HIGHER EDUCATION PROVISIONS OF EDUCATION POLICY 2009: A PROGNOSIS OF IMPLEMENTATION

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Reg. No 12-FSS/MSEDU/F07

Submitted in partial fulfillment of the requirements for the

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Islamabad.

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The thesis entitled "HIGHER EDUCATION PROVISIONS OF EDUCATION POLICY 2009: A PROGNOSIS OF IMPLEMENTATION" by Noreen Nafees Reg. No 12-FSS/MSEDU/F07 in partial fulfillment of MS degree in Education has been completed under my guidance and supervision. I am satisfied with the quality of student's research work and allow her to submit the thesis for further process as per IIUI rules and regulations.

Supervisor
Dr. A. R. Saghir

DEDICATION

*I dedicate this fruit of my efforts to **ALLAH S.W.T**: The Creator of this world, and to His Beloved, **HAZRAT MOHAMMED S.A.W.W**: for Whom the world has been created.*

APPROVAL SHEET

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I feel great honour to express my cordial thanks to my venerable, amicable and affectionate supervisor, Dr. A.R.Saghir, a meticulous evaluator, a considerate teacher, for his unflinching support, courtesies, encouragement, sage advices, scholarly guidance and ungrudging help at every stage in the writing of this thesis despite his heavy engagements. His keen and perceptive eyes for slovenly sentences saved me from many pitfalls. My reverenced supervisor lit the initiating candle for this task, inculcated in me the spirit of working arduously and gave me the impetus of working on this valuable, interesting and gorgeous topic.

I am also thankful to all the participants of my study including Directors, Assistant Directors, Deans, Heads and Managers etc, and to the faculty members who shared their knowledge and experience with me.

I particularly eulogies and highly acclaim the prayers, unrestricted and unconstrained love, encouragement and cooperation offered by my parents. I am also thankful to my younger sister Nausheen for her courtesies, love and cooperation. Words of thanks are also for my nephew Zain and niece Alishbah for their innocent prayers.

Special thanks to my loyal, sincere and sympathetic friend Saima Kanwal, Assitant Director, International Islamic University Islamabad, who cooperated with me a lot at each and every stage of this research. I am unable to find words for paying thanks to her. I am also thankful to Syeda Nausheen Fatima, Project Manager, Higher Education Commission, Islamabad and Saira Tufail, Lecturer, Department of Economic, Fatima Jinnah Women University, Rawalpindi for their cooperation.

NOREEN NAFEES

ABSTRACT

The purpose of the study was to forecast about the feasibility of implementation of National Education Policy 2009 regarding higher education in the universities of Islamabad. The objectives of the study were; to analyze the current status of implementation of higher education provisions of National Education Policy 2009, to identify the major problems faced by different universities in the implementation of higher education provisions of National Education Policy 2009, to forecast the stochastic prediction of implementation of higher education provisions of National Education Policy 2009 and to compare the status of implementation of higher education provisions of National Education Policy 2009 among the universities of Islamabad.

The population of the study consisted of all the Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of public sector universities of Islamabad (i.e. 9). Sample of the study consisted of concerned Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of five public sector universities of Islamabad. In order to achieve the objectives of the study a questionnaire was designed. Data were collected through researcher's personal visits to the sample universities. Data were analyzed using frequencies.

Major findings of the study include; for transmission of research knowledge to the business sector, the mechanism adopted by most of the universities (i.e. AIOU, AU, IIUI and QAU) was university-industry partnership. Most of the universities (i.e. AIOU, AU, IIUI and QAU) got budget for competitive research grants. All the sample universities (i.e. AIOU, AU, IIUI, NDU and QAU) developed

collaboration with the world scholarly community within country and abroad, in connection with post-graduate students and faculty, adopted Tenure Track system of appointments, and launched integrated four-year bachelor degree programme.

Major conclusions of the study include; most of the universities (i.e. AIOU, AU and QAU) have not developed incubator programme and the major problem in this connection is lack of funds. There is only 50% stochastic prediction of implementation of incubator programme in the universities by the year 2015. Two universities(i.e. NDU and QAU) have not included peer evaluation in quality assurance programme. The major problems in this connection are local politics, mutual jealousy, personal biases and low motivation level of faculty members. There is only 50% stochastic prediction of its implementation by the year 2015. Most of the universities (i.e. AU, NDU and QAU) have not developed split-degree programme. Major problems in this connection are lack of funds and lack of relevant information. There is 60% stochastic prediction of its implementation by the year 2015.

Therefore, government may provide funds for developing incubator programme in different universities. Teachers may avoid from local politics, mutual jealousy and personal biases and may concentrate towards their professional development, so that, peer evaluation may be included in quality assurance programme. Funds and relevant information regarding split-degree programme may be provided for the implementation of split-degree programme.

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CHAPTER I

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Education has been the primary concern of all civilizations. It is the vehicle upon which the development of a country depends. No nation can progress without giving due importance to education. It is the stepping stone for the growth and development. It plays a pivotal role in the development of country. Higher education is of paramount importance in this regard. Behind the secret of all developed countries the most important element is higher education. Without giving importance to higher education it is impossible for a country to progress. It is a key to advancement and through higher education the country is able to have skilled manpower. Therefore, developing countries should also give more importance to this area of education in order to meet the challenges ahead and to compete with the world.

In order to have a clear framework regarding which actions should be taken for the improvement of education sector it is necessary to formulate a policy. Policy "*refers to course or patterns of action, rather than separate discrete decisions*" (Hough, 1984). In Pakistan, different policies have been formulated since its inception. Among the different policies that have been formulated since the inception of Pakistan, Report of the Commission on National Education 1959 was comprehensive. This policy was not completely implemented. There were different reasons. One great drawback of the Report of the Commission on National Education 1959 was; that it failed to evolve any implementation strategy and an action plan. It did not specify the financial, physical and

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The announcement of the New Education Policy 1970 coincided with political instability in the country. The policy was abandoned. A new policy was evolved in the name of Education Policy 1972-80, under the new management in the country.

