,314 (10%)    |
| Khyber Pakhtunkhwa<br>(including erstwhile FATA) | 23,324                             | 29             | 5,174                                 | 2,328               | 7,502 (18%)    |
| Balochistan                                      | 6,176                              | 9              | 981                                   | 815                 | 1,796 (4%)     |
| Federal  | 11,392                             | 13             | 2,532                                 | 1,372               | 3,904 (9%)     |
| AJ&K   | 3,709                              | 5              | 1,039                                 | 1,195               | 2,234 (5%)     |
| Gilgit-Baltistan                                 | 2,299                              | 2              | 760                                   | 688                 | 1,448 (3.5%)   |
| <b>Grand Total</b>                               | <b>120,974</b>                     | <b>129</b>     | <b>23,872 (58%)</b>                   | <b>17,369 (42%)</b> | <b>41,241</b>  |

To support scholarship awardees, BISP allocated Rs. 8.4 billion to HEC which were released to 129 universities by June 30, 2021.



## Success Stories

### Deepak Kumar: EUSP's Recipient from Quaid-e-Azam University (QAU), Mathematics

"My name is Deepak Kumar and I spent a good part of my life in a remote village at Ghotki, Sindh. We are seven family members and my father runs a small grocery shop in our ancestral village Dad Laghari. My father is the sole breadwinner of the family. Although we cannot make both ends meet from his income, he managed to fulfill our educational expenses by getting loans from friends and family time and again. Currently, I am pursuing my Bachelor's of Science (BS) in Mathematics from Quaid-e-Azam University (QAU) after getting Ehsaas Undergraduate Scholarship."



### "Education-The most powerful tool"

Education is the most powerful weapon to make this world a more peaceful, prosperous and Just place to live in for everyone and I can assure you that this award will contribute in achieving these objectives to benefit my nation

*Deepak Kumar*

"I am the first person in my family to graduate high school, thus the first to attend a university. I finished my high school majoring pre-engineering with good grades in 2017 from a local college located in Ghotki. After that, I scored high marks in several entry tests of different universities including National University of Science and Technology (NUST), Islamabad. Unfortunately, I could not join the university due to financial constraints and unavailability of scholarship opportunities there. Therefore, I lost two years in this struggle but alongside I was also doing some blue collar jobs to support my family. In year 2019, my father got loan from one of his friends and paid the first semester fee of my BS at QAU. I still remember that we were going through such a bad financial crisis that we had to sleep empty stomach for a few days... Finally, I was awarded the EHSAAAS undergraduate scholarship and words cannot express how thankful I am to have been chosen as a scholarship recipient."

### Maria Bibi: EUSP's Awardee from Lasbela University of Agriculture, Water and Marine Sciences

"My name is Maria and I am a student of BS Environmental Sciences programme at Lasbela University of Agriculture, Water and Marine Sciences (LUAWMS), Uthal Balochistan. I am a resident of a village Jhando Khoso, Taluka and District Hyderabad, which is approximately 320 kilometer from my university. My father is a farmer, whereas my mother is a retired primary school teacher. My father and I both are handicapped.

As our household income was limited, continuation of higher education after completion of my intermediate education in 2016 was a far-fetched dream for me... Luckily, Ehsaas Scholarship programme was launched in 2019 which has encouraged students from limited income backgrounds to apply, with special preference to females and students with different abilities."





**Farid Ullah Khan: EUSP's Awardee from University of Lakki Marwat**

"My name is **Fareed Ullah Khan** and I live in a small village of Lakki Marwat. Currently, I am studying in fourth semester of Business Management degree programme at the University of Lakki Marwat. We live in one of the least developed areas of Khyber Pakhtunkhwa where basic amenities of life are scarce and agriculture is the mainstay of income for poorer households. My father is a driver and his monthly income is Rs. 25,000. The income was not sufficient to meet household expenses, so I worked in fields to earn some extra money to support my father. From very beginning I was determined to get education, but university education was beyond my reach due to heavy expenses.



I have never thought that government would launch a scholarship programme for youth of poor households especially focusing less developed regions like Lakki Marwat. In 2019 when I heard about the launch Ehsaas Undergraduate Scholarship scheme, I immediately applied for it as it was my only hope. After a thorough scrutiny, I was selected for the Ehsaas Scholarship."

**2. Pak-USAID Merit and Needs Based Scholarships Programmes Phase-II**

USAID has shown its commitment to support the programme of scholarship for academically qualified Pakistani students, who aspire to continue higher studies, but due to lack of financial resources are unable to continue. It has supported scholarships for meritorious but financially disadvantaged students since 2004 through USAID-funded Merit and Needs Based Scholarship Programme (MNBSP) Phase-I to assist the Government of Pakistan's efforts to raise enrolment in Pakistani universities and meet international standards. In 2013, USAID launched second phase of the programme at a total estimated cost of US\$23.1 million. Under Phase-II, 3000 scholarships are added whereas 50 percent of the scholarships are reserved for the female students.

| Overall Progress of the Programme |           |         |          |
|-----------------------------------|-----------|---------|----------|
| Awarded                           | Completed | Dropped | On board |
| 3623                              | 3163      | 174     | 286      |

| Training Programmes FY2020-21                                  |            |            |            |
|--|------------|------------|------------|
| Training   | Male       | Female     | Total      |
| Scholarship Awardees trained under Talent Grooming Workshop    | 64         | 84         | 148        |
| Scholarship Awardees trained under Career Counselling Workshop | 33         | 25         | 58         |
| capacity development support with USG assistance               | 110        | 53         | 163        |
| <b>Total</b>   | <b>207</b> | <b>162</b> | <b>369</b> |

## Expansion Plan of USAID funded Merit and Needs Based Scholarship Programme Phase-II.

In FY 2020-21 “MNBSP expansion plan” was approved, allowing some additional interventions to be implemented under the programme. The new activities will include, award of additional 700 scholarships to women, talent hunt programme for females students of low income families and capacity building trainings of financial aid office staff for the universities located in USAID’s priority regions like former Federally Administered Tribal Areas (FATA), militancy affected districts of Khyber Pakhtunkhwa (e.g. Swat, Malakand, Kohat, Dera Ismail Khan, etc.), South Punjab and Balochistan with special focus on female universities to improve their level of competences and skills to adopt MNBSP’s sustainable model and to better implement other scholarship programme being implemented by these universities. In addition, a scholarship management information system will be setup, which will help store scholarship applicants and recipients’ data at a central place. The system will streamline the process to assist with the scholarship award, management and reporting.

## Success Stories

“My name is **Fozia Memon**, and I belong to Tandojam, which is small rural sub-district of Hyderabad, Sindh. My father was a retired dispenser from Health Department whereas my elder brother was the only earning member of our household. He was a salesman in a small shop... Realising how difficult it was for my father to manage education expense, I did not give up. In BS programme, I topped in my class. Luckily, when I had completed my Undergraduate degree, USAID announced scholarships for Master’s level degree programmes.



*“Thank you USAID for uplifting females of rural areas by creating opportunities of higher education by allocating 50% scholarships for them.”*

**Fozia Memon, MNBSP alumna from SAUT**

It was an opportunity for me to continue my education. I applied for the scholarship and through a transparent selection process, I got selected... I am thankful for USAID which has allocated 50% scholarships for females. Indeed, lives of many girls like me have changed.”

“My name is **Vishal Lahuna** and I belong to Mithi, a district in Tharparkar, Sindh. Mithi is considered one of the most backward regions of Pakistan due to its location and limited social and economic activity. Geographically, it is mostly a desert area. Life for me was very difficult as my father passed away when I was young, and my mother was sole bread earner. She used to stitch clothes to make both ends meet. Even though I was keen to study but due to financial conditions of our household, continuation of education seemed very challenging. My mother didn’t give up and she continued motivating me. Meanwhile I started giving tuitions to save some money for my education. My matric and intermediate education adverse conditions. She motivated me that no matter what circumstances were, I must continue my education.”



Prosperity and progress of any nation depends upon the investment made in education as it elevates individuals and communities/. I am very pleased that USAID has played a vital role in uplifting individual lives by investing in education in Pakistan.”

**Vishal Lahuna**

Vishal came to know about USAID scholarship from a local Sindhi newspaper from where he approached Sindh Agriculture University, Tandojam to apply for BS degree programme. With the support of USAID, he has completed his BS degree and currently working in a private company. During evening he teaches English to local students of his community, free of cost.

### 3. HEC Need Based Scholarships Programme

Pakistan has no shortage of talented youth, but in several instances, lack of resources prevents them from realising their potential. This is a particularly problematic when it comes to accessing higher education. The Government of Pakistan acknowledges these constraints and has tasked the Higher Education Commission with facilitating needy and deserving students through Need Based Scholarships.

HEC Need Based Scholarships programme was started back in year 2012. This year, over 3039 scholarships have been announced for financially disadvantaged students all over Pakistan including 104 public sector universities of Pakistan. It aims to elevate the socio-economic status of the students by enabling their access to modern education and career opportunities towards a brighter future.

| Overall Progress |                      |                  |                   |
|------------------|----------------------|------------------|-------------------|
| Degree Programme | Scholarships Awarded | Degree Completed | Students Studying |
| Undergraduate    | 32977                | 25430            | 7547              |
| <b>Total</b>     | <b>22,811</b>        | <b>15,385</b>    | <b>7,426</b>      |

| Progress FY 2020-21  |                   |
|----------------------|-------------------|
| Scholarships Awarded | Scholars Studying |
| 3,030                | 7,574             |

### Acknowledgments:



**Ms. Mahnoor Arif**  
**Father died in 2001. Completed BBA (Management Sciences)**

"Respected Staff, I am very happy to say that this scholarship meets my all academic and financial requirements. Gladly saying that now I can continue my study without any hesitation."



**Ms. Umme Aiman**

"First, I want to thank Higher Education Commission for awarding us scholarships... I am really very grateful to HEC for granting me a scholarship, so that I am not dependent on my parents regarding finance. I pay my fee with HEC Need Based Scholarship Programme. This scholarship helps me a lot in getting my education. Now I can easily acquire education. It is no more a burden on my father."

#### 4. OGDCL Need Based Scholarships Programme through HEC

As part of Oil and Gas Development Company Limited (OGDCL's) corporate social responsibility, "OGDCL Need Based Scholarship Programme through HEC" was started in June 2016 with focus on providing higher education opportunities to needy students belonging to underprivileged backgrounds from operational and concessional areas of OGDCL. The scholarship covers tuition fee, lodging and boarding.

The OGDCL management has approved the programme at a total cost of Rs. 141 million and the total number of students as beneficiaries are 250 enrolled in nine partner universities studying undergraduate and graduate courses in Engineering, Business administration, Law, Archaeology, Defense and Strategic studies, Gender studies, History, Sociology, Animal Sciences, Biochemistry, Microbiology, Electronics, Physics, Mathematics, Information Technology, and Pakistan Studies.

After successful implementation of the programme and excellent results generated by students out of projected residual amount, HEC submitted a proposal for Batch-III. The OGDCL management approved the proposal for 64 scholars who are also enrolled in partner universities. A total of 314 scholars are beneficiaries of the subject programme.

| Overall Progress     |                   |
|----------------------|-------------------|
| Scholarships Awarded | Scholars Studying |
| 314                  | 64                |

In year 2020-2021, HEC submitted another proposal of title "OGDCL Need Based Scholarships Programme through HEC (Phase-II)" with some new features. Deliberations have been done and agreement is expected to be signed soon between OGDCL and HEC. Under Phase-II, a total of 218 slots are proposed with financial funding of Rs. 168 million.

#### Success Story



##### Younas Zafar

"I never thought that I would accomplish my educational dreams and be successful in my life. I belong to a middle-class family so it was not easy for me to get admission in university because of heavy dues and I did not know that how can I continue my studies. But I decided to take admission in BS engineering.

Initially it was very difficult and upsetting for me to manage the fee by borrowing... I struggled tremendously in my first semester and scored 3.8 GPA and applied for scholarship in OGDCL. By the grace of God almighty, I got selected... The OGDCL scholarship was the light at the end of a tunnel. It helped me a lot in completing my four-year degree without financial issues."

## Other HRD Initiatives

The HRD Division is also implementing some programmes to maintain the quality of education in the higher learning institutions of Pakistan. Students who are physically challenged are also paid due attention. Details of the programmes and achievements are as under:

| Achievements FY 2020-21  |  |
|--|--|
| 2,261 PhD Supervisors Approved by HEC  |  |
| Distribution of 159 Motorised/Electric Wheel Chairs to Public Sector University and Affiliated Colleges Students |  |

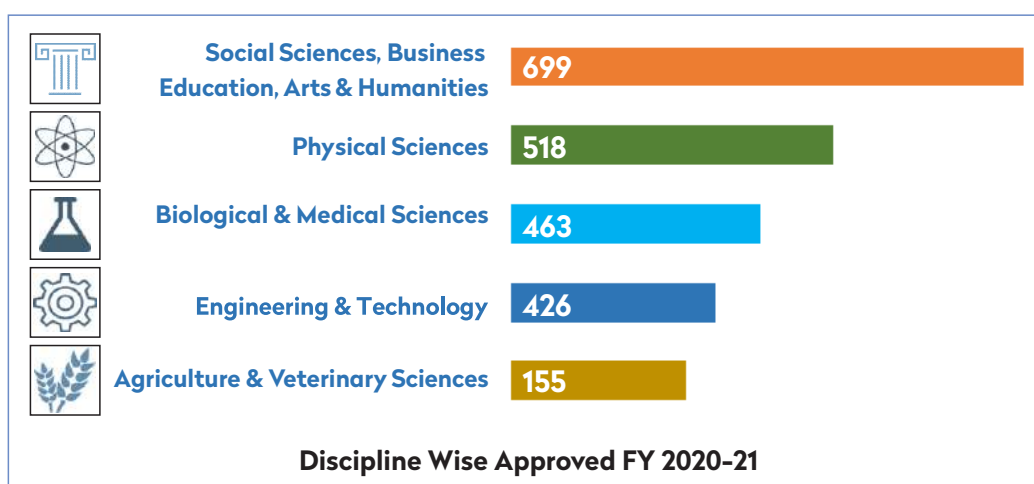
| S. No. | Project/Programme Name  |
|--------|---|
| 1      | HEC Approved Supervisor Programme   |
| 2      | Prime Minister's Electric Wheelchair Scheme for University Students – HEC |

### 1. HEC Approved Supervisors Programme

The approved PhD Supervisor Programme was initially started by the University Grant Commission. In February 2004, the programme was continued by HEC. The specific objective of this programme was to identify and register well-qualified, experienced and active researchers/scholars among faculty members of HEC-recognised universities/Degree-Awarding Institutions (DAIs) and R&D organisations. A total of 9,728 approved supervisors are available to supervise the PhD candidates.

#### Progress in FY 2020-21

During the year, 2,832 applications from 187 universities and R&D organisations were submitted for HEC approved supervisors while 2,261 supervisors were approved based on the criteria.





## 2. Prime Minister's Electric Wheelchair Scheme for University Students – HEC

Under the umbrella of Prime Minister's Youth Programme, the Government of Pakistan planned to expand the scope of the programme by launching a scheme for distributing Motorised/Electric Wheelchairs to empower special students (having ambulatory disability) studying in HEC-recognised public sector higher education institutions in Pakistan. The project was approved by CDWP in March, 2018 at a cost of Rs. 131 million for the procurement and distribution of 600 Motorised/Electric Wheelchairs in three years.

The main objective of the scheme is to facilitate special students having ambulatory disability, so that they can be assisted in their movements and contribute effectively towards the progress of the country. After successful completion of Phase-I of the project by distributing 206 wheelchairs among students of 45 public sector universities and affiliated colleges of Pakistan, the Phase-II was launched during FY 2020-2021, in which 159 applications were received from 33 public sector universities and affiliated colleges of Pakistan. Six regional wheelchair distribution ceremonies were organised for the distribution of the where the parents, students and dignitaries from Government and educational institutions participated.

| Gender Wise Distribution of Wheelchairs |                          |                |            |           |
|---|--------------------------|----------------|------------|-----------|
| S. No.                                  | Region                   | Total Students | Male       | Female    |
| 1.                                      | Central Punjab           | 36             | 27         | 09        |
| 2.                                      | Khyber Pakhtunkhwa       | 30             | 27         | 03        |
| 3.                                      | Federal, AJ&k and Gilgit | 36             | 21         | 15        |
| 4.                                      | Southern Punjab          | 45             | 35         | 10        |
| 5.                                      | Sindh                    | 10             | 6          | 4         |
| 6.                                      | Balochistan              | 2              | 1          | 1         |
|   | <b>Total</b>             | <b>159</b>     | <b>117</b> | <b>42</b> |



# Quality Assurance Agency





## Achievements and Performance

The impact of quality assurance can be seen in terms of taking responsibility. Universities are building quality culture on the basic principle where excellence is everyone's responsibility. QAA has endeavored to create a quality culture and quality consciousness among the faculty members and administrative staff. Over the years, documentation and record-keeping for academic matters have improved. Universities are implementing the concept of course files which is necessary for building good practices. Universities are trying to consistently hold statutory meetings as per their statutory requirement. Infrastructure and facilities have been improved. Universities are taking responsibility for conducting IPE with a consistent efforts to institutionalize self-assessment and improvement process within HEIs.

**Institutional Performance Evaluation (IPE)** process is a review mechanism developed to sensitise/create awareness and advise about institutional governance and quality issues as per rules and statutes and improvement in teaching and learning outcomes. QAA has been consistent in streamlining its IPE Review and introduced new reporting formats with a more defined roles of peer reviews. The IPE manual is also undergoing revision.

**Programme Review (PR)** is an evaluation mechanism applied to undergraduate and postgraduate level programmes. Before the implementation of this mechanism, there was no formal system of measuring programme quality in Pakistan. Now QAA is reviewing all postgraduate programmes while various Accreditation Councils for different disciplines are reviewing undergraduate programmes of recognised HEIs to enhance the teaching and learning quality of degrees to bring it at par with international standards. Thus, Programme Reviews have directed the HEIs' endeavour towards making continuous improvement in all subjects being taught at HEIs all over the country.

**Accreditation Councils** established by HEC in the areas of Agriculture, Business, Computing, Teacher Education and Technology for the programmes offered by the universities to standardise the quality through the rating procedures. These Accreditation Councils were established to judge the academic standards of professional degrees. These councils are responsible to periodically evaluate, scrutinise and monitor the quality standards through the peer review process. These Councils award accreditation decision to HEIs through their decision-making boards. The major purpose of the programme accreditation is only to ensure a minimum level of quality (playing a compliance role) and also to encourage individual institute to provide maximum information about the quality of education to all stakeholders. There is need to create new councils in the area of Life Sciences and Social Sciences and their establishment is under process.

QAA is the monitoring and evaluation body responsible for setting standards/criteria and provide manuals (self-assessments) and guidelines to assist institutions for quality assurance and quality improvement. These are integrated with the internal quality processes of universities and form the baseline information for external reviews of the institutes thereby creating continuity in the processes of quality assurance and enhancement. QAA intends to grant Councils autonomy that the established Councils should become independent and self-sustainable non-profit in terms of administrative and financial matters by the Act to make them self-sustained, self-reliant and financially independent.



**Quality Enhancement Cells (QECs)** are established by QAA with the mandate of implanting a quality culture in the Degree-Awarding Institutions (DAIs). For this purpose, QECs have been functional in 206 DAIs to strengthen the Internal Quality Assurance (IQA) mechanism and make DAIs live up to the minimum expectations of External Quality Assurance bodies. Whereas, for External Quality Assurance (EQA), different mechanisms have been devised at institutional level as well as programme level.

QECs are playing a key role in sensitising the university administration and faculty about the Quality Assurance issues of the university education and creating awareness about the need for Self-Assessment by the programme managers in the universities. These QECs have been annually assessed by QAA for their performance against the defined parameters. As COVID-19 pandemic hit Pakistan in February 2020, DAIs were forced to close their on-campus activities. Resultantly, the planned activities of QECs were also halted including the finalisation of assessment of Yearly Progress Reports of 2018-20 and conducting progress review meetings and capacity building workshops for QECs. During 2020-21, the Yearly Progress Reports of QECs for FY 2018-19 were finalised that were provisionally assessed during 2019-20 against the given targets that include: conducting of Institutional Performance Evaluation/Self-IPE, self-assessment of programmes, accreditation of programmes from respective Councils, Conducting of MS/MPhil and PhD Programme Review from HEC or self-review, NOCs of MS/MPhil and PhD programmes, strengthening of QECs Secretariat, memberships of statutory bodies and international QA bodies, conducting of awareness seminars/workshops and implementation of HEC's QA guidelines and policies.

#### Finalisation of provisional scorecards of QECs of FY 2018-2019

- Provisional assessment was completed in March 2020. The scorecards were supposed to be shared in the Progress Review Meeting but meetings were postponed due to COVID-19.
- The provisional scorecards were shared in September, October and November 2020 to all the 151 QECs.
- 107 QECs submitted their comments/observations/further evidences in September, October, November and December 2020.
- The further evidences were revalidated and the scorecards were updated accordingly in October, November and December 2020.
- The updated scorecards were finalised in December 2020 and the file was prepared for the perusal and approval of competent authorities.
- The competent authorities have approved the scoring of FYs 2018-2020 that are going to be shared with respective Vice Chancellors of the universities to reflect the areas for improvement of each QEC.
- Whereas, 32 DAIs have not submitted their YPR 2018-20, therefore, the concerns of competent authorities have been communicated to respective heads of DAIs.

The summary of assessment is as under:

|      | YPR 2018-19  | Y   | N  | NA | S   | NS | T   |
|------|--|-----|----|----|-----|----|-----|
| 1    | YPR 2018-19 Submitted by QECs  | 150 | 32 |    | -   | -  | 182 |
| 2    | Overall Performance of QECs  |     |    |    | 101 | 49 | 150 |
| 3    | Parameters wise Performance of QEC for YPR 2018-19                                   |     |    |    |     |    |     |
| i.   | Performance against IPE  |     |    | 2  | 79  | 69 | 150 |
| II.  | Performance against Self-Assessment of Programmes                                    |     |    |    | 61  | 89 | 150 |
| III. | Performance against Accreditation of Programmes from Respective Councils             |     |    | 5  | 64  | 81 | 150 |
| IV.  | Performance against Post Graduate Program Review                                     |     |    | 8  | 89  | 53 | 150 |
| V.   | Performance of QEC Secretariat   |     |    |    | 101 | 49 | 150 |
| VI.  | Performance against establishment of QECs at Sub-Campuses and/or Affiliated Colleges |     |    | 43 | 80  | 27 | 150 |

Legend: Y=Yes, N=No, S=Satisfactory, NS=Not Satisfactory, NA=Not Applicable, T=Total

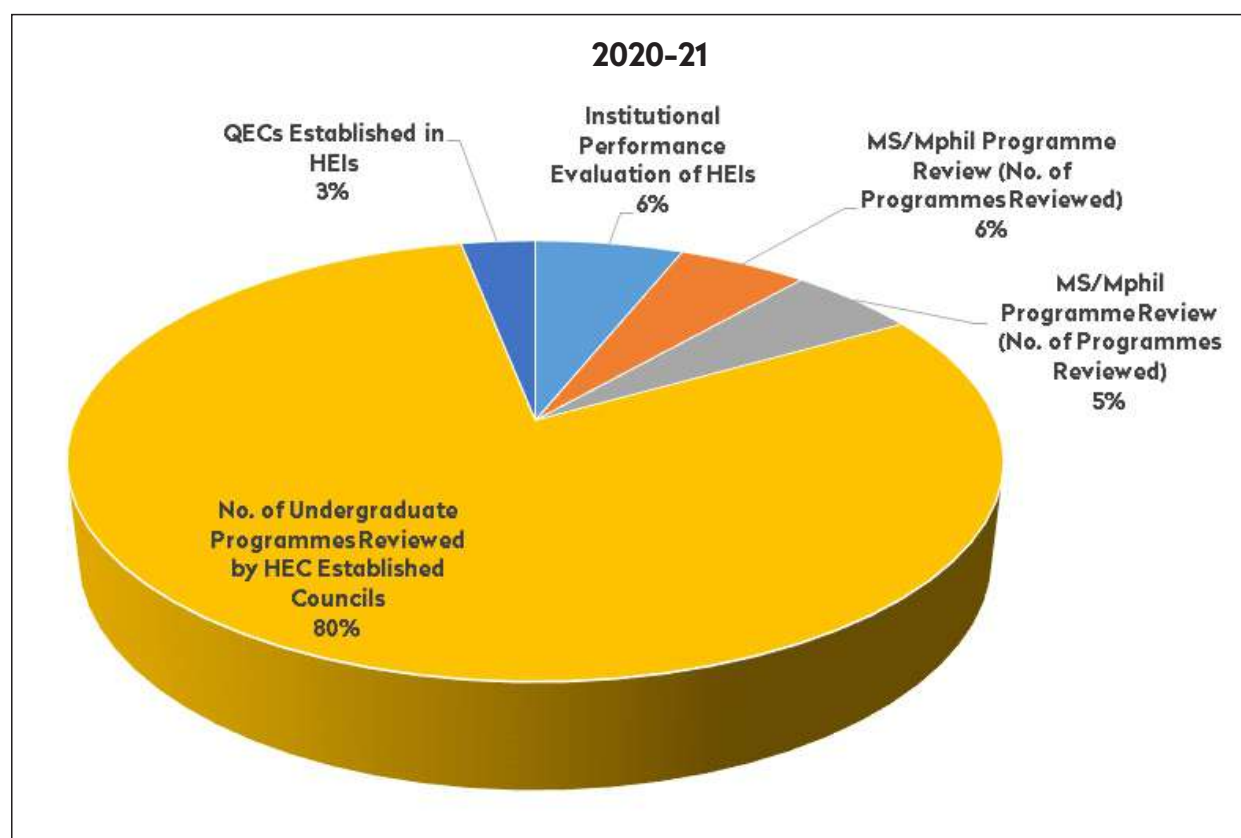
Further, QAA has organised three Progress Review Meetings and capacity building workshops for 60 QECs in March 2021 in Islamabad, Sukkur and Karachi. In Sukkur, the event was organised at Sukkur IBA University and in Karachi it was organised at Aga Khan University. The Progress Review Meetings and capacity building workshops for the remaining QECs were also planned but could not be conducted due to third wave of COVID-19 due to which DAIs were closed from March 10, 2021.

Besides, during the third wave of pandemic, QECs joined hands with QAA for adopting proactive approach towards streamlining the process of teaching and learning. For that purpose, QECs were directly involved in gathering data through surveys for Distance Learning during COVID -19 pandemic in order to ensure student connectivity and appoint a focal person for online readiness data through Higher Education Data Repository (HEDR).

