

HIGHER EDUCATION COMMISSION

Higher Education
Medium Term
Development
Framework II

MTDF – HE II

2011-15

Table of Contents

1. Foreword by Chairman HEC	4
2. Acknowledgement	7
3. Introduction: The Context	8
4. Mission Statement	10
5. Perspective	10
6. Major Issues	17
7. Strategic Vision for Higher Education	18
8. The Role of the HEC	23
9. Strategic Focus	25
10. Faculty Development	27
1. AIM	27
2. INTRODUCTION	27
3. OBJECTIVES	28
4. MAJOR PROGRAMS	30
5. PERFORMANCE INDICATORS	31
11. Quality assurance	32
1. AIM	32
2. INTRODUCTION	32
3. OBJECTIVES	33
4. PROGRAMS.....	34
5. PERFORMANCE INDICATORS	36
Research, Innovation & Entrepreneurship	38
1. AIM	38
2. INTRODUCTION	38
3. OBJECTIVES	42
4. MAJOR PROGRAMS	43

5.	PERFORMANCE INDICATORS	45
12.	Improving Equitable Access.....	47
1.	AIM	47
2.	INTRODUCTION	47
3.	OBJECTIVES	51
4.	MAJOR PROGRAMS	52
5.	PERFORMANCE INDICATORS	54
13.	Excellence In Leadership, Governance & Management	56
1.	AIM	56
2.	INTRODUCTION	56
3.	OBJECTIVES	59
4.	MAJOR PROGRAMS	61
5.	PERFORMANCE INDICATORS	62
14.	Financial Management & Sustainability	64
1.	ANALYSIS OF MTDF 2005-10.....	64
2.	RECURRING BUDGET PROJECTION	66
3.	DEVELOPMENT BUDGET PROJECTION	68
4.	BUDGET PROJECTION SUMMARY	69
6.	FINANCIAL MANAGEMENT.....	70
	<i>Objectives</i>	70
	<i>Major programs</i>	71
7.	PERFORMANCE INDICATORS	72
8.	FINANCIAL SUSTAINABILITY	73
	<i>Objectives:</i>	74
	<i>Major Programs:</i>	75
	<i>Performance Indicators:</i>	76
15.	Physical Targets	77
1.	FACULTY DEVELOPMENT	77

Medium Term Development Framework 2011 - 15

2.	QUALITY ASSURANCE.....	77
3.	RESEARCH, INNOVATION & ENTREPRENEURSHIP.....	78
4.	IMPROVING EQUITABLE ACCESS	79
5.	EXCELLENCE IN LEADERSHIP, GOVERNANCE AND MANAGEMENT	79
6.	FINANCIAL MANAGEMENT & SUSTAINABILITY.....	80

1. FOREWORD BY CHAIRMAN HEC

Developing countries are rapidly becoming the driving force of innovation and entrepreneurship. According to the World Bank, emerging economies will outgrow the developed nations by 2015. It is an established fact that there is a direct correlation between knowledge capital and economic development. If Pakistan wishes to become an emerging power, it needs to enhance its knowledge and intellectual capital drastically.

The mission of the Higher Education Commission (HEC) is “to facilitate institutions of higher education to serve as engine of growth for the socio-economic development of Pakistan”. HEC is faced with three key challenges (a) Quality (b) Access and (c) Relevance.

Improvement in quality of academic standards and research is the top priority of HEC. Considerable efforts have been made in the last few years on improvement in quality. Two universities of Pakistan are now ranked among the top Technology Universities of the World as per QS World Universities Rankings 2010 but that is not enough! Pakistan needs to have at least five universities in the top 300 Technology Universities of the World by 2015.

The number of faculty with Ph.D. degrees have doubled in the last five years, but even then, hardly 20% of the faculty have Ph.D. degrees. Pakistan needs to triple the number of Ph.D faculty at the universities by 2015. This will increase the number of Ph.D. faculty to at least 40% by 2015 after accommodating for growth in faculty.

The number of Ph.Ds awarded by Pakistani universities is currently 700 per year. This needs to be increased to at least 1000 by 2015, with a significant increase in science and technology disciplines. The number of research publications per year will be increased by at least 50% during this period.

In addition to the above quantitative increase in quality, a number of other soft quality reforms are being introduced. Quality Enhancement Cells (QEC) will be established in the remaining universities to include all public and private sector universities by 2015. These Cells will ‘own’ quality at the universities and report on a regular basis to the QA Division at the HEC, which will monitor the performance of the universities. With the introduction of Institutional Effectiveness Criteria (IEC), quality performance, and hence

rankings of the universities and the programs, will be introduced. The Federal Cabinet Criteria, which categorizes universities under the W, X, Y, Z classification, is being further elaborated for W category through the introduction of ten Institutional Performance Evaluation Standards against which each Institution will be assessed. There will be enhanced focus on improvement in quality of governance and leadership at the universities. A merit criteria has been introduced for the appointment of all senior positions, including Vice-Chancellors, so that political influence is minimized.

The second major challenge is that of access. Currently, only 7.8% of the 17-23 age group have access to higher education in Pakistan. This is as low as sub-saharan Africa, while other countries in the region have significantly higher access rates. As per Education Policy 2009, Pakistan needs to increase access to higher education to 10% by 2015. This translates into more than doubling the number of students enrolled in higher education institutes within five years. HEC will improve equitable access through establishing campuses and universities in backward areas, in providing financial assistance to needy students, and in introducing soft disciplines, such as social sciences, media and journalism, and fine arts to cater more to the female population so gender parity is further reduced. But more so ever, HEC will encourage cost-effective and widespread dissemination of knowledge through the use of educational technologies and distance education so that far-flung areas are covered while simultaneously ensuring that quality standards are not compromised.

The third important challenge is that of relevance of education and research to national needs. Universities need to build economies through providing knowledge capital. Even though a large number of curricula have been introduced and standardized which caters to the skill-based needs of developing Pakistan, HEC will support research relevant to socio-economic needs of the region in the vicinity of the university. This innovation, research and creativity carried out at the campuses will be transferred to the industry and the business community. HEC will support and expand on the establishment of Business, Agriculture and Technology Parks and Incubators. Small Business Innovation Research (SBIR) Grants will be introduced to support relevant research at the university which are partnered with the industry. Centers of Excellence in priority areas, such as in energy, food security and water resources, will be established to address national challenges.

The universities are being asked to associate themselves with the communities. The mega flood of 2010 served as a prime example whereby the institutions of higher education demonstrated their level of citizenship and responsibility, and were involved in relief and rehabilitation efforts to a great extent, raising a considerable amount of money and relief goods. This spirit will be carried through where universities will associate themselves to assist and help the local communities in resolving local issues and problems, be they environmental or health related problems.

Finally, universities will need to build leadership, both within the campuses and in the country. The top management of the universities will need to serve as role model leaders. They will need to demonstrate their sense of responsibility and accountability in governing and in managing the finances of the university. HEC will be building up at all universities the capacity to raise funds, so that they can become self-sustaining with support from the government.

The universities are a catalyst for change, revival of creative thought and process, freedom of expression and speech, and of public debate on issues of national importance. The universities are the grooming grounds for future leaders of this nation, and this is where they need to be reared to become mature and responsible citizens so that Pakistan develops and prospers to join the comity of fast developing nations.

These are testing times for the HEC and the universities in Pakistan. Even with the sharpest brain power, acclaimed experts, and earnest intentions, it will be a struggle but the community of academics from Pakistan's higher education institutions has an important role to play in providing intellectual capital and leadership to solve the country's long withstanding and new problems. Together we can do it, *Inshallah!*

Javaid R. Laghari, Ph.D

2. ACKNOWLEDGEMENT

The development of the HEC Medium Term Development Framework represents a year's iterative effort to formulate a coherent strategy for higher education in Pakistan for the next five years. Contributions by Anwar Amjad on IT Strategy, Ms. Noor Amna Malik on learning innovation, Dr. M. Latif on Research and Innovation, Zia Batool on Quality Assurance, Jalil Ahmed on Monitoring and development requirement projections and Khwaja Zahid on Finance, formed the core of the initial document compiled by Ms. Uzma Naz. Determination of targets for each section was the combined effort of the Tertiary Education Support Program "Junior Team" including Samar, Aneela, Afeefa, Humaira, Raza, Rizwan and Wajiha. It started out with each division of HEC drafting a section of the strategy that pertained to the work of that division, however, over multiple revisions the document morphed and evolved into one where it is difficult to ascertain the ownership of any particular paragraph.

Subsequently various draft versions of the document were shared with all Vice Chancellors and external experts. The input of all is gratefully acknowledged. Members of the Higher Education Commission provided valuable inputs especially with respect to financial resources required over the next five years.

Chairman HEC, Dr. Javaid R. Laghari provided extensive guidance and comments on the strategy of Universities Building Economies with Innovation as the key driver. Dr. Riaz Qureshi, Dr. Khwaja Azam Ali and Dr. S. M. Raza read the draft document cover to cover and provided detailed comments which were instrumental in bringing this document to its final shape. The efforts of all are gratefully acknowledged.

Prof. Dr. S. Sohail H. Naqvi

3. INTRODUCTION: THE CONTEXT

The Higher Education Commission was established in 2002 for the improvement and promotion of higher education, research and development in Pakistan. The MTF-HE II, is based intrinsically on Vision 2030, the strategic framework approved by the Government of Pakistan for meeting the contemporary and future challenges through accumulation of knowledge and collective competence. The vision acknowledged the importance of globalization and dispersion of information and technology, which are likely to dramatically change the scale and character of human enterprise. It emphasized the conversion of knowledge into a socio-economic enterprise that should transform the market place, the quality of its processes and products and the productivity of our human resource. The acquisition and dissemination of knowledge and the quest for excellence were attributed as the driving force of the future destiny.


For achieving the goals of human development and of transition to a knowledge economy, HEC adopted the strategy targeted at the provision of an environment conducive to quality education in all the higher education institutions through faculty and infrastructure development, support to the faculty and students for teaching and research, and through bringing equity, quality, transparency and efficiency in the operation of higher education institutions. The first five year medium term development framework, launched in 2005 identified access, quality and relevance as the key challenges facing the sector at that time. Programs were launched to support original research at universities, align the academic program structure to the three tier bachelor, master and doctoral program structure implemented in the rest of the world, and ensure adherence to internationally benchmarked quality standards and processes.

The interventions introduced by HEC in MTF 2005-10 have largely been successful as the higher education sector has experienced an unprecedented expansion and the improvement in quality of learning and research during this period. The challenge facing us, now, is to take the reforms agenda further by expanding our horizon and committing religiously to achieving the knowledge goals set out for Pakistan in Vision 2030. The demographic transition being experienced by us poses another challenge to equip our youth with the knowledge and skills necessary for development in the 21st century. The fact that Pakistan is on a favorable portion of the demographic transition

can prove to be a demographic dividend however if left alone, poses serious threats in form of an illiterate and intolerant population.

The HEC focus will now be on sustaining the gains in areas of faculty development, quality improvement, and maximizing the opportunities for acquisition of quality higher education. However, being cognizant of the fact, that collective capacity of a country to learn depends not only on individual or aggregated human capital but also on innovation and the social capital; measures are to be introduced for promoting innovation and enhancing integration of higher education sector to the society and community. The learning will not only be linked to the current and future priority areas for development but to the community and society as well. The universities will be transformed into centers building economies, communities and leadership. The Higher Education sector will be facilitated to step out of isolation, become more self-reliant and able to engage the stake holders for having them play their due role in the development of Pakistan.

MTDF HE I covering the period 2005-10 focused on the internal development of the Institutions of Higher Learning as world class centers of learning and research. MTDF HE II goes a step further to link this development to the society and industry. Universities building leadership, communities and economies will truly serve as an engine of growth for the socio-economic development of Pakistan.



4. MISSION STATEMENT

The Higher Education Commission will facilitate Institutions of Higher Learning to serve as Engines of Growth for the Socio-Economic Development of Pakistan.

5. PERSPECTIVE

Eight years after the formation of the Higher Education Commission, the landscape of university education in the country has been significantly transformed. The goals and targets of the first five-year medium term development framework (2005-10) have, to a large degree, been met with enhancement of access (not including “privately” enrolled students) from 2.6% of 17-23 year age cohort to 5.1% of the cohort, transformation of the academic framework to the internationally recognized three tier, Bachelor, Master, Doctoral program structure, implementation of an ambitious faculty development program providing doctoral scholarships to nearly 10,000 scholars and introduction of an internationally compatible quality assurance structure. Focused attention, in the initial years, was given to engineering and the scientific disciplines resulting in almost a ten-fold increase in doctoral dissertations in the engineering disciplines. The establishment of medical universities resulted in a focus being placed on non-clinical medical science disciplines and promotion of interdisciplinary research required to address modern challenges in health sciences. Agriculture sciences, which had seen significant investment thirty years hence, saw a revival of fortunes which greatly benefitted from the existing strong base of researchers with excellent credentials who were able to take advantage of new programs launched for promotion of research. Similarly, the priority given to the support of basic sciences discipline, i.e. Physics, Chemistry, Mathematics and Biology accompanied by the establishment of multi-disciplinary central laboratories, resulted in strengthening of the existing departments, opening of new programs and specializations, and doubling of international publications in these disciplines over the past five years.