The Education Policy, 1972-80 was implemented to a limited extent. The recommendations regarding the nationalization of privately managed institutions were implemented. The implementation of the nationalization programme, however, put constraints on the national exchequer.

In the National Education Policy 1979, the nationalization of the previous government was abandoned and the private sector was encouraged to set up institutions with English medium while Urdu was adopted as the medium in the public sector. The period of 1979 to 1990 was a period of consolidation. New universities were banned in the public sector and the period is marked with no significant breakthrough in higher education. It also saw decreasing allocations to higher education.(Isani, 2005)

The National Education Policy 1992 could not make significant impact, because after the declaration of this policy, within one year the government was ejected.

National Education Policy 1998-2010 was formulated, but the then civil Government changed and General Pervaiz Musharraf took over Chief Executive of the country. The military Government however, did not ignore the policy and tried to implement it.

All the policies were not completely implemented and the objectives of these policies were not achieved fully. The different reasons due to which the policies could not be implemented completely include; unrealistic targets, lack of financial resources and changing and uncertain circumstances of the country. As many actions were left unimplemented, so the objectives and targets of these policies could not be fully achieved. According to Ghafoor (1982), the policies include; unrealistic goals and were ambitious. Khawaja (1985) perceived that policies were revealed in a good manner but the problem of implementation persisted as a major flaw. Most of the objectives were only in papers and were not achieved. Ahmer (2003) pointed out that instead of all assertions of the policy makers, no significant change took place in the field of education.

Government of Pakistan launched National Education Policy, 2009. In this policy higher education was discussed in detail under the following headings i.e. challenges, strategic vision and policy actions. The researcher conducted this research to forecast about the implementation of higher education provisions of National Education Policy 2009 by studying the current implementation status of higher education provisions of National Education Policy in the universities of Islamabad. The policy was new and no such research had been conducted on this side. So, there was need to study what policy actions had been discussed in this policy for the higher education, to what extent these policy actions were being implemented in the universities of Islamabad, what were the expected problems in the implementation of these policy actions and what were the chances of implementation of these policy actions in the universities of Islamabad by the year 2015. The researcher provided a clear picture by working on these dimensions.

1.2 STATEMENT OF THE PROBLEM

History of education in Pakistan is replete with data which clearly establish the fact that level of implementation of educational policies and plans in the country has generally been very low. The Government of Pakistan launched a new Education Policy in 2009. Prior to this policy a number of education policies were launched, but they were not completely implemented and the targets were not fully achieved. Not only that, the situation had also been resulting in huge wastage of limited valuable resources. The main reason for the situation was that no prior research had ever been conducted to explore the capacity levels of different universities for this purpose. Therefore, there was a need to study the existing capacity of different universities and the related issues in order to give a clear forecast about the implementation of National Education Policy, 2009, regarding higher education. The problem under investigation pertained to forecast the feasibility of implementation of higher education provisions of National Education Policy, 2009, based on the existing phenomenon in sample universities regarding the implementation of higher education provisions of the said policy.

1.3 OBJECTIVES OF THE STUDY

Following were the main objectives of the study:

1. To analyze the current status of implementation of higher education provisions of National Education Policy 2009.
2. To identify the major problems faced by different universities in the implementation of higher education provisions of National Education Policy 2009.

3. To give the stochastic prediction of implementation of higher education provisions of National Education Policy 2009.
4. To compare the status of implementation of higher education provisions of National Education Policy 2009 among the universities of Islamabad.

1.4 RESEARCH QUESTIONS

Following research questions were explored while conducting this study:

1. To what extent are the different universities implementing the provisions of National Education Policy 2009, regarding higher education along the line?
2. What are the different factors adversely affecting the implementation of National Education Policy 2009, regarding higher education?
3. What are the prospects of implementation of higher education provisions of National Education Policy 2009 by the year 2015, which are not currently being implemented by the universities?
4. How do different universities stand relatively in terms of their existing capacity to implement higher education provisions of National Education Policy 2009?
5. What are the different adverse factors affecting the implementation of higher education provisions of National Education Policy 2009, relatively in the sample universities?
6. How do different universities stand relatively in terms of the prospects of implementation of National Education Policy 2009, regarding higher education by the year 2015?

1.5 SIGNIFICANCE OF THE STUDY

The study carries significance from a number of angles as spelled out below:

- This study is expected to be of significance for the technocrats, planners, curriculum developers, educationists and implementers in the universities, and for other professionals in education sector in general.
- This study is also likely to provide useful information for the Ministry of Education and the universities about the implementation of National Education Policy 2009 by analyzing its provisions on higher education.
- The readers will come to know about what is the current status of implementation in different universities of Islamabad, what problems are being faced by the universities in implementing different policy actions and those policy actions which are currently not being implemented what will be the chances of their implementation by the year 2015. This detailed analysis will help the readers to understand the National Education Policy 2009 in depth from all dimensions, regarding higher education.
- The study is also likely to be of significance for prospective researchers who may explore several other angles of the Education Policy, 2009 with reference to its implementation in the country in general and the federal area in particular.

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It was basically a survey study focusing on the future feasibility of implementation of higher education provisions of National Education policy 2009, based on the analysis

of the existing status of implementation of higher education provisions of National Education Policy 2009, and the problems being faced in connection with that. Detailed description of the methodology followed in conducting this study is given as under:

1.6.1 Population of the Study

The population of the study consisted of all the Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of public sector universities of Islamabad. The number of public sector universities in Islamabad was 9.