**Table 1: Summary of the activities for measuring quality of HEIs in Pakistan during 2020-21**

| S. No. | Activity  | 2020-21        |
|--------|---|----------------|
| 1.     | Institutional Performance Evaluation of HEIs                            | 16             |
| 2.     | MS/MPhil Program Review (Number of Programmes Reviewed)                 | 14             |
| 3.     | PhD Programme Review (Number of Programmes Reviewed)                    | 14             |
| 4.     | Number of Undergraduate Programmes Reviewed by HEC Established Councils | 210            |
| 5.     | QECs Established in HEIs  | 08 (Total 206) |

Graphic Presentation of the table is given below:





# Information Technology

## 1. Information Technology

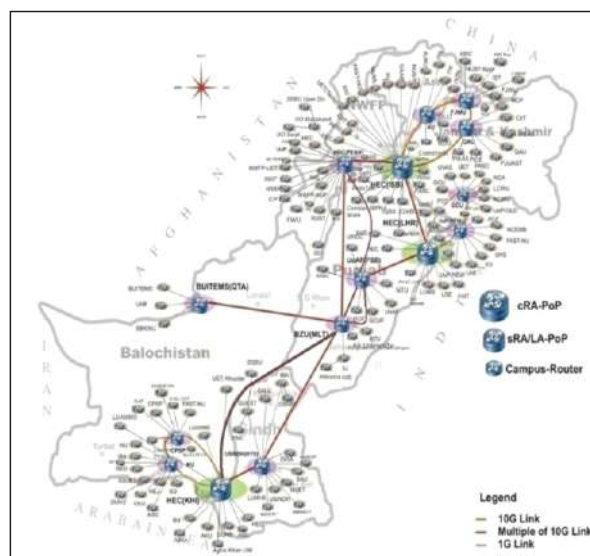
Information and Communications Technology (ICT) has proven track record of contributing to the economic development of many countries. Information and communication technologies are transforming every aspect of 21<sup>st</sup> century: Manufacturing of information products - computers, e-books, multimedia devices and software and the delivery of information services - financial services, education, utilities, telecast services are the prime emphases of leading countries for their development.

The Higher Education Commission is implementing new strategies for meeting the rising demand of technology embedded higher education and growth challenges. It has embraced the digital revolution of information and communication technology and is successfully utilising it for dissemination of higher education, increasing productivity and promoting innovation. HEC's Vision 2025 aims to ensure a comprehensive information and communication technology plan for implementation to develop a knowledge society in Pakistan by strengthening the HEIs with computing and telecommunications infrastructure. There have been significant developments and enhancements in various services offered by HEC to the higher education institutions across Pakistan. Pakistan Education & Research Network (PERN), being at the forefront, with footprints across the country providing high speed connectivity to HEIs. The bandwidth growth has been significant, whereas the core network service availability surpassed the 99.9% mark. The research and collaborative activities in the field of higher energy physics, telemedicine, and network technologies brought true value as per the spirit of PERN. Video conferencing, being one of the applications of PERN, has been a true enabler to the students and researchers of higher education. Interactive lectures, workshops, seminars, and other interactive sessions have been organised under the Virtual Education Project while the lectures of imminent scholars are delivered from different countries across the world.

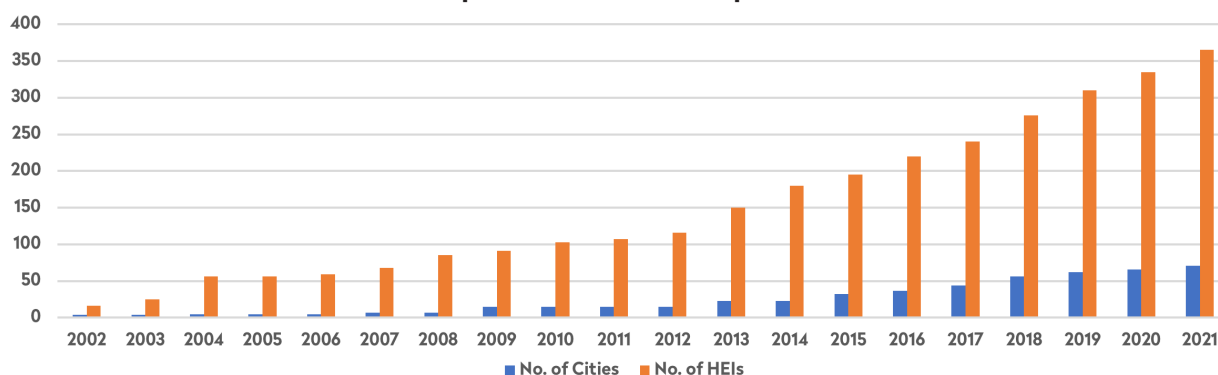
Helping universities with technology upgrades has been significant; achievement whereby desktop computers and servers are upgraded with the latest operating systems and software. Other technological advancements witnessed the introduction of virtual desktop interface as a cloud application and SaaS based unified communication services to the higher education institutions. The online services of degree attestation & equivalency services, online scholarship services and HEIs ranking offered by HEC underwent major developments in past years to provide feature rich experience to the public seeking various services from HEC.

## 2. Pakistan Education & Research Network (PERN)

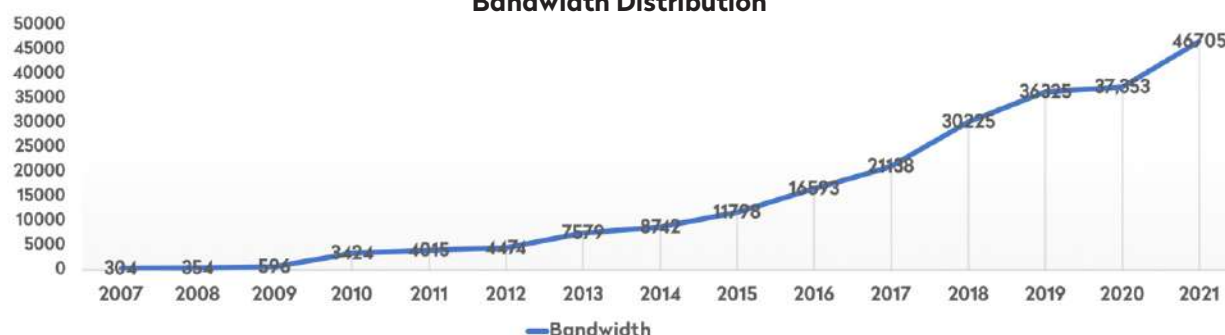
Since its inception, Pakistan Education and Research Network (PERN) has been offering a reliable, stable state-of-the-art communications network for research and collaboration in areas like grid computing, high energy physics, telemedicine, and video conferencing. These network-based services are not only available within the country, but they are also helpful in the research and education connectivity with other National Research and Education Networks of the world and their consortia to serve the academic and research community globally. The educational and research activities of PERN are diversified ranging from network technologies and physical sciences to medical and health sciences. The following two graphs depicts the expansion of PERN – HEIs and Bandwidth wise over the years.



**Expansion of PERN Footprints**



**Bandwidth Distribution**



## 2.1 PERN 3

Pakistan Education & Research Network (PERN) is the National Research and Education Network (NREN) of Pakistan, connecting premier education and research institutions of the country and provides them state-of-the-art platform for academic activities to promote research & innovation. PERN 2 is a high-speed backbone network that provides 10 Gbps core back bone connectivity by connecting cities across the country. The main purpose of this network is to facilitate researchers/faculty and students in sharing data and to coordinate with each other using technology.

With the technological advancements and industrial revolution, the new requirements have emerged. The advent of new bandwidth hungry applications, network services and increased number of PERN connected partner sites / HEIs, there was a dire need to upgrade PERN backbone network to meet future demands. In this regard, the PERN 2 backbone network upgradation activity has been completed at both transmission and IP/Core layers resulting in PERN 3 network. PERN3 is an ultra-high-speed backbone network which has 40 Gbps core backbone network extendable to 100 Gbps interlinking 50+ cities across the country. This powerful digital infrastructure connecting country to national and global resources - data, tools, classrooms etc. that fuel the engine of innovation in today's digital economy. More than 50,000 researchers at 300 plus Pakistani universities would be able use of this network.



### 3. Research Collaborations

#### 3.1 Asia Pacific Advanced Network (APAN)

PERN team along with the collaborating partner universities has been participating in the Asia Pacific Advanced Network (APAN) as well as Trans Eurasia Information Network (TEIN) activities.

PERN hosted the 51<sup>st</sup> Asia Pacific Advanced Network (APAN) meeting in Pakistan virtually, the meeting held during 1-5 February 2021 for the first time in Pakistan. A total of 1,121 participants participated from 55 Countries worldwide. Honorable President Islamic Republic of Pakistan, Dr. Arif Alvi graced the inaugural ceremony of the event. In his address, President Dr. Arif Alvi said that Pakistan is on the path of rapid growth of e-commerce, tele-health, and e-finance, and is moving towards a robust digital economy.

The President said that Information and Communications Technologies (ICTs) had already spread to every social and economic sector, but the Covid-19 pandemic has made it even more essential. To respond to this challenge, Pakistan has a comprehensive liberalisation policy for the development of ICTs. As a result, all of the indicators have registered rapid growth. Pakistan has achieved a tele-density of 83 percent, with almost 176 million cellular phone users out of a total population of 220 million. At the same time, the number of broadband subscribers had risen to 93 million, while ICT exports have increased by 35 per cent each year in the last three years. Dr. Alvi appreciated the contribution of the Higher Education Commission (HEC) in the promotion of ICTs in the country. Besides enabling the universities to continue their educational activities during the pandemic, the HEC helped in equipping students with skills and necessary knowledge to keep pace with the world in the era of Artificial Intelligence, Block-chain technology, software technology, and cloud computing. He hoped that the HEC-APAN collaboration will grow further in all strategic areas, including commerce, communication, and education.



The President of Pakistan  
@PresOfPakistan

Addressing a virtually held inaugural session of 51st Asia Pacific Advanced Network (APAN) organized by Higher Education Commission, the president said digital communication had always been vital but its importance had been multiplied during the COVID-19 era.



The President was accompanied by dignitaries from APAN and HEC including the Chairman HEC Tariq Banuri, Prof. Jilong Wang APAN chair, Prof. Francis Lee Chair APAN Programme Committee, and others. While addressing the audience in the inaugural ceremony, Chairman HEC said that HEC is a proud partner of APAN, as the two entities were learning from each other's experiences to move forward during the information age, and especially in the situation caused by pandemic. He hoped that the 51<sup>st</sup> APAN meeting will come up with a proactive

agenda for education. "We will learn together and move forward, while not only dealing with these challenges but also prospering amidst them." He highlighted the HEC's ICT-based research initiatives, including establishment of PERN3, and its different applications including smart classrooms initiative, wide access to digital libraries, and rapid adoption of Learning Management System (LMS). "PERN has enabled Pakistan to rise to the challenges posed by the pandemic." He said that PERN has not only interconnected Pakistani universities but provides them connectivity across the Asia-Pacific region and far beyond.

In his welcome address, Chair APAN, Prof. Jilong Wang reiterated the Network's vision for development of Asia-Pacific region. He said that APAN is promoting and facilitating network-enabled research and education activities, including research collaboration, knowledge discovery and sharing, tele-health and natural disaster mitigation. The 51<sup>st</sup> APAN meeting had renowned international keynote speakers who spoke on different importance of topic. The five-day meeting had interactive sessions from the APAN community including Medical Sessions, Federated Identity and Access Management, Disaster Mitigation, Rural Hybridisation, IOT, E-Culture, Climate Resilient Agriculture for Disaster Risk Reduction (CRADR), Agriculture, Routing Infrastructure & Security Operations, Secure Internet Routing, Software Defined Optical Networks (SDON), IPv6 Research, PerfSonar and Open Data and Sharing.

### 3.2 Collaborations with Asi@Connect/Trans Eurasia Information Network (TEIN)

PERN collaborated with the universities nationwide and supported the HEIs to compete for the Asi@Connect 5<sup>th</sup> call for proposals announced on 6 May 2021. As a result, 26 concept notes were submitted by Pakistan to compete. A total of 17 countries including Australia, Sri Lanka, Bangladesh, Myanmar, Bhutan, Malaysia, Germany, Nepal, Greece, Philippines, Indonesia, India, Singapore, Korea, Thailand, and Laos participated in the 5<sup>th</sup> call for proposals.

#### 3.2.1 Software Defined Networking (SDN)

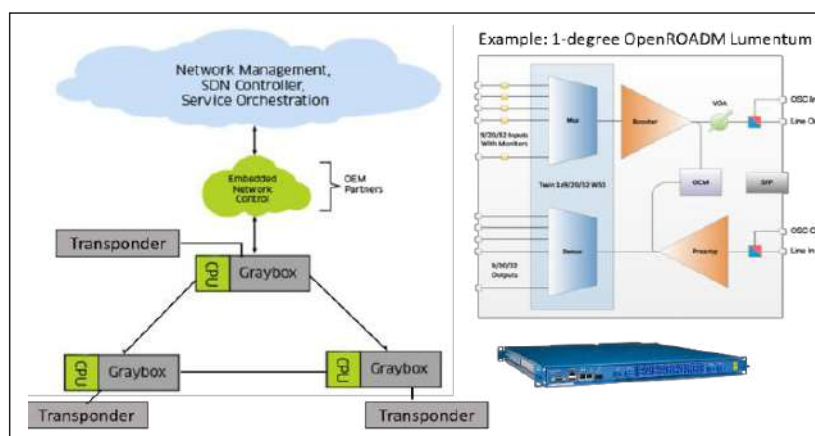
- Software Defined Optical Networks (SDON) Training & Research Laboratory for TEIN NRENs, by SEECS NUST

SDON lab was established at SEECS, NUST equipped with open optical line systems and application software. The lab will help in developing and testing different SDN control and management applications.

The idea was to establish a Software Defined Optical Networking Lab in the National University of Sciences and Technology (NUST), Islamabad, in collaboration with Photonic

Networks & Technologies National Lab (PNTLab), in Pisa. The lab is focused on optical networking technologies both at physical layer and control and management plane, for enhancing the technical expertise of TEIN member countries on the subject. The project will initiate collaboration between partners for promoting research capabilities and capacity building of collaborating TEIN member countries.

SDON lab is equipped with open optical line systems and application software to develop and test different SDN control and management applications. The lab is connected to PERN (Pakistan Education & Research Network) transport network, so that PERN infrastructure can be utilised to test developed algorithms, application etc. All the resources of proposed SDON lab are accessible to other TEIN members through remote access tools, using TEIN infrastructure to create the possibilities of future joint research collaborations between regional NRENs.



### 3.2.2 Climate Change

#### • Real-time Spatiotemporal Emissions Mapping by LUMS

This project was awarded to LUMS, Lahore under the Asi@Connect 4<sup>th</sup> call for proposals. The objectives of the project include:

- Develop a real-time monitoring system for spatiotemporal mapping of harmful pollutants
- Use information from such system for monitoring the effectiveness of climate mitigation and adaptation efforts
- Become a blueprint for implementing such system in other regions and countries affected by climate change

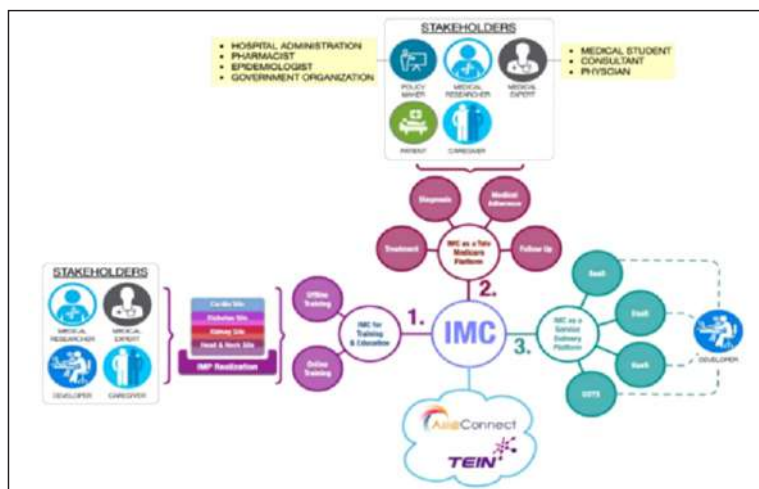
The details of the project are available at, <https://web.lums.edu.pk/~eig/index.html>

### 3.2.3 Telemedicine

#### • Intelligent Medical Services over TEIN, participation by NUST, AKU, Shaukat Khanum Hospital

IMS Project has established a collaborative platform, over TEIN, for technology and knowledge sharing in the domains of ICT and Healthcare.

The experts from South Korea, Malaysia, Thailand, Pakistan, and Vietnam are providing training, education, telemedicine, and customisable intelligent medical services. Intelligent Medical Core (IMC) aims to establish a global platform for enabling the collaborative learning process in healthcare sector.



## 4 Smart Education through Smart Universities

### 4.1 Transformation towards Smart Universities

The Smart Universities initiative has equipped the higher education institutes across the country with advanced WiFi technology by providing wireless blanket coverage across campuses, enabling users to freely access internet in all open and indoor areas across the campus. The smart universities are equipped with indoor and outdoor wireless Access Points, and Wireless LAN Controller enabling HEIs with local management of the WiFi services along with a backup Wireless LAN Controller for unforeseen situations. A monitoring system has been deployed centrally with full access to the higher education institutes to monitor and manage their respective wireless network.



Furthermore, the Safe Campus was launched in April 2017. In addition to WiFi services, Safe Campus project was included in this initiative to help in improving overall security at campuses. HD Cameras,

intelligent video analysis technologies are being implemented at campuses - main entry/exit as well as buildings, perimeter, parking lots, along with monitoring equipment. The Campuses are equipped with HD IP camera system integrated with Power-over-Ethernet (PoE) ports on the NVR having centralised and distributed monitoring, with an addition of facial detection system, including facial recognition software, video summary software. Smart Universities as well as Safe Campus (SUSC) initiatives are being executed on service delivery models in which services are acquired for seven (07) years on lease basis with equal payment of instalments.

During 2020-21, 33 public sector HEIs have been successfully provided with smart university facilities with WiFi blanket coverage across campus and residential areas as well. Further, this project also features the technology of "EduRoam" i.e., Educational Roaming. Out of these 33 HEIs, 10 are provisioned with safe campus facilities as well along with blanket Wi-Fi facilities.

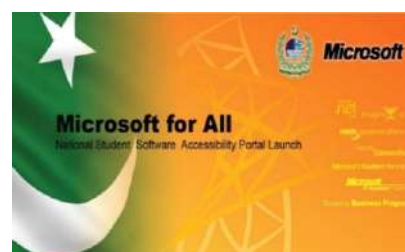
| Key Indicators                    | 2016   | 2017   | 2018    | 2019    | 2020   | 2021   | Total   |
|-----------------------------------|--------|--------|---------|---------|--------|--------|---------|
| Total Smart Universities deployed | 9      | 8      | 25      | 21      | 11     | 33     | 98      |
| Connectivity to HEIs in Progress  | -      | 8      | 4       | 4       | 4      | 2      | 22      |
| Total AP's                        | 835    | 3,200  | 7,655   | 4,928   | 2,427  | 4,461  | 22,671  |
| Fiber Laid (M)                    | 36,000 | 64,000 | 199,221 | 124,859 | 35,125 | 66,955 | 490,160 |
| Guest Smart University Clients    | 636    | 21,058 | 27,238  | 10,024  | 14,366 | 8,066  | 80,752  |
| Eduroam Clients                   | 4,750  | 21,202 | 44,129  | 94,290  | 52,408 | 80,317 | 292,346 |
| Total Clients                     | 8,800  | 26,410 | 61,481  | 89,761  | 61,080 | 88,386 | 327,118 |
| Trainings given to University POC | 9      | 16     | 29      | 32      | 28     | 10     | 115     |
| Total Safe Campus deployed        | -      | -      | 14      | 15      | 15     | 8      | 52      |
| Total Cameras                     | -      | -      | 3,488   | 1,186   | 1,242  | 319    | 6,235   |

## 5. National Video Conferencing Network

HEC, while supporting the mandate to develop e-Academia, established the national video conferencing network for higher education sector and provided world-class purpose-built video conferencing facility at all the public sector universities across Pakistan. Video conferencing has proven to be a cost-effective solution to higher education in Pakistan. It has emerged as an effective tool to enhance student-teacher interactions; bridge the gap of good faculty; and meet the shortage of faculty members at the universities located at far-flung areas. Total video conferencing sites established are 180 with national video conferencing infrastructure.

## 6. HEC – Microsoft Education Alliance

HEC has taken special focus for the establishment and empowerment of higher education sector. Major emphasis and reasonable investments have been made towards infrastructural development, whereas software and applications are also the critical components for campus computerisation. However, there has been lacking concrete plans or activities to continuously upgrade operating system and software packages to keep abreast with pace of ever-changing technological advancements and trends.



HEC has therefore signed a Strategic Education Alliance Agreement with Microsoft Corporation for HEIs in Pakistan. Under this agreement one of the core components is to promote IPO. Through this, the desktop operating systems and server technologies have been upgraded at all public HEIs.



For about a decade, The Microsoft Education Transformation Framework with Higher Education Commission is providing practical advice to help universities devel a strategy for digital transformation with a holistic, long-term view implemented in discrete phases that a university can begin today.

#### i. Summary of ETA

- 250+ Online Activities
- 50+ Cities Connected
- 100+ Universities Participated
- 1000+ Faculty & Staff Trained
- 10+ Microsoft Focused Technologies
- 10,000+ Students Attended Microsoft Sessions

#### Success Stories

- 'Microsoft Customer Story-Pakistans Dow University of Health Sciences digitally transforms administrative workflows with Microsoft Dynamics 365
- 'Microsoft Customer Story-Pakistans university, BUITEMS, streamlines operations and online learning

#### ii. Summary of Platform Adoption in HEIs



#### iii. Summary of Microsoft Imagine Cup

- 600+ projects submitted
- 80+ universities participated
- Pakistan ranks as the top 3<sup>rd</sup> country in the World in 2021
- Reach to more than 100 campuses done through multiple virtual outreach campaigns and national electronic media

### 7. ICT Services at HEC Offices

HEC has established technically advanced and outstanding ICT infrastructure at its Secretariat in Islamabad as well as at its regional offices in Lahore, Peshawar, Quetta, and Karachi. ICT services are offered to employees, visitors, delegates, and general public. The ICT infrastructure and services have gone through rigorous evolution process over past one decade. Since then, ICT services at HEC Secretariat and its Regional Centres are being managed and enhanced through HEC's own recurring budget. In this regard up-gradation of the Network Management System, installation of hardware and provision of machines to ensure smooth ICT services for official business of HEC is being materialised. Moreover, ICT Components under PSDP reviewed and technical support has been provided to Public Universities worth about 800 million during the year.

#### 7.1 HEC Cloud Datacenter in 2020-21

- Successful deployment, migration, and management of MS Cluster 2016 to the New MS Cluster 2019 made for Hosting the HEC Local Services on the High Availability (HA) with Failover clustering-based features, the migration done seamlessly and with zero down time for HEC live services from MS 2012 & 2016 clustered platform.
- New upgraded SAP server's platform has been successfully provisioned on Microsoft Hyper-V Cluster 2016 infrastructure in HEC Islamabad Data Center, and SAP is running on upgraded and virtualised infrastructure platform along with SAP application and oracle 11/12g as updated versions.
- Microsoft Exchange upgrade to 2013 is initiated and new infrastructure is being provisioned in DC Islamabad infrastructure, Exchange 2007 data migration is completed.

- Maintaining separate Active Directory for authentication of cluster 2016/19 to ensure the better security on infrastructure access level.
- Centralised monitoring for the Data Centers from HEC Islamabad DC NOC via NETECO application.
- Provisioning and management of storage services to the HEC and HEIs ICT infrastructure via SAN services.
- The councils established under HEC law including NTC, NACTE, NAHE, NCEAC etc. are facilitated.
- Major HEC online facilitation services being hosted in HEC Datacenters i.e., HEC Website, BPAS Portal, ETC Portal, HEC E-services portal, course-era portal, HEIs LMS hosting, and many more to facilitate the HEC users and departments, academia and general public with the modern-day ICT services.



**This data centre hosts the following services:**

- Virtual Data Centre (VDC)
- Virtual Desktop Infrastructure (VDI)
- Safe Campus Central Solution and Central Surveillance
- Unified Communication and Shared Services
- Storage as a Service
- Training as a Service



## 8. Digital Learning and Skills Enrichment Initiative (DLSEI) Coursera Project

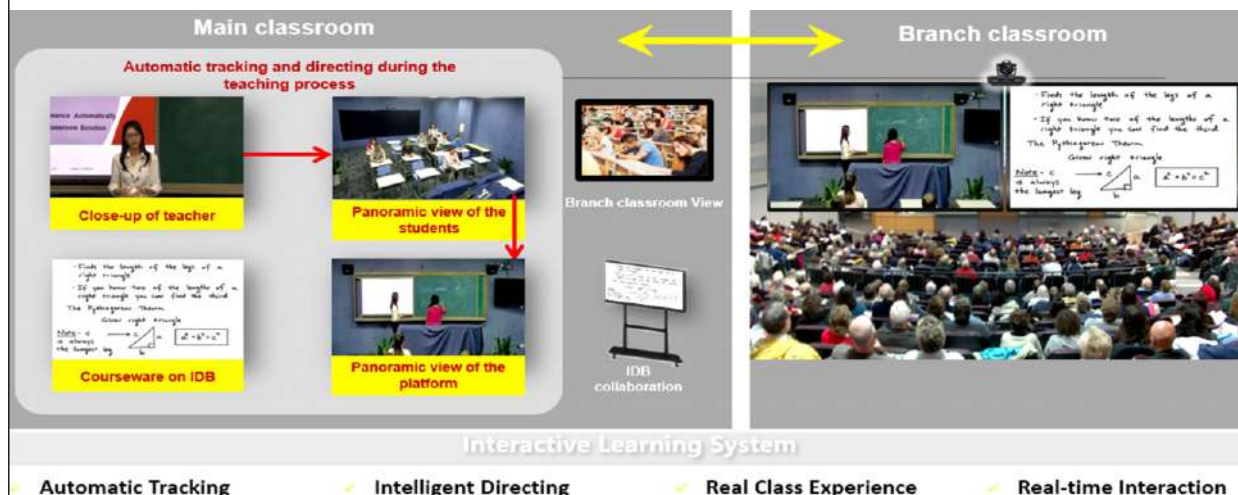
HEC has signed a contract with the world's most popular Massive Open Online Courses (MOOC's) service provider, Coursera International, and acquired 50,000 licenses for two years at a hugely discounted price. The initiative, "Digital Learning and Skills Enrichment Initiative (DLSEI)". There are around 1000+ courses, learning tracks and specialisation from top notch universities of the world, and Microsoft, IBM, Google etc. The students, faculty/researchers of both public and private sector HEIs are eligible to acquire licenses on highly subsidised rates.