The advances in the non-scientific Arts, Humanities and Social Science disciplines were however not that visible. While opportunities for post-graduate scholarships and research were available, the significant weakness of the undergraduate system of education in these fields neither allowed sufficient candidates to benefit from the graduate scholarship opportunities available, hence, nor did research flourish. A mid-

term analysis of the issue resulted in establishment of an Arts, Humanities and Social Science Research Council (AHSS) that chartered a path of growth for these disciplines. Performance of Area Study Centers, Pakistan Study Centers and other Centers of Excellence was analyzed to understand discipline and area specific issues. Committees of experts in the languages and other specialized areas provided input for support of the specific research journals, local conferences and academic programs. The implementation of all these recommendations has seen a turn-around and development of AHSS disciplines, however, much more remains to be done.

In the academic arena, the four year university-level, undergraduate program is now standardized and on offer at almost all universities and degree awarding institutions opening an entire new world of choices to students passing out after the 12th grade from schools and colleges. Curriculum for the new 4-year university programs have been developed to reflect the collective wisdom of subject experts in the country and abroad, ensuring that weaknesses of students entering the university system are identified and addressed. The curriculum developed addresses the requirement for a significantly broader based skill set of university graduates so that they enter the employment market and are able to be productive in the shortest possible time.

The 4-year programs were targeted to be initially implemented at the university and degree awarding institution level. Recognizing that the tertiary education sector also includes the nearly 2,000 affiliated colleges, distance education students, as well as “private” candidates, the ground was laid for the launch in colleges of these integrated and broad based 4-year programs in market oriented disciplines. The launch of these programs in 26 colleges in the Punjab represents the first significant step towards reform of college education in Pakistan. It is not realistic however to expect the transformation of all colleges offering two year Bachelor (Pass) programs in the near future. Moving forward, it will be important therefore to address curricula reform for the two year programs offered in colleges, making these programs address the needs of the market place through the introduction of dedicated two-year Associate Degree programs in disciplines such as hospitality management, accounting, etc., and an assessment system that rewards creativity, problem solving and critical thinking skills.

Research has become part and parcel of university life as demonstrated by a more than 25% average annualized increase in publications in international impact factor journals.

The quality of local journals has also changed dramatically with more than 70 local journals now included in Institute of Scientific Information (ISI) Master List and seven journals now having impact factor. University faculty members now are writing research proposals, guiding post-graduate students, presenting papers at conferences and writing journal papers. The recent establishment of Offices of Research, Innovation (ORICs) and Commercialization in seven pilot institutions signals the institutionalization of research culture that is expected to result in significantly enhance research funds coming into Institutions of higher learning along with a gradual increase in innovation activity, commercialization of research output along with launch of startup companies. Another recent initiative has been the establishment of Business Incubation Centers at universities to foster the growth of new companies capitalizing on intellectual property developed at the university. These initiatives will lead to the development of technology parks that will house start-up companies graduating from the Business Incubation Centers, Corporate Research offices as well other Government Centers of Research Excellence.

The past decades have witnessed a significant enhancement in the role played by quality assurance and accreditation processes. These developments have been spearheaded by the higher education harmonization process being carried out under the auspices of the Bologna protocol that no longer relies on the Institution of higher learning being legally chartered and providing quality education. It is now also necessary to identify the accrediting agency certifying the quality of academic program delivered and may also include independent quality certification of the Institution as well. In line with these developments the entire quality infrastructure of higher education for Pakistan was developed and implementation initiated. This involved establishment of Quality Enhancement Cells with the responsibility to take institutional ownership of all quality related issues; support of existing program accreditation councils and establishment of new ones in important professional areas such as computing, agriculture, business and teacher education. As the Bologna process has demonstrated, however, the transition to a quality centric higher education system is a long-term process requiring extensive training of relevant personnel and consistent application of well formulated policies.

The largest program of the HEC during the first five year development period was that of provision of scholarships for faculty development. These scholarships were provided directly by the HEC as well as through HEC funded university development projects. Both local and foreign fully funded MS and PhD scholarships were awarded along with post-doctoral fellowships. A pilot program for split PhD scholarships was also run, however, it was observed that there was limited capacity in the country for carrying out split-side PhD scholarships involving joint supervision of research and equal time being spent by the scholar in the local as well as foreign institution. Subsequently a program for provision of six-month research opportunity abroad, for PhD scholars in the later stages of their research, was successfully launched and implemented with more than local PhD scholars availing this opportunity to date. While more than 10,000 scholars are availing these scholarship opportunities, it is clear that the high growth in student enrolment at institutions of higher learning, together with the requirement of increasing the percentage of university faculty having PhD degrees, will require significant enhancement of fully funded scholarship programs, enhanced opportunities for split-side PhD and innovate 6 month to one year PhD study abroad programs. Faculty development programs will remain a core program of the HEC during the next five year span.

Following the establishment of the HEC in 2002 an emphasis was placed on optimum use of existing physical facilities along with enhanced used of information technology to enhance opportunities for higher education for the maximum number of students. Taking into consideration the abysmally low physical capacity of existing institutions to offer higher education to students and desire to enhance equitable access to higher education requiring new campuses in second and third tier cities along with housing for student and faculty, it was necessary to build new infrastructure in existing campuses and open new campuses and universities to cater to the ever increasing demand for higher education. It is clear that this activity will only increase over the next decade due to the significant positive community impact of these new campuses and universities. Higher education provides a viable means to prosperity and an ever increasing number of bright students are keen to progress in life availing this opportunity to break the shackles that hold them back.

Advances in Information and Communication Technology (ICT), which, in many cases, were brought to fore by the Institutions of higher learning, have provided new avenues for rapid expansion in the provision of quality higher education. Taking advantage of these developments an ambitious program of networking and computerization of every public sector university, their linkage to each other via a high-speed dedicated network, and provision of services such as the digital library program were designed and implemented during the period of the MTDF-I. This was rapidly followed with the rollout of second generation Pakistan Education and Research Network (PERN II) that provides for a scalable 10GB backbone with 1GB connectivity to each university. This development was accompanied by the implementation of the Video Conferencing Service providing for the platform to link more than 70 higher education institutions simultaneously. Provision of remote courses, research linkages to super-computer international sites, PhD defenses and dedicated lectures are just some of the ways in which the advanced ICT platform has been deployed in Pakistan. With the expected scale-up of distance learning programs, enhanced research linkages and new partnerships with the leading ICT organizations of the world, it is expected that Pakistan will continue to be at the forefront in the use of ICT for improvement of quality, access and relevance of higher education and research in Pakistan.

An overview of the existing administrative structure of public sector HEIs and their role in the socio-economic development suggest that there is no uniform governance model in HEIs and even intra-institutional variations exist. This situation demands an efficient university governance model having less dependency on governmental resources.

The involvement of all stakeholders such as government, community leaders, philanthropists, industry specialist, academicians and alumni are a *sin quo non* of modern HEI governance. These sectors balance each other and when support of one sector wanes, another steps in to fill the vacuum. Partnerships among these sectors can reduce various problems regarding continuity, growth and financial support. Whatever strategy HEIs adopt to fulfill their resource needs, a governance structure involving all stakeholders is an imperative in achieving successful growth in academia.

All academic institutions require an effective vision and strategies to produce quality graduates. Certainly, the dominant product of an educational institution is its human capital in the shape of its graduates. It is crucial therefore to focus on the development


of processes guaranteeing the production of highly skilled professionals that respond to the needs of the market place. This quality maintenance process integrates various imperative parameters (clear mission, well defined objectives, up to date curriculum, qualified faculty, better teaching learning process, monitoring/evaluation system and professional learning environment). The development of high caliber graduates must also be accompanied with the generation of new knowledge for which a research focus is required that is dependent on the nature on the Institution. Progress in academics and research are both guided by the needs of the community, industry and the country at large.

Fiscal efficiency is as much a requirement and necessity for academic institutions as it is for any for fundamental achievement of corporate governance in HEIs is to control spending and increase the market share in terms of human capital according to the demands of job market. By adopting the above mentioned growth and cost control practices HEIs will earn a great deal of respect in society due to their perception of working for socio-economic uplift of the masses without monetary gains. We have to keep in mind that four fundamentals of corporate governance are: *Governing Body*, *Executive Management*, *Utilization of Funds with Financial Transparency* and *Self-Regulation*. *Governing Body* of an HEI is its focal point for the development of strategies required to achieve the goals laid in its mission statement. This body is responsible for strategy formulation. *Executive Management* is the permanent senior staff assigned with the actual implementation of its mission under the guidance of the Vice Chancellor and the governing body. *Utilization of Funds with Financial Transparency* is essential for good governance so that the donor funds received be used in transparent manner for their stated purpose in mission statement. If administration cost control is not being achieved, the cause of the problem may be the over ambitious program without adequate arrangement or a set up not geared towards efficient delivery of the desired end result. *Self-Regulation* includes internal reporting system which determines the level of control the executive management is able to exercise and a strong independent internal audit functioning in order to ensure a system of checks and balances.

It is important to take steps to implement the requisite structure changes and statutory framework to enhance university governance and fiscal effectiveness. This would not

only lead to reduced fiscal reliance on the Government but would also create opportunities for and autonomous, self-reliant and self-regulatory educational system.

In order to make the system progressive and responsive to the national as well as international demands there is a need for pragmatic evolutionary approach in steering universities governance to achieve the desired objectives. Institutions of higher learning in Pakistan have been successful in placing themselves on the path of academic and research transformation of their institutions which is starting to bring them on-par with the world. The challenge now is to harness these achievements to prepare and implement plans for growth and development of their institutions, helping build the local community and economy so that the HEI may achieve their rightful position of leadership in society.



6. MAJOR ISSUES

Higher Education Sector in Pakistan has been transformed into a dynamic sector that is rapidly evolving and developing the capacity to serve as an engine of growth for the socio-economic development of the country. While good progress has been made numerous challenges remain and the following have been identified as key issues to be addressed:

1. Lack of national and local “ownership” of higher education.
2. Poor university – industry interaction
3. Poor university – community relationship.
4. Low quality and lack of employability of college and “private” graduates.
5. Lack of appropriately qualified high quality research faculty for universities.
6. Lack of capacity for continuous faculty and staff development.
7. Low enrollment in the tertiary education sector.
8. Poor Governance of Universities.
9. Less support of meritorious need students through student loans or other grants.
10. Low fund generation and user charge recovery by universities

7. STRATEGIC VISION FOR HIGHER EDUCATION

Pakistan's transition to a middle-income knowledge economy is critically dependent on the scale and performance of its tertiary education sector. Institutions of Higher Learning must play a leadership role in this transition through the production of skilled, innovative and enterprising knowledge workers. They must support research, especially on issues of direct relevance to the socio-economic development of the country and build the economy by pioneering the commercialization of innovative ideas, products and processes resulting from the research work. Community building and development is yet another mantle today's Institutions of higher learning wear; working to apply their knowledge and research to the issues of the local and regional industrial and social community, which also, in turn, guides them in prioritizing their work. In this way, Institutions of higher learning can truly serve as engines of growth for the socio-economic development of the country.


Translating this strategic vision, it is understood that:

1. **Faculty** are the heart and soul of the university, and only with a well-qualified faculty will it be possible to have meaningful development in this sector.
2. **Faculty growth and development** must be considered together with the development of the Institutional eco-system conducive to academics, as well as research and development in the universities.
3. **University Staff** provide a crucial supporting role for delivery of critical procurement, HR, IT, Library, Administration, facilities management etc. services. An emphasis must be place on providing opportunities for their growth and development.
4. **Teaching** is the primary role of Institutions of higher learning, therefore, **Faculty training in pedagogy, communication** and **ICT skills** is required at all levels to enhance the **effectiveness of teaching** in higher education.
5. The Higher Education sector is a major force for **innovation**. Creativity at all levels must be encouraged.

6. In accordance with the worldwide paradigm shift from **“Teaching”** to **“Learning”**, programs of study will focus on ensuring **maximal absorption** of subject matter by the students.
7. **Research** is reconfirmed as a fundamental activity of institutions since knowledge creation and diffusion are increasingly important drivers of innovation, sustainable economic growth and social well-being. Research also drives curriculum development ensuring that learning material keeps pace with the latest developments in the discipline.
8. It is important to develop and **support the entire tertiary education sector** consisting of public and private universities, affiliated colleges, distance education institutions, madressahs, foreign education providers, and all other mechanisms of provision of higher education.
9. Universities have a **leadership role** to play in society. They must nurture close relationships with their local community as well as with industry and organizations employing their graduates. They also produce the next generation of leaders and must be mindful of this responsibility.
10. University graduates, above all, must be **good ethical human beings** with sound values. Ethics must be taught at all levels of tertiary education
11. Institutions of higher learning are autonomous bodies that must become efficient organizations adhering to human resource management, procurement, financial management and operational management **best practices** adopted by the leading corporate bodies.
12. Governance of universities must reflect the principles of **merit, efficiency, and transparency**
13. Public institutions should **diversify sources of funding** to provide for balanced income from fees and user charges, government funding, research income and funds raised from the donor community.
14. Determined efforts are essential to increase **equitable access** to higher education for under-represented groups.