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Universal sampling technique was used and all the Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of public sector universities (i.e. 9) were taken as sample. But only 5 universities responded positively. Therefore, sample of the study consisted of concerned Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of five public sector universities of Islamabad.

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Questionnaire was used as data collection instrument. This questionnaire was based on the proposed actions provided for higher education in the National Education Policy 2009.

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The questionnaire was validated through senior Faculty members of Department of Education, International Islamic University, Islamabad. Necessary improvements were made in the questionnaire in the light of expert opinions.

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Data were collected through researcher's personal visits to the sample universities.

1.6.6 Data Analysis

Data were analyzed using frequencies.

1.6.7 Delimitations

This study was delimited to:

- The public sector universities of Islamabad.
- The policy actions at serial number i.e. policy action No.3, 4, 5, 6, 7, 9, 12, 18, 21, 26 and 30 for which it was possible to collect data from functionaries of individual universities.
- The implementation status of universities to year 2010.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

This chapter deals with the review of literature related to the present study. The topic under investigation was primarily based on the National Education Policy, 2009. The study aimed at an analysis of the National Education Policy 2009 regarding Higher Education and see as to what extent the policy actions were being implemented in the universities of Islamabad, what were the expected problems faced in the implementation of higher education provisions of education policy 2009 and to what extent the policy actions will be applicable in the universities of Islamabad in future. A brief review, relevant to the study is given below.

2.1 HIGHER EDUCATION

Higher education *"refers to tertiary education of an academic level higher than that attainable on completion of a full secondary education"* (Ahmad, 2006) According to Nirman " *Higher education includes all types of studies, training and research at the post-secondary level, provided by universities or other educational establishments of higher education by the competence state authorities*" (Nirman, 2007)

In Pakistan, higher education refers to education above grade 12, which generally corresponds to the age of 17 to 23 years. The higher education system in Pakistan is made up of two main sector: the university/Degree Awarding Institutes (DAI) sector and the affiliated Colleges sector. Higher Education Commission (HEC) is responsible for allocating public funds from the federal government to universities and DAIs and

accrediting their degree programs. Colleges are funded and regulated by provincial governments, but follow the curriculum of HEC funded universities/DAIs with which they are affiliated. While HEC primarily funds public universities.

Pakistan higher education sector is predominantly public in nature, while public Higher Education Institutions (HEIs) dominate both university/DAI and College sectors. There is also a large distance learning programme. Public HEIs generally offer a wide range of courses and programmes, while private HEIs predominantly offer a narrow range of vocationally oriented courses and programmes such as business and IT. The bulk of research in the HE sector is conducted in public universities. (World Bank, 2010)

In Pakistan higher education needs an immediate and quick reform. Universities are not in position to generate new knowledge. Not only this, but the programmes offered in universities do not fulfill the international standards. The teaching-learning process has destroyed due to the swift expansion of the system, scarce financial grants and periodic student unrest. The teaching-learning process is defective, and so are the curricula. Funds provided to the universities are scarce and there is little capability, if any, in the universities to generate resources on their own. The core of research in universities is not too much strong. Libraries and laboratories are not properly equipped and, there is also lack of qualified teachers which is a great hindrance for the evolvement of higher education (Isani, 2005)

2.2 IMPACT OF HIGHER EDUCATION ON DEVELOPMENT

Higher education has a significant impact in the overall development of a country. Human resource is considered a crucial element for the future higher education,

especially with reference to technical, scientific and managerial staff which is talented, skillful, strenuous and scrupulous. Higher education must play a pivotal role in bringing distinguished changes. In most of the developing countries "innovation chain" is not so developed because of the weak Research and Development profile of many higher education institutions, and the main reason is that there is no university-industry partnership. Most of the multinational companies use foreign universities for their research. Higher education should play a significant role in developing links in the innovation chain by tempting entrepreneurial spirit in students. It is therefore, considered necessary to build quality assurance philosophies and instruments. Universities are considered very important in national regions, which have significant impact on development. (Nirman,2007)

2.3 FACTORS AFFECTING THE RELEVANCE OF HIGHER EDUCATION

Nirman(2007) identified some major factors that affect the relevance of higher education, which are:

i. The Role of Government in Higher Education
ii. Globalization
iii. Rapid Scientific Progress
iv. New Instructional Methods
v. Financial Constraints

2.3.1 The Role of Government in Higher Education

The role of government in higher education is so important that it cannot be denied. Higher education especially in developing countries is highly dependent on government.

It is greatly affected when the institutions of higher education are not properly funded by the government.

In highly industrialized countries the system of higher education is so improved that the duty of development and transfer of knowledge is shared with other public and private entities and is continuously checked through which the policy is guided. Whereas, in developing countries creation and transfer of knowledge is considered by the government an additional item, like other items in an open market and is not shared in a proper way to a proper place, which results in lack of competitiveness with other countries.

2.3.2 Globalization

Globalization has a great impact on higher education. It has become difficult for the universities to evade from the effect of globalization and the elevated atmosphere of competition which globalization creates in a situation in which financial resources are scarce and difficult to attain. New trends in every field have been introduced due to globalization. The swift evolvement in communication technology has made it possible for the higher education institutions to collaborate with other institutions not within country but with countries as well.

2.3.3 Rapid Scientific Progress

The latest advancements in science and technology have a great significance for higher education. Research has been considered a crucial component for the advancement in higher education, because no system of higher education can be successful unless or until they carry out research in an efficient way. The scientific knowledge is improving very

rapidly because the latest communication technologies have made easier the sharing and transfer of information among scientists.