## 9. Smart Universities: Transformation through Smart Classrooms

The quality of teaching & learning environment and its assessment are global challenge. The rapidly changing technologies will continue to address these challenging. The smart classroom concept will subdue the circumscribed teaching/learning environment by exposing students' inter alia to a vast online & offline resources, provide them access to quality faculty, contents, and new programmes. This fundamental change will impact on what we teach, how we teach and where we teach. The concept of Smart Classroom is emerging across the world and being adopted by the academic institutions at all levels as to help improving access and quality and transforming knowledge-based economy.

HEC taking advantage of developments in ICT initiatives an ambitious programme of networking and computerisation of every public sector university, their linkage to each other via a high-speed dedicated PERN network, and provision of services such as the digital library, unified communication, blanket wifi

## Between Smart Classrooms - Immersive Experience and Real-time Interaction



coverage intends to equip 50 public sector universities and their campuses with Smart Classroom facilities. This has rapidly followed the rollout of second-generation Pakistan Education & Research Network (PERN 2), and subsequently launch of the PERN-3 providing scalable 40Gbps backbone with HEIs connectivity upto 10 Gbps. The phase 1 of the project “smart universities: transformation through classrooms” is structured for 50 main classrooms in the public sector universities of Pakistan & AJ&K and their nominated 50 branch classrooms. The project will be funded by Chinese Government under “Socio-Economic Development under China Pakistan Economic Corridor (CPEC)”.

### 9.1 Objectives of the Project

The main objective of the project is to modernise the classrooms, improve accessibility of students from one location to the best teachers located at another place. Overcome the limitation of physical distances and develop online & offline materials and assessment system. These objectives are defined as multi fold benefits to overall education system of the country, the system embodying interactive, collaborative, distance, and smart learning approaches as well as assessment environment.

### 9.2 Smart Classrooms setup (interactive learning)

Establishment of classroom tools and extending the real classroom experience to multiple sub- campuses, affiliated/constituent colleges in 50 main places & 50 branches over PERN through immersive and intelligent video conferencing technologies i.e. Interactive Digital Boards, auto tracking cameras, auto recording and content development, scheduling etc. The smart classroom sub-components include main classroom and sub classroom. The main classroom (teacher classroom) will be fully equipped with audio/video tracking and recording technologies whereas the branch classrooms will only have the necessary audio / video tools.



## 10. Higher Education TV Channel

### 10.1 Objective

To cater need for improving communication with the stakeholders and building awareness about the National Higher Education Standards, quality assurance policies/ procedures, financial management, governance, and regulatory arrangement, the HEC has taken initiative of launching educational television channel. The channel will help in building the image of Higher Education sector, foster clear perception about programmes and possibilities of HE sectors, enhance public access to the information related to universities and encourage community engagement.



### 10.2 Web-Based EDU TV Initiative

To build the capability in media industry till the time of getting license and to move forward, IT Division has taken an initiative of Web based Educational TV Channel that is capitalised on National video conferencing Network (NVCN) which is available in 103 universities/institutes across the country to act as a recording studio. The initiative was taken since penetration of 3G/4G has been increased to above 40 million therefore, web-based EDU TV can be good medium to outreach wider population.

### 10.3 Engagement of Media and Mass Communication Universities

There are 26 universities offering media and mass communication programme, out of which 15 universities have built-in studios and production capabilities. The remaining studios are not operational. To present the concept and to seek their viewpoint meetings convened. HEC in first stage integrated National Video Conferencing Network (NVCN) with live streaming tools and streaming of all video conferencing are made available on edutv.hec.gov.pk. To develop the content of EDU TV, the Chairman HEC, intends to take media and mass communication universities on board to build a cluster base model in which media and mass communication universities represents a cluster which will be made responsible for developing contents related to their own and for the universities that are in their vicinity. HEC signed MoU with five media and mass communication university studios. These include University of Baluchistan, Riphah International University, Sindh Madrassah tul Islam University, Lahore Garrison University and Shaheed Zulfiqar Ali Bhutto Institute of Science and Technology.

### 10.4 Integration of TV and Radio Studios with Video Conferencing

After the meeting the technical teams of IT Division has visited the studios of Allama Iqbal Open University, Riphah University and Sindh Madrassah tul Islam and Virtual University for integration of traditional TV Studios with IP based video conferencing. The concept implemented successfully and studios of said university were integrated with video conferencing. The success has given opportunities to universities to develop collaborative programmes with other universities regardless of geographical locations.



## 10.5 Mock Sessions

To proof the concept a programme that has two studios (Allama Iqbal Open University Islamabad and Riphah University Rawalpindi) was telecasted live on [edutv.hec.gov.pk](http://edutv.hec.gov.pk). The programme was on a broader topic “HEC Vision 2025” that has debates and discussions of participants present at local and remote end studio.



## 10.6 Proposed Programmes Aligned with directives of the Commission

The Commission in its 31st meeting has defined the broader categories for National Higher Education Standards, quality assurance policies/procedures, financial management, governance and regulatory arrangement, to follow the Commission directives on HEC Educational Television.



## 10.7 Way Forward

These collaborations that mentioned above have given great encouragement to media and mass communication universities. There are lots of programme that can be develop to awareness and counseling to citizens of Pakistan on Higher Education sector by using the EDU TV platform. However, there is a need to build a model that can encourage universities to utilise the opportunity and develop diverse contents.

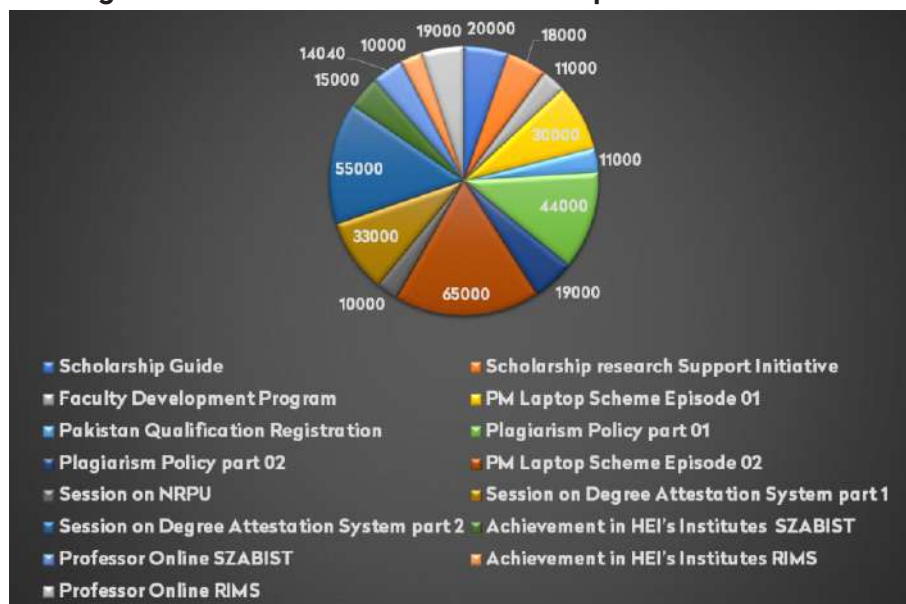
## 10.8 Develop Cluster Model

For integration of TV studios with IP based video conferencing, the IT team of HEC visited media mass communication universities and successfully integrated the concept with Allama Iqbal Open university, Riphah International University, Sindh Madrasahatul Islam University, Virtual University, Bahria University, Shaheed Zulfikar Ali Bhutto Institute of Science & Technology and Lahore Garrison University and successfully live transmissions have been carried out by these universities.

Now with the collaboration, these Higher Education TV Channels have been running live Education awareness programmes on Scholarship Guide, Prime Ministers Youth Training programme, Plagiarism Policy, Achievement in Higher Education Institutes, Professor Online, Degree Attestation and Entrepreneurship, and Chairman Online. Currently 13 universities studios are available for EDUTV.

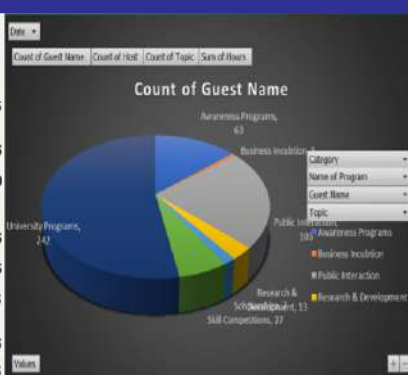


## 10.9 Higher Education TV Session Statistical Report



### Categorize-wise Programmes

| Row Labels             | Count of Guest Name | Count of Host | Count of Topic | Sum of Hours |
|------------------------|---------------------|---------------|----------------|--------------|
| Awareness Programs     | 63                  | 63            | 63             | 47.25        |
| Business Incubation    | 3                   | 3             | 3              | 2.25         |
| Public Interaction     | 103                 | 103           | 103            | 110          |
| Research & Development | 13                  | 13            | 13             | 9.75         |
| Scholarships           | 7                   | 7             | 7              | 5.25         |
| Skill Competitions     | 27                  | 27            | 27             | 188.75       |
| University Programs    | 242                 | 241           | 242            | 181.5        |
| Grand Total            | 458                 | 457           | 458            | 544.75       |



## 11. HUAWEI ICT Academy

The Huawei Authorised Information and Network Academy (HAINA) is a global education programme which has been launched in Pakistan under the MOU signed between Higher Education Pakistan and Huawei Technologies to boost R&D facilities in Pakistan.

### 11.1 Objective Statement

The purpose of the HAINA project is to promote the development and dissemination of ICT technologies, cultivate ICT talent for society, and meet the long-term talent requirements of the ICT industry chain.

### 11.2 HAINA Initiatives

The Project implementation in the selected HEIs of Pakistan, was initiated in September 2017 after the rigorous competitive RFP based award process of HAINA Establishment throughout the country, since its inception in year 2016 under the MoU signed between HEC and Huawei Technologies to boost the R&D facilities in Pakistan by providing the ICT Academies culture to the HEIs. In two Phases twenty-two (22) Academies are established in Pakistan by the year 2020.



### 11.3 Achievements 2020

#### 1. Research & Development

During year 2020, phase-II completed, for the establishment of 07 new R&D training labs and upgrade of 05 Academies of phase-I to HCIP level, along with addition of new technologies and tracks for the trainings i.e., R&S, Security, AI, Cloud and Storage Technologies.

#### 2. Collaboration & Capacity Building

- i. In two (2) phases, a total of 21 R&D Labs has been established under the DoU for R&D Labs establishment between HEC & Huawei.
- ii. By the year 2020, under the Train the Trainers Programmeme of the R&D Labs project, HEC and Huawei concluded three batches of instructor training in Pakistan and attended by total 52 instructors from 21 HAINA members.
- iii. By 2020, the total number of students registered on the Huawei ICT Academy portal are 1860 for the offered trainings via R&D labs training programmes. A total 40 batches of Huawei HCNA R&S trainings, for a total of 1300+ academy students were launched by Huawei Authorised Academies, contributing 320+ certified students of associate level.
- iv. Under the Talent Development task via HEC-Huawei jointly established R&D Labs, following are the key training programmes conducted in 2020:
  - a. TTT training for the phase-II associate level academy instructors' batch-1 batch-2, and batch-3 conducted in HEC RC Lahore in collaboration with Huawei technologies.
  - b. 23 instructors from newly awarded academies were trained for the associate level trainings in 3 tracks (HCIA Datacom, HCIA Security and HCIA Storage).
  - c. TTT training for the phase-II professional level academy instructors' batch was conducted in HEC RC Lahore in collaboration with Huawei technologies.
  - d. 9 instructors from newly awarded professional level academies were trained for the HCIP level trainings track (HCIP Datacom).

### 11.4 Glimpse of Huawei ICT Competition 2020

Despite from the hindrances due to the COVID-19 pandemic, First Online Huawei ICT Competition 2019-20, Huawei successfully launched the ICT Competition Pakistan 2019-20 in collaboration with HEC. The competition attracted 10000+ students from 50 Higher Education Institutes form across Pakistan, out of which 7000+ were registered from the HAINA platform. Pakistan have secured the 1st and 2<sup>nd</sup> positions in the Huawei ICT Competition Middle East 2020 once again.



### 11.5 Drive for Huawei ICT Competition 2020-21

The Pakistani students distinguished themselves on the international stage for their abilities; out of over 15,000+ students from 13 countries and 442 Universities that took part in the Huawei ICT Competition 2020-2021 Drive. In preliminaries, one team won the First Prize \$20,000 in the Practice Track, the winners and their peers can now look forward to Huawei's Middle East ICT Competition, which will start accepting registrations from August and aims to attract 12000+ students from Universities in Pakistan.

## 12. Business Process Automation System

Business Process Automation is a strategic decision by HEC to improve standardisation and efficiency of operation by focusing on Business Processes and related data. The need for this strategic decision arises due to the process and knowledge silos in HEC causing a disparity of data and lack of single source of truth. The application is architecture with the vision of scalability on a 3-tiered architectural framework with data and information security inherent to its design. Through 45 Live applications, around 500 thousand applicants have interacted with BPAS to avail different services offered by HEC.

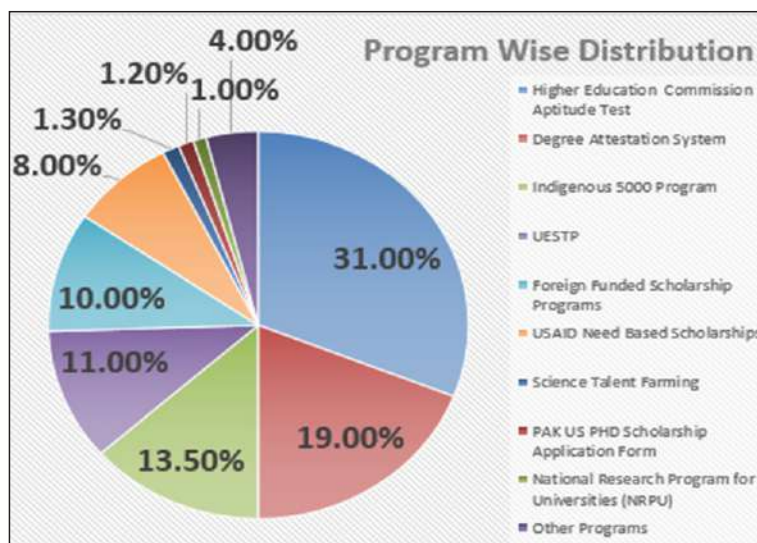
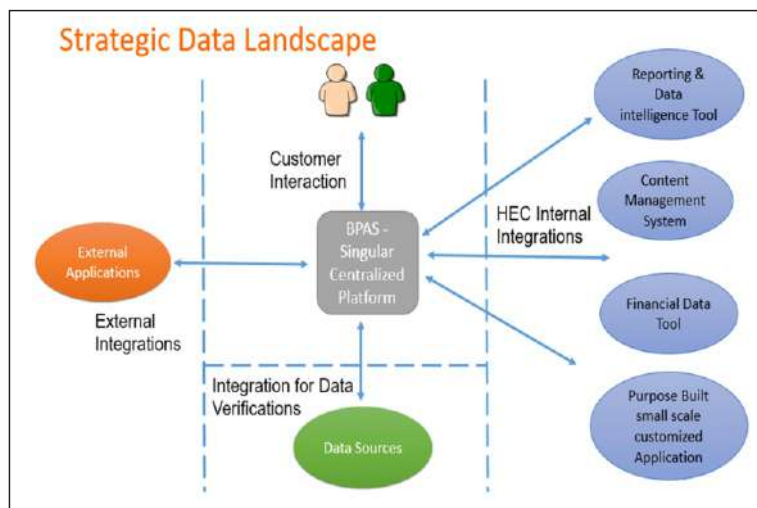
Over 240,000 thousand documents have been attested and 175,000 applicants have been processed for Entry Tests. As an effort to bring standardization and transparency across the degree programmes being offered by the degree awarding institutions in Pakistan, automation of Pakistan Qualification Register (PQR) has resulted in a 30-thousand-degree programme base in a standardised and ready to access format. The quality of service has

been ensured through an array of Internal and External Integrations like CNIC verification from NADRA, Local and International SMS from ZONG & Mobilink, ECM Integration with SharePoint, Business Intelligence and Reporting from Microsoft Power BI and Online Payment solution. Serving an Average of 750 Customers every day, through BPAS HEC is trying to achieve excellence in providing ease of access through readily available information with a vision of process standardisation and data consolidation. The application is provided through 26 servers, 3-tiered architectural platform with a capacity to perform complex validations up to 4,800 concurrent requests per second. The application is closely monitored 24/7 through network and application monitoring tools and the system has maintained an MTBF of 2,350 Hours and an MTTR of 2.5 Hours.

Following are the details of some of the services provided under BPAS umbrella:

### 1. Services Provided by HEC

- i. Degree Attestation System (75,000 Applications, 200,000 Document Attestations)
- ii. Higher Education Commission Aptitude Test (3 Application rounds, 175,000 Applicants)



## 2. Human Resource Development Scholarships

- i. Indigenous 5000 Scholarship National Programme (2 rounds of applications, 30,000 applicants)
- ii. Hungarian Scholarship (5261 Applications)
- iii. Overseas Scholarship Programme (3000 Applications)
- iv. Foreign Funded Scholarship Programmes (19 Foreign Scholarships announced, 9000 Applicants)
- v. PAK US PhD Scholarship Programme (2000 Application for Scholarship, 5000 Applications for GRE/GMAT Training)
- vi. Faculty Development Programme (500 Applications)
- vii. Overseas Faculty Development Programme (1118 Applications)
- viii. Baluchistan and FATA application Programme (2700 Application)
- ix. University and Industry Linkages Scholarship Programme (2 rounds of applications, 9,000 applicants)
- x. USAID Need Based Scholarships (3 rounds of applications, 7,000 applicants)

## 3. Research and Education Grants

- i. National Research Programme for Universities (NRPU) (3000 applications and counting)
- ii. Institutional Strengthening & Upgradation of Labs and Libraries (2 rounds of applications, 1400 Applications)
- iii. Thematic Research Grant Programme (250 Applications)
- iv. Access to Scientific Instrumentation Programme (ASIP) (600 Applications)
- v. Pakistan Chairs Abroad (719 Applications)
- vi. Admission of foreign students under self-finance scheme (3 rounds of applications, 1300 applicants)

## 4. General Applications

- i. Science Talent Farming (5.3k Applications)
- ii. HEC Approved Supervisors for Doctorate Students (1500 Applications)
- iii. Open Call to Young Professionals (2 Calls, 500 Applications)
- iv. Prime Minister Wheelchair Scheme (166 Applications)
- v. Grievance Portal (400 Grievances)

## 13. E-Office



E-Office is a step forward into an era of paperless administration and work environment in government offices. It is a digital workplace solution that replaces the existing method of physical handling of files and documents with an efficient electronic system. HEC has fully automated its filing system and is using E-office for all file movements since February 2019.

Until now, HEC has procured active and backup link for maintaining high availability.

More than 690 user profiles have been created and trained in-house. Master trainers were also trained from each HEC division to extend support within their divisions. HEC has built capacity of Internal Technical and Training Support for E-Office. All four regional centers across country have adapted e-Office suite. HEC's attached councils are also using e-Office for internal communication. In future, HEC plans to extend e-Office using PERN connectivity to over 200 universities.

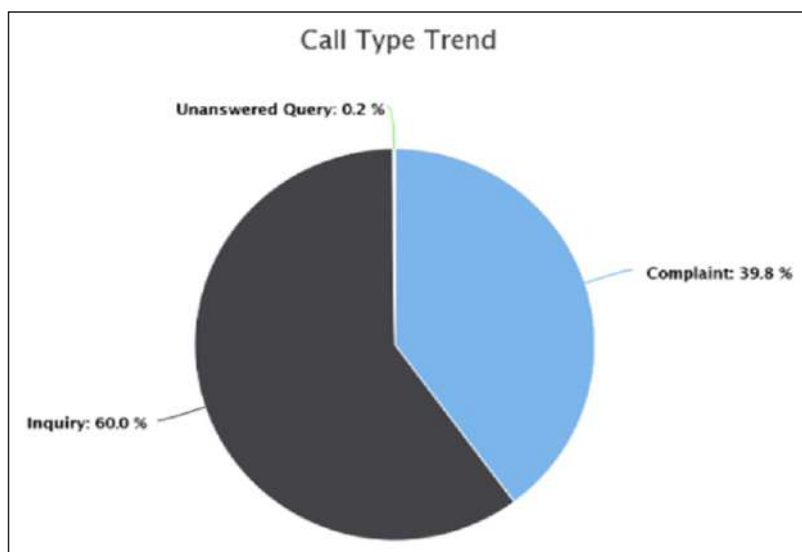
### Spread-out Details

|                                   |        |
|-----------------------------------|--------|
| <b>Users Profiles</b>             | 694    |
| <b>Files Created</b>              | 8125   |
| <b>Documents Created</b>          | 52374  |
| <b>Attachments Made</b>           | 79069  |
| <b>File Noting</b>                | 207200 |
| <b>Regional Centers Connected</b> | 4      |
| <b>Councils Connected</b>         | 5      |

## 14. HEC Call Centre

HEC has established state of the art Call Center to facilitate public at large by overcoming traditional channels of communication with aim to provide convenient mode for interactions with the end users.

The main objective of the call center is to provide information in an efficient manner about the services being offered by HEC including degree attestation, degree equivalency, scholarships, grants, etc.



HEC Call Center has a dedicated team of CSRs that is responsive and scalable. The Call Center is responsible for user call data collection. The acquired data is then analysed with regular intervals to identify any possible deficiencies within SOPs and application systems based on which SOPs and Application Systems are improved regularly and the applicants in-turn have better experience with HEC Services. The graph highlights the breakup of the calls.



### 14.1 Call Center Details

|   |                 |
|---|-----------------|
| <b>UAN Number</b>                       | 05 111 111 9432 |
| <b>Customer Service Representatives</b> | 10              |
| <b>Total Calls Answered</b>             | 207972          |
| <b>Complaints Registered</b>            | 6632            |
| <b>Knowledge bases developed</b>        | 21              |
| <b>Programmes/Schemes</b>               | 54              |
| <b>Departments Covered</b>              | 8               |

## 15. Complaint Management Systems

### 15.1 HEC Customer Relationship Management System

HEC has a deployed a centralised customer relationship management system to extend support to the public in an efficient and systematic manner. The public can register their concerns, queries, suggestions, complaints over the call or using the web interface. These queries are automatically escalated to the concerned teams at HEC. The registered items are properly assigned a ticket number so that it is tracked easily. In 2021, HEC has received 1,41,798 queries and complaints over the system. The system has been integrated with Call Center, SMS Service, Email Services and Online Help Portal.



### 15.2 Online Help Portal (<https://onlinehelp.hec.gov.pk>)

HEC is offering various services/schemes i.e., Degree Attestation System, Degree Verification, Accreditation, PERN, Video Conferencing, Anti Plagiarism, Digital Library, Indigenous and Foreign Scholarships to the faculty/ students of higher education institutions etc. HEC is striving hard to provide quality services to Higher Educational Institutions and students. Multiple departments are engaged to provide these services. To further strengthen the communications with the public, HEC has launched Online Help Portal to give public a direct access over the web to register their queries, suggestion and complaints against various scheme offered by HEC. In 2021, Public has registered 1,28,248 queries and complaints using Online Help Portal. The portal also enables public to keep tracks of their queries & complaints along with resolution statements.

### 15.3 Pakistan Citizen Portal (PMDU)

Pakistan Citizen's Portal (PCP) is a government owned Application and is being used as a tool to promote citizen-centric participatory governance. The primary objective of the portal is to provide an opportunity to the public to seamlessly communicate with all government entities and have their issues resolved and recommends amendments and simplification of cumbersome official procedures as evidenced from the database for the purpose of assuring public facilitation. HEC has identified focal persons in all subordinate offices and HEIs to resolve citizen's complaints in a more convenient manner. In 2021, over 30,000 complaints were analysed and forwarded. Around 1845 complaints that were reopened and reviewed by counter reporting offices to ensure appropriate resolution of these complaints.

## 16. Identity Access Management

HEC intends to build an Identity federation across Higher education institutions, research institutes & colleges in Pakistan, who are users of academic e-resources, publishers, cloud service providers and other e-resources. PERN has created its own SSO federation with the name of Pakistan Identity Federation (PKIFED) and successfully joined eduGAIN inter-federation network. PERN has also tested SSO authentication in 5 universities. The goal of the PKIFED is to allow users to access internal and external resources seamlessly using a single, institutionally controlled identity from institutions from anywhere, anytime.

# National Academy of Higher Education

The Higher Education Commission (HEC), Pakistan launched the National Academy of Higher Education (NAHE) in June 2019. NAHE is a stand-alone, autonomous institution, operating initially under the auspices of HEC to improve the quality of teaching, research, and academic governance in Higher Education Institutions (HEIs) across Pakistan. NAHE is the academic arm of HEC. Its vision is to establish itself as an apex learning institution that will institute and lead a broader national discourse around the purpose, perspectives and policy in higher education and help develop high quality human capital to achieve excellence in the academic milieu. NAHE works as a centre of excellence for capacity building, skill development, and promotion of academic, research, governance, and leadership competencies. It offers generic as well as needs-based capacity building services and is actively engaged in setting standards, defining, and cultivating academic and professional quality, and advancing research on professional resource development. It is aligned to the HEC Vision 2025.

The HEC Vision 2025 is an aspirational long-term plan to sustain what has been achieved since 2002 in Higher Education and to initiate further qualitative and quantitative reforms that are in line with Government of Pakistan Vision 2025. The document aligns Human Resource Development platform with Economic Development platform to create a knowledge economy in Pakistan. HEC is implementing a process of developing critically needed human capital that is both professionally competent and ethically committed to make Pakistan an emerging Asian economic tiger. This year's annual report (July 2020- June 2021) builds on what was articulated in the annual report from July 2019-June 2020. In the following pages, NAHE's robust calendar of activities, achievements and challenges have been outlined.