15. Higher education should be accessible to all meritorious students **regardless of ability to pay**.
16. A national system for provision of **loans to students** should be available to support higher education of meritorious needy students.
17. An integral role of higher education institutions is that of Leadership in assisting with **policy making** and serving as **"think tanks"** to the public and private sector.
18. Institutional and program **quality assurance** processes in higher education institutions, standardized to conform to **international best practices such as the Bologna Protocol**, should be implemented in all institutions.
19. **Pakistan Qualifications Register** describing inter-relationship of all qualifications offered in Pakistan should be developed and implemented.
20. While building the higher education sector priority should be given to **recognizing excellence** and giving it top priority.
21. **Engineering, Science and Technology** must continue to receive serious attention with a focus on application of knowledge to address local problems.
22. **Creative and visual arts** disciplines require support recognizing their specialized needs and must be developed at par with international standards.
23. It is understood that the geographic region of Pakistan is an ancient land enveloping people of diverse ethnicity, language, race, traditions, culture and heritage. Institutions of higher learning have a responsibility to understand, **preserve and promote this culture and heritage**.
24. A **broad-based** education system is required to ensure that graduates have not only mastered their respective areas of specialization but also have a perspectives on significant ideas and achievements in the humanities and social sciences, mathematics, ethics, Islamic studies and are able to use the electronic medium to communicate effectively and to acquire and process information.
25. In the rapidly changing global economy, the labour market constantly requires new and different skills, requiring mechanisms to be enhanced to allow professionals to upgrade their skills at regular intervals and develop new competencies through **lifelong learning**.

26. It is imperative that award of Ph.D. degrees should signify **original contribution** to the world body of knowledge as certified by International experts. PhD scholars should, as far as possible, be provided opportunities for close interaction with relevant international experts.
27. It is important to pursue an active **internationalization strategy** allowing local students and faculty members to travel and interact with their peers abroad as well as to provide opportunities to foreign students and faculty to study and research in Pakistan.
28. Competitive **research grants**, relevant to the socio-economic growth and development of the country, must be available to provide funding of the best research ideas
29. Universities and colleges through local, regional, national and international partnerships must develop strong **university-industry linkages** and share their expertise and facilities to support socio-economic regeneration and growth.
30. Technology innovation centers must be established in universities to support and promote launch of **"start-up"** companies and incubators.
31. It is widely recognized that **transferring knowledge** effectively is often as important as original scholarship. Incentives are to be provided to ensure that scientists who produce **innovative research** and work to **disseminate** its findings receive recognition and support.
32. Institutions of higher learning should establish **Offices of Research, Innovation and Commercialization (ORIC)** for the support, management, intellectual property protection, licensing and commercialization of university research products.
33. **National Centers** of Excellence in areas of economic importance such as Energy, Food Security, Water Resources, and Biotechnology etc. should be identified and strengthened to top world standards.
34. HEC envisions the **universities and institutions of higher learning building Economies**. Research must play a **catalytic** role in the **economic development** of the region in which the Institution is located.

35. Modern ***information and communications technologies (ICT)*** are key to enhancing efficiency, efficacy and impact of programs of development in the higher education sector. Using **distance education** and **open learning** affiliating universities must leverage ICT to play a major role in improving quality and widening access to higher education in Pakistan.
 36. Enhanced access to higher education will require ***optimal*** usage of existing ***physical infrastructure***. It will be necessary however to invest in equipment, laboratory facilities and space to cater to the demand of ***enhanced enrollment***.
 37. Non-core functions of the universities such as student and faculty housing, transportation, catering, facilities management, etc. may be developed and modernized through ***public-private partnerships***.
 38. It is necessary to focus on implementation excellence, which will require adoption of ***modern project management*** and ***reporting techniques*** as well as ***computerized financial management systems***.
- 

8. THE ROLE OF THE HEC

- The Higher Education Commission will be a key driving force for the provision of equitable, accessible and world class higher education, so that it can serve as an engine for socio-economic development through linkages with industry, agriculture and defense, thereby enhancing the quality of life for all Pakistanis.
- In our central role to evaluate, improve and promote higher education and research and development, the Higher Education Commission will to continue strive towards formulating policies, guiding principles, and priorities for the promotion of socio-economic development in Pakistan.
- We will balance our priorities in the light of the challenges presented in the contemporary global knowledge-based economy, by gearing our intervention strategies to facilitate the development of Pakistan into an actively participating, prosperous economy.
- We will work with institutions in order to assist them in building institutional capacity, with a particular focus on promoting quality in all aspects of provision and output.
- We will work with Institutions to diversify their sources of funding and enhancement of their endowment funds.
- We will help to develop a system, through our funding support, where excellence in teaching and knowledge transfer is as highly regarded as excellence in research.
- We will work with the cooperation of the Federal and Provincial Governments to ensure that all newly established institutions in both the public and private sector meet prescribed standards of quality.
- With the cooperation of the affiliating universities we will work to ensure high quality of academic programs delivered by affiliated colleges.
- With the cooperation of the affiliating universities we will enhance quality of education available to “private” students
- We will work to ensure the maximum value of public funds by reviewing and examining the requirements of public sector institutions, and providing funds

accordingly for development and research projects based on performance, intellectual merit, and relevance to national requirements.

- We will continue to support the development of university-industry linkages to promote research activity targeted towards economic activities, and introduce educational programs to meet the demands of industry and the employment market.
- We will continue to determine the equivalence, validity and recognition of local and international degrees, and provide advice to the public on recognized institutions, campuses, and educational programs.
- We will continue to implement mechanisms for the evaluation of performance of faculty members, and provide guidelines for the minimum criteria for appointment of faculty positions along international norms.
- We will, in order to increase the accessibility of education, introduce mechanisms to support meritorious need students and provide opportunities for students from under-represented groups' access to higher education based on individual merit.
- We will provide opportunities for students to obtain terminal qualification both locally and abroad.
- We will support the conduct and attendance of symposia, conferences and training programs.
- We will continue to ensure that curricula are modern, challenging and progressive and designed towards the matrix of the global knowledge society.
- We will support innovative ways of delivering lifelong learning, both traditionally and through new technologies.
- We will collect statistics on pertinent aspects of the higher education system, and make information publicly available.
- We will, in our drive to achieve excellence, continue to ensure value for public money by seeking to make the best use of available resources and securing accountability while recognising institutional autonomy.

9. STRATEGIC FOCUS



Universities have a leadership role in society. Modern universities are an integral part of the community and the region in which they are located. They serve to promote local industry, protect local heritage, debate policies impacting their region and the country at large, provide education and training addressing local needs, Industrial sector development lies at the heart of the economic revival of Pakistan. The Higher Education Commission is therefore supporting initiatives aimed at enhancing collaboration between academia and industry and government, with a particular focus towards the development of locally relevant education and research and development programs at the academic institutions. Universities the world over serve as local resource Centers providing training, research and development and entrepreneurial support to industries along with trained manpower. When combined with the spirit of entrepreneurship, these academic institutions can change the economic destiny of entire regions, as well as the country like the prominent role of universities in the fast and emerging economies of the world like South Korea, Thailand, Taiwan, Singapore and Hong Kong.

To achieve these strategic aims and objectives of Institutions focusing on building economies, leadership and communities, the pillars of Institutional development will be:



The following sections of the plan set out, for each of the above pillars:

The **Aim** in full: that is to say, the high-level strategic outcome towards which we are working throughout and beyond the life of this plan.

An **Introduction**, providing a commentary outlining the strategic context and challenges faced.

The strategic **Objectives** we seek to achieve within the plan period.

The **Major Programs** we will implement as a means to achieving our stated objectives.

Key **Performance Indicators** by which we plan to demonstrate, in measurable terms, our progress towards the aim and objectives.

10. FACULTY DEVELOPMENT

1. AIM

To improve the quality of teaching and research in institutions through programs to improve faculty pedagogical skills and qualifications of faculty members.

2. INTRODUCTION



Faculty development was identified as the core aim in MTD F HE-I (2005-10), since it was recognized that it would not be possible to enhance access and improve the quality of higher education and research or without the availability of sufficient, highly qualified faculty members. Starting out in 2002, the overall quality of faculty members was low when measured by indicators such as, the terminal qualifications of faculty members, their publications in referred journals, international recognition, and research grants won by them or teaching evaluations by students. To address qualification shortcomings, a range of initiatives were launched including local and foreign MS and PhD scholarship programs, split PhD programs and post-doctoral fellowships. Foreign faculty hiring programs and visiting scholar programs were also launched to enhance interaction of local faculty members with foreign experts and provide a mechanism to address issues of shortage of qualified faculty in the short term. Large scale faculty development courses were launched to provide pedagogical, communication and assessment training to existing faculty members. Till date more than 3000 overseas PhD scholarships have been directly awarded by HEC along with nearly 1,500 scholarships awarded by the universities, nearly 4,000 indigenous PhD scholarships and 1300 Masters/bachelors scholarships have been awarded. More than 1200 scholars have completed their studies and are currently serving the country. An Interim faculty placement program has been introduced to streamline faculty appointment of fresh indigenous and foreign PhDs.

To attract and retain highly qualified individuals, a performance-based tenure track system for appointment of faculty in public HEIs was also introduced. The Tenure Track

System has now been institutionalized in almost 90 % of Public Sector Universities/HEIs and has been adopted through the respective Statutory Bodies of Public. While this system is being applied to all new faculty appointments, existing faculty are provided with an option to apply for a tenure track appointment provided they meet the criteria. Currently, more than 850 tenure track faculty has been appointed in HEIs.

The HEC aims to enhance quality of learning and teaching through actions to support, promote and reward excellent practice and to inform student choice. It is essential to improve the status and recognition of excellent teaching and learning as a key element in the mission of higher education institutions, alongside research. Institutions face the challenge and the opportunity to develop innovative approaches to learning that meet the changing needs of learners and society.

In order to develop a qualitative pool of academics familiar with the latest advancements in pedagogy, research, testing, communication, academic planning/management, learner's psychology and teaching practicum/micro teaching, specialized faculty training were run. As there are over 19,000 HE teachers and twice that number as management staff in the HEI's across Pakistan, a two pronged strategy has been adopted to take up the challenging task of first developing Master Trainers in the HEC. Master Trainers are expected to replicate the same programs in their respective universities/institutions after being certified. More than 4,500 faculty members have benefitted from this program so far including the development of nearly 400 Master Trainers. Besides these teaching modules, the specified training in "English Language Teaching" is also the part of the Continuous Professional Development Courses provided at public and Private sector universities and colleges.

3. OBJECTIVES

- To increase the percentage of faculty members holding terminal degree qualifications
- To provide enhance opportunities for split-side PhD programs.

- To develop and implement a competitive program allowing local scholars to have opportunity to conduct research at leading international research institutions for at least six months.
- To provide greater incentives through the Tenure Track System to attract talented individuals to careers in higher education
- To promote activities to enhance the quality of learning and teaching across the sector.
- To provide rewards to celebrate and encourage excellence in all modes, pedagogies and approaches to teaching, and to promote the professional development of teaching staff.
- To support launch of joint degree programs with premier foreign universities.
- To support the supply of higher education student places matching the changing needs of learners and other stakeholders.
- To facilitate improved learning outcomes, movement to new models for articulation with other institutions of higher education, and the adoption of rigorous practices of credit for (and certification of) learning, regardless of its source;
- To allow instructional practices to be project-based and related to student interest, maximizing student self-direction in learning
- To enhance English Language communication skills of graduates to match the demands of the market place.
- To provide training for faculty members on modern pedagogical skills and techniques
- To make available the pool of individuals, equipped with the latest knowledge and research, for the universities/DAIs by ensuring the faculty position are available and attractive for fresh PhD holders.
- To assist the transition of PhD scholar to faculty member through a fast-track mechanism for placement of these scholars as faculty members in the universities for one year.

- To incentivise faculty training programs
- To incentivize establishment of Continuous Professional Development Centers (CPDC).

4. MAJOR PROGRAMS

The major initiatives/proposed programs of HEC in this regard include:

1. The major thrust of programs being developed by the Higher Education Commission will continue to be directed towards developing a strong base of faculty members having requisite terminal qualifications.
 1. Indigenous scholarship programs will be supported and strengthened.
 2. The foreign scholarship programs will stabilize with significant enhancement in split PhD opportunities.
2. An emphasis will continue to be being placed on short-term training programs that will enhance the subject knowledge as well as the teaching, communication (including English language comprehension and expression skills), problem analysis, problem solving skills and IT skills.
3. Professional competency development centers will be developed at each university for the training of university faculty and staff as well as college teachers using standardized training program. Certificate programs leading to specialized degrees will be developed and offered at these centers.
4. Professional Competency Enhancement Program for Teachers (PCEPT) will be expanded and implemented at the doorsteps across all the universities on regular basis to allow for training of all faculty members currently serving and being inducted in the universities.
5. Exclusive capacity building of English teachers will be done in Language & Research and to incorporate Language into Literature through specific Training Modules in Research Methodology, Testing and Assessment, Computer Assisted Language Learning, Open and Customized Programs, Pedagogical Skills
6. The Tenure Track Process Statutes will be expanded and all new appointments at Assistant Professor Level for faculty members holding terminal qualifications

will be made on the tenure track system. All graduating PhD scholars, along with those holding terminal qualifications, from local and foreign scholarship programs will be provided the opportunity of joining on the tenure track system.

7. Incentive programs for faculty and staff to acquire relevant training will be developed and implemented.

5. PERFORMANCE INDICATORS

- The percentage of faculty members in universities and degree awarding institutions holding Terminal Qualification.
- Percentage of university faculty members who have undergone teacher training courses.
- Percentage of college teachers who have undergone teacher training courses.
- Number of faculty members completing specialized English language teacher training programs.
- Number of university leadership training courses.
- Number of Ph.D. students per faculty member at a University
- Total Quantum of funds obtained from competitive research grants
- Number of research publications by faculty staff in Recognized Journals
- Number of faculty members presenting at International Conferences
- Proportion of Public university faculty on Tenure Track.
- Number of CPDC Centers established in universities.
- Number of the fresh PhDs hired under Interim Faculty Placement Program.
- No of faculty trained through generic pedagogical skill enhancement courses

11. QUALITY ASSURANCE

1. AIM

To establish and implement stringent quality criteria developed against international standards to assess the performance at both the program and institutional level.