2.3.4 New Instructional Methods

Due to digital revolution a great change has been pervaded in every field. The area of education is also influenced with this revolution. As the information is evolving so the textbooks cannot be used only as a source of information. It has become necessary to have some other valuable sources for knowledge transfer to grasp the convoluted information. The jobs also require life-long education which cannot be done only with terminal degrees. *"Greater access to electronic data bases and sources information, better institutional management, competency-based education and the practical application of improved pedagogical skills and technology"* (Nirman, 2007) may help students from every perspective.

2.3.5 Financial Constraints

With the commencement of the decade 1990s there were great political social, economic and technical changes in all over the world. Most of the universities face two conflicting trends: increase in expected university services and decrease in government inability to pay for greater higher education system as a result of which there is imbalance between the number of students and public funding. It is a major problem in developing countries, that the public expenditures do not match with the greater demand, and the expenditures on a single higher education student is ten times below that on developed countries. Even it has become difficult for the developed countries to regulate the schemes in order to combat with rapid increase in student enrolment. (Nirman , 2007)

2.4 PROBLEMS OF HIGHER EDUCATION IN PAKISTAN

Higher education in Pakistan is faced with number of problems. Since the inception of Pakistan the country is faced with many challenges regarding higher education. Among the various issues, which the country is facing in the field of higher education, some major issues are :

2.4.1 Limited Access

Higher education is the main agent for knowledge based economy. The main indicator to development is the rapid access to higher education. There is limited access to higher education in Pakistan. The HE sector enrolls less than 4% (including colleges) of the age cohort, and compares unfavorably with countries such as India at 11% and Malaysia at 32% In order to develop our human resources, the access to higher education has to be enhanced. Access to higher education should be increased, so that human resources may flourish. Government should therefore, devise ways and means to expand the base of higher education. Due to insufficient facilities, most of the youngsters are deprived from going to higher education institutions and out of the limited number that can get enrolled therein; there is heavy wastage because of high failure rate.

2.4.2 Decreasing Quality

Quality mainly refers to the quality of an institution which is comprised of students, teachers and support services. There is a great need of evolvement in the participation rate of higher education, but the element of quality should be the highest importance, so that the country may have quality graduates which may help in the development of country socially and economically.

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- The policy actions at serial number i.e. policy action No.3, 4, 5, 6, 7, 9, 12, 18, 21, 26 and 30 for which it was possible to collect data from functionaries of individual universities.
- The implementation status of universities to year 2010.

CHAPTER II

REVIEW OF THE RELATED LITERATURE

This chapter deals with the review of literature related to the present study. The topic under investigation was primarily based on the National Education Policy, 2009. The study aimed at an analysis of the National Education Policy 2009 regarding Higher Education and see as to what extent the policy actions were being implemented in the universities of Islamabad, what were the expected problems faced in the implementation of higher education provisions of education policy 2009 and to what extent the policy actions will be applicable in the universities of Islamabad in future. A brief review, relevant to the study is given below.

2.1 HIGHER EDUCATION

Higher education *"refers to tertiary education of an academic level higher than that attainable on completion of a full secondary education"* (Ahmad, 2006) According to Nirman " *Higher education includes all types of studies, training and research at the post-secondary level, provided by universities or other educational establishments of higher education by the competence state authorities*" (Nirman, 2007)

In Pakistan, higher education refers to education above grade 12, which generally corresponds to the age of 17 to 23 years. The higher education system in Pakistan is made up of two main sector: the university/Degree Awarding Institutes (DAI) sector and the affiliated Colleges sector. Higher Education Commission (HEC) is responsible for allocating public funds from the federal government to universities and DAIs and

accrediting their degree programs. Colleges are funded and regulated by provincial governments, but follow the curriculum of HEC funded universities/DAIs with which they are affiliated. While HEC primarily funds public universities.

Pakistan higher education sector is predominantly public in nature, while public Higher Education Institutions (HEIs) dominate both university/DAI and College sectors. There is also a large distance learning programme. Public HEIs generally offer a wide range of courses and programmes, while private HEIs predominantly offer a narrow range of vocationally oriented courses and programmes such as business and IT. The bulk of research in the HE sector is conducted in public universities. (World Bank, 2010)

In Pakistan higher education needs an immediate and quick reform. Universities are not in position to generate new knowledge. Not only this, but the programmes offered in universities do not fulfill the international standards. The teaching-learning process has destroyed due to the swift expansion of the system, scarce financial grants and periodic student unrest. The teaching-learning process is defective, and so are the curricula. Funds provided to the universities are scarce and there is little capability, if any, in the universities to generate resources on their own. The core of research in universities is not too much strong. Libraries and laboratories are not properly equipped and, there is also lack of qualified teachers which is a great hindrance for the evolvement of higher education (Isani, 2005)

2.2 IMPACT OF HIGHER EDUCATION ON DEVELOPMENT

Higher education has a significant impact in the overall development of a country. Human resource is considered a crucial element for the future higher education,

especially with reference to technical, scientific and managerial staff which is talented, skillful, strenuous and scrupulous. Higher education must play a pivotal role in bringing distinguished changes. In most of the developing countries "innovation chain" is not so developed because of the weak Research and Development profile of many higher education institutions, and the main reason is that there is no university-industry partnership. Most of the multinational companies use foreign universities for their research. Higher education should play a significant role in developing links in the innovation chain by tempting entrepreneurial spirit in students. It is therefore, considered necessary to build quality assurance philosophies and instruments. Universities are considered very important in national regions, which have significant impact on development. (Nirman,2007)

2.3 FACTORS AFFECTING THE RELEVANCE OF HIGHER EDUCATION

Nirman(2007) identified some major factors that affect the relevance of higher education, which are:

i. The Role of Government in Higher Education
ii. Globalization
iii. Rapid Scientific Progress
iv. New Instructional Methods
v. Financial Constraints

2.3.1 The Role of Government in Higher Education

The role of government in higher education is so important that it cannot be denied. Higher education especially in developing countries is highly dependent on government.