## 1. Summary Statistics

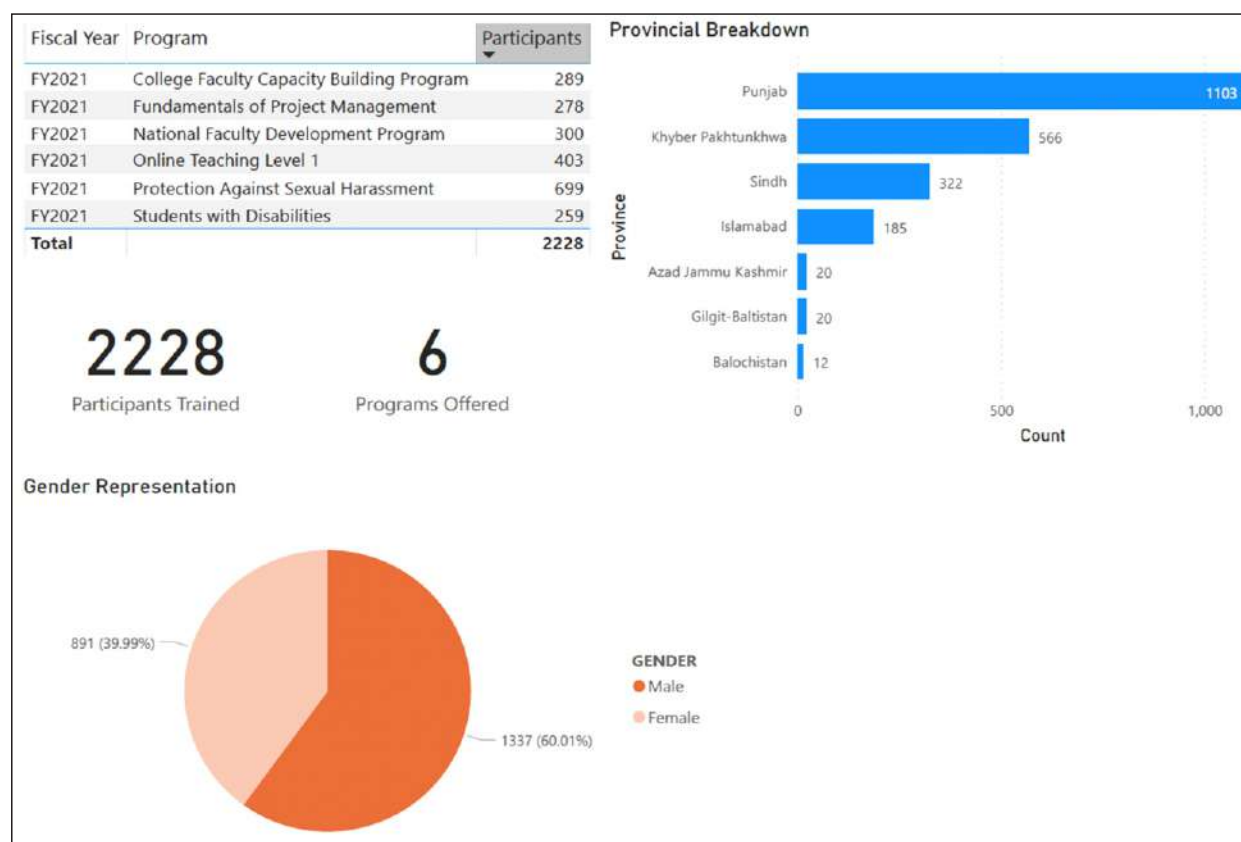


Figure 1. In the fiscal year 2020-2021, NAHE trained 2228 participants across Pakistan by offering 6 carefully developed programmes to HEIs.

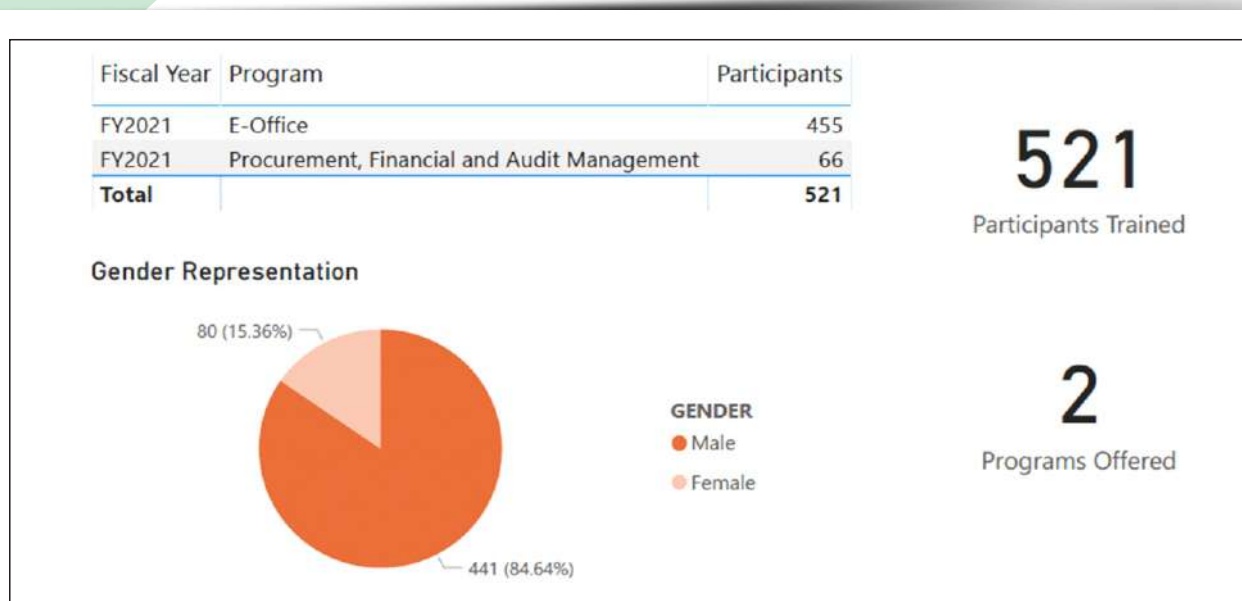


Figure 2. Additional to capacity building of HEIs, NAHE also trained 521 participants by offering 2 programmes for HEC employees.

## 2. Summary of Achievements

| Month<br>2020/2021 | Summary of Achievements and Activities   |
|--------------------|--|
| July 2020          | National Faculty Development Programme 2020;<br>Series of live webinars on online assessment in collaboration with the US Embassy.   |
| August 2020        | National Faculty Development Programme 2020  |
| September 2020     | National Faculty Development Programme 2020  |
| October 2020       | National Faculty Development Programme 2020  |
| November 2020      | Training Needs Assessment of HEC Employees<br>International Virtual Conference with Ziauddin University  |
| December 2020      | Technical Capacity Building on E-Office for HEC  |
| January 2021       | Technical Capacity Building on E-Office for HEC  |
| February 2021      | National Collaboration for Excellence in Professional Development<br>Reflective Session in Teaching & Learning for IPFP Fellows  |
| March 2021         | Provincial Collaboration for Excellence in PD: Khyber Pakhtunkhwa (KP)<br>E-Office Workshop for Faculty Affairs Division (HEC)<br>IPFP Phase 2 Batch 2 Revised Policy and Application<br>Online Teaching Level 1 Course for HEIs (Cohort 1)<br>Fundamentals of Project Management for SRGP Fellows |
| April 2021         | IPFP Phase 2 Batch 2 Revised Policy and Application<br>Online Teaching Level 1 Course for HEIs<br>Fundamentals of Project Management for SRGP Fellows<br>Collaboration for Excellence in Women Leadership  |
| May 2021           | NAHE Associate Fellowship for IPFP Fellows<br>PERU-NAHE training of affiliated college faculty (TT)<br>Development of framework for Women Leadership Programme<br>Development of framework for NAHE Regional hubs<br>Directory of Faculty Development Units/Centres at HEIs                        |
| June 2021          | Accreditation of National Faculty Development Programme<br>National Faculty Development Programme 2021<br>PERU-NAHE Training of affiliated college faculty<br>Regional consultations for setting up NAHE regional hubs   |

### 3. Introduction

The period from July 2019 to June 2020 was the first complete year for NAHE in its current iteration and a full report for that year's activities is available for your reference. This year's report describes the main programmes and initiatives undertaken during July 2020–June 2021.

Since the beginning of 2020, NAHE has undergone transitions in leadership, human resources and related challenges in on-boarding new employees, adjustments necessitated by the COVID-19 pandemic and lockdown that began in March 2020. NAHE prepared for a fully online delivery of programmes and execution of activities during the pandemic and started delivering world-class online training using Moodle, MS Teams, Microsoft Office within one month after the pandemic hit. Despite the many challenges, NAHE persevered through these difficult times and stayed true to its remit.

### 4. Vision Statement

NAHE is envisaged as a specialist autonomous institution that will lead the nation in capacity-building in teaching effectiveness, quality research and academic governance in higher education. It is a premier intellectual hub that will support higher education institutions and affiliate to build faculty and staff capacities, and improve knowledge resources, so that performance is both effective and optimal. NAHE will provide cutting-edge, impactful research on teaching and learning, research and research management, and professional practice. In short, it will provide continuing professional development (CPD) to members of the higher education sector at all levels of their careers.



### 5. Mission Statement

1. Provide a learning environment in which faculty, staff and participants can collaboratively develop, critically examine, preserve, and share knowledge and values that constitute the discipline of education in its broadest sense.
2. Attract and serve individuals from diverse social, economic, and ethnic backgrounds, with particular responsiveness to groups that have been underserved by higher education.
3. Develop competent, caring, sympathetic and intellectually robust and inspiring educators and educational administrators who realise that 'teaching is not just a job'; who can balance content, knowledge and practice with an understanding of the students and communities they serve, and develop as professionals to become ethical and effective decision-makers and leaders.
4. Create members of a global community of teachers/scholars who conduct cutting-edge research and serve as educators, administrators, policy makers, and leaders in higher education.
5. Create and develop good citizenship through education.
6. Build capacity of higher education institutions to effectively link students with society and industry globally.

## 6. Organisational Design

Envisaged as the academic, research and capacity building hub for higher education in Pakistan, NAHE's organisational design reflects this ambition and vibrancy. Conceptually, NAHE is designed in view of the following:

1. It is based on the principles of equality, diversity and inclusivity as an overarching umbrella informing all aspects of its work.
2. It aims to ensure local, regional and international collaborative work in instruction, research and academic governance as a cross-cutting element across all programmes and projects.
3. NAHE will continuously explore, develop and facilitate avenues for sustainability beyond external funding, incrementally aiming for self-reliance.
4. NAHE aims to lay down the foundations of a proactive, responsive institution leading cutting-edge and evidence-based approaches to teaching, learning, research and academic leadership. Since all three areas require cross-fertilisation and collaboration, they will function as interactive, connected aspects of the work and operations of NAHE.
5. The first pillar will lead on evidence-based research on teaching and learning, faculty development and capacity-building – i.e., the Scholarship of Teaching and Learning (SOTL).
6. The second pillar will focus on the design of teaching excellence frameworks through teaching and learning strategies, curriculum development, assessments and evaluations.
7. The third pillar will address capacity building needs in the areas of academic governance and leadership at higher education institutions (HEIs) in the country as well as HEC employees.

## 7. Academic Components

In order to implement NAHE's ambitious vision, three academic components have been formed.

### Teaching and Learning

- Faculty Development and Capacity Building in teaching effectiveness (early, mid-career, and senior): Regional and National
- NAHE Women's Leadership Programmes
- Capacity building needs arising from the COVID-19 pandemic, such as capacity building in online readiness to HEIs and beyond.

### Research & Research Management

- Inspiring and leading the research agenda for the HE sector in Pakistan
- Tracer studies to follow fellows' career progression
- National, regional and international conferences, and scholarly output from capacity building programmes
- Blogs, opinion pieces, newsletters
- Self-reflexivity and self-evaluation as inter-linked and ongoing practices

### Academic Leadership, Governance, and Financial Management

- Capacity Building Programmes for HEC employees
- Capacity Building of Staff in Leadership Roles at HEC and HEIs
- National Twinning Programme for HEIs

The three components of NAHE have been working in tandem over the past year is NAHE to enrich and inform the teaching, research, and academic governance offerings for higher education. These linkages are further demonstrated by the activities and achievements throughout the year.

#### **a) Teaching and Learning**

During the fiscal year July 2020–June 2021, NAHE has provide multifaceted courses, workshops, and certifications for faculty and staff in the higher education sector at different stages of their careers. Whether general, need-based or customised, these offerings have successfully addressed teaching practice, research methodology, administrative and leadership skills, educational management, as well as socio-culturally-/linguistically specific topics and conventional professional development domains within the ambit of HE. These services and trainings were offered to early, mid-career and senior faculty in HEIs and upon demand, in undergraduate affiliated colleges. The teaching and learning component of NAHE, through its capacity building programmes, strives to create world class, intensive and rigorous programmes leading to internationally recognised NAHE Fellows, most of whom have already started to serve as NAHE's extension throughout the HEIs in the country. NAHE's flagship programme for Interim Placement of Fresh PhDs (IPFP) Fellowship Programme has created a cascading effect of academic excellence. IPFP Fellows have not only inspired potential Fellows to aspire for the IPFP Fellowship but are also influencing existing faculty at HEIs by demonstrating meaningful and effective teaching and learning in their host institutions. The top performing Fellows are also being continuously up-skilled as trainers to create a ripple effect in the teaching and learning environment at the HEIs.

Although positive evidence-based impact generated by NAHE Fellowships is already showing its effects, NAHE is hopeful that that the NFDP Programme will soon become one of the benchmarks for career progression and the sign of a high-quality academic throughout Pakistani academia. A yearly calendar of capacity-building programmes has been prepared to be disseminated, nationally, regionally, and internationally.

#### **b) Research and Research Management**

Conducting and promoting research on higher education has been an integral aspect of all NAHE's activities so that it can function as a dynamic and reflexive institution. This, in turn, has triggered an initiative to set benchmarks for quality across different spheres of academics and HEIs through evidence-based interventions and Programmes. The process of NFDP accreditation by Advance HE UK, NAHE Fellowship, and on-going work on setting a Professional Standard Framework will strengthen the way self-reflectivity and self-evaluation becomes integral to all activities and programmes as inter-linked and ongoing practices.

#### **c) Academic Leadership, Governance and Financial Management**

In an effort to support national programmes focusing on capacity building of faculty and management of HEIs, NAHE organised and ran a series of events called 'Collaboration for Excellence' at both national and provincial levels. These events and connections are helping to strengthen educational technology capabilities, develop strong alumni networks, and facilitate the formation and support of communities of practice for ongoing engagement and improvement of higher education. Professional Development Programmes are being designed. Some of these have been delivered while others will be offered to senior, mid-level, and junior staff at HEIs, undergraduate colleges and HEC. Some categories of participants include: Rectors, Vice Chancellors, Treasurers, Directors of Planning and Development, Registrars, Faculty Deans, Heads of Departments, members of Departments of Finance and Human Resources. Based on its expertise and experience, this component may also design impactful courses for other government training institutions.



## 8. National Faculty Development Programme (NFDP) 2020

The National Faculty Development Programme 2020 is a four-week online learning programme to accelerate the transfer of essential knowledge, skills, and attitudes in three dimensions of a successful career as a faculty member: (1) teaching and learning, (2) applied research, and (3) professional practice. Originally planned as a face-to-face programme held concurrently at multiple venues across the country, it was reconfigured to run as a fully online, primarily synchronous programme. The goals of the programme are:

- Inspire teachers to create a learning environment that empowers students.
- Equip new faculty members with the strategies and tools to overcome the challenges of learners and develop in students the critical thinking and practical skills demanded by the labour market.
- Provide a foundation and development plan for new faculty members to be involved in academic service and acquire the skills needed for future academic leadership.
- Advance a research culture for meeting societal development needs of tomorrow with rigorous and impactful research.
- Motivate new faculty members to engage in life-long learning in continuous pursuit of academic quality.

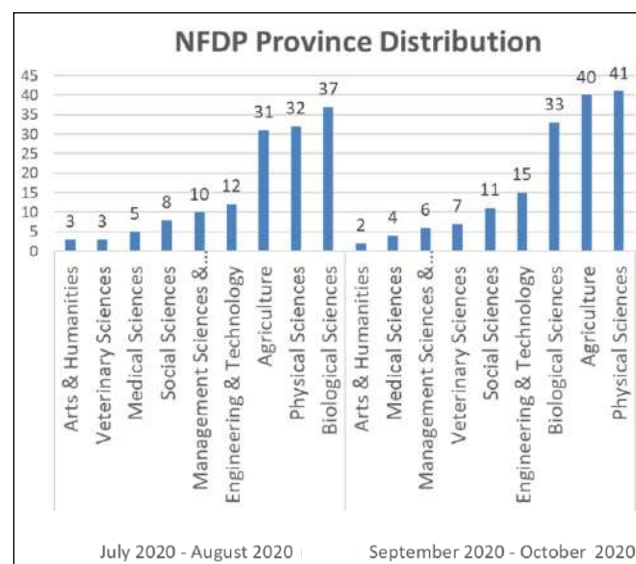
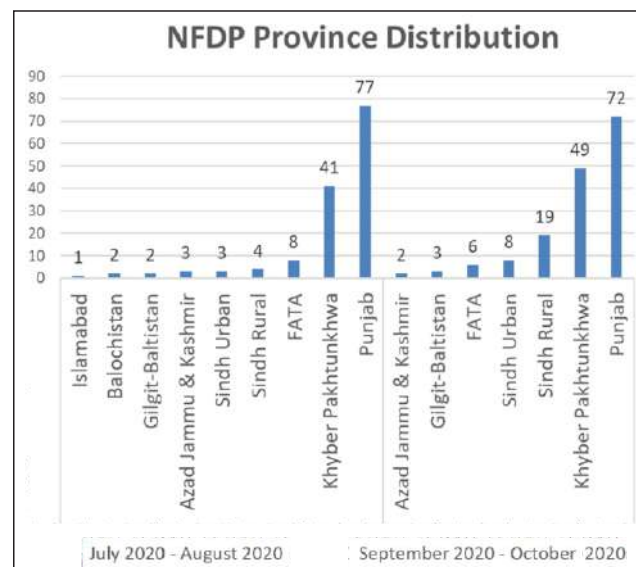
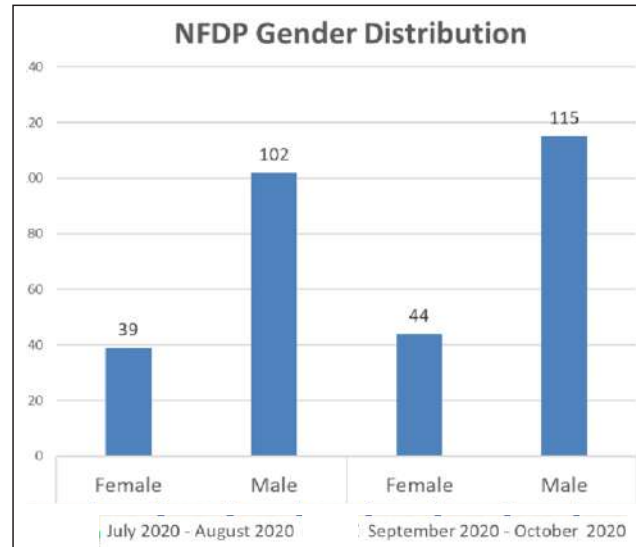
Applicants to the Interim Placement of Fresh PhDs (IPFP) Programme-Phase II participated in this programme. To assess their readiness as future faculty members, NAHE conducted a pre-assessment exercise, as mentioned previously. The results suggested a number of gaps, including in the areas of pedagogy, writing skills, analytical capacity, research vision, and knowledge of professional norms and professional practices (e.g., reading, time management, etc.). NFDP 2020 sought to address these and related gaps.



A number of different activities and technologies were utilised to achieve its learning objectives. These included:

- Lectures: delivered by the course instructor with the use of the designated software (Moodle and Microsoft Teams).
- Reading Boot Camps: small groups who met through the designated software, roughly two hours every day to go through a pre-defined list of readings, often using collaborative reading software (Perusall).
- Writing Boot Camps: the same groups met through the designated software for roughly two hours every day to spend time on structured writing.
- Group Projects: the participants were divided into small groups, each of which worked on joint fundraising proposals. The thematic focus for the first session was the novel coronavirus.
- Juries and Panels: The boot camp groups formed juries and panels to review the materials of other groups.
- Mentoring: This was done individually with course instructors as well as through peer mentoring within groups.

Participants were expected to be fully committed to the programme, dedicating at least eight hours per day to the activities for six days every week for four weeks. Learning assessment was both formative and summative. The NFDP 2020 was delivered in 2 cohorts in April and June 2020 followed by 2 more cohorts in July and September, each in an intensive 4-week online capacity building programme.



## 9. Training Needs Assessment of HEC Employees

NAHE developed and conducted a training needs assessment (TNA) for HEC employees. A questionnaire was developed to collect data on core competencies of HEC employees in order to formulate a comprehensive professional development plan. The following 10 categories were identified, which were further broken down as tabulated below:

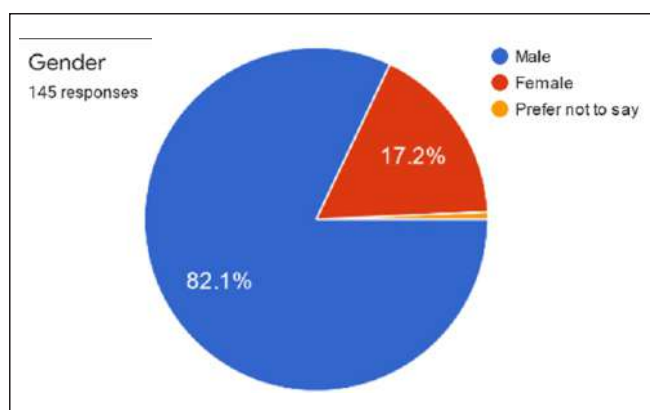
| Categories and Sub-Categories  |  |
|--|--|
| <b>1) Technical Needs in Information and Communications Technology:</b> <ol style="list-style-type: none"> <li>1. Microsoft Office (Word, PowerPoint, Excel, Outlook)</li> <li>2. Microsoft Teams</li> <li>3. E-office Suite</li> <li>4. SAP</li> </ol>  | <b>2) Monitoring &amp; Evaluation:</b> <ol style="list-style-type: none"> <li>1. developing performance indicators</li> <li>2. developing data collection tools</li> <li>3. quantitative and qualitative analysis of data</li> <li>4. report writing based on analysis</li> </ol>  |
| <b>3) Business Communication:</b> <ol style="list-style-type: none"> <li>1. netiquette (online etiquette)</li> <li>2. writing business letters, emails (internally and externally)</li> <li>3. presentation skills</li> <li>4. writing memoranda</li> <li>5. research communication and writing</li> <li>6. reading and developing budgets</li> <li>7. drafting notifications</li> <li>8. giving &amp; receive constructive feedback</li> </ol>  | <b>4) Project Development &amp; Management:</b> <ol style="list-style-type: none"> <li>1. developing PC-I, PC-II, and PC-III</li> <li>2. project life cycle management</li> <li>3. project monitoring &amp; evaluation</li> <li>4. human resource allocation</li> <li>5. risk management</li> <li>6. project time management</li> <li>7. stakeholder management</li> <li>8. project management tools &amp; software</li> </ol>   |
| <b>5) Procurement:</b> <ol style="list-style-type: none"> <li>1. procurement planning</li> <li>2. procurement life cycle management</li> <li>3. PPRA rules</li> <li>4. donor agencies procurement rules</li> </ol>   | <b>6) Financial Management:</b> <ol style="list-style-type: none"> <li>1. identifying financial needs &amp; sources</li> <li>2. financial analysis and interpretations</li> <li>3. cost-benefit analysis</li> <li>4. budgeting</li> <li>5. financial reporting</li> <li>6. accounts management systems (e.g. SAP)</li> <li>7. auditing</li> </ol>  |
| <b>7) Interpersonal skills</b> <ol style="list-style-type: none"> <li>1. conflict resolution</li> <li>2. ability to balance work and life</li> <li>3. time management</li> <li>4. stress management / resilience</li> <li>5. adaptability</li> <li>6. creativity</li> <li>7. empathy</li> <li>8. problem solving</li> <li>9. receiving and giving feedback</li> <li>10. goal setting</li> <li>11. decision making</li> <li>12. problem solving</li> <li>13. impact and influencing</li> <li>14. relationship building</li> <li>15. self-improvement and self-confidence</li> </ol> | <b>8) Leadership, Policy, &amp; Strategy</b> <ol style="list-style-type: none"> <li>1. problem analysis</li> <li>2. stakeholder analysis</li> <li>3. conceptualising scenarios &amp; alternatives</li> <li>4. policy formulation &amp; implementation</li> <li>5. ethics &amp; leadership</li> <li>6. leadership styles</li> <li>7. building succession &amp; developing people</li> <li>8. teamwork</li> <li>9. creating a culture of lifelong learning</li> <li>10. building &amp; maintaining trust</li> <li>11. organisational policies and culture</li> </ol> |
| <b>9) HEC policies</b> <ol style="list-style-type: none"> <li>1. HEC Ordinance</li> <li>2. Undergraduate &amp; PhD policies</li> <li>3. Right to Information Act 2017, and HEC's internal guidelines</li> <li>4. Plagiarism policy</li> <li>5. Sexual Harassment Policy and Protection of Women in Workplace Act 2010</li> <li>6. HEC's recruitment rules (and medical policy)</li> </ol>  | <b>10) United Nations Sustainable Development Goals (SDGs)</b> <ol style="list-style-type: none"> <li>1. Pakistan's Vision 2025</li> <li>2. The 17 SDGs</li> <li>3. Priority I, II and III SDGs</li> <li>4. Proposed timelines and strategies</li> </ol>   |

## Methodology

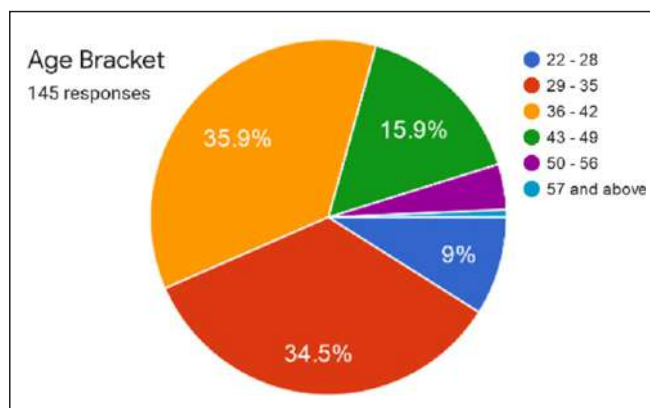
To assess current competencies of HEC employees across these 10 areas, NAHE developed a self-evaluation survey distributed via an online form in which respondents were asked to evaluate themselves on a five-point categorical scale: not at all, slightly, moderately, very, extremely. Respondents were asked to share their email address, job title and department, job rank (BPS grade or equivalent) and years of service, gender (with an option to not disclose it), and age bracket (22-28, 29-35, 36-42, 43-49, 50-56, and 57 and above). Respondents were also asked about their current understanding of their job description and specification, and basis of promotion within their division (i.e., merit, seniority, or both). The survey was shared with all HEC employees across all regional centres on November 2, 2020 via email along with a reminder on November 6, 2020. After 10 days, the form was closed, and 145 responses were recorded. All individual responses are strictly confidential.