2. INTRODUCTION



Quality has remained at the top of our agenda for transforming the higher education system. The goal has been to develop and implement high standards of quality across all university activities and making it compatible with the world. Given the fact that until 2003, there were no accreditation, quality assessment or improvement processes in place, HEC embarked upon this daunting task and undertook holistic measures targeted at ensuring quality at every level. A multidimensional approach was adopted, on which considerable progress has been achieved, in a) defining goals and establishing processes for quality assurance of teaching and research, b) training of teachers and faculty members, c) improvement of internal evaluation mechanisms, d) improvement of curriculum, e) development and elaboration of the accreditation process and establishment of standards for institutional accreditation.

The National Quality Assurance Committee (NQAC) was established in 2003 consisting of eminent educationists from both the public and private sector and chaired by a distinguished university academic. NQAC worked on policy development for the implementation of a globally compatible internal and external quality assurance system for Pakistan. It also served as the advisory body to a fully-functional Quality Assurance Agency (QAA) that was established in 2005 to serve as a monitoring and regulatory body for the various accreditation councils.

To improve the quality of professional programs, four accreditation councils were established. These included (i) Agriculture, (ii) Business, (iii) Computing and (iv) Teachers Education. In order to enable the institutions to internalize the quality improvement process, a policy for implementation of Quality Enhancement Cells (QECs)

was developed. Initially 45 QECs have been established in Public Sector Universities and 16 Private Sector Universities. These QECs are responsible for internal quality assurance, maintenance of statistical data, coordination with external QA bodies, experts and accreditors while accreditation is carried out by the respective Accreditation Councils as an External Quality Assurance (EQA) process. A comprehensive Self-Assessment Manual (SAM) has been developed which is now being implemented in each QEC in at least 4 departments, through which each academic program undergo self-assessment periodically. This activity will now be scaled to cover all departments of all universities. Quality Enhancement Cells will also be implemented in all universities along with a score card based system of measuring their performance.

In order to disseminate the information on quality assurance standards for the stakeholders, HEC, in consultation with national and international specialists, prepared a draft Institutional Accreditation Standards. The Hand Book on Performance Evaluation Standards for Higher Education Institutions (HEIs) was developed for the higher education institution in Pakistan in compliance with QA evidence conforming to international best practices.

M. Phil/Ph.D program criteria were developed by the National Quality Assurance Committee to ensure that only structured post-graduate programs were offered in the country. Based on the quality criteria, different stages of the review process that included base line data collection, constitution of a PhD/MPhil Review Committee, review visits and feedback reports were carried out and observations were communicated to the universities to remove the deficiencies.

3. OBJECTIVES

- To enhance the capacity of the Higher Education Commission to carry out quality assessment activities outlined in its charter
- To ensure that education imparted at domestic institutions meet quality criteria, developed against international standards
- To renew and revise curricula against advances in subjects
- To ensure delivery of quality academic programs to “private” students

- To establish mechanisms for evaluating the quality of higher education institutions
- To introduce quality assurance methods at both institutional and program levels
- To inform the public on the quality of institutions and academic programs based on uniform evaluation criteria
- Capacity building at each university for continuing quality assurance
- To develop Pakistan Qualification Register having a comprehensive record of degrees awarded by the HEIs in Pakistan and their relationships to each other.
- To promote implementation and evaluation of Institutional Performance Evaluation Standards.
- To implement and monitor the quality appointments made in Tenure Track System.
- To develop liaison with International QA bodies for sharing the best practices and experience in the areas of mutual interest.
- To implement Degree Supplement Form in all Degree Awarding Institutions for the purpose of improved inter mobility.
- Provision of Plagiarism Detection Service to all public and private sector Universities to implement Plagiarism Policy.

4. PROGRAMS

Major programs undertaken to ensure quality and evaluation of the performance of institutions include:

1. In order to bring uniformity & standardization of curricula, revision of curricula on a three year cycle, in collaboration of universities and industry, will continue to be conducted to ensure its quality and relevance.
2. Development and implementation of an enhanced assessment methodology is fundamental to improving the quality of learning of graduates. A nationwide program for improvement of course and subject examination system will be prepared and launched for this purpose


3. The HEC will also exercise its authority to take measures against institutions that overstep the legal bounds defined by the Charter under which they are initially established. A Steering Committee consisting of the Executive Director, HEC as well as respective provincial education secretaries will coordinate the activities in the arena of quality assurance, and ensure consistency of policies across Pakistan.
4. Steps will also be taken by the HEC to ensure that all universities and degree granting institutions in Pakistan satisfy the criteria for the Establishment of a University/Degree-Awarding Institute laid by the Federal Cabinet in Feb. 2002. Universities and their campuses will be urged to meet enhanced criteria for institutions currently under development.
5. Universities in Pakistan are to undergo ISO 9000 Certification Program, for review and assessment of quality standards. This program is concerned with "quality management" and is to be reviewed by the Board of Governors and Administration.
6. With the successful implementation of four undergraduate programs in universities, efforts will be made to support the Provincial Governments to expand the four year program to all affiliated colleges.
7. MTFD 2005-10 underscored informing public via maintaining a comprehensive website that entails information on the legitimacy of institutions and professional degree programs. HEC website contains complete and updated information on the programs, institutions, research as well as other HEC initiatives. Information on the HEC website will continue to be updated and expanded.
8. The HEC will facilitate institutions for the development of statistical data required for inclusion in international ranking exercises.
9. The ranking model adopted, was developed by the QAC through extensive stakeholder participation, considering the ground realities of the higher education sector in Pakistan. In order to ensure the dissemination of information to all the stakeholders and informed student choices ranking, departmental and institutional, will be done on continuous basis.
10. Statistical Information Unit is maintaining an extensive database of information pertaining to university education in Pakistan. Statistics about faculty, students

and other teaching/learning aids are being collected for planning purpose. Subject level database is under development which will help in identifying key areas where the investment and attention is to be directed.

11. SIU is also compiling detailed information of all the PhDs produced by Pakistani universities from 1947 to date. To develop and institute a comprehensive, reliable and dynamic HE statistics, possibility of establishing an independent HE Statistical setup would be reviewed.
12. Full text theses of PhD graduates are being uploaded on Pakistan Research Repository (PRR) which was launched to promote international visibility of research originating out of institutes of higher education in Pakistan and to be in line with global initiatives to promote open free access to scientific literature. The information will facilitate researchers and help curbing the Plagiarism menace since this information will be a pre-requisite to PhD Degree Recognition by the HEC.
13. Implementation of the internal and external quality assurance criteria will require the availability of a large number of trained evaluators. Extensive training programs, developed and implemented with international collaboration of sister QA bodies, will be implemented.

5. PERFORMANCE INDICATORS

- Number of Universities with Quality Enhancement Cells
- Number of universities having ISO 9000 or similar certification
- Number of disciplines for which departmental rating is published
- Frequency of university rating
- Number of disciplines for which Accreditation Councils have been established
- Number of departments accredited in Universities
- Number of curricula revised.
- Number of training courses delivered for improvement of examination system.

- Reinforcement of the Quality Assurance apparatus through the systematic monitoring of the QECs and Scorecard-based assessment of QEC performance in HEIs.
 - Degree of adherence of Institution to all QA Criteria as evaluated through a scorecard developed for this purpose
 - Degree of implementation of Institutional Performance Evaluation Standards
 - Number of evaluator trained for internal and external quality assurance and accreditation of programs
- 

RESEARCH, INNOVATION & ENTREPRENEURSHIP

1. AIM

To ensure that all higher education students benefit from a high-quality learning experience as well as to increase the capacity of higher education institutions to carry out cutting-edge research in all areas.

2. INTRODUCTION

Enabling and nurturing truly excellent research, remains the cornerstone of HEC policy. A thriving research sector requires proper funding and critical mass of well-motivated researchers. The work of modern institutions of higher learning does not stop, however, with research. Research is the conduit for the acquisition of new knowledge and a dynamic, world-class research sector is not only vital for the health of universities but crucial to economic growth and social cohesion. It is important, therefore, to transfer this new knowledge to the community and industry by focusing on innovation, entrepreneurship and the launch of new enterprises commercializing research output.

It is also important to recognize the strong links that exist between teaching and research across all disciplines, with research informing the design and content of the future higher education curriculum and providing insights into new approaches to learning and teaching, particularly in innovative modes such as e-learning. Learning, teaching and research lie at the heart of higher education. The success of higher education institutions in these activities determines public perceptions of the sector's role and achievements.

Advanced Information and Communication Technology (ICT) infrastructure and the applications that run on it, can provide learner-centered educational opportunities that build on the unique advantages this technology provides for the learning process. An essential pre-requisite is the existence of a dedicated education and research network linking all institutions of higher learning to each other, and to the world. This network (PERN), namely the Pakistan Education and Research Network was established more than 5 years back. As we complete implementation of the second generation education and research network in Pakistan, we can certainly lay claims to having one of the

world's most advanced ICT infrastructures linking our academic institutions. ICT can also act as a catalyst for the development of an innovative organizational culture at the university/college level.

The Digital Library and e-books programs were launched to provide every university student access to relevant literature in their respective discipline. This program has been one of the key reasons behind the rapid expansion in international publications from Pakistan and it is important to continue to expand resources available to the rapidly expanding universities. It is also important to bring the college sector into the loop.

Students today learn in a wider range of settings, and the advent of new technology offers up new ways of teaching and supporting them. With initiatives to increase access, the student body is changing, with more part-time and mature students and people from diverse socio-economic backgrounds. In today's interconnected world, people increasingly need skills required for evaluating and managing information, in both their personal and working lives. Curriculum design and pedagogy within higher education must support and develop these skills and encourage students to take responsibility for their own learning. In this regards the Video Conferencing infrastructure linking all public universities and many private ones to each other can play a crucial role, provide a remote learning and exchange platform to university students and faculty.

For the promotion of linkage between Academia and Industry it is necessary to enhance the quality and level of research being conducted at the higher education institutions. Research, however does not occur in a vacuum, and there are numerous factors that need to exist for research activities to take root and prosper. This research must also be relevant to local industrial and social needs, leverage the regional and local competitive advantage, and be goal-oriented. A bridge needs to be built between the university and industry through incubators, business, agriculture and technology parks and the introduction of Small Business Innovation Research (SBIR) grants.

As a developing nation with limited resources Pakistan must focus on areas with direct relevance to the socio-economic development of Pakistan. It is also essential to develop a culture of innovation where graduates focus on job creation, as opposed to the traditional strategy of employment in the public sector. This is only possible when the

right entrepreneurial skills are taught to the graduates and opportunities are made available to set up small businesses and industries using new and innovative technologies and research. The formation of incubators technology and business parks and introduction of SBIR Grants will assist in bridging this gap University – Industry linkage enhancement is essential to ensure relevance of teaching as well as research and programs in academic institutions.

Researchers, working at the leading edge of their subject, thrive when their institutions are part of a worldwide linked research community. They conduct their research in the context of a number of external factors that do not recognize geographical boundaries. It is important to recognize the internationalization of the research agenda and support it through technology. Establishing the competitiveness of the research base in a global context implies that we must recognize and support truly excellent research financially, and foster effective collaboration. Research here is not limited to the science and technology domains and we must recognize researchers whose work supports public sector professions, the cultural industries and civic society, alongside those whose work has brought economic benefit or expanded the frontiers of knowledge.

Through the establishment of the Arts, Social Sciences and Humanities Research Council HEC has established a forum for ensuring that focused attention is paid to these key areas whose importance to the national growth agenda cannot be underestimated. Peace, equality, justice, rule of law, culture, religion, language, history, human relationships, communication, economics, finance, visual and creative arts, media etc. are just some of the issues that impact every aspect of our daily life. Their understanding and harmony with the scientific and technical world is crucial if we as a nation are to progress and join the ranks of the developed world. The challenges Pakistan faces today have everything to do with our lack of understanding of these disciplines, and little to do with lack of scientific and engineering progress.

The support of high quality 4-year undergraduate programs in Arts, Humanities and Social Sciences are central to the promotion and growth of these areas. It is also important that students of all fields have a minimal understanding of the core issues of communication, culture, history and religion. Scientists and Engineers alike, all must interact with their environment, their people, their land in order to fathom a solution to technical problems faced by the masses. Just like the boundaries between scientific and

technological disciplines are getting blurred, the lines between all fields of knowledge are constantly moving and being challenged. Environmental scientists collaborate with anthropologists and computer programmers, while psychologists, neurosurgeons and electrical engineers collaborate to understand the biological basis of cognition and ultimately, human intelligence.

HEC has been seeking to address business and industry needs for a trained workforce with access to perpetual learning opportunities as well as to identify affordable alternatives to the capitalization required to build new campuses to meet projected demands for higher education. Furthermore, HEC proposed development of a nationwide telecommunications infrastructure by common carriers, with the country's universities and colleges serving as anchor tenants through multi-year leasing contracts. This approach was well received by the research and education sector. This approach places risk and responsibility for anticipating technology change in the private sector, rather than with individual institutions.