It is greatly affected when the institutions of higher education are not properly funded by the government.

In highly industrialized countries the system of higher education is so improved that the duty of development and transfer of knowledge is shared with other public and private entities and is continuously checked through which the policy is guided. Whereas, in developing countries creation and transfer of knowledge is considered by the government an additional item, like other items in an open market and is not shared in a proper way to a proper place, which results in lack of competitiveness with other countries.

2.3.2 Globalization

Globalization has a great impact on higher education. It has become difficult for the universities to evade from the effect of globalization and the elevated atmosphere of competition which globalization creates in a situation in which financial resources are scarce and difficult to attain. New trends in every field have been introduced due to globalization. The swift evolvement in communication technology has made it possible for the higher education institutions to collaborate with other institutions not within country but with countries as well.

2.3.3 Rapid Scientific Progress

The latest advancements in science and technology have a great significance for higher education. Research has been considered a crucial component for the advancement in higher education, because no system of higher education can be successful unless or until they carry out research in an efficient way. The scientific knowledge is improving very

rapidly because the latest communication technologies have made easier the sharing and transfer of information among scientists.

2.3.4 New Instructional Methods

Due to digital revolution a great change has been pervaded in every field. The area of education is also influenced with this revolution. As the information is evolving so the textbooks cannot be used only as a source of information. It has become necessary to have some other valuable sources for knowledge transfer to grasp the convoluted information. The jobs also require life-long education which cannot be done only with terminal degrees. *"Greater access to electronic data bases and sources information, better institutional management, competency-based education and the practical application of improved pedagogical skills and technology"* (Nirman, 2007) may help students from every perspective.

2.3.5 Financial Constraints

With the commencement of the decade 1990s there were great political social, economic and technical changes in all over the world. Most of the universities face two conflicting trends: increase in expected university services and decrease in government inability to pay for greater higher education system as a result of which there is imbalance between the number of students and public funding. It is a major problem in developing countries, that the public expenditures do not match with the greater demand, and the expenditures on a single higher education student is ten times below that on developed countries. Even it has become difficult for the developed countries to regulate the schemes in order to combat with rapid increase in student enrolment. (Nirman , 2007)

2.4 PROBLEMS OF HIGHER EDUCATION IN PAKISTAN

Higher education in Pakistan is faced with number of problems. Since the inception of Pakistan the country is faced with many challenges regarding higher education. Among the various issues, which the country is facing in the field of higher education, some major issues are :

2.4.1 Limited Access

Higher education is the main agent for knowledge based economy. The main indicator to development is the rapid access to higher education. There is limited access to higher education in Pakistan. The HE sector enrolls less than 4% (including colleges) of the age cohort, and compares unfavorably with countries such as India at 11% and Malaysia at 32% In order to develop our human resources, the access to higher education has to be enhanced. Access to higher education should be increased, so that human resources may flourish. Government should therefore, devise ways and means to expand the base of higher education. Due to insufficient facilities, most of the youngsters are deprived from going to higher education institutions and out of the limited number that can get enrolled therein; there is heavy wastage because of high failure rate.

2.4.2 Decreasing Quality

Quality mainly refers to the quality of an institution which is comprised of students, teachers and support services. There is a great need of evolvement in the participation rate of higher education, but the element of quality should be the highest importance, so that the country may have quality graduates which may help in the development of country socially and economically.

2.4.3 Faculty Problems

Among the major reasons of low standards of education, one major reason is the poor quality of teaching faculty. The research strength and quality of academic programmes of an institution depends on the capacity and excellence of its faculty. Low quality and lack of competent teachers is a great obstacle in the development of higher education.(Isani, 2005) "In most of the universities a number of faculty members are Masters, who do not have sufficient practical knowledge and experience at higher level" (Iqbal, 1981). Institutions of higher education cannot develop in isolation. A close nexus is desirable between industry and university. There is a great need to develop university-industry partnership and to have great research work in the field of science and technology in Pakistan.

2.4.4 Outdated Curricula

Another major reason of poor quality to higher education is related to the course of contents and syllabi. In number of universities the curricula followed by them is outdated and not linked with real life situation and world of work. Bayli (1987) studied that "*So many important and modern courses required for higher education are not taught at all.*" *"The curricula are not written in detail and are left to the professors personal likes, dislikes, interests or experience"* (Adeeb, 1996).

2.4.5 In-adequate Research

The main function of universities is the transfer and production of knowledge, which greatly need research. Research plays a significant role in the socio-economic development of a country. The purpose of research is to have institutions with sufficient

infrastructure, to have skillful human resources and to enhance the excellence in higher education. Universities of Pakistan need to have great research work in them in order to combat with the challenges ahead.

2.4.6 Under-Funding

Under funding in higher education is among the major issues. Due to the rapid increase in the prices of books and equipment etc, the unit cost of higher education is also increasing gradually. It has increased the expenses of students and decreased the expenses on per student by the govt.(Isani, 2005)

2.5 POLICY

The term policy has been defined in a number of ways. Meriam-Webster Dictionary(2007) defines policy as " *a definite course or method of action selected from among alternatives and in light of given conditions to guide and determine present and future decisions.*" Oxford dictionary(2007) defines policy as "*a plan of action or statement of aims and ideas, especially that of government, company or other organization*". *"Policy is a set of principles guiding decision-making. It provides a framework against which proposals or activities can be tested and progress measured"* (Spasoff, 1999)

So, a policy is basically a statement of aims and ideas. These aims and ideas are determined according to the existing condition. In order to achieve these aims, a set of principles is developed and decisions for present and future are determined.