## Respondents

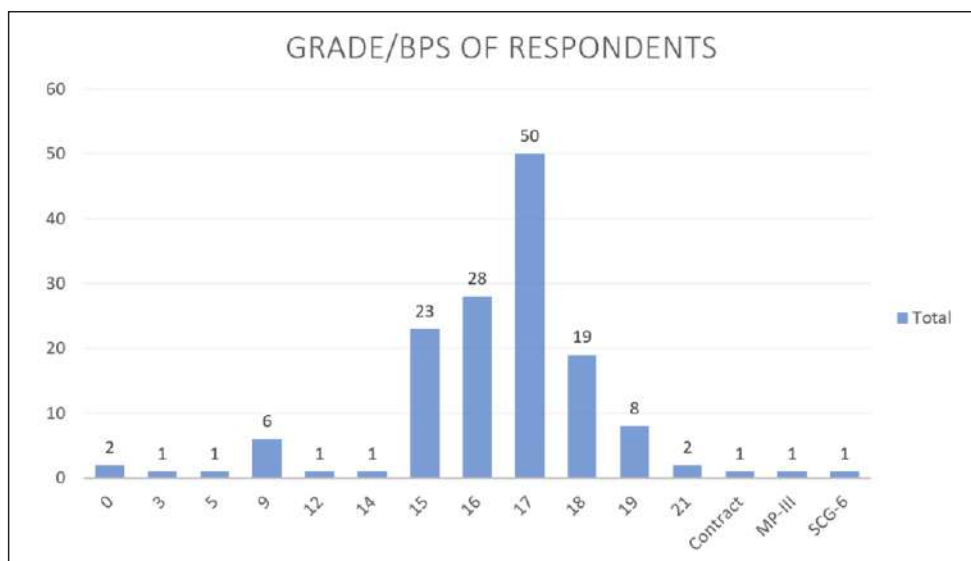
82% respondents were male, and 17% were female



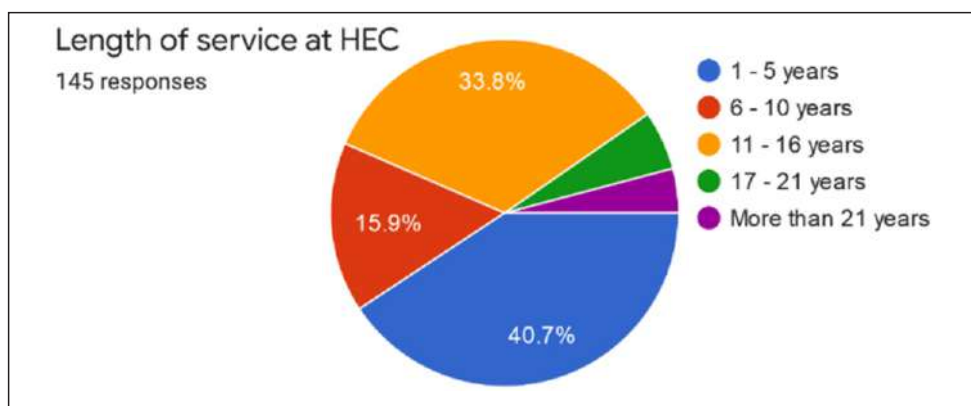
35% respondents belonged from the age group of 29-35 years and 36% from 36-42 years



Respondents from about 30 HEC Divisions completed this assessment – notably 27 respondents from the Human Resource Division (HRD), 12 from Quality Assurance (QA) and 10 from Monitoring & Evaluation (M&E). The highest number of responses came from BPS 17 (or equivalent) employees, amounting to 35% of total responses. 43% responses came from employees who ranked below BPS 17, while the lowest number of responses were BPS 18 and above.



41% of the respondents reported being in service for 1-5 years, and 34% reported being in service for 11-16 years



### Limitations

Some limitations of this assessment are:

- As this was a self-assessment, answers are based on the respondents' own perceptions and are prone to bias.
- The number of respondents is only 145 across 30+ divisions of the HEC, only 17% of the respondents were female; a few departments are disproportionately represented.
- Most of the respondents were BPS 17 or equivalent officers and senior members had the least participation.
- HEC officials, like others globally, are in the midst of challenging work and personal situations. A survey may not have been their top priority and there may have been a loss of interest in answering questions, particularly towards the end.

## 10. International Conference with Ziauddin University, Karachi

Faculty of Liberal Arts and Human Sciences, in collaboration with NAHE and HEC, organised the first multidisciplinary international virtual conference on 'Diversity, Inclusion, and Equity: Synergies and Challenges in the Wake of Covid-19'. This conference was held virtually on November 13 and 14, 2020 with two keynote addresses, five plenary speeches, seven paper presentations, and four panel discussions from Pakistan and outside Pakistan. The conference started off with three Pre-Conference workshops on topics related to education, teaching in higher education and equity, diversity, and access to education. Each 2-hour workshop was well attended by educationist from across Pakistan. The first keynote address was delivered by Professor Dr. Shaheen Sardar Ali, Rector NAHE. The second keynote address was delivered by Prof. Dr. Peter McLaren, from College of Educational Studies, Chapman University, USA. Plenary speakers from Pakistan, Qatar, UK, USA, and Canada spoke on equity and access to education from global perspectives that are applicable to the higher education context in Pakistan as well. Seven research papers were presented over the period of two days by educational scholars from Pakistan, and internationally from Costa Rica. Four panel discussion were facilitated covering different areas within the disciplines of education, medicine, social science, and languages. One of the panel discussions was presented by the lead instructional team of NFDP2020 from USA, Canada, UK, and Pakistan. The discussion was chaired by the lead consultant, curriculum development at NAHE. Organisers of this successfully held international conference, Ziauddin University, HEC and NAHE, are in the final stages of compiling selected conference papers in a co-edited book on the conference theme. The co-edited book is expected to be published later in the year 2021.



Figure 3. NFDP Instructional Team and Rector NAHE presenting their findings at ZU Conference.

## 11. Technical Capacity Building on E-Office for HEC Employees

Responding to the needs identified by HEC employees through the TNA, NAHE initiated a series of trainings under its capacity building programme. This included trainings for HEC staff in collaboration with the National Information Technology Board (NITB). This series commenced on 22-December-2020 with a comprehensive training on e-office procedures. E-office is an electronic system of office and operational management which has helped make functions more efficient and improve accountability at HEC. The programme is being implemented across various ministries in the government and has been approved by the Federal Cabinet and the Nation e-Government Council. Due to the pandemic SOPs in place at the time, the trainings in E-office were delivered virtually running from December 22, 2020 to January 27, 2021. More than 600 NAHE employees went through these trainings. As services increasingly move online, the objective of these trainings is to support staff and ensure efficiency, consistency, and transparency across the board.



## 12. National Collaboration for Excellence in Professional Development

NAHE held the first of a series of workshops, titled “Collaboration for Excellence – A Roundtable on Developing Linkages for Faculty Development in Higher Education”. Keeping within the COVID restrictions and SOPs, some participants joined in person while the majority joined virtually. Representatives from 17 faculty development units and departments of Higher Education Institutions were in attendance from all provinces, ICT, and Gilgit Baltistan. During the event, participants were able to brainstorm, debate and discuss urgent faculty development needs in Pakistan, as well as avenues for collaboration and support with NAHE in the future.

Dr. Shaheen Sardar Ali (Rector, NAHE) stated the importance of collaboration for excellence in teaching and learning in the higher education sector and the importance of seeking the views of the participants that will inform NAHE’s work going forward. NAHE would help provide a platform for faculty development units across the country and work together to bridge gaps. The pandemic has its costs, but it also provides an opportunity to improve and innovate. In addition to distinguished, leading academics from across Pakistan, experts from the Advance HE, UK presented their points of view.



Figure 4. Representatives from universities across Pakistan come together to discuss the strategy of enhancing capacity building in Pakistan in partnership with NAHE.



Figure 5. Rector NAHE, Prof. Dr. Shaheen Sardar Ali, shares the strategic mission and vision of NAHE.



### 13. Reflective Session in Teaching & Learning for IPFP Fellows

The IPFP was launched in 2009 with the objective of providing opportunities for employment to selected fresh PhDs for one year as Assistant Professors against vacant TTS (Tenure Track System) positions in public or private universities. During the placement, the host universities are expected to advertise these positions and give equal opportunity to the IPFP faculty for securing permanent positions in BPS/TTS pay scales. The programme also supports universities in attracting emerging scholars, reducing search costs, and providing necessary experience to potential candidates. In 2020, NAHE conducted a rigorous academic teaching course, the National Faculty Development Programme (NFDP), for almost 500 freshly graduated PhDs. The month-long course was designed to prepare NFDP Fellows for teaching and research duties required by their places of work under the Interim Placement of Fresh PhDs (IPFP) programme.

On February 11, 2021, NAHE held a capacity enhancement session “Reflective Practice in Teaching and Learning” for graduated Fellows of the Interim Placement of Fresh PhDs Programme (IPFP). Over 200 IPFP Fellows from higher education institutions across Pakistan attended the virtual workshop. As the IPFP Fellows go through their placements at universities and institutions across Pakistan, NAHE intends to touch base with them, refresh parts of their learning through the National Faculty Development Programme and assess effectiveness of this Programme. To this end, NAHE collaborated with members of NFDP 2020 instructional team to conduct this session and draw reflections on the NFDP with successfully placed IPFP fellows.

The session was attended by Rector NAHE Dr. Shaheen Sardar Ali, Lead Consultant Fellowship and Academic Leadership Programme, NAHE, Dr. Shazia Awan, and Assistant Professor at NUST, Dr. Sana Waheed. Sessions such as the above are part of the continuing professional development approach adopted by NAHE. Fellows were given mini-workshops on reflective practice, teaching, student-centred learning, and learner-engagement in online classes. During the event, fellows shared their unique experiences of working through a pandemic and navigating courses online.

### 14. Provincial Collaboration for Excellence in PD: Khyber Pakhtunkhwa (KP)

As part of NAHE's collaboration for academic excellence initiative, NAHE organised a number of roundtable discussion events nationally and in the provinces during the year 2020-2021. The first provincial workshop/roundtable was held on 1-March-2021 to identify faculty development needs in Khyber Pakhtunkhwa. Representatives from universities including those from the Quality Enhancement Cells in universities across the province were in attendance including Buner, Karak, Malakand, Haripur, Peshawar, and former FATA. During the event, participants were able to debate and discuss urgent faculty development needs unique to their contexts, potential collaborations between public and private sector universities, and the role of NAHE in contributing to the professional development of their faculty.

University representatives were able to share their varying experiences of capacity building in their respective institutions. Teaching philosophy and methodology, online capability and research mentorship were among the most common problems in capacity building as identified by the participants in attendance. There was a great spirit of collaboration and a willingness to create a community of practice to improve the quality of learning available in HEIs across Khyber Pakhtunkhwa. Sharing of resources, identifying strengths and potential areas of collaboration under the guidance of NAHE were discussed.



Figure 6. Rector NAHE, Prof. Dr. Shaheen Sardar Ali, holds a round table conference with representatives of universities in Khyber Pakhtunkhwa to discuss the strategic plan for enhancing capacity building in KP.

### 15. E-Office Workshop for Faculty Affairs Division (HEC)

A practical training for e-office was provided in conjunction with the National Information Technology Board (NITB) by NAHE. This was a top-up training provided as a follow-up on the virtual training held in December 2020. This in-person training enabled HEC staff to benefit from a practical training with onsite instructors to answer questions and practically work through problems employees were facing. Members from the Faculty Affairs Division were trained in the first round. The instructor was able to showcase unique features of the e-office system, inclusive of databases of all government offices, ministries, and officers. The potential benefits for this are environmental as well as practical because with its proper utilisation, there will be flexibility in terms of where employees can work from. This is expected to help support staff as services increasingly move online and ensure efficiency, consistency, and transparency across the board.

### 16. IPFP Phase 2 Batch 2 under Revised Policy

The revised policy for the Interim Placements for Fresh PhDs (IPFP) Phase-II was approved by the Commission in 2019. The core objective of the programme is to assist fresh PhD holders in acquiring the competencies and professional characteristics required for effective teaching and research and ultimately for success in their academic profession. The IPFP Phase-II batch-I was announced in October 2019. 493 of the applicants successfully attended four-week online National Faculty Development Programme (NFDP) in four cohorts prior to their placements at Host Institutions. Informed by lessons learned during execution of IPFP Phase II Batch I, in view, a revised Policy of IPFP Phase-II was prepared and thereafter approved by the Chairman HEC in February 2021. The following major amendments were approved by the Chairman's office in February 2021, and subsequently placed before the Commission:

- Unlike previous iterations, Pre-Assessment has been made a mandatory part of the programme.
- Applicants will be required to achieve minimum score of 50% in the pre-assessment test to get selected as an IPFP Fellow.
- Continuous Professional Development (CPD) has also been included in the policy document as per which after attending one-month NFDP, IPFP Fellows will be undertaking regular online activities recommended by NAHE during the period of the Fellowship.
- Top performing IPFP Fellows from each cohort will be trained and engaged to work as Assistant Mentors/Junior Instructors for succeeding batches of NFDP thus widening the pool of trained resources for capacity building of the HE sector.
- IPFP Fellows will be entitled to compete for Startup Research Grant Project from R&D Division of HEC.
- Host Institutions now include both public and private sector HEIs and federal or provincial government post-graduate colleges or public sector R&D organisations.

The revised IPFP Policy makes IPFP and NFDP – one of NAHE's major flagship programmes – more inclusive, accessible, effective and merit-based for fresh graduates of PhD programmes who wish to join the teaching, learning, and research workforce in Pakistan.

### 17. Online Teaching Level 1 Course for HEIs (Cohort 1)

In keeping with the remit of National Academy of Higher Education (NAHE), and in view of the current COVID-19 pandemic and post pandemic teaching in a blended, or online teaching and learning environment, NAHE continued to extend support to the higher education sector for online delivery of courses. To this end, NAHE developed a foundational level course, Online Teaching Level I, for online teaching to facilitate faculty at HEIs in the enhancement of online teaching pedagogies, engagement in online learning environment, educational technology, and online evaluation strategies.

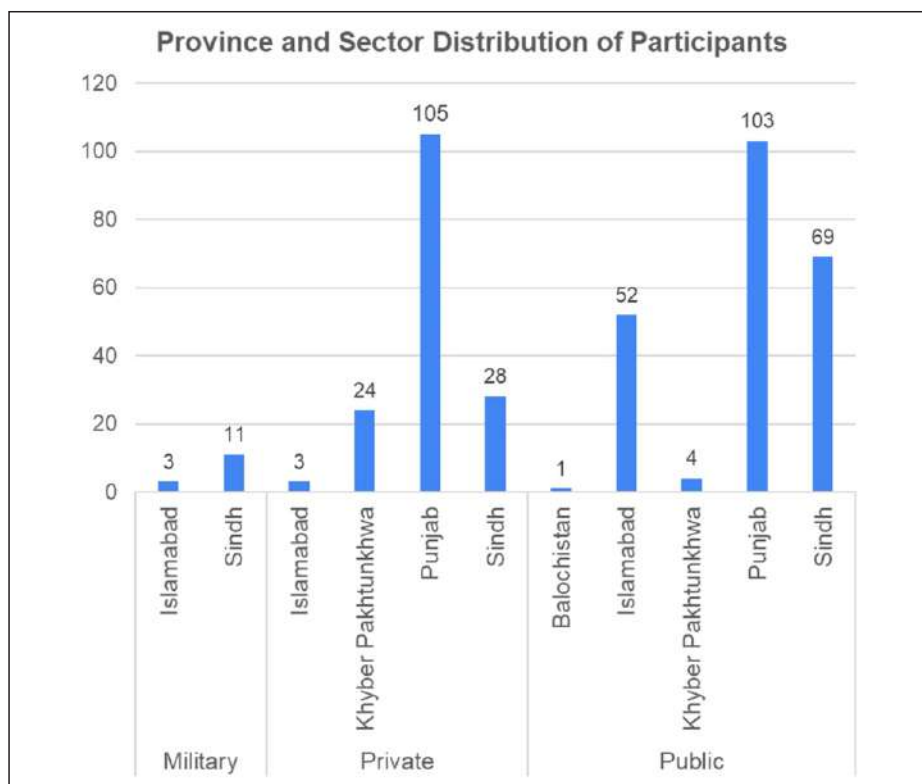
The main purpose of Online Teaching Course Level I was to develop and enhance the probability of success of the participants in teaching online and blended courses at the HEIs in Pakistan. This course was designed as a follow up to a high demand from universities in preparing and supporting faculty for online teaching and use of educational technology tools to enhance instructional design of online content, increase engagement in online lectures, and develop formative and summative assessments in an online environment. This was a 20-hour course comprised of synchronous sessions containing live webinars lead by reputable and qualified instructors.

NAHE initiated a call to all higher education institutions for nominations on March 05, 2021 by reaching out to vice chancellors of all private and public universities in Pakistan. Based on the nominations received over the course of two weeks, 403 faculty members from academic disciplines ranging from social sciences to physical sciences, medicine, and arts registered for the course from across Pakistan.

The course was launched on March 20, 2021. Over the next four weeks, with live webinars every Saturday i.e., on March 20, March 27, April 3, and April 10, registered faculty members attended the live webinars, submitted evaluations, completed assessments, and engaged in discussion forums, creating an online community of practice which led to a certification upon successful completion by NAHE.

**"Kahoot developed a sense of competition amongst learners. Discussion Forum and WhatsApp group developed a sense of community within learners as it enhances learner to learner interaction. A sense of community means teamwork and solving problems together and helping each other in obtaining learning objectives."**

(a participant of the course)

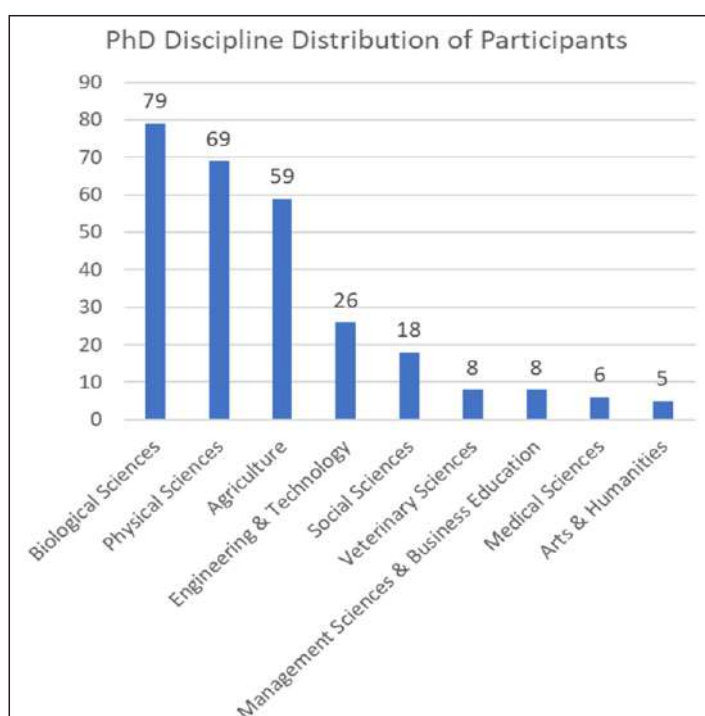


| University   | Count      |
|--|------------|
| Bahria University  | 79         |
| University of Management and Technology, Lahore                    | 75         |
| COMSATS University   | 43         |
| Dow University of Health Sciences                                  | 31         |
| University of Engineering and Technology, Taxila                   | 28         |
| NUR International University                                       | 24         |
| Muhammad Nawaz Sharif University of Agriculture                    | 17         |
| CECOS University of Information Technology and Emerging Sciences   | 17         |
| Pir Abdul Qadir Shah Jeelani Institute of Medical Sciences         | 14         |
| Pakistan Institute of Fashion and Design                           | 13         |
| Nishtar Medical University   | 13         |
| Government College Women University, Sialkot                       | 7          |
| Indus Valley School of Art and Architecture                        | 7          |
| Ghulam Ishaq Khan Institute of Engineering Sciences and Technology | 6          |
| KASB Institute of Technology                                       | 5          |
| Jinnah University for Women  | 4          |
| Information Technology University (Lahore)                         | 4          |
| University of Buner  | 4          |
| University of Wah  | 3          |
| University of Sialkot  | 2          |
| Hamdard University   | 2          |
| Institute of Business Administration, Karachi                      | 1          |
| National University of Medical Sciences                            | 1          |
| Sardar Bahadur Khan Women's University                             | 1          |
| University of Karachi  | 1          |
| IQRA National University   | 1          |
| <b>Grand Total</b>   | <b>403</b> |

## 18. Fundamentals of Project Management for SRGP Fellows

Upon receiving 12 month placements at HEIs, NAHE awarded eligible IPFP Phase II Fellows (~300) funding from the Start-Up Research Grant Programme (SRGP). This funding (of upto PKR 1,000,000), was awarded to IPFP Fellows from different academic backgrounds ranging from social sciences to life sciences across all provinces in Pakistan. SRGP is designed to assist the fresh PhD holders who are IPFP Fellows in establishing research facilities upon joining higher education institutions as faculty members. The programme enables the newly appointed PhD faculty to plan the setup of basic research infrastructure to start research activities without delay. The programme helps to engage both the faculty and students in research through provision of financial assistance and basic lab/experimental facilities. Given the academic and regional diversity of successful SRGP applicants, NAHE designed and delivered a 2-week online capability building programme (15 hours) that served as refresher in fundamentals of project management for IPFP fellows, most of whom will be leading a project for the very first time. The course introduced the concept and six core elements of project management, challenges encountered in undertaking project management, concept of the Work Breakdown Structure, and application of project management and the Work Breakdown Structure techniques to academic research (and other) projects.

This 15-hour course was delivered as by an internationally recognised team of instructors who are industry experts in Data Management, Project Management, Programme Management. All instructors are part of the managing team of Oxon Global, a reputable consultancy in project management based in the UK with country offices in Seattle and Honolulu (USA), London (UK), Dubai (UAE), and Islamabad (Pakistan). To improve and sustain the quality control in this course, NAHE conducted an objective and independent online evaluation of the course that was completed by 257 participants. 90% of the participants ranked the delivery of instructors at 80% and above. Evaluations also measured the effectiveness of course content on delivering all 5 learning outcomes, and results showed that at least 75% of the participants ranked the content of each LO at 80% and above. The course was completed by 262 participants on April 03, 2021 during which time they were required to develop a project plan and work breakdown structure for their own research projects and successfully complete an assessment test to qualify for micro-credential certification by NAHE.





## 19. Collaboration for Excellence in Women Leadership

Keeping in line with NAHE's vision of creating an inclusive, equitable, and accessible higher education sector, NAHE organised a one-day conference event under NAHE's 'Collaboration for Excellence' initiative. Twenty-two women Vice Chancellors, Provosts, Executive Directors, Deans, and aspiring future leaders from Higher Education Institutions (HEIs) across Pakistan logged in to participate in this event. All attendees had one goal in mind – to work together and find a way to support women in leadership roles in universities as well as those on the cusp of leadership positions. Participants from all four provinces and Islamabad were part of this groundbreaking conversation chaired by Dr. Shaheen Sardar Ali (Rector, NAHE). Reflecting on personal and professional experiences, women at the forefront of higher education in Pakistan talked through challenges confronted in their professional life, how they overcame them and opportunities that helped them.

Women leaders talked about the unique challenges of women working without support structures and financial cushions in place, the edge that Pakistani women hold in the shape of strength and resilience, the administrative and financial competencies that need to be learned on the job, as most institutions lack preparatory capacity building opportunities.



Figure 4. Rector NAHE, Prof. Dr. Shaheen Sardar Ali, Chairs a conference with Women VC's and leaders from HEIs across Pakistan to discuss the plan for Women Leadership course and programmes

Themes that became clear through the course of the discussion and which will form part of the 'Women Leadership Programme' to be offered in 2021-22, included women's perception of self, social structures that may work for or against women, the need for networking, and the crucial role of good mentorship. Going forward, participants hoped to collaborate and work together to address challenges, create opportunities, and provide women at the cusp of leadership with the resources they need.

NAHE intends to draw upon the ideas generated by this incredible group of women leaders to design and implement excellence and leadership courses across Pakistan, both centrally and through regional hubs of learning. This virtual engagement is one of several on-going and future workshops NAHE intends to hold with women working in HEIs to support and widen the pool of women in leadership positions.



## 20. Associate Fellowship Opportunity for IPFP Fellows

Yet another ground-breaking initiative --an internationally recognised Fellowship in teaching and learning-- is about to be launched by NAHE. In collaboration with HEC-British Council's Pak-UK Education Gateway Programme and Advance HE, UK, NAHE is launching applications for the Associate Fellowship of the Higher Education Academy (AFHEA), UK. IPFP Fellows who have successfully completed the National Faculty Development Programme (NFDP), one of the flagship programmes of NAHE, will be eligible to apply for this highly coveted Fellowship. There are now over 140,000 Fellows recognised by the Advance HE Fellowship Scheme worldwide. Advance HE is a global not-for-profit charity headquartered in the UK. Using their expertise and sharing best practice, they work to improve higher education for all -- an opportunity taken by NAHE to open up the AFHEA to her Fellows.

## 21. Accreditation of NFDP Course

Statistics speak for themselves in terms of the success of NFDP. In 2020, after a backlog of three years, 622 applicants applied for the programme, 540 appeared for the pre-assessment test, 493 IPFP Fellows successfully completed NFDP, 370 Fellows were placed in public or private sector HEIs and federal or provincial government post-graduate colleges or public sector R&D organisations. Fellows were given responsibilities to develop and teach courses and participate and initiate professional development in their host institutions.

In addition to opening up the application process for the Associate Fellowship of the Higher Education Academy for IPFP Fellows, Advance UK has agreed to support NAHE with the accreditation of the content of the National Faculty Development Programme based on the UK Professional Standard Framework (UKPSF).

In order to pilot the suitability of the UKPSF and Fellowship in Pakistan as tools to provide recognition to those teaching and supporting learning in HE, the following approach has been suggested by Advance HE, UK.

- To support the (500+) graduates of the initial cohort of Interim Placement of Fresh PhDs (IPFP) Programme trained under the NFDP and placed at HEIs to obtain Associate Fellow (AFHEA) status.
- To explore the potential accreditation of the IPFP Programme to enable ongoing award of AFHEA to successful graduates.
- Following completion of the above, Advance HE will review the appropriateness of the Fellowship programme and PSF within the context of the Pakistan HE sector and explore further development of a national NAHE framework and Fellowship scheme, which would align to the UKPSF, and enable mutual recognition of Fellows in order to award both a nationally-focused NAHE Fellowship and a globally-recognised Fellowship from Advance HE.

The effectiveness of NFDP is demonstrable in the professional development of the highly educated youth in Pakistan in terms of professionalism, skills, and knowledge, placements in institutions, and in their continuous work on professional development. In the year under report, IPFP attracted over 1100 applicants from across Pakistan. These prospective fellows will go through NFDP in 3 different cohorts throughout 2021.

## 22. Procurement and Financial Management Training for HEC Employees

Based on the data obtained through the training needs assessment for HEC employees (see section 9), NAHE has been conducting professional development and capacity building programmes both virtually and face-to-face. In this regard, a face-to-face training of HEC employees focused on procurement rules and financial management was organised by NAHE in the month of May. NAHE collaborated with the Pakistan Planning and Management Institute (PPMI) to structure these trainings according to the results of the needs assessment conducted earlier and in coordination with relevant divisions of HEC. 42 HEC employees from multiple divisions participated in the training.