Efforts are being made here to establish a technology triangle of universities, industries and government (Research and Development Organizations), which is internationally recognized as an effective mechanism to accrue benefits of advancements in Science and Technology. Universities should significantly enhance activities for development of Intellectual Property and its subsequent commercialization. They should focus on enhanced ties with local industry through provision of training, testing, research support and consultancies. The spirit of entrepreneurship should be developed in all students with a view to significantly increase the number of high-tech startups in the country.

The partnership with industry and other sectors of society can also help to vocationalise higher education. Internships in industry should become routine, and the engagement of business managers in higher education decision-making will be promoted. In addition, joint research projects will bring universities and businesses closer together providing assistance in job seeking. Some knowledge transfer processes depend heavily on cutting-edge research resources, such as the exploitation of new intellectual property through licensing and the formation of spin-out companies. In principle the dissemination and application of research findings should be part of the process of

research at the highest level. Institutions receiving grants for research will be encouraged to undertake these activities.

A key feature of a world-class research system is its dynamism – its openness and ability to change. We wish to enable researchers to respond to new trends and developments in their disciplines and in the research environment, and to pursue new fields of enquiry. The Commission will actively pursue the achievement of the three-pronged strategic focus of (i) universities building communities, (ii) universities building economies, and iii) universities building leadership. This will require academic programs and research & innovation in all domains of knowledge. Universities will also need to establish centers for continuing education offering short courses diploma courses. Two years associates degree programs in areas of direct relevance to the local community, business, and industry would be developed and implemented primarily through affiliated colleges. Curriculum for these courses will be developed in consultation with community, business, and industry. Career focused skills and relevance to economy and industry will be emphasized in program design and delivery.

3. OBJECTIVES

- To develop a research sector that is dynamic, and has the capacity to respond flexibly to a changing research environment.
- To work with the sector to develop a system for assessing research that enhances the power of the national research base and assists institutions in identifying and fostering excellence.
- To ensure academic programs address needs of industry, the market and the community
- To support the continuing development of the physical infrastructure for learning and teaching, so that this remains fully fit for purpose and delivers excellent provision.
- To facilitate enhancement of enrollment in Post-graduate programs
- To provide start-up research grant for newly appointed faculty members
- Actively support research in the Arts, Humanities and Social Sciences.

- To expand and upgrade of telecommunications infrastructure to connect learning sites across the country through collaboration with the private sector.
- To generate and encourage external research funding and research income
- To develop centers of policy analysis and research to support Government
- Establish Offices of Research, Innovation and Commercialization in all universities
- Provide opportunities for training of ORIC personnel
- To establish think tanks and policy research centers
- To launch a Knowledge Transfer Program providing opportunities for university funding to solve industrial problems
- To launch a Small Business Innovative Research Grant program to facilitate stage-wise commercialization of university research
- To set up business incubation centers in major universities
- To establish Technology, Agriculture and Business Parks in the vicinity of universities

4. MAJOR PROGRAMS

1. The National Research Program for Universities will be improved and enhanced so that it supports and rewards world-class research, encourages effective collaboration, and provides capacity for developing and extending research capability in new areas of work.
2. Encourage establishment of Offices of Research, Innovation and Collaboration (ORIC) with the responsibility of building research capacity in the university, manage research contracts, protect intellectual property and commercialize university research products.
3. Curriculum reform for two-year Bachelor degree programs offered at affiliated colleges through introduction of Associate Degree programs to align degree programs with market expectations and employability.

4. Curriculum reform of existing two-year Master Degree programs to align student learning outcomes with four-year Bachelor(Hons) program outcomes.
5. Development of suitable academic material in print and electronic form so support curriculum reform.
6. Library Support and development programs to ensure digital library facilities are available at each library along with relevant books and journals.
7. Library information management system support program aim to improve the efficiency and digital readiness of university libraries.
8. Launch programs for training of university staff managing laboratory facilities.
9. Expansion of Digital Library Programs.
10. International university linkage programs facilitating joint research and academic programs.
11. Enhance programs for protection of Intellectual property generated at universities through support for international and local patents of this IP.
12. Universities will be required to establish a career Center, encouraging students to gain practical work experience during their education. The career Center will also require universities to establish links with various industries for employment opportunities for their graduating classes.
13. University – Industry collaborative programs involving matching contribution from Industry will be supported.
14. Strengthen academic and research programs with direct relevance to the economy such as Engineering and Information Technology, Pharmaceuticals, Water, Energy, Food Security and Veterinary Sciences
15. Strengthen academic and research programs with direct relevance to understanding our culture, heritage and society and promotion of visual and creative arts.
16. The HEC will be reviewing and identifying certain centers in universities as 'National Centers'. This initiative requires the identification of priority areas with relevance to fast-track socio-economic development, and identification of

Centers of established excellence in which the 'National Centers' may be established. These Centers would serve as focal points and would receive special funding in their pursuit of excellence. Areas of Energy, Food Security and Water will receive priority treatment.

17. Support Basic sciences in key Institutions to build the base for future research
18. Support advanced cutting edge technologies having potential to build the future knowledge economy such as Biotechnology and Nanotechnology
19. Raising awareness among universities of the importance of the Job Portal is of paramount importance to HEC as this will help universities generate and manage their own resources.
20. To further stimulate research annual awards recognizing excellence in research will be expanded.
21. Expansion of PERN2 through creation of new PoPs in cities where the clusters of HEIs exist and also implementation of the network as well information security at the core level.
22. Provision of PERN2 to affiliated colleges.
23. National Data Centers (NDC) will be established at significant locations within major cities, preferably through public-private partnership arrangements.
24. Disaster Recovery Sites at critical locations across the country on PERN2 will be established to ensure smooth running of services in case of force majeure events.

5. PERFORMANCE INDICATORS

- Number of ORICs performing satisfactorily at universities.
- Quantity of international research publications of faculty members
- Percentage of Universities/ Degree-Awarding Institutes conducting PhD programs
- Number of research grants won per faculty
- Number of Associate degree programs launched addressing industry needs

- Number of academic programs offered jointly with premier foreign universities
- Number of external research grants won by institutions from non-government sources
- International Internet Bandwidth available per student
- Number of International Journals subscribed to per Institution
- Number of International/Local Conferences Organized per Institution
- Number of local Journals having an Impact Factor
- Number of universities having their services hosted and managed at the National Data Centers (NDC)
- Number of joint university-industry projects
- Number of products supported by universities
- Number of Business/Technology Incubators established
- Number of Technology Parks established
- Number of patents issued to university faculty and students
- Number of books from Pakistan published internationally
- Number of invited talks at international events given by university faculty
- Total yearly income of university from commercialization of research
- Number of industry sponsored research projects at university
- Percentage of university students undergoing internship with industry
- Number of patents awarded to University faculty and students

12. IMPROVING EQUITABLE ACCESS

1. AIM

To maximize opportunities for acquisition of quality higher education for the 17 – 23 year old age group in Pakistan.

2. INTRODUCTION



Widening access and improving participation in higher education were identified as a crucial part of our mission. Substantial progress has been made since 2005. We have achieved the targets set in the Medium term Development Framework (MTDF) 2005-10 by increasing the enrolment of students in universities and colleges in the age-group 17-23 from 2.6% in 2002 to 5.1% in 2009. Note that this does not include students appearing privately in university examinations. Access to higher education is 7.8% in 2009 if privately enrolled students are included. Besides, to ensure relevance, efforts were made to expand enrolments of the disciplines that are consistent with the priorities of the country. As a result of incentives and new investments, the relative shares of Agriculture and medicine discipline in total enrolment have increased from 5.2% and 2% in 2005 to 8 % and 3 %, respectively, in 2009-10. Besides this the enrolment in other disciplines have also increased manifold. Our efforts have been targeted at i) expanding the higher education sector through establishment of new HEIs and new campuses of existing universities, capacity enhancement of existing universities and through facilitating the increased participation of private sector, ii) aligning the expansion of HE sector with the national priorities through introduction of new disciplines, cutting edge and market base technologies iii) ensuring equity and removing regional, gender and financial-need disparities through distance learning and financial assistance for needy students.

In view of addressing the very low rate of participation in higher education, a two-pronged strategy was adopted. First, on the supply side, the physical capacity of existing HEIs was enhanced, in order to accommodate growing numbers of students. 766

development projects of infrastructure development and network expansion were financed with the total cost of Rs. 148.656 billion. For addressing the regional disparities and ensuring flexibility of available options for higher education, 16 new universities and 37 additional campuses of existing universities were established, and “distance education” enrolment has been increased from 89,749 in 2002 to 229,704 in 2009.

Approximately 30-35 % of our population is living below the poverty line and cannot afford even the meagre fees associated with public higher education. In order to ensure the equity, HEC has initiated financial assistance programs and need based scholarships with the cooperation of donor agencies. Some 40 financial aid offices have been established providing 2800 need based scholarships till now. Besides, a sustainable student loan program is also being initiated through the consultations with banking and financial sector.

Since, the public sector cannot cope with the ever surging student population desirous of seeking place in higher education without the support of private sector, private sector was encouraged to play its due part in provisioning of the quality higher education. Decisive steps were being taken to reform the regulatory and funding framework that governs private HEIs.

The traditional “brick and mortar” solution is not a viable option for enhancing equitable access to higher education for an additional million students. It will be necessary to leverage technology and develop and deploy quality distance education solutions for this purpose like expanding on ICTs and education technologies to establish VU campuses in remote and far flung areas, where no campuses exist and a reasonable population exists.

Keeping the demographic composition and exponential population growth in view, HE system has to respond and to be expanded on priority. Currently, there are approx. 80 million people below the age of 18, whereas 22 million in the age cohort 17-23 eligible HE candidates, a fact that entails a challenge as well as an opportunity for economic development. Till 2009, 1.58 million, out of these 22 million had access to higher education (including private candidates), mainly due to limited capacity of the system to absorb all potential entrants and also because of limited financial resources of families to bear even the nominal expenditure of public sector HEIs. If substantial expansion of

the higher education system does not happen in next few years, huge portions of future cohorts of youth will be left aside, posing serious implications for the country's stability and economic development and may become a source of social problems for the country.

However, if managed tactfully, demographic transition entails enormous economic benefits in form of workforce of 30-40 million that can play effective role in national development. As per a study, the demographic dividend was found out to be accounting for between one-fourth and two fifths of East Asia's "economic miracle".

To obtain advanced qualifications, a large body of students in Pakistan has traditionally enrolled as "private" student with affiliating universities. These students primarily take humanities and social science subjects and have in general not been provided adequate academic support by these universities. It is important to address this shortcoming in order to enhance the quality of learning experience of these "private" students, improve graduation rates and produce graduates with enhanced employability.

Colleges have for long been one of the most neglected sectors of higher education in the country. While they enroll more than 350,000 students, requisite faculty, facilities, laboratory and ICT support is not available to the desirable level. The curriculum taught and assessed at these colleges is the responsibility of the affiliating university and for this purpose it is important to strengthen the college support and quality assurance capacity of the affiliating universities. ICT can play a major transformative role, and in collaboration with the respective Provincial Governments, programs for linking the colleges to the information highway, must be pursued.

The communication infrastructure connecting universities nationwide provide a platform for promoting use of technological aids and learning tools to improve the quality of learning. This ICT infrastructure is being utilized for exchange of scholarly ideas and transmission of educational seminars and lectures using IT based services which has had a significant impact on the attitudes, awareness and practice of teachers. The adoption of this scheme by universities has helped develop, sustain and maximize the impact of quality assurance steps and has ensured that it continues to support innovative teaching without becoming routine.

Essentially, education and training are the only means to enhance the productivity of tremendous human resource that success depends on. A viable middle class can only be created through university education which would also go a long way towards addressing the chronically low tax-to-GDP ratio in Pakistan by enhancing the number of tax paying white collar workers in the country.

Taking into consideration students actual enrolment in public and private universities, distance education institutions, colleges and students enrolling privately to take university examinations, the statistical breakdown of students enrolled from 2007-2009 is given in the table below:

SN	Type of Institution	FY07	FY08	FY09
1	Public University	276,226	331,664	348,434
2	Private University	91,563	103,466	115,369
3	Distance Education	272,272	305,962	339,704
4	Colleges	342,042	352,303	363,415
5	Privately Enrolled	350,944	374,300	412,883
6	Total Enrollment	1,333,047	1,467,695	1,579,805
6	Population aged 17-23 Years	21,309,137	21,763,022	22,226,574
	Percentage of Youth Enrolled in Higher Edu.	6.26%	6.74%	7.11%

Enrollments in distance learning, Internet courses, and other non-traditional course offerings appear to be rising sharply suggesting better educational opportunities for the working student in the knowledge age. For colleges and universities, it represents recognition of the way students learn and a demand for change in the way that instruction is delivered.

The working student needs education at a time and place that is dictated by the student's work schedule or family obligations. Furthermore, industry demands continuous learning of employees to maintain a competitive edge. This creates strong market demand for continuing education which is customized with respect to content as well as convenient access for employees.

Using the growth in enrollment over the 2007-9 year period as a basis, a projection of enrollment over the period covered by MTDF-HE II can be done as follows.