2.6 EDUCATION POLICY

An education policy is " *a specification of principles and actions, related to educational issues, which are followed or which should be followed and which are designed to bring about desired goals"(Trowler, 2003). "Educational polices include such fundamental matters as the subject matter and methods of instruction, facilities and support for the research work of faculty members and students, standards for admission of students, etc*" (Aeth, 1975). Hayes (1987) identify that "*They also include those aspects of student life that relate directly to the educational process."*

Education policy play a very crucial role in determining a right path towards progress by identifying, what are the existing problems in the education sector, what are the problems ahead and how to combat with those problems. In order to make progress it is very necessary for a country to have clear and strong education policies. Unless or until there would not be a strong education policy the education sector will never flourish and the country will not be able to compete with the other countries and face the challenges in the field of education. So, strong and realistic policies are imperative for having a strong education system in a country.

2.7 POLICY ANALYSIS

Policy analysis is defined as " *determining which of various alternative policies will most achieve a given set of goals in light of the relations between the policies and the goals"(Nagel, 1999)*

2.8 PROCESS OF POLICY ANALYSIS

Policy analysis depends on the problem and its nature. This process is divided into following stages:

1. Goal Setting
2. Analysis of the Existing Situation
3. Selection of Criteria
4. Comparison of Alternatives and Selection of Policy
5. Policy Implementation

2.8.1. Goal Setting

The first and most important stage of policy process is goal setting. In order to define the direction of policy, clear policy goals are absolutely vital. Goals have to be defined hierarchically and longitudinally. Relative priorities among goals have to be clearly established to avoid conflicts between basic principles. Long-range, intermediate, and short range goals also have to be distinguished clearly in such a way that long-range goals are not obstructed by short-range goals. (Zaki, 1989)

2.8.2 Analysis of the Existing Situation

Any time in any education policy system there are dozens, perhaps hundreds of potential issues that could become recognized as policy problems and so provide the stimuli for education policy responses. (Hough, 1984) Policy problems have to be well identified and analyzed in terms of their basic nature, dimensions, urgency, persuasiveness and

continuity. Problems also have to be detected as early and as accurately as possible. (Zaki, 1989)

2.8.3. Selection of Criteria

Criteria are the grounds for judging or choosing. These are the structure for analysis, for determining that one alternative is better than the other. In this stage a list of relative criteria must be identified first and then define the comparative importance of those criteria. (Munger, 2003). MacRae and Whittington (1997) have given some guidelines in this connection. According to them criteria must fulfill five meta criteria, which are as follows:

- "Criteria should focus on ends, not means.
- Clear and precise statement of objectives is necessary so that a standard may be suggested for determining to what extent it is satisfied by an alternative.
- In order to measure the trade-offs, it is better to develop a set of criteria.
- Set of criteria should be comprehensive.
- Criteria should discuss each aspect of the policy problem, so that each criteria is equally satisfied.

2.8.4. Comparison of Alternatives and Selection of Policy

It indicates that the choices must be mutually exclusive. When one course of action is selected the alternative excludes. One major problem with this idea of distinct choice is, that the definite choice could be a blend of these choices. The process of selecting among alternatives requires that there must be some assumption about the trade-offs between the criteria. It is considered a difficult part. It should must be handled by expert analysts. The

selection of one alternative, one policy requires an understanding of the principles and process of government. (Munger, 2003) The following questions should be considered:

- *"How was the decision arrived at? What factors seems to have been ignored and why?*
- *How radical a departure is the decision from current policy?*
- *How consistent is this decision with policies in other factors?*
- *Is the policy diffusely articulated in a manner which makes its degree of success easily measurable?*
- *Does the policy seem operational or is its implementation implausible".(Haddad 1994)*

2.8.5. Policy Implementation

"Implementation is the carrying out, execution, or practice of a plan, a method, or any design for doing something." (TechTarget,2010)

Implementation is an important phase of policy process. Implementation recognizes and eliminates policy obstacles for maximizing the approach towards higher education. The implementation phase helps in determining and detecting the flaws in policy making and evaluating the policy (Slotnick, n.d)

After selecting the next step is to implement the policy. It includes the following preliminaries.

(a) ***Schedule.*** A schedule should be outlined about funds, physical objects and people, like who will do the jobs, when and how the jobs will be done.

(b) ***Financial Resources***. Physical resources must be enlisted and their availability must be assured.

(c) ***Financial Resources***. Sufficient funds must be available so that implementation may not delay.

(d) ***Person-power.*** Through which the policy will come into action must be free from other engagements so that they may ready and concentrate on their work.

(e) ***Technical Knowledge***. Those people who will employ the policy must be mastered in technical knowledge which is needed to guide the policy implementation.

(f) ***Administrative Systems***. Administrative systems must be organized properly within which the policy will be administered.

(g) ***Mobilizing Political Support***. If the process of policy planning is definite, then for every dimension of policy implementation it is necessary to mobilize political support. One important strategy for his purpose may be to involve groups which are affected by the new dynamics in the planning process. (Haddad, 1994)

2.9 INCUBATOR PROGRAMMES

Business incubators are usually called "new entrepreneur creation projects" which assist in developing new entrepreneurs and help them in commencing up business and enabling them on a longer-term sustainable grounds.

Business incubators are defined as a location in which entrepreneurs can receive pro-active, value-added support, and access to critical tools, information, education, contacts, resources and capital that may otherwise be unaffordable inaccessible or unknown. The

incubators that are well structured, provide links to industry; business support services to enhance and develop business; upgrade skills and techniques; technological advice assistance with intellectual property protection; financial resources for research & development; initial marketing expenses; and access to potential private investors and strategic partners.