NAHE and PPMI worked together to structure a relevant and comprehensive framework for the trainings. Contents included –Public Procurement Regulatory Authority (PPRA) rules, the public procurement guidelines and rationale, procurement strategy for donors (e.g., UNDP), case-studies on how contract awards and ethical considerations, financial management in public sector organisations, budgeting, among other topics. Participants were required to undertake assessments and practical case studies to apply rules of procurement and financial management. The training was highly interactive and participatory in that participants were able to ask questions and work through individual questions and queries along the process. Certificates of successful completion were awarded by the Rector NAHE at the end of the training.

## 23. Leadership, Strategy & Project Management (LSPM) for HEC Senior Management

In 2020, NAHE was also directed to develop a calendar of activities for all HEC employees. In 2020-21, NAHE floated an EOI for an ambitious and high quality programme for BPS Grade 19 (or equivalent) and above HEC employees on Leadership, Strategy & Project Management (LSPM). The successful firm/organisation will undertake the following tasks;

- Designing of the core modules (slides, videos, readings, activities);
- Module delivery (lectures, seminars, and workshops);
- Competency-based formative and summative assessments to measure impact of the modules on skill and knowledge development.

The programme is expected to be designed and delivered on international standards and to leave lasting impacts on the emerging leadership of HEC employees. The aim of this programme is to enhance the existing skills of HEC employees who are in a managerial and/or leadership role for improved and efficient performance. The programme will consist of 3 modules to be delivered in person by the contracted firm. Each module will run for 3 days (18 hrs.) in total. Three core Modules for LSPM 2021 are:

- 1) Leadership and managing organisations
- 2) Fundamentals of Strategy
- 3) Project Management

## 24. PERU-NAHE Training of Affiliated College Faculty

During its brief life, NAHE is establishing itself as the national hub of professional development and capacity building by addressing professional development gaps and needs identified by the regional and national academic and professional stakeholders. In the year under report NAHE has been collaborating with units within HEC for excellence in education, including teaching, learning and research. One such initiative has been a collaborative endeavour between the Postsecondary Education Reform Unit (PERU) and National Academy of Higher Education (NAHE) to train faculty from affiliated colleges.

The new HEC Undergraduate Education Policy 2020 (UEP) mandates a number of reforms to better serve undergraduate students. These changes include the revamped BS and Associate Degree (AD) curricula, the General Education requirement, the practical learning requirements (Internship and Practical Learning Labs such as entrepreneurship, youth clubs, and sports), and a shift to the semester system in affiliated colleges. In order to prepare faculty and staff of HEIs to implement these changes and improve the quality of education available, PERU and NAHE are working together to train instructors who will, in turn, train faculty and master trainers from affiliating universities and affiliated colleges across Pakistan.

The collaboration focuses on strengthening teaching in postsecondary educational institutions. In this regard an elaborate framework of trainings and workshops was co-developed by PERU and NAHE for the FY 2021 and 2022. The framework has the following layout:

- Phase 1
- Train the Trainers for Capacity Building of College Faculty
- Capacity Building workshops for the Affiliated College Faculty
- Phase 2:
- Train the Master Trainers from affiliating Universities
- Master Trainers train the faculty from affiliated Colleges

In the first phase of the training programme, the capacity building exercise started with training the trainers. After participating in a 2-day training and competitive course work, ten instructors were chosen to train the faculty at the public sector affiliated colleges. In this phase, 300 faculty members from 90 affiliated colleges in the province of KPK were trained in a 2-week rigorous virtual training programme from June 7-17, 2021.

The effects of the PERU-NAHE collaborative training programme are expected to be long lasting and sustainable in that the training reaches to the grassroot level of undergraduate programmes helping the college faculty prepare for transitioning to a semester system.

## **25. Women Leadership Programme**

A Women Leadership Programme has been part of the vision and mission of NAHE through its overarching approach of Inclusivity, Diversity and Equity for capacity building in the HE sector. During the course of its brief existence in its new iteration, NAHE has held a number of events and consultations to solicit viewpoints and needs for developing a WLP. Since March 2020, NAHE set about to conceive and develop courses and programmes, through needs assessment and consultation as well as by exploring international best practices in a number of areas.

During various consultations and Roundtables called 'Collaboration for Excellence', the need for capacity building – especially in the areas of leadership, governance and management was evident. In particular, the few women in leadership roles at universities and in the HEC expressed the need to empower existing women leaders through capacity building programmes as well as nurture potential and upcoming women for leadership positions. The need for a 'women's only' space to discuss and share knowledge and information was also highlighted. NAHE responded by organising a virtual national level workshop on Breast Cancer Awareness. Feedback from that event was very encouraging and included the need for developing and delivering regular women leadership programmes for HEIs and HEC faculty and employees. To respond to the above needs, a national level consultation process was carried out with academic leadership, professional development experts, and faculty from February to April 2021. A survey of women in HEI leadership positions show that there are 22 women vice-chancellors and 9 pro-vice chancellors and provosts in place in the country. All these women leaders in the HE sector were invited to the consultation process where they participated actively in sharing their experiences and views.

One of the purposes of the consultative process was to establish a consensus around a set of leadership standards that can be contextualised to the higher education sector in Pakistan, including HEIs, HEC, and regional higher education centres. Additionally, in a day-long consultation event with women VC, pro-rectors, and emerging leaders held on 7 April 2021, recommendations were gathered for a framework of a women's leadership programme. Based on the consultation process in Pakistan and internationally with professional development counterparts, such as Advance HE, UK, components of a women leadership programme were suggested. On the basis of this evidence, NAHE proposes a 100-hour Women Leadership Programme for the FY 2021-2022. The programme is intended to be offered as an E-Programme initially if face-to-face sessions are not possible due to COVID restrictions.

The Women Leadership Programme will be an addition to other flagship programmes offered by NAHE to women in leadership roles at HEIs and HEC as well as those at the cusp of leadership positions. The objectives and outcome of this programme, to be offered at least twice a calendar year is to support women leaders in post in HEIs and HEC as well as to prepare an emerging cadre of women leaders in the academic world in Pakistan. NAHE's ambition is to develop and deliver this programme to an international standard and reach out beyond the national HE sector offering it to regional HEIs. Finally, and in keeping with NAHE's vision and mission, a research and tracking process will be included so as to measure and evaluate the efficacy and impact of the WLP.

## 26. NAHE Regional Hubs

Since early 2020, NAHE is developing and offering generic, as well as need-based capacity building services to enhance quality of teaching, research, and management in HEIs as well as HEC employees. Outcome benchmarks are being established prior to interventions/delivery of programme(s), so that their impact can be assessed and also feed into an ongoing process of review and improvements of NAHE programmes and offerings.

Nevertheless, the higher education sector in Pakistan is as diverse as the geographical and cultural landscape of the country. This diversity requires initiation, implementation, and execution of programmes and courses of diverse nature and indigenisation and contextualisation based on regional needs. In order to understand and respond to the needs of faculty across diverse HEIs in the country, a number of initiatives were taken before deciding that the most effective ways of reaching out nationally would be to create NAHE regional hubs. The process adopted consisted of (i) research and development of a Directory of Faculty Development Centres/Departments/Units in HEIs and, (ii) national/regional consultations to gauge the needs of HEIs as well as their expectations from NAHE (iii) visit to and organising at least one NAHE event to gauge facilities at the Regional Centre/s.

In addition to developing a Directory of all capacity building centres in the HE sector, it was also felt that national consultations were important to augment and complement the research into capacity building facilities already in existence and how to collaborate with them to enhance faculty development at Pakistani HEIs. To this end, NAHE has been conducting regional meetings and consultations at the regional centres of HEC. There is a need to bring the local and regional stakeholders together with the national stakeholders and align NAHE initiatives with the regional needs and requirements. As was the outcome from the research on the Directory of faculty development centres, the main recommendation – in fact – demand, from these consultations was that NAHE would best serve its constituency through regional hubs.

All colleagues at the HEC RCs endorsed the idea of regional hubs of NAHE and offered their unreserved support. They felt it would create better linkages with HEIs in the region as well as relationship and engagement with headquarters of HEC in Islamabad. On the basis of the above consultations, NAHE proposed setting up of regional NAHE hubs in provincial centres that can serve as a focal point for NAHE in the region for additional resource development and capacity building.

Since the HEI sector in Pakistan comprises over 230 institutions spread all over the provinces as well as in Islamabad Capital Territory, Azad Jammu & Kashmir and Gilgit Baltistan, NAHE will set up Regional Centres in the four provinces. As a first step these hubs will use the Regional Centres of HEC and augment facilities to create a vibrant capacity building hub to reach out to the dozens of HEIs in each province.

Initially NAHE was placed in the HEDP PC-1 as a technical assistance component. However, in view of the solid research-based outcome in the form of a directory as well as a demand and need for regional hubs of NAHE, setting up of the regional NAHE hubs is now envisaged as a DLI. As a first step, by June 2021, a framework for setting up regional NAHE centres is to be completed.

The rationale for setting up the regional hubs includes the following:

1. Since the 18th Constitutional Amendment Act, it is felt that greater and more robust collaboration is required. To this end, by establishing regional NAHE hubs, we will be reaching out to the provinces and facilitating capacity building of faculty closer to home as it were. There is also likely to be more buy in of the various programmes of NAHE through these regional hubs as well as closer interaction.
2. Whilst NAHE headquarters will lead and drive the entire NAHE offerings and operations, regional hubs will be where the action on the ground is anticipated. Further, regional hubs will be able to feed in to NAHE headquarters, the various needs of the HEIs in the regions and demand bespoke capacity building courses.
3. A major departure from the previous iterations of NAHE and Learning Innovation Division (LID) and a distinctive feature of NAHE is that for its programmes, pre-and post-programme research and assessment will be undertaken and impact measured. Although national level studies will be undertaken, region-specific studies will be facilitated through the regional NAHE hubs.

## 27. Challenges and Barriers

NAHE in its new inception since 2019 has gone through a number of challenges, as any newly revived organisation would. The small team of only 5 personnel has shown resilience and weathered through numerous risks and challenges. Nevertheless, the unforeseen organisational challenges and barriers proved to be more inhibiting than envisaged. These challenges may be divided into two main areas: (a) slow response to procurement and staffing needs of NAHE (b) pending notification of the NAHE Board of Governors. These challenges have had a domino effect on NAHE's ambitious plans to support the HE sector as well as taking important strides towards achieving autonomy and sustainability.

## Conclusion

Despite the ongoing crisis of the COVID-19 pandemic, limited human resources and technological challenges, a very small team of dedicated NAHE staff is proud to have accomplished what has been outlined in the previous pages, as well as ambitious plans in the pipelines for the coming year. The team believes that challenges offer opportunities to be taken advantage of, and that is what transpired for NAHE during the year 2020-2021. NAHE is collaborating with different units at the HEC, with HEIs, both private and public sector, and with international organisations of repute. These collaborations will and have already started creating a positive learning environment and NAHE's reputation as the national facilitator in capacity building of faculty and staff in the HE sector is growing by the day.

NAHE's activities and initiatives throughout the year 2020-21 kept the budding organisation true to its vision and mission statements. NAHE upheld its ethos based of Equality, Diversity and Inclusivity as an overarching umbrella informing all aspects of its work. NAHE, through her various activities, continues to lay down the foundations of a proactive, responsive institution leading cutting-edge and evidence-based approaches to teaching, learning, research, and academic leadership.

# Academics & Curriculum



Education is viewed as an investment in human capital that has direct payoffs to the educated individual and benefits to society. Academics Division is actively engaged in development of academic policies and is responsible for academics related queries of the stakeholders. The Division has been providing guidance on academic operations and semesters. It is also engaged in activities aimed to create capacity of critical thinking and creativity among students through different initiatives such as debates and co-curricular activities.

As an effective curriculum provides faculty, students and administrators with a measurable plan and structure for delivering quality education. The curriculum identifies the learning outcomes, standards and core competencies that students must demonstrate before advancing to the next level. Curriculum Division is primarily responsible for ensuring imparting of quality education by setting academic standards at undergraduate and graduate levels in Basic Sciences, Engineering & Technology, Social Sciences, Humanities and other emerging disciplines. It includes the policy formulation regarding parameters of academic standards in terms of knowledge, skills and dispositions in curriculum of each discipline keeping in view the employment market, international trends and government priorities. Below are the accomplishments of both divisions during reporting period:

### 1. National Curriculum Review Committee (NCRC)

In line with Clause 10(V) of HEC Ordinance 2002, Curriculum Division has been developing and revising curricula through National Curriculum Review Committees (NCRCs) on periodic basis. From 2002-2019 HEC developed the curricula of 126 disciplines and revised the same on period basis. As per decision of the competent authority, the policy for conduct of NCRC as per new scope to focus on curriculum standards was formulated and submitted in the FY 2020-21 for approval of the commission.

### 2. HEC Best University Teacher Award

HEC has been recognising the services of outstanding teachers through the best University Teacher Award since 2003. Since then, HEC has conferred 564 such awards. During the period under review, nominations from 34 universities have been evaluated and the National Level Best University Teacher Award Committee selected three winners under three broad fields of study namely "Social Sciences & Humanities", "Physical Sciences & Engineering" and "Life Sciences & Medicine". The winners were awarded a cash prize of Rs. 1 million per recipient along with a shield and certificate in an award conferment ceremony held at Aiwan-e-Sadr, President Secretariat, Islamabad. The award cycle Best University Teacher Award 2021 has also been initiated and 57 universities have sent the nominations of university level winners for consideration of HEC/National level Best University Teacher Award. Review & evaluation of the received nomination is underway.



### 3. Pakistan Civil Awards

The Government of Pakistan, Islamabad invites nominations every year for different categories of Civil Awards to be announced by the President, Islamic Republic of Pakistan on 14<sup>th</sup> August, while the investiture for these awards takes place on Pakistan Day i.e. 23<sup>rd</sup> March every year. Civil Awards are conferred upon the teachers and administration of Universities/Degree Awarding Institutions in recognition of their achievements and services rendered for the development of the institution and society. In order to acknowledge their meritorious accomplishments, 33 recommendations were made by HEC for the Pakistan Civil Awards in 2020-21, out of which six nominees were selected for conferment of the Awards.

### 4. HEC Distinguished National Professor

HEC has been acknowledging achievements of the eminent professors in the country and enabling continued utilisation of their services in national organisations through the Distinguished National Professor (DNP) programme since 2003. Since inception, fifty (50) DNPs have been appointed. The framework of the programme has been revised in 2019. Emphasis has been given to increase the tenure of the selected distinguished professors and the eligibility criteria and evaluation parameters have been revised. Nominations received from HEIs across the country against reporting period are under review as per revised criteria.

### 5. Phasing-Out of Conventional BA/BSc and MA/MSc Degrees

The initial guidance regarding phasing out of conventional 02 year degrees was issued on March 15, 2017. However, in order to ensure its smooth implementation as per given timelines, all the universities/HEIs were re-informed about the given timelines in November 2020 and other relevant stakeholders including students & their parents were sensitised through Alerts published in all dailies and HEC Social Media Network in the FY 2020-21.

### 6. Self-Finance Scheme (SFS) in the disciplines of Medicine (MBBS), Dentistry (BDS), Pharmacy (Pharm-D) and BSc Engineering

HEC administers admission of foreigners and dual nationality holders of Pakistani origin in the disciplines of Medicine, Dentistry, Pharmacy and Engineering. The aims of this scheme are to encourage expatriate Pakistanis to stay connected with their mother country, and foreign nationals to learn about Pakistani culture and society, to encourage knowledge-sharing with friendly, fellow developing countries and to improve relationships with the international community.

During the year under review, applications of foreigners and dual nationality holders of Pakistan have been invited for all the programmes under the scheme. Three students in BSc (Engineering) and 5 students in Pharm-D were placed at various Universities/Colleges. Data MBBS and BDS applicants were handed over to the concerned Universities and Colleges under the scheme for further processing (admission & placement) in the light of admission regulations and directives of Pakistan Medical Commission (PMC).

### 7. Grant of No Objection Certificate (NOC) to Foreign Students

The Higher Education Commission grants No Objection Certificate (NOC) to foreign national students for educational purpose in order to complete formal requirements of admission and visa processing under the intimation to the Ministry of Interior. As per the existing policy, foreign students approach the desired Universities/DAIs directly to secure admission, after confirmation of the admission the Universities/DAIs refer the case to HEC for issuance of NOC for student visa process. 1,332 NOCs were issued to foreign students to facilitate their admissions in recognised Higher Education Institutions (HEI's) in Pakistan in the said period.

## 8. Degree Relevancy

In order to facilitate the graduates in acquiring relevant jobs and to secure admissions in the relevant disciplines, Curriculum Division of HEC issues relevancy letters for two degrees having common courses but awarded with different nomenclatures. 227 such cases of subject relevancy were processed and decided during FY 2020-21.

## 9. NOCs for MS/MPhil Programmes

As per HEC Policy, it is mandatory for Institutions to acquire NOCs for launching MS/MPhil Programmes. The assignment was handed over to curriculum division from February 26 to June 17, 2021. During this period, the process for issuance of NOCs were revisited, simplified and aligned on fast track. In total 101 NOCs were processed and issued to Institutions during the mentioned period.

## 10. Academic Advisories to HEIs

The guidance regarding course load per semester from level-05 to level-08 programmes as per HEC semester guidelines and the nomenclature used for 'English' from undergraduate to PhD levels were issued to Institutions during the FY 2020-21.

## 11. Revision of Public Health Education Roadmap

Upon receipt of large number of queries regarding the discipline of public health education and its pathways, a series of consultative meetings were held with subject experts during the year 2020-21. Accordingly, the final notification regarding the revised public health education roadmap highlighting the pathways from Intermediate to PhD was issued.

## 12. Introduction of Programmes in the discipline of Archival Studies

As per directives of Honorable President regarding introduction of programmes in the discipline of Archival Studies, a survey was conducted during FY 2020-21 amongst all universities to assess the possibility and feasibility of launching programmes in the field of archival studies. The survey results were compiled and accordingly the possible actions were proposed for approval of competent authority.

## 13. Introduction of Spiritual Studies in Universities

In line with directives from Prime Minister Officer, a comprehensive report prepared by the nominated expert Dr. Syed Noman ul Haq, Dean Institute of Liberal Arts, University of Management & Technology, Lahore was shared with Ministry of Federal Education and Professional Training for onward submission. The areas highlighted included Conceptual statement articulated in light of the Prime Minister's educational vision, Statements of modalities, Specifications of deliverables, Timelines and Budgetary details.

## 14. Pakistan Academy of Sciences

HEC releases grants each year to Pakistan Academy of Sciences for promotion of Science and Social Sciences. For this purpose Rs. 30 Million was released after fresh MoU to PAS during FY 2020-2021.

## 15. PMDU (Pakistan Citizen's Portal)

As many as 560 complaints/suggestions were received in Curriculum Division on different academic matters on PMDU Portal and resolved with no escalated or super escalated complaint.

## 16. Responses for NA/Senate Questions/Court Cases/Ministries/Departments

In total 54 responses on miscellaneous academic matters were prepared by Curriculum Division and forwarded to the mentioned stakeholders during the FY 2020-21.

# Higher Education Development in Pakistan

Higher Education Development in Pakistan (HEDP) is a World Bank (WB) supported project worth \$400 million. It is assisting HEC in key strategic areas of research and development, improving the quality of higher education and supporting affiliated colleges, leveraging technological resources and capacity building of faculty/staff through the National Academy of Higher Education (NAHE). Component 1 (C1) of HEDP comprises research grants. These grants are contributing to COVID-19 related medical research and improving exports. They are accelerating research culture to contribute towards national economic growth. HEDP is also supporting development of national start-up ecosystem and hence will play a key role in contributing towards the knowledge economy of the country.

Component 2 (C2) of HEDP is responsible of the Postsecondary Education Reform Unit (PERU). During the year 2020-21, C2 has primarily focussed on the implementation of the Undergraduate Education Policy 2020 (UEP), which is based on best international practices. To facilitate implementation of the UEP, various countrywide exercises of capacity building of faculty and staff of affiliated colleges were conducted. To improve the quality of education in the affiliated colleges, Quality Enhancement Cells for affiliated colleges are being set up in affiliating universities. After a comprehensive study of the HEC Quality Assurance model and international benchmarking, the existing QECs and the newly established QECs for affiliated colleges will also be revamped. In addition, PERU provided great support in developing and finalising the Online and Distance Education (ODL) policy.

Component 3 (C3) of HEDP is required to leverage technology for improve the teaching, learning and research environment in Pakistan. Pakistan Education Research Network (PERN) connectivity will be extended to higher education institutions and will expand further to include more universities. This network provides faster access to internet and research databases to higher education institutions across Pakistan. The key feature of Component 4 (C4) is to acquire latest higher education technology and make it available to the universities in Pakistan at a reduced cost. Under this component, ERP and Student Life Cycle systems will be implemented in 50 universities across Pakistan. These systems will greatly improve the efficiencies of these institutions. A central higher education data repository is being established to collect data from HEIs. Under component 5 (C5), HEDP provides crucial support to NAHE, which is tasked to train fresh PhD graduates, faculty members and HEC staff. NAHE has already completed capacity building of 2045 HEI faculty and management. The need-based capacity building initiatives are being taken under that will have impact for the years to come. Under Component 6 (C6), HEDP will aid universities in improving financial autonomy. It will ensure access to the latest technology, improving governance and long-term sustainability of institutions.

#### **C-1: Nurturing Academic Excellence in Strategic Sectors**

Offers a verity of large research grants to encourage research and innovation in HEI of Pakistan.

#### **C-2: Supporting decentralized HEIs for improved teaching and learning**

Update all undergraduate curricula, including four-years bachelor's degree and associate degree studies.

#### **C-3: Equipping students and HEIs with Modern Technology**

Efficient use of ICT and LMS, MOOCs platform, cloud computing, block chain system for degree attestation and upgrade HEC ERP.

**C4: Implementing Higher Education MIS and Data Driven Services**

Automate HEIs administration and management systems as well as connecting it to a central data repository HEDR for planning on national level.

**C5 -Capacity building through partnerships, project management and M&E**

Funding support for PCU, capacity building and strengthening National Academy of Higher Education (HAHE).

**C6 - Improving access and quality of remote learning**

Support HEIs for connecting HEIs using PERN, develop QA policies for online teaching and learning and improving HEIs financial autonomy.

**Achievements in FY 2020-21****Component 1 - Nurturing Academic Excellence in Strategic Sectors**

Component 1 (C1) of HEDP supports research excellence in strategic sectors of the economy through competitive research grants.

Under C1, 37 different research grants were awarded during 2020-2021. These grants are contributing to medical and engineering research, improving exports, and are accelerating research to contribute towards national economic growth.

The details of these grants are as under:

- HEDP Awarded 37 competitive research grants in FY 2020-21 (with a total approved cost 1.32 billion; 40% release as 1st Instalment i.e., Rs. 529 million). These include:
- 05 GCF grants (794 m)
- 12 LCF-Element-1 grants (276 m)
- 03 LCF-Element-2 grants (89 m)
- 17 TTFS grants (158 m)
- HEDP also monitored progress on 10 RRG awarded projects awarded last year under HEDP related to COVID-19.

HEC has also disseminated the outcomes of HEDP awarded projects on its website. The information disseminated contains research title, research team, research problem issues and solutions/results. A web-based Research Grant Management System (RGMS) was also launched under this project which is now being used by HEC for grants management activities (from proposal acceptance, review of applications, awards while the outcomes tracking system is under development). HEDP is also supporting development of entrepreneurial and innovation ecosystem and hence will play a key role in contributing towards Pakistan's transformation into a knowledge economy. C1 team conducted multiple capacity building interventions to lift the R&D capacity of HEIs as well as their ability to incubate start-ups / spinoff companies. In addition, the C1 team carried out a comprehensive mapping study of the knowledge & innovation ecosystem comprising of HEC recognized ORICs & BICs. The study examined policies & procedures, service delivery, internal capacity of ORICs & BICs and identifying gaps for performance improvement.



## Component 2 - Supporting Decentralized Higher Education Institutes for Improved Teaching and Learning - Achievements

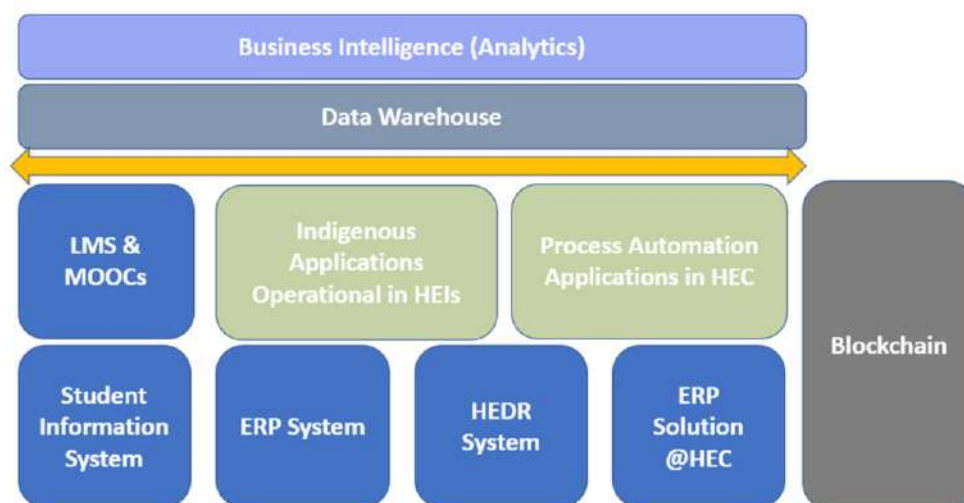
The Postsecondary Education Reform Unit (PERU) is responsible for Component 2. PERU has developed and rolled out the Undergraduate Education Policy 2020 (UEP), which is now being implemented. PERU developed and circulated the 'Implementation Manual: A Guide to Implementing Undergraduate Education Policy 2020 (UEP)'. Following are some of key activities held in this year under C2:

| Timeline                   | Activity   |
|----------------------------|--|
| <b>Jun 2020 – Jul 2021</b> | Under the Undergraduate Education Policy 2020 (UEP), development of all 11 Model Gen Ed courses and associated Teachers Manuals in five domains of knowledge (Arts & Humanities, Expository Writing, Natural Sciences, Quantitative Reasoning, and Social Sciences) by five teams of experts |
| <b>Jun 2020</b>            | A team of consultants were hired through Pak UK Education Gateway project to conduct a survey and develop a report on ODL  |
| <b>Jul 2020</b>            | Workshop for the development of Expository Writing Gen Ed courses under the UEP  |
| <b>Jul 2020</b>            | ODL Consultation meetings with five internal stakeholders from HEC, the representatives of 13 representative national universities   |
| <b>Jul 2020 – Sep 2020</b> | Development of a report on the landscape of Open Distance and Learning in Pakistan   |
| <b>Aug 2020</b>            | Finalization and dissemination of the UEP to all universities in Pakistan  |
| <b>Sep 2020 – Jul 2021</b> | Development of Technical Guidelines for supporting HEIs in implementation of UEP   |
| <b>Sep 2020</b>            | Three orientation sessions on the UEP for HEC employees  |
| <b>Sep 2020</b>            | Consultative sessions with 5 universities on UEP from the federal capital: QAU, Air University, NUST, COMSATS, IIUI  |
| <b>October 2020</b>        | Brainstorming session on the implementation of the UEP with university academicians  |
| <b>October 2020</b>        | Consultation with Pakistan Medical Commission (PMC) for the implementation of the UEP in MBBS and BDS programmes   |
| <b>Oct – Nov. 2020</b>     | Development of the UEP Implementation Manual   |
| <b>Dec. 2020</b>           | Meeting with senior HEC officials to deliberate the draft of the Open and Distance Learning Policy.  |
| <b>Feb 2021 – Mar 2021</b> | Development of Quality Enhancement Cells for Affiliated Colleges (QECACs) establishment guidelines for affiliating universities  |
| <b>Mar 2021</b>            | Consultation with 5 affiliating universities for the establishment of QECACs   |
| <b>Mar 2020 – Jul 2021</b> | Collaboration with the Education Testing Council to develop a general university admissions test under the framework of the UEP  |
| <b>Apr 2021</b>            | Consultation with the Pakistan Engineering Council (PEC) for the implementation of UEP in Engineering programmes.  |
| <b>Apr 2021</b>            | 8 <sup>th</sup> Deans' and Directors' Conference organized by NBEAC – session on 'UEP and Business Education: Challenges in Implementation'  |
| <b>May 2021</b>            | Instructors' workshop – Capacity Building programme for KP college faculty   |
| <b>Sep 2020 – Jun 2021</b> | Development of Draft ODL Policy  |

### Component 3 – Equipping Students & HEIs with Modern Technology – Achievements

Under Component 3 (C3), HEDP has developed blended learning platform for HEIs. This platform will help enable Pakistan's own national MOOCS platform (PakistanEdX). In addition, PERN – Pakistan Education Research Network, (which is now moved to C6) connectivity was extended to additional 75 Higher Education Institutions. The PERN network provides faster access to internet and research databases to higher education institutions across Pakistan. Due to some challenges (COVID-19), the expected numbers under PERN connectivity are a bit lower than target. C3 has recently been restructured and most of its activities are new, which are yet to be launched. HEDP team did extensive desk review to plan the activities for overall development of IT landscape of Higher Education Institutes (HEIs) in Pakistan. The following activities are planned to update the overall HEC technology canvas at national level.