SN	Description	FY11	FY12	FY13	FY14	FY15	FY16
1	Public University	385,000	423,500	465,850	512,435	563,679	620,046
	<i>Growth Rate</i>	<i>1.1</i>	<i>1.1</i>	<i>1.1</i>	<i>1.1</i>	<i>1.1</i>	<i>1.1</i>
2	Private University	144,719	162,085	181,535	203,320	227,718	255,044
	<i>Growth Rate</i>	<i>1.12</i>	<i>1.12</i>	<i>1.12</i>	<i>1.12</i>	<i>1.12</i>	<i>1.12</i>
3	Distance Education	418,549	464,590	515,695	572,421	635,387	705,280
	<i>Growth Rate</i>	<i>1.11</i>	<i>1.11</i>	<i>1.11</i>	<i>1.11</i>	<i>1.11</i>	<i>1.11</i>
4	Colleges	385,547	397,113	409,027	421,298	433,937	446,955
	<i>Growth Rate</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>	<i>1.03</i>
5	Privately Enrolled	481,587	520,114	561,723	606,661	655,193	707,609
	<i>Growth Rate</i>	<i>1.08</i>	<i>1.08</i>	<i>1.08</i>	<i>1.08</i>	<i>1.08</i>	<i>0.87</i>
6	Total Students	1,815,402	1,967,402	2,133,829	2,316,134	2,515,914	2,734,934
	<i>Population Aged 17-23 Years</i>	<i>23,183,510</i>	<i>23,677,319</i>	<i>24,181,646</i>	<i>24,696,715</i>	<i>25,222,755</i>	<i>25,759,999</i>
	Percentage Enrolled in HE	7.83%	8.31%	8.82%	9.38%	9.97%	10.62%

3. OBJECTIVES

- As per objectives set out in National Education Policy 2009, steps shall be taken to raise enrolment in higher education sector from 5.1 % to 10 % by 2015 if the necessary financial resources are made available as outlined in the Policy.
- To significantly increase enrolment in undergraduate and postgraduate degree programs especially in agriculture, scientific, technological and engineering fields.
- To introduce new areas of teaching and research in universities in response to market demands and projection of future needs of Pakistan
- To ensure that institutions are equipped with the necessary infrastructure/resources to absorb an increased student population
- To provide on campus residential opportunities to students so that deserving students are not deprived access to quality higher education
- To expand, and support, the delivery of quality “distance education” by expanding the enrolments of Distance learning Institutions as well as by establishing the directorates of distance education in universities, starting with the key large universities

- To expand, and enhance the usage of IT infrastructure for increased provisioning of equitable opportunities
- To remove time and place restriction on learning and provide desktop learning options at home or through local learning centers
- To enhance quality of learning of “private” students
- To enhance quality of learning of students in affiliated colleges
- To provide equal opportunities for higher education to talented students regardless of need or socio-economic background
- To develop and implement a viable student loan scheme that is accessible to all students
- To supporting enhancement of the scale and scope of private-public partnerships in HEIs in view of promoting further private provision of higher education services and more cooperation between HEIs of different institutional status

4. MAJOR PROGRAMS

In order to keep up with the growing demand for higher education and to ensure the absorption of maximum number of eligible candidates, matching opportunities are being created on priority. We are working to enhance the system capacity through a variety of programs, remove demand side obstacles by maximizing the outreach and by provision of financial support. In order to share the burden on limited public resources, private sector is being encouraged through multiple measures like revising the establishment criteria and provisioning of development grants.

The following major initiatives are planned to be expanded to enhance access to tertiary education:

1. In order to materialize the objectives of expanding access to higher education, new universities and campuses of existing universities will be established in second and third tier cities to facilitate the spread of higher education.
2. In order to bridge the gender gap, additional women universities will be established especially in second-tier cities.

3. "Quality Distance education" allows flexible study options and serves as an instrument to broaden access to number of users, including students who have interrupted their studies for financial reasons, and adults. Universities will be facilitated to enhance provision of distance education by establishing directorate of distance education.
4. Campuses of Virtual University provide cost-efficient access to quality education. These will be increased significantly in number and will be expanded to remote areas where creation of a regular brick and mortar campus is not possible due to lack of qualified faculty and infrastructure.
5. Another, facility which plays an important role in the enhancing access to higher education is on-campus accommodation facilities for the students, particularly for female students. HEC has provided residential facilities to about 10,000 students in 64 public sector universities during last 7 years. It is planned to continue supporting the completion of infrastructure projects, especially through public-private partnerships, in order to facilitate the students.
6. 40 Financial Aid Offices have been successfully implemented in public and private HEIs. These will be expanded in number to cover all institutions.
7. Recurring grant funding formulae has already been revised and approved by Commission which factors provision of funds to universities for need based scholarships.
8. Student loan scheme managed by SBP and NBP, is presently granting interest free loan to about 1400 students. In order to allow students to reduce the costs of attending a higher education institution, a student loan program will be developed and implemented in consultation with the banking sector and HEIs
9. The Government has a limited pool of resources and cannot shoulder the burden of provision of higher education by itself. The private sector, which currently provides education to nearly 120,000 students, is to be rationalized and incentivized and encouraged to open quality institutions in disciplines relevant to the socio-economic development of the country.

10. In order to expand access and to encourage financial autonomy of higher education sector, HEC is supporting public- private partnerships in HEIs especially for provision of non-core services.
11. Increasing access to 10% over the next 5 years and 15% over the next 10 years will require optimum utilization of existing resources, physical infrastructure development, as well as technological infrastructure development so that modern approaches including distance education methodologies can play their proper role.
12. ICT will be leveraged effectively to deliver high quality teaching and research support in higher education, both on-campus and using distance education, providing access to technical and scholarly information resources and facilitating scholarly communication between researchers and teachers.
13. Need based scholarship programs will be expanded.

5. PERFORMANCE INDICATORS

- Number of Students at different levels of study i.e. Bachelor, Masters, MS and Phd, broken up by discipline
- Percentage of students on scholarships at different levels of study
- Number of private students enrolled through new Directorates of Distance/External Student Education
- Total Number of students enrolled in distance education programs
- Number of private universities eligible for public funding and actually provided funds
- Number of new Higher Education Institutions established
- Number of new campuses established
- Number of new campuses of Virtual University established
- Quantum of funds available for the Student Loan Program
- Number of Financial Aid Offices operational in universities

- Number of need based scholarships provided
- Number of students provided loans under the Student Loan Program
- Number of additional private HEIs becoming eligible for public support
- Number of projects for private investment in Public sector institutions

13. EXCELLENCE IN LEADERSHIP, GOVERNANCE & MANAGEMENT

1. AIM

To support excellence in the higher education sector's leadership as well as excellence in the governance and management of Institutions of higher learning.

2. INTRODUCTION



Governance in HE Sector has assumed greater importance in view of issues of academic and research quality, relevance and impact on development, dependency on public grants, advocacy and policy support, building communities, etc. The challenge has far exceeded all expectations due to requirements of knowledge economy thriving on edifice of a modern and peaceful society, increased public awareness and expectations as well as the debate of obligations vis-à-vis rights. The Higher Education Task Force in 2000 pointed out that “Ineffective governance and management structures and practices” were at the top of the list of “longstanding maladies afflicting higher education in Pakistan” and identified them as “among the most important reasons for the declining standards of higher education in Pakistan.

The higher education sector comprises universities and degree awarding institutions in the public and private sectors, public and private sector colleges, centers of excellence, area study centers, Pakistan study centers, Chairs, Academies and Institutes located across the country. Achieving quality governance across the board is consequently a challenge. Responding to this challenge and recognizing that governance issues have plagued the Higher education sector for decades and still have the potential to dwarf the effective implementation of the reforms; HEC has started taking measures on several fronts to tackle these issues. These measures aim to instill a culture of accountability in HEIs, clarify administrative procedures and establish the foundations for solid quality assurance mechanisms. Innovations have been introduced to facilitate financial management procedures and to increase transparency of procurement processes. The impact of these initial measures can be seen both in HEIs and HEC. However, the

internal governance of HEIs remains inefficient, administrative staff are under-qualified and excessive power remains in the hands of the vice-chancellor and the registrar. Similarly, within HEC, skill gaps and a heavy workload threaten the effectiveness of the institution.

Modern technological tools and state of the art communication infrastructure are an absolute necessity in better managing university resources. It helps keep students records safe, flow of information organized, finances in check, define structural approach to research and knowledge sharing easy. All of this is HEC's part of the plan to streamline governance and process management through automation within universities to empower the academic and administrative community.

A comprehensive database of information on all aspects of a university including enrolment, faculty strength, research output, accreditation, etc. remains an elusive target. The development of a comprehensive Higher Education Information Management System (HEMIS) is therefore necessary to allow university management and HEC to track policy implementation and support decision making. Initial attempts have been made to develop an HEMIS at both national and institutional levels to gather, analyze and report basic data on higher education performance. The need is, however, for a system providing reliable and timely data and information about performance of the higher education system in order to develop solid forecasts and facilitate strategic decision-making.

In order to equip universities with a reliable and timely management information system a pilot project HEMIS (Higher Education Management Information System) was launched in eight geographically and subject wise diversified public sector universities. Campus Management has provided the ability to streamline processes, reduce manual handling and consolidate information into one database and eliminate the need for departments to maintain shadow systems. It caters to Student Administration [Campus Community, Admission, Student Record, Student Financials, Advisement, Grade book], Campus Self Service [Faculty & Student], Contributor Relations/ Alumni, College Net Resource Management and Residence/ Hostel Management. This program is to be enhanced to include a financial management module and university faculty and staff management module in order to complete the management information system. It will then be necessary to launch this across all universities.

Universities are Corporate Bodies and should therefore also implement ISO 9000 to ensure repeatable, documented processes across all functions performed by the Institution. Some universities have already taken the initiative and it is now necessary to implement this across the country as well as at HEC.

For staff development purposes HEC initiated a series of short courses (1 – 3 days) for introducing Modern University Governance to university administrators including Vice Chancellors, Registrars and University Treasurers. To ensure sustainability of these programs of faculty and staff development, universities are being encouraged to set up Continuous Professional Development Centers where both short and long term courses can be provided on year round basis.

University executives and senior administrators are responsible for developing visions as well as short and long term goals for their respective institutions. Universities were previously asked to prepare 15-year Vision documents regarding enrollment & faculty strength, physical infrastructure required for academic & research activities, Faculty & Staff development, Quality assurance & promotion of research. Taking this initiative further, it is necessary for each university to compile comprehensive annual reports detailing progress made during the year against each identified objective. The universities will also be facilitated to prepare business plans that would identify resource generation mechanisms to support university incomes, identify opportunities for out-sourcing of “non-core” university functions such as cafeteria management, transportation, etc., and develop targets for enhanced sustainability of university expenditures.

To enhance transparency, quality and reliability and timeliness of financial reporting, and good financial management across the sector HEC has implemented the principles of the New Accounting Model (NAM) introduced under PIFRA and ensured that the International Public Sector Accounting System (IPSAS) compliant annual financial statements are available for audit within 4 months after the end of each financial year. Similar measures are required at all academic institutions.

Academics and research are the primary activities of Institutions of higher learning, however, it is understood that the development of well-rounded ethical citizens having character and high moral values also requires that opportunities be provided for extra and co-curricular activities. University sports play a key role here by providing a healthy

outlet for young energetic students while also serving to hone the sports talent in the country, and preparing them to compete and excel at the national and international level. Due to the focus attention being paid by HEC to university sports, the number of medals being one by HEC teams at national events has been going up exponentially with the 2011 HEC team providing a wakeup call to all national participants by winning the 4th highest number of gold medals in the country in the National Championships. University sports are an important part of the university sports system and every effort will be made by HEC to ensure that sports continues to receive close attention and support at all universities.

Universities are complex entities whose management, in certain cases, is somewhat akin to the management of a small city. It may include estate management, housing, road infrastructure, sewerage, water supply, transportation, telecommunication, power, ICT and numerous other services provided by large residential academic institutions. The existence of sophisticated laboratory instrumentation, chemical and medical research units with allied chemicals and perishables only adds to the complexity of management of these institutions. World class institutions demand that every aspect of services provided in these institutions be world-class as well.

3. OBJECTIVES

- To undertake a holistic study aimed at understanding governance and management issues at HEIs
- To Strengthen internal governance, management performance and accountability of HEIs
- To train young faculty in educational administration and management skills
- To train the management of HEIs for developing vision plans and strategies as well as fund generation
- To ensure timely submission of standardized, quarterly financial reports
- To assist universities in promoting a 'continued education system' for their faculty and administrators

- To arrange refresher courses and hands-on workshops on governance and management of educational institutions
- To inculcate 'work and professional ethics' of higher education institutions of developed countries in our universities
- To upgrade capabilities of the Universities to formulate and implement projects aligned with their respective visions
- To develop 'performance-based award and promotion system' in all cadres of university workforce
- To develop a new accountability relationship with the sector based on increasing stakeholder confidence
- To help institutions develop a more demonstrably fair and supportive environment for their staff
- To help improve financial planning and management in the higher education sector
- To upgrade procurement performance in the higher education sector
- Development of Higher Education Management System including integrated budget and expenditure system at HEC and all Public Sector Universities
- To provide opportunities for training of senior university academic and administrative personnel including Vice Chancellors, Deans, Department Heads, Treasurers and Registrars.
- To ensure that HEC sports teams participate in all national championships and all events in the national games.
- To provide focuses supports to key sport disciplines in which university participants excel.
- To enhance the number of university athletes exceeding HEC sports standards (timings, weights, lengths etc.) for competing in National and International Events.
- To support capacity building of personnel involved with specialized university functions such as IT, Library Management, Facilities Management, Financial

Management, Financial Aid, University Advancement, Student Records, Equipment upkeep, utilities management, student and faculty housing, and other allied functions required to operate universities efficiently.