2.9.1 Types of Business Incubators

There are four major types of business incubators:

- ***Public or not-for-profit Incubators:*** It includes government and non-profit organizations. The major purpose of these organizations is the promotion of economic development.
- ***Private Incubators:*** The private incubators are administered by an enterprise and broadcast funding investment groups or by the partnership of real estate development. These incubators usually receive a profit on their investment.
- ***Academic-related Incubators:*** These incubators are initiated in the institutions where their academic objectives put great attention on the development of faculty and establishing business-spin-offs from the research of faculty.
- ***Public/private Incubators:*** These incubators are developed by the mutual efforts between government and non-profit groups. The major benefit of such type of incubators is that government funding can be safe in order to assist private sector competence and financing.

2.9.4 Operational Procedure of the Business Incubators

For participating in the incubator programme, the entrepreneur may apply to incubator managers. After the approval of proposal from incubator mangers, it is then sent to the screening committees of their own incubators. After the acceptation of project idea, a proposal is developed by the incubator manager and entrepreneur, which is then submitted to the incubator fund. It is then again examined. After its approval, funds are granted to the incubator for two years.

(www.competitiveness.org,2010)

2.10 SCIENCE PARKS

A science park or science and technology park is an area with accumulation of building which are specified for the scientific research on business grounds. Synonyms usually used for science parks are research park, technology parks biomedical park. The proper term depends on what sort of science and research is being conducted in the park. Usually, these parks are operated by higher education institutions including colleges and universities.

Science parks deviate from science centers because science parks mainly focus on future advancements in science and technology. Business organizations in these parks focus on product advancement and innovation.

Purpose of Science Parks

The major purpose of science parks is the sharing of innovative ideas. Science parks are the means of entrepreneurship, talent and economic competitiveness and are the major factors of the infrastructure that is assisting in knowledge economy. Through a location in

which government, universities and private companies cooperate, an environment is created that promote cooperation and innovation. Science parks increase the development, transfer and commercialization of technology. (Wikipedia, 2010)

2.11 INFORMATION COMMUNICATION TECHNOLOGY

2.11.1 Concept

Information Communication Technology can be defined as "the combination of computer, video and telecommunications technologies, as seen in the use of multimedia computers and the networks and services based upon them" (Van Damme, 2003).

2.11.2 Impact of ICT

Information and communication technology (ICT) is a force that has changed many aspects of the way of life. ICTs have impacted on educational practices in education to date in quite small ways but the impact will grow considerably in years to come and that ICT will become a strong agent for change among many educational practices.(Selvam, 2010)

2.11.3 Paradigms in ICTs Innovations

There are two broad paradigms relevant to the use of ICTs in pedagogy and organizations.(Lewis 1999, Privateer, 1999, Dutton and Loader, 2002)Which have different purposes and approaches to people and social relations in higher education are referred to as e-constructivist paradigm and the e-corporate paradigm.

i. E-Constructivist

It has evolved directly from teaching and learning and was emerged before the use of ICTs. It recognized the expected form of learning as "the process of socially based active

co-construction of contextualized knowledge" (Salomon and Almog, 1998). The standard form of constructivism has not developed and the emphasis on the role of individual in comparison with group learning also differs. (Bonk and Cunningham, 1998). The emphasis in constructivism is on proactive, reflective, self-regulated learner and it tries to improve these dimensions of pedagogy. Communication based on computer is seen to strengthen the potential for collaboration, whereas the manipulation of web-based media have fore guarded student initiative, self-regulation and self-motivation. (Laurillad, 1993; Looi, 1998; Gunn, 1999)

ii. E-Corporate

The focus of this paradigm is on the potential of ICTs, especially online ICTs for delivering higher education to a greater number of students by minimizing per capita costs, standardizing systems, launching market products and increasing the competitiveness of the institution. It is mainly concerned with student-centeredness ad a proactive student is considered as a consumer instead of a helper or critical reflector. (Giroux, 2005) and the major technique is transmission. Relevant to the emerging managerial control and deterioration of academic sovereignty: this paradigm focus on standardized curricula through intellectual property. Intensity is also found to technological determinism as demonstrated in assumptions, that ICTs in themselves evolve cognition, initiative and collaboration. (Fabry and Higgs, 1997). This paradigm was greatly criticized. (Andrews, 2004) But, on the other hand it was also viewed as crucial to the continuance and advancement of institutions in an increasingly marketized and efficiency-controller mass higher educational environment. These two paradigms depict different concepts, values, forms of research, forms of practice and social

institutional interests. Administrators in universities are continuously discussing and working across and between these two paradigms. (Synder and Lewis, 2009)

2.12 PROGNOSIS

A prediction about future results based on existing information. (Ahmad, 2006)

2.13 AN OVERVIEW OF DIFFERENT POLICIES PROVISIONS OF HIGHER EDUCATION IN PAKISTAN

2.13.1 Proceedings of the Pakistan Educational Conference 1947

Soon after the independence of Pakistan, the country was surrounded by numerous challenging problems. With reference to education the most important work was to save the education system of Pakistan from its downfall. (First Five Year Plan, 1955-60). Combating with such problems was a difficult task for the new state. The Pakistan Educational Conference was held at Karachi from 27th November to 1st December 1947, in order to find out a clear path and formulate an education policy to meet the challenges in education from all dimensions. Mian Afzal Hussain was the chairman of this conference. Various recommendations were made in this conference. The major recommendations specific to higher education were:

1. Establishment of Inter-University Board to have a close contact among the universities of Pakistan.
2. Inculcation of education system of Pakistan with the Islamic ideology.
3. Religious instruction mandatory for Muslim students till college level.
4. Provision of compulsory military training in colleges and universities.