- Updating the policy framework for ICT, Online learning, and Cyber Security
- Establishing High Performance Computation Cloud
- Blockchain and Identity Access Management Solution
- Learning Management System
- Upgradation of ERP Solution at HEC
- National Data warehouse and Business Intelligence
- MOOCS Development for a Blended Learning Platform
- Developing Centre of Excellence (CoE) in HE Technology



**Proposed HEI Technology Canvas**

### Component 4 – Higher Education Management Information System and Data Driven Services – Achievements

Component 4(C4) consists of two main activities: is the creation of a national level data repository at HEC, consisting of granular level data related to students, faculty and staff called Higher Education Data Repository (HEDR); to digitise and automate the business processes, related to both student lifecycle and back-office, at a significant number of public sector universities.

#### Higher Education Data Repository

The Higher Education Data Repository (HEDR) portal was developed for the purpose of getting granular level data of students, staff, and faculty from all the universities in Pakistan. The portal is meant to populate a 'live' database that will be updated on a periodic – at least once a year – basis. HEDR portal was demonstrated to the World Bank team on February 14, 2020.

The portal was piloted in a set of selected universities and the activity was completed in May 2021. The details are shown in the following table:

| University                                | Student Count | Faculty Count | Staff Count | Completion date of Data Uploading |
|---|---------------|---------------|-------------|-----------------------------------|
| SBB Dewan University, Karachi             | 455           | 47            | 66          | 28-Jan-21                         |
| FCCU, Lahore                              | 5228          | 290           | 833         | 29-Jan-21                         |
| Riphah University, Islamabad              | 20384         | 910           | 1586        | 1-Feb-21                          |
| Sir Syed UET, Karachi                     | 7033          | 380           | 748         | 29-Jan-21                         |
| Khawaja Fareed UE&IT, Rahim Yar Khan      | 13772         | 229           | 304         | 1-Feb-21                          |
| FAST NUCES                                | 23484         | 533           | 768         | 15-Feb-21                         |
| University of AKU, Muzaffarabad           | 8444          | 261           | 594         | 18-Feb-21                         |
| Abasyn University, Peshawar               | 7773          | 323           | 70          | 18-Feb-21                         |
| City University of Science & IT, Peshawar | 2814          | 159           | 127         | 18-Feb-21                         |
| SBB Women's University (SBBWU)            | 2808          | 142           | 296         | 7-May-21                          |
| Institute of Space Technology (IST)       | 2297          | 189           | 419         | 18-May-21*                        |
| <b>Total</b>                              | <b>94492</b>  | <b>3463</b>   | <b>5811</b> |                                   |

\*IST started in late March 2021

The HEDP team, with support from the HEDR division at HEC, will begin the 'global' rollout of HEDR in Q2 of FY 2021-22. It is expected that HEDR will be populated with data from ALL universities in Pakistan within the next couple of years.

### Digitisation of Universities

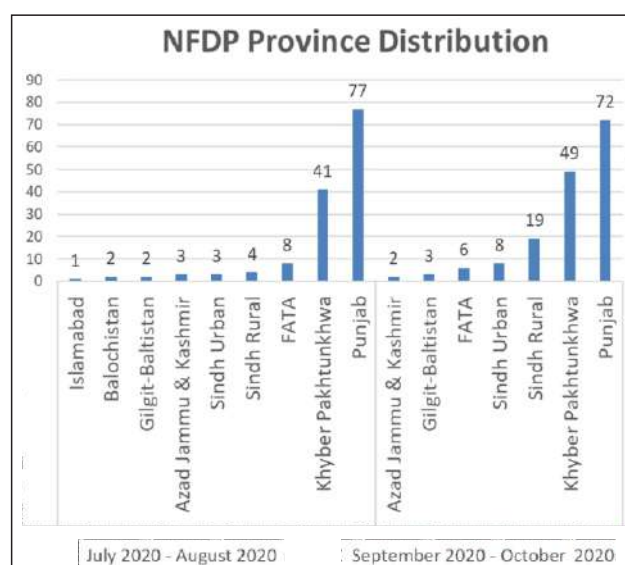
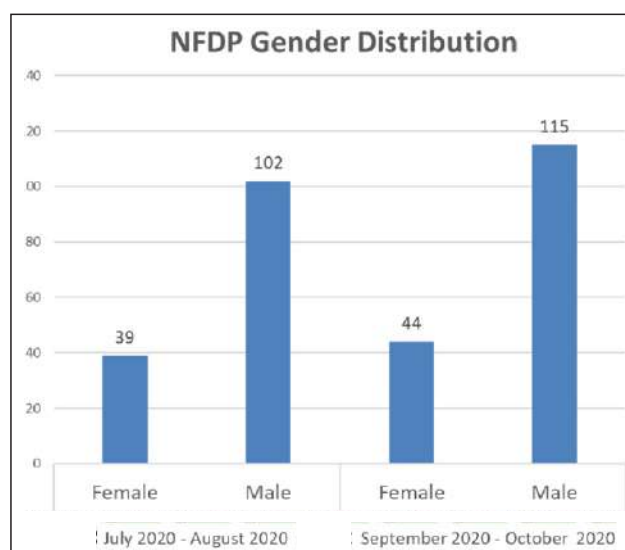
This endeavour aims to automate business processes related to both student lifecycle and back-office administration at a significant number of public sector universities. The following software packages will be needed to automate the business processes of selected public sector universities:

- Student Lifecycle Solution (SLCS), covering all business processes from admission to graduation, and on to alumni relations
- Back-office Automation (provision of enterprise resource planning software (ERP) to automate key functions like finance, HR, procurement, inventory, and grant management, etc.)

HEC will automate at least 25 universities over the course of three years. The procurement of the ERP and Student Lifecycle Solution(s) is being carried out using the World Bank two-stage, two-envelope process. Given that the complexity of business processes at HEIs is a function of their size, appropriate solutions would be identified for each university type. The initial selection process for identifying viable vendors has been completed and the Request for Proposal (RFP) documents are close to being shared with the initially selected applicants. Once the procurement process is completed the rollout is expected to proceed at selected universities.

## Component 5 (C5) - Capacity Building through Partnerships (National Academy of Higher Education), Project Management, Monitoring and Evaluation – Achievements

Project Coordination Unit (PCU) supported all components in various overall project coordination and management activities that mainly included human resources, environment and safety assessments, procurement, finance, communications, and project management. These also included conducting key stakeholders meeting such as regular WB Progress Meetings/WB Missions, Steering Committee Meetings and Third-Party Validation. The Third-Party Validation of the project was completed during June 2021 leading to disbursement of USD 76 M to Govt. of Pakistan from the World Bank. Extensive project restructuring exercise was also led by PCU team in FY20-21. These included coordination with Component heads, onboarding meetings with World Bank Team, Development Division of HEC and Planning Commission. This led to a revised Project Appraisal Document (PAD) and PC-1. The establishment of National Academy of Higher Education (NAHE) is a significant activity of Component 5. NAHE is envisaged as a specialist autonomous institution that will lead the nation in capacity building in teaching effectiveness, quality research and academic governance in higher education. The National Faculty Development Programme 2020 is a signature activity of NAHE supported by HEDP. Two cohorts were trained during this time - Cohort 3 (Jul 20, 2020 – Aug 25, 2020) Cohort 4 (Sep14, 2020 – Oct 13, 2020).



Following is a synopsis of major activities conducted by NAHE in this FY.

| <b>Month<br/>2020/2021</b> | <b>Summary of achievements and activities</b>  |
|----------------------------|--|
| <b>Jul 2020</b>            | National Faculty Development Programme 2020;<br>Series of live webinars on online assessment in collaboration with the US Embassy.   |
| <b>Aug 2020</b>            | National Faculty Development Programme 2020  |
| <b>Sep 2020</b>            | National Faculty Development Programme 2020  |
| <b>Oct 2020</b>            | National Faculty Development Programme 2020  |
| <b>Nov 2020</b>            | Training Needs Assessment of HEC Employees<br>International Virtual Conference with Ziauddin University  |
| <b>Dec 2020</b>            | Technical Capacity Building on E-Office for HEC  |
| <b>Jan 2021</b>            | Technical Capacity Building on E-Office for HEC  |
| <b>Feb 2021</b>            | National Collaboration for Excellence in Professional Development<br>Reflective Session in Teaching & Learning for IPFP Fellows  |
| <b>Mar 2021</b>            | Provincial Collaboration for Excellence in PD: Khyber Pakhtunkhwa (KP)<br>E-Office Workshop for Faculty Affairs Division (HEC)<br>IPFP Phase 2 Batch 2 Revised Policy and Application<br>Online Teaching Level 1 Course for HEIs (Cohort 1)<br>Fundamentals of Project Management for SRGP Fellows |
| <b>Apr 2021</b>            | IPFP Phase 2 Batch 2 Revised Policy and Application<br>Online Teaching Level 1 Course for HEIs<br>Fundamentals of Project Management for SRGP Fellows<br>Collaboration for Excellence in Women Leadership  |
| <b>May 2021</b>            | NAHE Associate Fellowship for IPFP Fellows<br>PERU-NAHE training of affiliated college faculty (TT)<br>Development of framework for Women Leadership Programme<br>Development of framework for NAHE Regional hubs<br>Directory of Faculty Development Units/Centers at HEIs                        |
| <b>Jun 2021</b>            | Accreditation of National Faculty Development Programme<br>National Faculty Development Programme 2021<br>PERU-NAHE Training of affiliated college faculty<br>Regional consultations for setting up NAHE regional hubs   |

**C6 - Component 6 (new) : Improving access and quality of remote learning and support to universities and affiliated colleges**

HEDP will aid universities in improving financial autonomy under component 6 (C6) of the project. This will ensure access to the latest technology, improving governance and long-term sustainability of institutions.

- HEDP released Rs. 1.39 billion Special Funds for Improving Universities' Financial Autonomy, Learning Management System and improving governance. This disbursement of PKR 27 Million to each of 51 universities is based on the emergency response Policy Guidelines/SOPs for the transfer and utilization of funds for the financial autonomy of the public sector. To ensure effective utilization of funds, HEC may subsequently monitor and verify the spending by the university for identified purposes. Out of total 51 universities - 15 are from Punjab, 15 from KP each, 8 from Baluchistan, 8 from Sindh, 2 from AJK, 2 from GB and 1 is from capital. The disbursement was based on lower rankings of these public sector universities in Human Development Index (HDI) of United Nations Development Programme (UNDP) Report.
- HEDP aims to expand PERN in remaining HEIs to promote high speed data and research resources to Pakistani students and academia. HEDP will also establish a quality assurance framework for online teaching and learning and Online and Distance Learning (ODL) policy in this newly added component of project. This was earlier the part of component 3 in the original design is now being placed under component 6 during restructuring due to its better alignment with the objective of component 6.





# Planning and Development

The Planning & Development (P&D) Division is responsible for identifying, studying, and evaluating policies, procedures, priorities, and proposals in planning or in the development of innovative educational programmes and projects. The inception and preliminary planning of a project require thoughtful definition of goals, identification of needs, master planning to accommodate anticipated future needs, evaluation of project alternatives, and identification of site requirements, funding requirements, budget authorisation cycles and/or financial impacts and project phasing. The P&D Division facilitates the HEIs in this regard. The main objectives of all the activities are to strengthen infrastructure in the higher education institutions, improve access to education, and develop research facilities.

## Public Sector Development Programme (PSDP)

In order to achieve the goals/targets of higher education mainly with respect to low and inequitable participation in higher education, improved quality of teaching and research and increase in capacity building of faculty, the Higher Education Commission (HEC) every year prioritises the projects/programmes which are to be funded through PSDP. HEC plans to continue reforms that are in line with the Government of Pakistan Vision 2025 mainly to implement a process of developing human capital and to take higher education opportunities at the district level throughout the country.

Under the PSDP 2020-21, the Government allocated Rs. 29.470 billion to HEC for implementation of 144 development projects (113 ongoing and 31 new approved projects) of public sector universities/HEIs. Detail is as under:

**Rs. in billion**

| S. No. | Description     | No. of Projects | Total Cost     | Cumulative Expenditure upto June, 2020 | PSDP Allocation 2020-21 |
|--------|-----------------|-----------------|----------------|--|-------------------------|
| 1      | 2               | 3               | 4              | 5                                      | 6                       |
| i.     | Ongoing Schemes | 113             | 260.618        | 96.694                                 | 23.009                  |
| ii.    | New Schemes     | 31              | 47.620         | -                                      | 6.461                   |
|        | <b>Total</b>    | <b>144</b>      | <b>308.237</b> | <b>96.694</b>                          | <b>29.470</b>           |

## Release of Funds in FY 2020-21

During the period, i.e., July 2020 – June 2021, of the financial year 2020-21, an amount of Rs.28.060 billion (100% of the rupee allocation) was released to HEC/public sector universities/HEIs for meeting expenditure against ongoing projects, covering activities like construction of new academic buildings, strengthening of ICT infrastructure, faculty development, procurement of laboratory equipment and other approved components.

Detail is given below:

**Rs. in billion**

| S. No. | Description     | No. of Projects | Total Cost Local | Cumulative Expenditure upto June, 2020 | PSDP Allocation | Releases      |
|--------|-----------------|-----------------|------------------|--|-----------------|---------------|
| i.     | Ongoing Schemes | 113             | 260.618          | 96.694                                 | 23.009          | 23.221        |
| ii.    | New Schemes     | 31              | 47.620           | -                                      | 6.461           | 5.051         |
|        | <b>Total</b>    | <b>144</b>      | <b>308.237</b>   | <b>96.694</b>                          | <b>29.470</b>   | <b>28.272</b> |

Furthermore, funding to 15 projects of various universities/HEIs have been completed during FY 2020-21. Summary is given below:

**Rs. in billion**

| S. No. | Description        | No. of Projects | Total cost | Expenditure upto 30.06.2020 | PSDP Allocation FY 2020-21 | Actual Releases during FY 2020-21 |
|--------|--------------------|-----------------|------------|-----------------------------|----------------------------|-----------------------------------|
| 1      | Projects Completed | 15              | 19.520     | 13.887                      | 3.826                      | 3.826                             |

## Outside PSDP Projects

### 1. Award of 3000 Scholarships to Students from Afghanistan under the Prime Minister's Directive:

The project was approved by ECNEC in its meeting held on September 4, 2015 at a total cost of Rs. 4,201.160 million for a period of 72 months. During FY 2020-21, the Government allocated the budget of Rs. 50.000 million through Technical Supplementary Grant (TSG) for this scholarships programme.

Under this scheme, the Government of Pakistan offers scholarships to 3000 Afghan students in various fields including Medicine, Engineering, Agriculture, Management and Computer Sciences;

- To create Pakistan's goodwill among the people of Afghanistan
- To promote Human Resource Development for reconstruction of Afghanistan
- To develop people-to-people contract between two neighboring countries
- To create excellent leaderships qualities among Afghan youth

### 2. Allama Muhammad Iqbal Scholarship for Afghan National Students: During Brussels Conference on Afghanistan, Pakistan committed additional scholarships for Afghan students. The project was approved by ECNEC in its meeting held on November 24, 2017. The approved cost of the project is Rs.7,352.541 million with an implementation period of three years. These scholarships are being offered in the fields of MBBS, BDS, Engineering and general disciplines at undergraduate and postgraduate/PhD levels in Pakistani universities/institutions. So far, 1274 students have been enrolled/selected in Pakistani universities. An amount of Rs. 50.00 million has been released to project entitled "Award of 3000 Scholarships to Students from Afghanistan under the Prime Minister's Directive" and Rs. 600.000 million has been released to project entitled "Allama Muhammad Iqbal Scholarships for Afghan National Students."

| S. No. | Description   | Final Grant    | Releases       |
|--------|---|----------------|----------------|
|        | <b>Technical Supplementary Grant (TSG)</b>  |                |                |
| 1      | Award of 3000 Scholarships to Student from Afghanistan Under the Prime Minister's Directive (TSG) | 50.000         | 50.000         |
| 2      | Allama Muhammad Iqbal scholarship for Afgha.n National Students (TSG)                             | 600.000        | 600.000        |
|        | <b>Grand Total</b>  | <b>650.000</b> | <b>650.000</b> |

During FY 2020-21 (July 2020–June 2021), a total of 56 projects worth Rs. 77.874 billion were approved from DDWP/CDWP.

**Rs. in billion**

| S. No. | Forum        | No. of PSDP Projects | Total Cost    |
|--------|--------------|----------------------|---------------|
| i.     | DDWP         | 48                   | 55.336        |
| ii.    | CDWP         | 08                   | 22.538        |
|        | <b>Total</b> | <b>56</b>            | <b>77.874</b> |



# Finance



HEC's Finance Division arranges, manages and generates financial resources for the higher education sector of the country with special reference to public sector universities, degree awarding institutes and centres. This Division has been supporting for crafting of a "resource base" for higher education sector, with the aim to transform universities and institutions of higher learning into engine of socio-economic growth and development. It is responsible to budget and obtain recurring grant from the Federal Government for around 149 higher education institutions, HEC secretariat, and its national Programmes. It also arranges funds from other international and multilateral donors such as World Bank and USAID in the form of budgetary/financial support. This Division is managing timely disbursement of all recurring and development grants to the Federally funded universities and degree awarding institutions of the country.

HEC's Finance Division also arranges foreign exchange requirements of different development projects and recurring Programmes and plays an integral part to efficiently remit foreign currency for Pakistani scholars studying abroad in multiple disciplines. All such tasks are performed by the three sections of Finance Division namely Finance Planning, Finance Operation, and SAP Competence Centre.

Despite financial constraints, during 2020-21, the Finance Division managed to get from the Federal Government, Rs. 64.1 billion as annual recurring grant; Rs. 4.468.00 billion as supplementary grant for HEDP and bailout package of different universities; a special grant Rs. 1129.203 million for PM tuition reimbursement scheme for students of Balochistan, FATA and Gilgit-Baltistan was also released by Government of Pakistan.

## Finance Planning Section

The Finance Planning Section of HEC Finance Division is responsible for managing the allocation and disbursement of recurring grant to federally funded public sector universities/degree awarding institutes. For this purposes, budget proposals for recurring grants from the federally funded Universities, Institutes, and Centres of higher learning are examined by a Joint Committee of Ministry of Finance & HEC and budget is allocated through a committee constituted by the Commission for allocation of recurring grants in a financial year.

Proposed allocations are placed before the Commission and New Item Statement (NIS) is submitted to the Finance Division, Government of Pakistan for incorporation in the Government Budget. Processed to the release of quarterly/monthly installments of recurring grants with the Finance Division, Government of Pakistan as per their policy and transfer funds to the Institutions against their approved allocations. Utilization reports are obtained from the Universities and reports are examined to ensure that funds released by HEC are spent for the purpose for which these were released.

Funds for HEC Programmes are allocated and released under Inter University Academic Activities, Promotion of Research, Digital Library, PERN, Seminars and Conferences, Travel Grants, Sports, Accreditation Councils, National Research Programme of Universities, Support for Scientific Journals and HEC Distinguished National Professors. Funds to universities for the faculty appointed under Tenure Track System are also allocated and released. HEC Budget is prepared, place it before the HEC Finance and Planning Committee and submit recommendations to the Commission for approval. Also responsible for overseeing the management and control of finances to ensure appropriate use of public funds.

## HEC Recurring Grant

HEC receives bulk provision of funds from the Federal Government and divide these funds in four main categories. Tentative breakup ratios are as follows:

- A) Universities and Degree Awarding Institutions=70%
- B) Centres of Excellence/Chairs/Others=10%
- C) Promotion of Research Activities by HEC =10%
- D) HEC- Universities Programmes=10%

The basic framework for streamlining HEC recurring funding to universities and institutions of higher learning is (i) Base Grant (ii) Need Grants, and (iii) Performance Grants. The total annual recurring grant from HEC to universities / degree awarding institutions is distributed as under:

Base Grant; 65%,  
Need Grant; 20%,  
Performance Grant; 15%

### Base Grant

Takes into account the parameters/factors that is considered while calculating these grants such as: Type of students (Arts/Humanities/Social Science, Sciences/Agriculture, Medical/Engineering/Veterinary), Level of students (Undergraduate, MS/MPhil, PhD) Provincial Grant is treated similar to Federal Grant and tuition fees is taken into consideration for allocation purposes. Distribution is made on resources per prorata enrolment basis.

### Need Grant

Impact of completed development projects, Implementation of New initiatives, Regional/Location backwardness and Income disparity compensation (Need based scholarships).

### Performance Grant

PhD faculty, Research Programmes, Research Publication/Output, Competitive Research Grants Obtained, Quality Enhancement Cell/Regulatory Body Reports/Accreditation Council, Compliance with Commission's policies, Evaluations by professional bodies at national/international level.

## Recurring Budget to the Universities/Institutes/Centres during 2020-2021

During 2020-21, HEC received Rs. 64.1 billion as annual recurring grant, Rs. 4.468 billion as supplementary grant for HEDP and bailout package of different universities; a special grant Rs. 1129.203 million for PM tuition reimbursement scheme for students of Balochistan, FATA and Gilgit-Baltistan was also released by Government of Pakistan. Major portion (84.5%) of recurring grant released to HEC was disbursed amongst the universities/institutes/centres as annual recurring grant, supplementary grant and salaries for tenure track faculty. About 14.1% of the recurring budget was distributed to universities/ institutions through National Programmes for Universities under the fund 'Inter University Academic Activities', 'Promotion of Research', 'Pakistan Education Research Network', 'National Programme for Digital Library', 'HEDP' and 'Prime Minister's Tuition Fee Payment Scheme for Masters & PhD Students of Balochistan, Gilgit-Baltistan and FATA. The share of HEC Secretariat was around 1.4% of total recurring grant.

Million Rupees

| Particulars                                    |   | Budget Estimates<br>2020-21 | Revised Estimates<br>2020-21 |
|--|---|-----------------------------|------------------------------|
| <b>1. Recurring Grant</b>                      |   | <b>64,100.000</b>           | <b>69,697.203</b>            |
| a.   | HEC Secretariat                               | 869.725                     | 943.125                      |
| b.   | Inter University Academic Activities          | 366.200                     | 292.800                      |
| i.   | Existing Programmes                           | 349.200                     | 289.336                      |
| ii.  | Education Testing Council (ETC)               | 5.000                       | -                            |
| iii.   | National Academy of Higher Education (NAHE)   | 12.000                      | 3.464                        |
| c.   | Promotion of Research in Universities         | 6,727.505                   | 9,391.505                    |
| i.   | Existing Programmes                           | 3,387.505                   | 5,373.505                    |
| ii.  | Higher Education Development Programme (HEDP) | 1,590.000                   | 2,268.000                    |
| iii.   | Digital Library                               | 1,380.000                   | 1,380.000                    |
| iv.  | Pakistan Educational Research Network (PERN)  | 370.000                     | 370.000                      |
| d.   | Tenure Track System                           | 4,119.750                   | 3,723.750                    |
| e.   | HEC Universities Programmes (LUMP)            | 457.750                     | 457.750                      |
| f.   | Universities/DAIs                             | 51,559.070                  | 53,759.070                   |
| <b>2. PM Tuition Fee Re-Imbursement Scheme</b> |   |                             | <b>1129.203</b>              |

Budget estimates 2020-21 of HEC Secretariat, National Programmes for universities, Tenure Track funds were approved in September 2020 in 18<sup>th</sup> meeting of HEC Finance and Planning Committee. Each year, as part of Government's annual budget process, Finance Division develops and maintains a medium-term forecast for the HEIs. This Medium Term Budgetary Framework (MTBF) is then used by Government to evaluate the sustainability of Programmes and services in the immediate and medium terms. The forecast includes multi-year projections for the expenditures and key performance indicators on the outputs that contribute towards the mission of the Higher Education Commission "to facilitate institutions of higher education to serve as an engine of growth for the socio-economic development of Pakistan". A three-year forecast is made available to the policymakers and public every year through Green Book.