4. MAJOR PROGRAMS


1. Hold fact finding Regional Workshops of VCs, Deans, Registrars and other key offices of the Universities/DAIs to identify basic governance and management difficulties specifically with reference to improving the management structure of the universities, reviewing the financial and administrative authority of different University offices, delegation and effectiveness thereof.
2. Continue programs through the Modern University Governance Program (MUG) to enhance management skills and leadership techniques, broaden perspectives, and stimulate creativity of university administrators.
3. Develop and implement training modules for preparing vision documents and institutional strategic plans for achieving the university vision.
4. Institutionalization of Search Committee process for selection of University Vice Chancellors through a committee of eminent academics, successful industrialists and HEC representative.
5. New rules regarding the selection of universities vice-chancellors have been introduced by HEC encompassing set of comprehensive procedures laid down carefully. This search committee process should be institutionalized, requiring open advertisement, for the selection of all top academic and administrative posts.
6. To expand Campus Management Solution across all universities with a standard and inter-operable architecture to manage and implement student information and ERP system.
7. Conduct a pilot study in selected public HEIs vis-à-vis international best practices in financial management and internal controls such as the COSO Internal Control Integrated Framework. The study will cover topics including funds flow, organizational structures, budgeting, accounting policies and

procedures, financial reporting and audit effectiveness (both internal and external). The main output will be the identification of areas requiring interventions to facilitate the adoption of NAM principles and eventually lead to the preparation of NAM (IPSAS) compliant financial statements.

8. In order to enhance transparency in procurement, HEC has prepared a comprehensive Procurement Handbook for goods, works and services. This will be accompanied by the requisite Standard Bidding Documents. In addition, HEC has commenced posting procurement notices and notices of award on its website in order to make the procurement process transparent. Training programs for implementation of best procurement practices as per this handbook need to be conducted.
9. Institutionalize process for conduct of substantive annual audit, through private, independent auditors, of all entities funded by the HEC.
10. For a holistic depiction of university finances, adequate financial controls and automated mechanism for assisting policy and decision making, an Enterprise Resource Planning based solution including ERP modules viz. Financial, HRM, Procurements, Material Management and Project Work Flow will be launched in phased manner in the public sector Universities and DAIs.
11. Establish “HEC Sports Centers” for specific sports at different universities in order to provide a year-round home to these sports disciplines
12. To provide coaches and material support for the HEC Sports Centers.
13. Specialized programs for university leadership will be developed and implemented in collaboration with international partners.

5. PERFORMANCE INDICATORS

- Number of University Administrators undergoing training courses
- Number of Vice Chancellors appointed through the Search Committee process.
- Number of universities adopting the Tenure Track System of appointments.
- Number of Institutions publishing standardized annual reports.

- Number of Institutions preparing Business Plans.
 - Number of Institutions using the Financial Planning & Management System.
 - Number of Institutions publishing IPSAS compliant annual financial reports.
 - Number of universities having ISO 9000 certification
 - Percentage of projects rated as “Good” by HEC Monitoring Teams for projects being undertaken by the Universities
 - Number of universities deploying HEMIS for their management automation
 - Number of universities deploying VoIP equipment as well as its utilization
 - Number of Pakistani universities internationally ranked by Times Higher Education.
 - Number of procurement training programs conducted
 - Number of Medals in each category won at national sports championships
 - Number of Medals won at international sports events
 - Number of universities adopting facilities and services to automate their business processes and routine activities
- 

14. FINANCIAL MANAGEMENT & SUSTAINABILITY

1. ANALYSIS OF MTDF 2005-10

It is important to review spending pattern for FY06 to FY10 so that a realistic budget for the FY11 to FY16 period, covered in the HEC MTDF-II, can be prepared. In 2009/10 total higher education spending stood at Rs. 40 billion, an increase of more than 80 percent, from the level of 2005-06, in nominal terms. This increase translates to 7% only when inflation is also factored in. Recurrent spending made up 53 percent, while development 47 percent, of the total higher education spending in 2009/10 as given in Table 16.1 below:

<i>Indicator</i>	<i>Fiscal year</i>				
	<i>FY 06</i>	<i>FY 07</i>	<i>FY 08</i>	<i>FY 09</i>	<i>FY 10</i>
<i>Total Higher Education Spending (Recurrent + Development)</i>					
Nominal Total Higher Education Spending (Rs Millions)	21,743	28,632	27,926	32,183	32,750
Real Total Higher Education Spending (Rs Millions)	17,346	20,182	17,575	16,891	15,205
Annual Percentage Change (%)	22%	16%	-13%	-4%	-10%
<i>Higher Education Recurrent Spending</i>					
Nominal Recurrent Spending (Rs Millions)	10,543	14,332	12,536	15,766	21,500
Annual Percentage Change (%)	35%	36%	-13%	26%	36%
Real Recurrent Spending (Rs Millions)	8,431	10,102	7,889	8,274	9,982
Annual Percentage Change (%)	27%	20%	-22%	5%	21%
<i>Higher Education Development Spending</i>					
Nominal Development Spending (Rs Millions)*	10,891	14,409	15,390	16,417	11,250
Real Development Spending (Rs Millions)*	8,957	10,157	9,686	8,616	5,223
Annual Percentage Change (%)	18%	13%	-5%	-11%	-39%

Higher Education Spending as a share of GDP, during the MTDF 2005-10 period (FY06 to FY10) increased initially, however, it has been in steady decline for the past

three years as illustrated in the table below.

<i>Indicator</i>	<i>Fiscal year</i>				
	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>
Higher Education Spending/GDP (%)	0.29%	0.33%	0.27%	0.25%	0.23%

During the year 2005/06 to 2009/10 there has been 59 percent increase in student enrolment over the five years or an 11% increase in enrollment per annum. The increase in enrollment, coupled with a meager increase in real total Higher Education Spending (just 7 percent), has resulted in a decrease of 34 percent in real per student higher education spending (See Table 16.2 below)

<i>Spending Indicator</i>	<i>Fiscal year</i>				
	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>
<i>Enrollments in Public Universities</i>					
Enrollments (#)	231,601	263,414	316,278	333,966	370,052
<i>Total Higher Education Spending (Recurrent + Development)</i>					
Real Total Higher Education Spending (Rs Millions)	17,388	20,182	17,575	16,891	18,571
Real Per-student Total Higher Education Spending (Rs)	76,682	76,616	55,568	50,576	50,186
<i>Higher Education Recurrent Spending</i>					
Real Higher Education Recurrent Spending (Rs Millions)	8,431	10,102	7,889	8,274	9,982
Real Per-student Higher Education Recurrent Spending (Rs)	37,183	38,351	24,944	24,776	26,975
<i>Higher Education Development Grants</i>					
Real Higher Education Development Grants (Rs Millions)	8,957	10,157	9,686	8,616	8,589
Real Per-student Higher Education Development Grants (Rs)	39,499	38,558	30,624	25,799	23,211

The recurring grant made available to the HEC each year is allocated to cater to recurring grants of universities, inter-university academic activities catering for projects covering all universities such as the digital library and PERN, Promotion of Research, and the HEC Secretariat. The bulk of the funding goes in direct recurring grant to universities (~90%), while around 2% pays for HEC administration expenses. Promotion

of Research and Inter University Academic Activities accounts for the remaining funds at ~ 4% each.

Details are given in the Table 16.3 below

<i>Spending Indicator</i>	<i>Fiscal year</i>				
	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>
Total Higher Education Recurrent Spending (Rs Millions/%)	10,543	14,333	12,536	15,766	21,500
	100%	100%	100%	100%	100%
HEC Corporate Spending (Rs Millions)	310	284	250	315	350
Percentage of Total Funding	2.94%	1.98%	1.99%	2%	1.63%
University Grants (Rs Millions)	9,356	12,808	11,228	14,019	19,525
Percentage of Total Funding	88.74%	89.36%	89.57%	88.92%	90.81%
IUAA (Rs Millions)	535	590	517	706.141	825
Percentage of Total Funding	5.10%	4.12%	4.12%	4.48%	3.84%
Promotion of Research (Rs Millions)	342	650	541	726	800
Percentage of Total Funding	3.20%	4.54%	4.31%	4.61%	3.72%

2. RECURRING BUDGET PROJECTION

The above analysis provides useful information to build an expenditure estimate model for the 2010 – 2015 period covered in the current MTFD. A simple expenditure model consists of the following three main expenditure heads

- a. Faculty Salaries and allowances
- b. Staff Salaries and allowances
- c. All other university expenditures.

It has been observed that the ratio of staff salaries to faculty salaries stays fixed around the 60% value while “other” university expenditures are proportionate to the salary expenditures and have stayed fairly constant at the 87% value.

The following assumptions are made to build this expenditure model.

1. Student enrollment increases by 10% each year.
2. The student faculty ratio gradually increases from 23:1 currently to 25:1 at the end of five-year period.
3. The current average salary plus allowance amount per faculty member is Rs. 78,000 p.m. This value increases by 8% per year to cater for salary and allowance enhancements and yearly increments.
4. To enhance university efficiency it is assumed that the staff salary to faculty salary ratio improves from 61% to 59% over the five-year period.

With these assumptions, the following expenditure table (Table 16.4) is obtained.

SN	Description	FY11	FY12	FY13	FY14	FY15	FY16
1	No of Student Enrollment	385,000	423,500	465,850	512,435	563,679	620,046
	<i>Growth Rate</i>		<i>1.1</i>	<i>1.1</i>	<i>1.1</i>	<i>1.1</i>	<i>1.1</i>
2	No of Faculty Members	16,739	17,646	19,014	20,497	22,105	23,848
	<i>Faculty Student Ratio</i>	<i>23.0</i>	<i>24.0</i>	<i>24.5</i>	<i>25.0</i>	<i>25.5</i>	<i>26.0</i>
3	Faculty Salary (Bill. Rs.)	15,668	17,838	20,759	24,168	28,149	32,798
	<i>Average Salary PM</i>	<i>78,000</i>	<i>84,240</i>	<i>90,979</i>	<i>98,258</i>	<i>106,118</i>	<i>114,608</i>
4	Staff Salary (Bill. Rs.)	9,557	10,703	12,248	14,259	16,326	19,023
	<i>% of Faculty Salary</i>	<i>0.61</i>	<i>0.60</i>	<i>0.59</i>	<i>0.59</i>	<i>0.58</i>	<i>0.58</i>
5	Non Salary / Others (Bill. Rs.)	21,946	24,830	28,716	33,432	38,694	45,084
	<i>% of Salary Expense</i>	<i>0.87</i>	<i>0.87</i>	<i>0.87</i>	<i>0.87</i>	<i>0.87</i>	<i>0.87</i>
	Total Estd. Budget for Univ/DAIs (Bill Rs.)	47.17	53.37	61.72	71.86	83.17	96.90

To complete the expenditure model, it is necessary to estimate expenditure on i) Inter University Academic Activities, Promotion of Research, and the HEC Secretariat. With the return of PhD qualified scholars from abroad and enhancement of high quality PhD output from local universities, expenditure on former two budget heads (IUAA and POR) will be required to grow at a fast rate to cater to expected enhancement in research activities. Table 16.5 provides a projection of these core program expenditures. All amounts are in Rupees in Millions:

Description	FY11	FY12	FY13	FY14	FY15	FY16
Promotion of Research	800	1,000	1,500	2,000	2,500	3,000
Inter University Academic Activities	1,765	2,600	3,150	3,600	3,850	4,375
HEC Secretariat	370	400	440	500	575	650
Tenure Track	1,150	1,250	1,350	1,450	1,550	1,650
Total	4,085	5,250	6,440	7,550	8,475	9,675

It is now necessary to build an income model for the universities based on income of universities from i) Tuition Fees (54%), Examination Fees (32%), User Charges (6%) and iv) other income (8%). Total University Income in FY11 is expected to be Rs. 22.43 Billion representing a 15% increase over the income in FY10. It is estimated that the university income will continue to increase by 15% over the next 5 year period.

Compiling the information presented above allows a projection of expected Government grant to the HEC as given in Table 16.6 below:

Description	FY11	FY12	FY13	FY14	FY15	FY16
Expenditure						
Total Estd. Budget for Univ/DAIs (Billions)	47.17	53.37	61.72	71.86	83.17	96.90
Core Programs & HEC Sectt.	4.09	5.25	6.44	7.55	8.48	9.68
Total Rec. Expenditure	51.26	58.62	68.16	79.41	91.64	106.58
Income						
Univ. Fee & Other Income	22.20	25.75	29.87	34.65	40.20	46.63
Govt. Rec. Grant (Rs. In Billions)	29.06	32.87	38.29	44.76	51.45	59.95

3. DEVELOPMENT BUDGET PROJECTION

The development budget available to universities has not been able to meet the development requirements of the higher education institutions. Due to the current fiscal stress faced by the Government, it is not expected that significant funding will be available to cater to the public and private sector institutional demands. At this time more than 200 development projects having a total cost of Rs. 125.01 Billion are being funded. At the end of the current fiscal year it is expected that Rs. 57.11 Billion will be

the throw forward against these ongoing projects, while an additional Rs. 8.4 Billion will be required for other approved projects that could not be funded during the current financial year. Over the next three years the priority will be to complete funding to the existing projects, and only initiate new projects in a cautious manner.

Table 16.7 provides a summary of expenditures that are expected to be incurred against the ongoing and new development projects.

SN	Project Category	FY12	FY13	FY14	FY15	FY16
		Rs. Billions	Rs. Billions	Rs. Billions	Rs. Billions	Rs. Billions
A.	Approved Projects	14.412	15.831	13.425	9.977	3.466
1	Ongoing Projects	14.412	15.831	13.425	9.977	3.466
B.	Approved but deferred projects with partial releases and newly approved projects without releases	2.575	2.472	2.113	0.858	0.382
2	Delayed Projects	2.167	1.825	1.451	0.428	0.265
3	Newly Approved Projects	0.408	0.648	0.662	0.430	0.117
	Sub-Total (A + B)	16.987	18.303	15.538	10.835	3.848
C.	Un-Approved Projects					
	Sub-Total (C)	3.255	5.690	10.250	19.704	27.580
	Total (A+B+C)	20.242	23.993	25.788	30.539	31.428

4. BUDGET PROJECTION SUMMARY

Requirements for the recurring and development budgets for the next three years are summarized in Table 16.8 below:

Description	FY12	FY13	FY14	FY15	FY16
Recurring Budget Rs. Billions	32.87	38.29	44.76	51.45	59.95
Development Budget Rs. Billions	20.24	23.99	25.79	30.54	31.43
TOTAL	53.11	62.28	70.55	81.99	91.38

6. FINANCIAL MANAGEMENT

The HEC embarked upon reforms to improve the financial management and accounting systems across the higher education sector in order to enhance transparency, quality and reliability of financial information and comprehensiveness and timeliness in financial reporting.

HEC is also planning to review tertiary education expenditures that would include institutional productivity to ensure equitable distribution of financial resources amongst the Higher Education institutions. It will help attain financial management efficiency in HEI's.

OBJECTIVES

- To carry out a study in selected public HEIs to review FM and internal control systems with a view to recommend reforms to make it consistent with international best practices.
- To help HEI's to design and implement standard accounting system based on New Accounting Model (NAM) introduced under the World Bank-financed Project for Improved Financial Reporting and Auditing (PIFRA).
- To link tertiary expenditure system to institutional productivity indicators.
- To commission a Public Expenditure Tracking Survey (PETS) to identify inefficiencies, bottlenecks and institutional obstacles between the source of funds and the points of delivery.
- To strengthen internal audit performance and accountability of HEIs.

- To provide FM training/capacity building to HEIs for arranging independent audit by auditing firms in the selected universities.
- To coordinate with all stake holders for launching Student Loan Program (SLP) to assist students coming from low income families.
- To facilitate HEI's to develop plans and strategies for revenue generation.
- To support capacity building of HEI's through training and development of personnel involved with financial management and accounting in order to convert manual book-keeping to automation and Enterprise Resource Planning (ERP) solutions.

MAJOR PROGRAMS

1. Major Studies to improve Financial Efficiency are as under:
 - i. Study to cover “funds flow, organizational structures, budgeting, accounting policies and procedures, financial reporting and audit effectiveness (both internal and external)”. The main output will be the identification of areas requiring interventions.
 - ii. A study to be carried out in selected public HEIs to review FM and internal control systems consistent with international best practices built in internationally renowned ERP's such SAP/Campus Management to ensure availability of timely and reliable budget execution & Accounting information.
 - iii. Study to the review of tertiary expenditure system vis-a-viz institutional productivity such as scorecard of enrolment, graduates produced, per student cost, faculty student ratio, local and international publications with impact factor, research and its practical application; and to design and implement policy reforms and its monitoring system.
 - iv. In order to maximize the use of the allocations passed on to HEIs, HEC will support completion of a public expenditures tracking survey (PETS) with a special emphasis on key programs.

2. Trainings
 - i. A series of trainings will be carried out to facilitate the adoption of NAM Chart of Account and principles that would eventually lead to the timely preparation of NAM compliant financial statements.
 - ii. Effective training for preparation of accounting procedures and manuals for and improvements in internal control structures.
 - iii. provide FM training/capacity building to HEC and HEIs for arranging independent audit by auditing firms
3. One time funding will be provided to the selected universities for the first independent audit by external audit firm.
4. Revenue Generation by the HEI's. HEC will encourage HEIs to increase the share of revenue in their total budget through contract research, commercial ventures, fundraising, endowments or philanthropic sources.
5. Student Loan Program (SLP). HEC is planning to coordinate with all stake holders for the design and implementation of "Student Loan Program (SLP)" that is a part of HEC initiative to assist students coming from low income families. HEC will be working on the design of a SLP in collaboration with all major stake holders and the universities and HEI's will be encouraged to establish "Student Loan Facilitation Offices" with the aim to initially cover 10,000 to 15,000 students from both private and public institutions over the next three years.

7. PERFORMANCE INDICATORS

- Number of studies carried out and recommendations communicated to HEI's for policy reforms in the financial management system.
- Number of universities/HEI's to whom trainings imparted relating to Financial Management and Accounting.
- Number of universities/HEI's adopting the NAM based accounting system.
- Number of universities/Institutions that compiled Accounting procedures and manuals.

- Number of universities having external independent audit certification.
- Number of universities having established a core unit for revenue generation and diversification.
- Number of universities having established Endowment Fund.
- Number of universities having established “Student Loan Facilitation Office”.
- Number of Students benefitted from Student loan program

8. FINANCIAL SUSTAINABILITY

Public Universities in Pakistan generate nearly 50% of their recurring budget from fees and sources other than the Government. In the case of development, however, with a few notable exceptions almost the entire funding is provided for by the Government of Pakistan. For the universities to take on positions of leadership in the Community and the Economy, it is important for them to fully engage with all their stake holders and get them to invest in building the university. The area of university advancement is still nascent in Pakistan, and much work remains to be done in fund raising in an organized manner.

It is important for all universities to conduct a strategic review of their assets and utilization of these assets, including income generated from them. The idea is that universities should not only identify where they want to go and what they want to achieve, but must also identify the financing plan to do so, i.e. they must prepare business plans.

Establishing successful university advancement programs in Pakistan requires a systematic approach built on successful international models. Strong leadership is required at the HEC and Institutional levels in order to provide the broad-based support needed to ensure success. Strong commitment exists at all levels to build capacity for fund raising and university advancement and a core staff, capable of working with private donors has been trained. In order to succeed, however, formal structures must be established at all institutions. Budgets are already tight, and many institutions will find it difficult to provide the start-up resources needed in terms of staffing and training

to get the new initiatives off the ground. Lack of knowledge and understanding on the part of alumni, potential public partners and the public at large on the need for private funding for public higher education does pose initial challenges that will need to be overcome to bring in a significant quantum of private funds into universities. Dearth of experienced professionals, knowledgeable about university advancement, remains the main challenge in moving forward, along with a lack of understanding that money invested in advancement efforts by HEC and universities will pay for themselves over time. It does take time, and long-term benefits will result if systems are implemented in the right way.

Under a pilot project 11 partner universities participated in now have dedicated offices of Advancement and Financial Aid with staff that have been trained in the basics of university advancement. While they are all at different stages of development in terms of their advancement activities and capabilities, all partner institutions are establishing relationships with their alumni, building linkages with local partners, and starting to raise funds. This program should serve as a model for the expansion of advancement activities to all public universities.

OBJECTIVES:

- To establish an office of advancement at HEC with a dedicated staff to serve as leaders in capacity building at public universities for raising private funds.
- To establish a professional organization for advancement professionals to provide training, knowledge, and advocacy to strengthen the capacity of universities to raise private funds.
- To establish professional standards and ethical behavior for advancement professionals.
- To set performance indicators for public universities, to include requirements for dedicated staff, offices, training, and related activities.
- To establish realistic benchmarks for funds to be raised from private sources.

MAJOR PROGRAMS:

1. Develop and implement a five-year strategic plan for university advancement in Pakistan.
2. Establish a permanent strategic think tank to support the expanding effort in university advancement within Pakistan.
3. Expand pilot program for university advancement to all universities, including a SharePoint site for advancement staff and the online scholarship calendar.
4. Organize an annual national conference on university advancement for universities in Pakistan. Workshops and roundtable discussions should be included to share information, raise awareness of this topic to the public and engage potential private partners for the purpose of raising private funds.
5. Establish a national organization for advancement professionals to provide training, knowledge and advocacy to strengthen the capacity of universities to raise private funds. Council for the Advancement and Support of Education (CASE), an international organization can provide the support and framework needed for this effort.
6. Conduct a public outreach campaign to educate the public about the need for supporting high education, not just for scholarships but to support the infrastructure and special initiatives of universities. This should include information about the benefits of higher education to society.
7. Set requirements for universities to establish dedicated advancement offices and hire staff.
8. Develop a training program to build the capacity of university staff. Executive training should also be included to help Vice Chancellors, Deans, and other senior leaders understand their role in the advancement efforts of their institutions.

9. Establish bold but realistic benchmarks for universities, to include timelines and money raised, for university fundraising efforts.

PERFORMANCE INDICATORS:

1. Number of universities having well-functioning offices of university advancement.
2. Number of qualified staff hired at HEC for the Office of Advancement and Financial Aid
3. Requirements for universities to establish dedicated advancement offices and hire staff are set.
4. SharePoint and Scholarship Calendar have been expanded to give access to all universities
5. Number of national conferences on university advancement and financial aid
6. National professional organization to support higher education advancement is established with a leadership structure in place
7. Number of outreach activities to raise public awareness of the need for raising private funds for higher education
8. Number of training workshops provided for new university advancement staff
9. Benchmarks for university fundraising are establish, including timelines and amounts of money raised

15. PHYSICAL TARGETS

This section summarizes the physical targets to be achieved following the implementation of the proposed 5-year plan:

1. FACULTY DEVELOPMENT

- 3,500 new foreign postgraduate scholarships awarded
- 3,750 new indigenous postgraduate scholarships awarded
- 1,250 new split Postgraduate scholarships awarded
- 700 new Post Doc scholarships awarded
- 3000 additional PhD holders recruited on tenure track system
- Staff development courses offered to 750 staff members
- 2,500 faculty members completing specialized English language teacher training programs
- 50 new Continuous Professional Development Centers established in universities
- 4000 new faculty members taking faculty development courses for enhancement of pedagogical skills [PFDP+NAHE]

2. QUALITY ASSURANCE

- 5 Pakistani universities internationally ranked by Times Higher Education among the top 500 universities of the world
- 75 universities with Quality Enhancement Cells
- 100 Institutions assessed against Institutional Performance Evaluation Standards
- 75 QECs performing satisfactorily as measured by the scorecard system
- Quality Assurance ensured in 170 affiliated colleges (imparting 4 yrs bachelor program)

- 50,000 private students enrolled through new Directorates of External Students' Education
- 1,250 training courses delivered for improvement of examination system
- 50 universities having ISO 9000 or similar certification
- 5 new disciplines for which Accreditation Councils have been established by HEC
- 75 four-year undergraduate Courses whose curricula has been revised including 25 curricula revised on the (2 + 2) Model
- 125 academic programs offered jointly with premier foreign universities
- 90 Institutions carrying out Institutional Performance Evaluation
- 150 new programs that are fully accredited by Accreditation Councils
- 500 evaluators trained for internal and external quality assurance and accreditation of programs

3. RESEARCH, INNOVATION & ENTREPRENEURSHIP

- 12,500 publications from researchers based in Pakistan in Impact Factor Journals in 2015
- 30 Offices of Research, Innovation and Commercialization performing satisfactorily at universities
- 70 universities having their services hosted and managed at the National Data Centers (NDC)
- 30 joint university-industry projects
- 60 Technology Incubators established
- 5 technology parks established
- 45 US/International patents issued to university faculty and students
- Rs. 100 million total yearly income of university from commercialization of research

- 75 public universities with well-functioning offices of Research, Innovation and Commercialization.
- 194 MB Average bandwidth available per Institution

4. IMPROVING EQUITABLE ACCESS

- 10% of students aged 17-23 having access to higher education
- 85,000 new students enrolled in science and technological programs of public HEIs
- 100,000 postgraduate Students enrolled at public HEIs
- 10 new universities/Degree Awarding Institutes established
- 5 new campuses established
- 35 new campuses of Virtual University established.
- 35 Private HEIs eligible for Public funding
- 60 new Financial Aid Offices established
- 5000 additional need based scholarships provided
- 10,000 students provided loans under the Student Loan Program

5. EXCELLENCE IN LEADERSHIP, GOVERNANCE AND MANAGEMENT

- All University Vice Chancellors appointed following a Search Committee process
- 200 University Administrators undergoing training courses per year
- 1250 bandwidth provided to number of tertiary education / research institutions.
- 50 public universities with ERP/HEMIS Software for business automation deployed
- HEC team represented in all events at national championships
- HEC getting at least 3rd highest points total in National Championship

- HEC winning at least 5 Gold Medals in a year in Team Events
- Standardized Annual Reports published by 50 universities annually
- Career Counseling Centers established in 50 Universities

6. FINANCIAL MANAGEMENT & SUSTAINABILITY

- 30 HEI's implemented New Accounting Model (NAM) introduced under the PIFRA Project.
- Public Expenditure Tracking Survey (PETS) conducted & recommendations communicated for removing bottlenecks in tertiary education.
- 350 HEI's employees trained to support capacity building for financial management, and accounting manuals.
- 20 universities having external independent audit certification.
- 100 Universities having functional Alumni Associations
- 50 Public Universities having prepared and implemented Business Plans
- 15 universities having established Endowment Fund.
- Proposal finalized and forwarded to government to establish "National professional organization to support higher education advancement"
- Outreach activities initiated by 50 public sector universities to create public awareness of the need for raising private funds for higher education.