## Tenure Track System

In addition to the annual Recurring Grant, HEC provides separate Funds to HEIs for the faculty appointed under Tenure Track System (TTS). During 2020-21, a total of 3595 faculty members were paid the salaries

| S. No.      | Name of Institution               | Faculty Appointed under TTS |                      |                      |               |
|-------------|-----------------------------------|-----------------------------|----------------------|----------------------|---------------|
|             |                                   | Professors                  | Associate Professors | Assistant Professors | Total Faculty |
| 1           | General Universities              | 111                         | 346                  | 1,470                | 1,927         |
| 2           | Agriculture Universities          | 26                          | 114                  | 308                  | 448           |
| 3           | Engineering Universities          | 2                           | 26                   | 183                  | 211           |
| 4           | Medical Universities              | 3                           | 4                    | 83                   | 90            |
| 5           | Degree Awarding Institutes (DAIs) | 15                          | 63                   | 750                  | 828           |
| 6           | Other Institutes                  | 7                           | 8                    | 41                   | 56            |
| 7           | Centre of Excellence              | 2                           | 8                    | 22                   | 32            |
| 8           | Pakistan Study Centre             | -                           | -                    | 3                    | 3             |
| Grand Total |                                   | 166                         | 569                  | 2860                 | 3595          |

## Budget Preparation for National Programmes for Universities and HEC Secretariat

Finance Planning Division is responsible for leading the preparation of annual budget of HEC Secretariat and more than 40 National Programmes for Universities being funded through recurring budget. To facilitate this process, the Division gathered relevant information from all the programme stake holders, which was analyzed and used in budgetary planning process of the Commission. Budgetary documents were then prepared and presented before the Finance Planning Committee of the Commission in a meeting held on September 15, 2020.

Following are Revised Estimates approved for the financial year 2020-21:

| National Programmes for Universities and HEC Secretariat |   | R.E<br>2020-21<br>(Million Rupees) |
|--|---|------------------------------------|
| a.   | HEC Secretariat                               | 1,524.070                          |
| b.   | Inter University Academic Activities          | 292.710                            |
| i.   | IUAA Misc. Programmes                         | 289.246                            |
| iii.   | National Academy of Higher Education (NAHE)   | 3.464                              |
| c.   | Promotion of Research in Universities         | 10,989.312                         |
| i.   | POR Misc. Programmes Including NRPU           | 5,373.505                          |
| ii.  | Higher Education Development Programme (HEDP) | 2,268.000                          |
| iii.   | Digital Library                               | 1,380.000                          |
| iv.  | Pakistan Educational Research Network (PERN)  | 1,967.807                          |
| d.   | HEC Universities Programmes (LUMP)            | 457.750                            |
| e.   | PM Tuition Fee Re -Imbursement Scheme         | 1,129.203                          |

## Monthly/Annual Reconciliation of Recurring Grant with AGPR

The recurring grant is being released in monthly installments by the Finance Division, Govt. of Pakistan. The same has been got reconciled with AGPR on monthly basis and annually for the FY 2020-21.

## Meetings organized and represented by HEC Finance Division

Finance Planning Division has actively been participated in policy formulation, financial management, financial planning and decision making, financial assistance from the World Bank and other related issues during the year 2020-21. In this respect, numerous meetings of higher forums were organized and the Division also represented HEC during various meetings at different universities / organizations.

## Finance Operations Section

This section of Finance Division is responsible to process and record all receipts, disbursements and maintain accounts through SAP based ERP solution. Funds are also released for Overseas and Indigenous Scholarships, salary to the Foreign Professors under Foreign Faculty Hiring Programmes and Tenure Track Scheme, Promotion of Research, Inter Universities Academic Activities as well as, Digital Library, Pakistan Educational Research Network, Video Conferencing, and different research projects in Universities. Travel Grants to university teachers, and sponsorship for Scientific Journals and support for organizing Seminars in universities is also paid through Finance Operations Section. Finance Operation Section is also responsible for the operational expenditure of HEC Secretariat like salary, pension & benevolent fund, utility bills, rent of the houses, payment to vendors against supply of goods and services and all other routine expenses.

- HEC Finance Division managed a budgetary outlay of over Rs.97 billion during last FY 2020-21. Finance Division successfully disbursed all the recurring and development funds received from the Government during last financial year except a negligible amount of 28 million in Development portfolio.
- It may be highlighted that Rs.4.100 billion were given to HEC in the last month of June 2020 for further disbursement to HEIs, scholars and other vendors which was disbursed on time.
- In quantitative and measurable terms Finance Division processed more than 64000 transactions during this period. In addition to this Rs. 8.468 billion were also disbursed under Ehsaas Scholarship scheme.
- In compliance with Asaan Assignment Account Procedure 2020, an extra-ordinary task which involved intensive coordination with HEIs, NBP, AGPR and Ministry of Finance. In this context a huge & comprehensive exercise was carried out for opening of Asaan Assignment Accounts (165 Recurring & 120 Development) for Universities/HEIs.
- Successfully implemented Double Entry Accounting System in 15 HEIs.
- For timely release of Recurring and Development Grant, Finance Division has been arranging all necessary measures for earlier availability of funds to Universities/HEIs.
- In addition to the above following routine tasks are also worth-mentioning here:
- Disbursed Salaries to HEC Regular, contract employees and for Tenure Track faculty.
- Analyzed, evaluated, monitored the 805 cases and arranged foreign Exchange budget equivalent to Rs. 8.382 Billion for HEIs.
- Deduction of Income Tax at Source (from Pay roll and suppliers bills) & Deposit in Federal Treasury and issuance of Annual Income Tax certificates for Income Tax Returns.
- Prepared Cash Books of all accounts and monthly reconciliation of Cash Books with Banks & AGPR.
- Execution of all the financial transactions through SAP to monitor and control the financial matters.
- Liaison with the HEC Audit Section for conduct of Audit of HEC accounts by the Federal Government Audit Team. Audit of accounts 2019-2020 has been completed.

### Audit by Federal Auditor

The accounts for the fiscal year 2020-2021 were completed and duly audited by the Auditor General of Pakistan.

### Sap Competence Centre

The SAP Competence Centre of HEC Finance Division is responsible for implementation and maintenance of SAP based Enterprise Resource Planning (ERP) solution. The SAP system has integrated all functions of HEC such as Finance, Development Projects Management, HEC University Programmes, Scholarships, Human Resource Management, Procurement and Asset Management; as well as, a system of recording and reporting of University Recurring and Development Grants. In addition to the responsibility of maintaining the SAP system, in the year under review, SAP Competence Centre has further developed and enhanced the SAP system in its respective modules and performed the following tasks:





## Finance, Accounts and Planning Modules

- Developed new reports and improved existing reports required by different tiers of HEC management
- Improved advance payment and reporting system
- Facilitated the concerned staff to issue system generated Foreign Currency Letters
- Developed HEC internal Budget Screens for data entry.
- Developed report for daily bank reconciliation
- Developed system generated “Bank Schedules” for Recurrent expenditure for submission to Accountant General Pakistan Revenue for endorsement of cheques
- Financial statements for Head office, regional Centres and Employee Funds.
- Developed of Cheque Dispatch register which will ease to keep the record of dispatched cheques.

## Human Resource Management & Administration Modules

- Annual Income Certificate for HEC employees and pensioners.
- Court Case Management system with reporting for Legal Section.
- Integration of Human Capital Management and HEC Budget Book
- Configuration of Employees’ Accommodation Cases: House Hiring Process, Re-Hiring, De-Hiring, Monthly/Semi Monthly Rents and Retention of Houses etc.
- Configuration of re-imbursements under medical facility, permission letters for treatment from panel/Govt hospitals, dependent data and reports
- Developed HEC employee’s GPF data screen, its integration with monthly payroll and reports



## Material Management Module

- Automated procurement process
- Developed Asset Register and Reports
- Uploaded Legacy data of Assets in SAP system

## Project System Module

- Developed system generated “Bank Schedules” for HEC and Universities’ Development projects for submission to Accountant General Pakistan Revenue for endorsement of cheques
- Developed Bank-wise expenditure reports for all projects



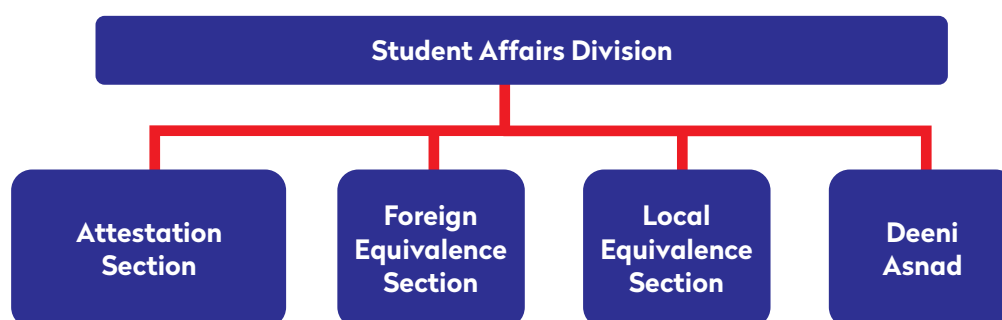


# Student Affairs Division

The clause 10(1)(o) of Higher Education Commission (HEC) Ordinance No. LIII of 2002, empowers HEC to determine the equivalence and recognition of degrees, diplomas and certificates awarded by institutions within the country and abroad. The Student Affairs Division performs different functions through following sections:

- (i) Attestation Section
- (ii) Local Equivalence Section
- (iii) Foreign Equivalence Section
- (iv) Deeni Asnaad Section

#### Student Affairs Division Organogramme:



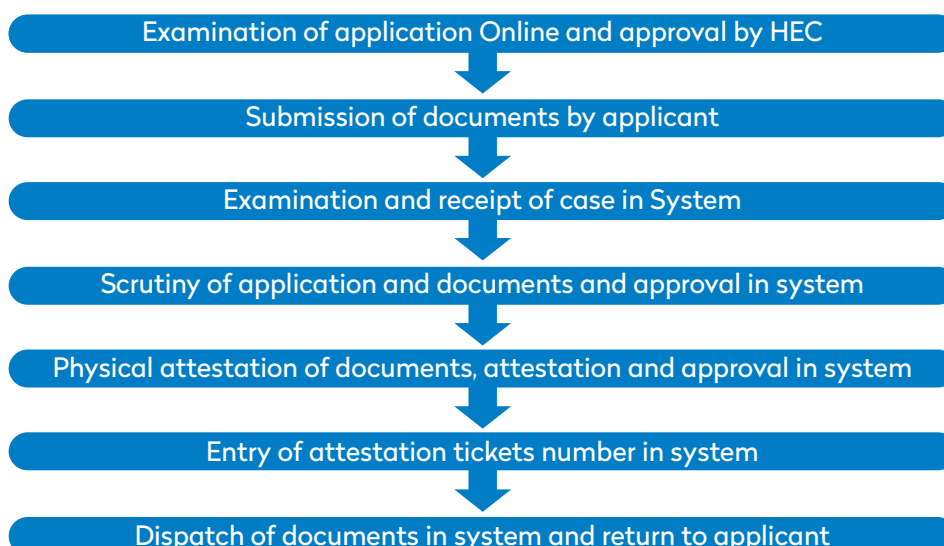
#### Brief Functions of Student Affairs Division

Listed below is an account of brief functions performed by Student Affairs Division:

- i. Attestation of degrees, diplomas and certificates involving 14 years of education or above
- ii. Equivalence of degrees, diplomas, and certificates awarded by recognised universities/degree-awarding institutions (DAIs) of Pakistan
- iii. Equivalence of Deeni Asnaad awarded by recognised Wafaqs or individual Madaris of Pakistan
- iv. Equivalence of degrees awarded by recognised foreign universities/DAIs

#### Attestation Section

##### Attestation Process Flow

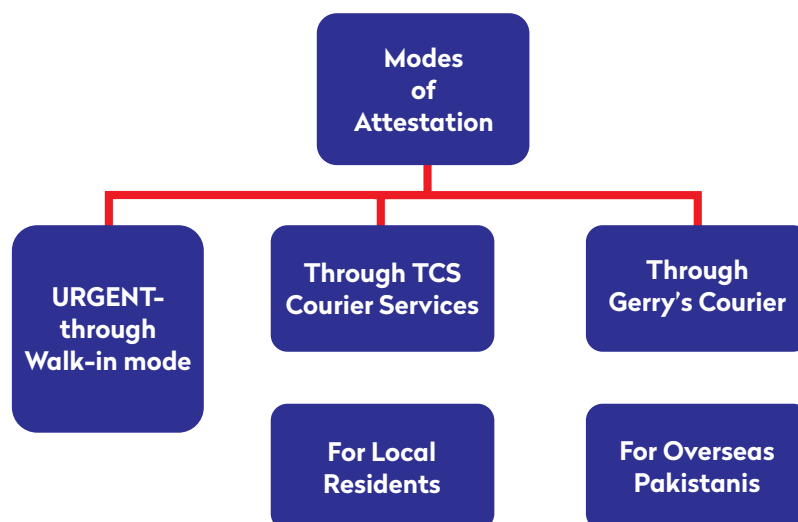


### Degree Attestation System

To facilitate the applicants, HEC has developed a comprehensive, robust, secure, and user-friendly online Degree Attestation System (DAS) operating since May 29, 2017. The DAS has been integrated with National Database & Registration Authority (NADRA) for real time verification of applicants. The DAS is also linked with Pakistan Qualification Register (PQR), a database containing details of recognised universities, their campuses, departments, affiliated colleges, degree programmes with exact nomenclature of degrees, and level of qualification etc. Applicants apply online and reserve time slots from their homes for attestation of their educational documents (in case of walk-in, urgent cases) or send their documents for attestation through designated courier company. A new and user-friendly version of DAS and a Mobile Application have also been introduced for facilitation of applicants.

### Modes of Attestation

Attestation of educational documents can be done through any of the following modes:

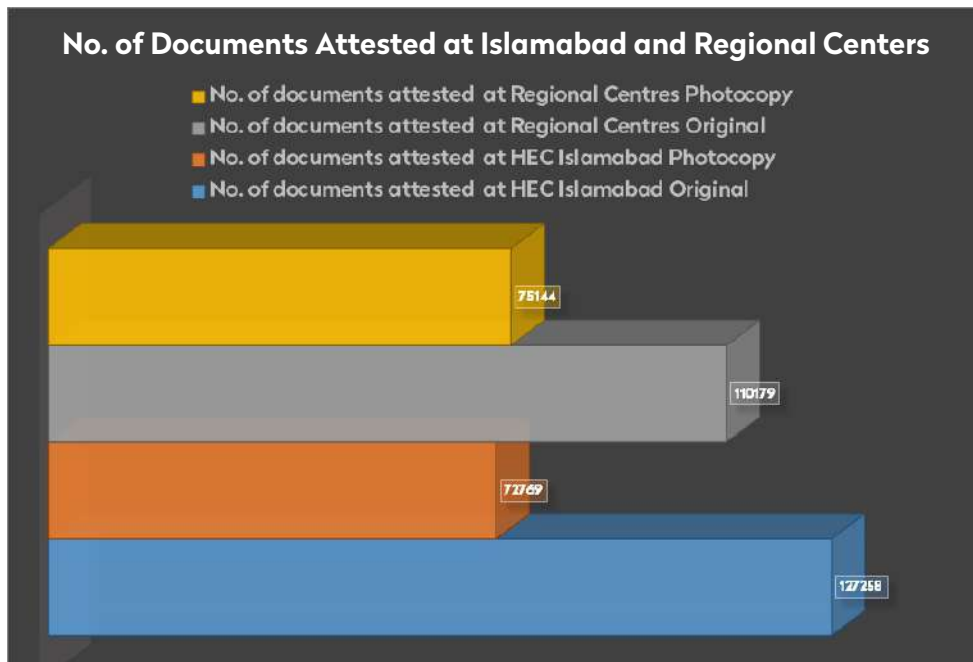


### Reverification of Attested Documents

HEC has already extended access of HEC's database to some organisations, embassies, and Foreign Education Evaluation Agencies to check and verify the attestation details of degrees without referring the cases to it. This service saves the time and money of those applicants who apply for scholarships, admissions, jobs and immigration etc.

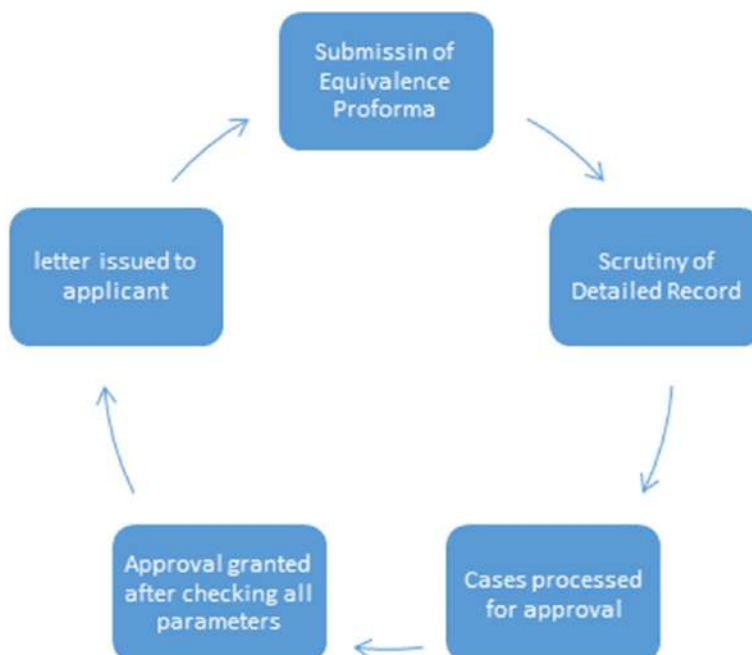
### Achievements of Attestation Section During FY 2020-21

| Financial Year | Particular   | Attestation Data  |
|----------------|--|-------------------|
| 2020-21        | Total number of applicants at HEC Islamabad during the FY 2020-21      | 58,190            |
|                | Number of documents attested during the FY 2020-21 at HEC Islamabad    | Original: 127,258 |
|                |  | Photocopy: 72,769 |
|                |  | Total: 200,027    |
|                | Total number of applicants at Regional Centers during the FY 2020-21   | 51,071            |
|                | Number of documents attested during the FY 2020-21 at Regional Centers | Original: 110,179 |
|                |  | Photocopy: 75,144 |
|                |  | Total: 185,323    |



## Equivalence Section

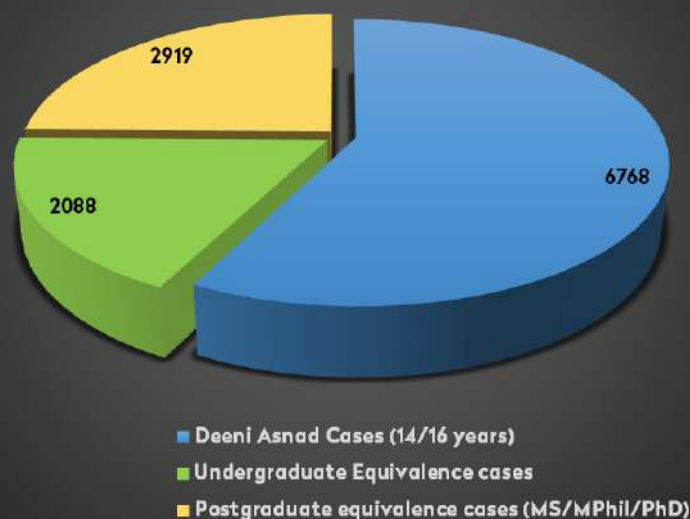
### Local Equivalence Process Cycle



## Local Equivalence & Deeni Asnaad Sections Performance During FY 2020-21

| S. No. | Duration   | Achievements   |
|--------|------------|--|
| 1      | FY 2020-21 | <p><b>6,768</b> cases of Deeni Asnad (involving 14/16 years of education) were processed during the period</p> <p><b>2,088</b> cases of undergraduate degree programme (involving 14/16 years of education) were processed</p> <p><b>2,919</b> cases of postgraduate degree programmes (MS/MPhil/PhD) were processed</p> |

Distribution of Local/Deeni Equivalence Cases during FY2020-21



## Foreign Equivalence Section

### Foreign Equivalence Process Flow



### Performance of Foreign Equivalence Section During FY 2020-21

| Serial Number | Duration   | Applications Processed                                   |
|---------------|------------|--|
| 1             | FY 2020-21 | <b>4,928</b> cases of foreign equivalence were processed |





# Sports

Pakistan University Sports Board (PUSB) came into existence in April 1974 through the Act of the Parliament. Chairperson Higher Education Commission, Pakistan (HEC) is termed as Chairman of the Board, while Executive Director HEC, Vice-Chancellors/Rectors of universities and degree awarding institutions (DAIs) and Director General PUSB are its members. Director General/In-charge, Sports Division, HEC serves as its secretary/member. The secretary PUSB is responsible for operations and arrangements of annual meeting of the Board.

Sports play an important role in the development of human personality and character building. It offers a change from the monotony of daily life as well as useful means of entertainment and provides strength to bear hardships of life. Sports are particularly important for youth to help boosting their physical and mental growth and capabilities. To inculcate the values and sense of competition among students, it is desired to make games as essential part of higher education. In this regard, PUSB/ Sports Division, HEC has been providing facilitation to student players through their universities in shape of funds for promotion of sports and encourage them for active participation by giving scholarships, medals, trophies, prize money and certificates. PUSB/ Sports Division, HEC is in close collaboration with national, regional and International federation of sports to provide opportunities to students to compete in national, regional and International level competitions so that they may be able to show their skills, talent and expertise. The COVID-19 pandemic has caused the most significant disruption to the worldwide sports calendar since World War-II across the world and to varying degrees, sports events have been cancelled or postponed in Pakistan as well to mitigate spread of the pandemic.

## Major Activities

1. Intervarsity Sports Championships
2. National Sports Activities
3. International Sports Events
4. Scholarships and Prize Money
5. Training Programmes for Director Sports of DAIs
6. Budget Summary of PUSB
7. Meetings

### 1. Intervarsity Sports Championships

HEC planned to organise 35 men and 25 women intervarsity events for the year 2020-21. Despite COVID-19 pandemic, HEC managed to organise 14 men and 10 women intervarsity events. The events were awarded to different public and private Universities/DAIs/HEIs to organise the events. The schedule of the Intervarsity Championships was finalised, keeping in view the schedule of various national championships..

HEC awards General Trophy to leading university for both men and women events scoring maximum points on the overall points table. Participation points are also awarded as 10 points for Zonal and 20 points for Final Round per championship to each participating university to encourage them to be an active part of the competitions. The positions of the year 2020-21 General Trophy is as under:

#### Men

- University of Central Punjab, Lahore stood 1<sup>st</sup> in Men ranking with 1764.5 points.
- University of the Punjab, Lahore was the runner-up with 1134 Points
- The Superior College, Lahore grabbed 3<sup>rd</sup> position with 814.5.

#### Women

- University of the Punjab, Lahore stood 1<sup>st</sup> in Women ranking
- Lahore College for Women University was the runner-up
- The Superior College, Lahore grabbed 3<sup>rd</sup> position

The points formula for every event was formulated according to national/international rules.

## 2. National Sports Activities

### a) Affiliations with National Sports Federations

PUSB is an affiliated body with 25 National Sports Federations like Pakistan Olympic Association (POA) and Pakistan Sports Board (PSB). These sports bodies are responsible for the promotion of sports in the country through their affiliated units including PUSB/Sports Division, HEC. In order to play their role in promoting sports culture in the country, these bodies are organising national level competitions in their respective sports wherein all affiliated units including PUSB/HEC participate.

### b) Performance at National Level Competitions

PUSB/Sports Division, HEC provides an opportunity to student players to exhibit their skills and expertise at national level. The revival of sports in the country depends on the University sports being the largest sports setup acting as a nursery in the country. PUSB teams participated in 12 various national sports events during the year 2020-21 which were held from Karachi/Quetta to Naltar Valley.

PUSB got 36 medals comprising 6 Gold, 8 Silver and 22 Bronze medals.

### c) National Level Medal Comparison of HEC Players (2017-18 to 2020-21)

The schedule of sports activities during the year 2020-21 was extremely strenuous as there were national championships as well as 33<sup>rd</sup> National Games planned for the year. The event commenced on November 10, 2020 and continued till the November 16, 2020 amid tight security at the Peshawar Sports Complex with athletes from across the country taking part in 32 men and 27 women games for which training camps at different venues were organised.

Medal Comparison of National Championships from 2017-18 to 2020-21 is as follows:

| Year      | Participation | Gold | Silver | Bronze | Total Medal |
|-----------|---------------|------|--------|--------|-------------|
| 2017-18   | 24            | 22   | 24     | 46     | 92          |
| 2018-19   | 30            | 12   | 29     | 53     | 94          |
| 2019-20   | 4             | -    | 2      | 6      | 8           |
| 2020-2021 | 12            | 6    | 8      | 22     | 36          |

## 3. International Sports Events

PUSB is a recognised member of International Sports Associations and provides international sports exposure to student players of Pakistan by giving them an opportunity to participate in the international sports events. International University Sports Federation (FISU) organises sports events for students worldwide whereas Asian University Sports Federation (AUSF) oversees sports at continent level.

HEC national teams of different games, comprising medalist players of PUSB in various national level championships participates in events organised by the said federations. Due to outbreak of COVID-19 pandemic, the participation in international events was not materialised due to travel restrictions and postponement of various events.

#### 4. Budget of Kamyab Jawan Sports and Co-curricular Division

##### a. Summary of Prize Money

To encourage the sportspersons for future endeavors, HEC awards cash prizes to them on the basis of their performance.

##### b. Summary of Sports Scholarships during 2020-21

The Competent Authority of Higher Education Commission grants sports scholarship scheme for the student players (Men & Women) who won medals at National and International levels for their encouragement and appreciation. This scheme has infused a new urge in the students, both male and female players of DAIs/ HEIs of the country. The student players of either gender have also responded well and won medals in the National level competitions and a good number of players become eligible for sports scholarships. With every passing year, the sports budget is significantly rising for the development and promotion of sports to provide more healthy opportunities to students.

Scholarship Details to HEC medalist players of financial year 2020-21 is as under:

| Year    | No. of Players | Amount Released (Million) |
|---------|----------------|---------------------------|
| 2020-21 | 288            | 7.67                      |

##### c. Budget Summary of PUBS

Overall budget expenditure of financial year 2020-21 is as under:

| Year    | Budget Allocated (Million) | Budget Consumed (Million) |
|---------|----------------------------|---------------------------|
| 2020-21 | 30.734                     | 30.734                    |

#### 8. Meetings

The Sports Division, HEC organises meetings of PUBS, its Sub-Committee and Technical Committee to plan and discuss various matters pertaining to functioning and overall performance of PUBS relating to university Sports in the country. During the year, following meetings were conducted:

##### 54<sup>th</sup> Meeting of PUBS Standing Sub-Committee

The 54<sup>th</sup> meeting of PUBS Standing Sub-Committee was held online on January 12, 2021 at HEC, Islamabad during which revision of Zones and inclusion of HEI's was discussed.

##### 11<sup>th</sup> Meeting of PUBS Technical Committee

The 11<sup>th</sup> Meeting of PUBS Technical Committee was held on February 12-13, 2021, at HEC Regional Centre, Lahore wherein schedule of PUBS calendar was discussed.

#### 9. General

- HEC participated in various sports events during 33<sup>rd</sup> National Games-2019 hosted by Peshawar, Provincial Capital of Khyber Pakhtunkhwa.
- PUBS membership and Intervarsity Certificates were sent to the Universities for awarding students players.
- Affiliation fee released to national and international Federations/Associations.

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