5. Immediate commencement of one Women's medical college in Eastern Pakistan and one in Western Pakistan.
6. Establishment of Advisory Board of Education. (Govt. of Pakistan, 1947)

2.13.2 Report of the Commission on National Education 1959

The Report of the Commission on National Education was presented by S.M.Sharif in December 1959, which was also named as Sharif Commission. In this Report almost all aspects of higher education were covered including the subjects of study, examinations in higher education, research and the university and the functions of university etc. Laying great emphasis on higher education it was mentioned in the report that " *Higher education is the agency primarily responsible for extending the frontiers of knowledge, for examining and interpreting the ways of man and of nature" (Govt. of Pakistan 1959).*

The major recommendations specific to higher education were:

1. Higher education a distinct stage, instituting of Boards of Secondary Education where the Boards are not established and transfer of intermediate classes under the authority of Board of Secondary Education. (Govt. of Pakistan, 1959)
2. Extension of the duration of Bachelor's Degree in Arts and Science from two to three years and two years for Masters Degree.
3. Revision and improvement of courses and curricula for meeting the emerging needs of the country.
4. Set up an Institute of Modern Languages.

5. Focus of examinations on students achievement and not on rote-memorization competence.
6. Set up a committee for Advanced Studies in every university.
7. Improvement in the selection, appointment and promotion process of teachers. Increment and promotion of teachers incase of their brilliant achievement.
8. Annual assessment of the work of teaches and professors by the Evaluation Committee.
9. Establishment of the Potential University Centers in East and West Pakistan.
10. Revision of the existing University Acts for strengthening academic functions. (Govt. of Pakistan, 1959)

2.13.3 The New Education Policy, 1970

During November 1968 to March 1969, because of the social and political anarchy in the country, the new Government changed and updated the new Education Policy.(Economic Survey of Pakistan, 1969-70). This new Education Policy was announced by the Government on March 26, 1970 and was presented by Nur Khan. The policy laid emphasis on Centers of Excellence, national research fellowships, revision of pay-scales, modern languages and establishment of new universities etc. Recommendations specific to higher education were:

1. Development of post-graduate programmes and facilities for Doctoral and post-doctoral research by the universities.
2. Establishment of Centers of Excellence by the universities in selected fields.

3. Commencement of a scheme of National Research Fellowships and National Professorship.
4. Establishment of two National Institutes of Modern Languages. One in Islamabad University and the other in Dacca University.
5. Establishment of a Central University in East Pakistan like Islamabad University.
6. Continuity of the affiliation of colleges with universities.
7. Promotion of inter-college cooperation and establishment of post-graduate Departments in selected colleges.
8. Revision of the pay-scales and service conditions of teachers in colleges and universities.
9. Initiating the sabbatical leave system. (Govt. of Pakistan, 1970)
10. *"Review efficiency and disciplinary rules for university teachers"* (Aziz, 1986).

2.13.4 The New Education Policy, 1972-80

The New Education policy was determined by Government of Pakistan in 1972. In this policy out of 45 pages , only 3 pages were on higher education. Recommendations specific to higher education in the policy were:

1. Establishment of new universities at Multan, Saidu Sharif and Sukkur.
2. Up-gradation of Jamia Islamia Bhawalpur, the Agriculture College Tandu Jam, N.E.D Engineering College Karachi, Engineering College Jamshoro, Engineering College Peshawar and Agriculture College Peshawar to a University.
3. Establishment of University Grants Commission.

4. Establishment of Professional Councils along the lines of the Pakistan Medical Council.
5. Establishment of Centers of Excellence which will be open to gifted students from all over the country on merit. Determination of subject specialization by the University Grants Commission in consultation with the universities.
6. Establishment of Area Study Centers for research and advanced studies of contemporary societies particularly those of special interest to Pakistan.
7. Establishment of Pakistan Study Centers in each general university to provide for undergraduate studies of the language, literature, and culture of various regions of Pakistan with a view to promoting national cohesion and solidarity and proper appreciation of national identity.
8. Establishment of National Institute of Pakistan Studies at the University of Islamabad.
9. Adding science education stream in degree colleges and introducing technical and occupational education streams at high and intermediate stages.
10. Instituting National Professorship for the continuation of qualified scholars and scientists as teachers and research workers.
11. Instituting National Research Fellowship and financial support to universities and appropriate institutions.(Govt. of Pakistan, 1972-80)

2.13.5 National Education Policy, 1979

National Education policy was determined by the government of Pakistan in 1979. The major recommendations regarding higher education in the policy were:

1. Fixation of the minimum strength of the degree colleges.
2. Provision of basic facilities in hostel and making hostel life more easy.
3. Improvement of the Book Banks scheme for providing benefit to a large number of students.
4. Strengthening of socio-cultural life of colleges and development of programme of guidance and counseling.
5. Provision of sufficient laboratory facilities to a large number of colleges (Govt. of Pakistan, 1979)
6. No new university within the next five years, except the women's university.
7. Strengthening of existing Centers of Excellence.
8. Development of Centers of Excellence for Doctoral and post-Doctoral programmes.
9. Commencement of pot-graduate classes in selected Girls colleges.
10. Review of B.A/B.Sc. curriculum and post-graduate levels programme by the University Grants Commission.
11. Strengthening of libraries of all universities.
12. Development of the National system of admission for higher education.
13. Organization of pre-service and in-service teacher training programme for college and university teachers by National Academy of Higher Education.

14. Amendment of the University Acts. (Govt. of Pakistan, 1979)

2.13.6 National Education Policy, 1992

The National Education policy was determined by the government of Pakistan in December, 1992. Recommendations specific to higher education in the policy were:

1. Strengthening of science and engineering laboratories in the universities.
2. Provision of funds for books and journals, and allocation of special funds for research.
3. Development of linkages between the high quality university departments and international institutions.
4. Establishment of Centers of research in universities.
5. Lifting up of No Objection Certificate for teacher's participation in international conferences.
6. Allocation of funds for university researcher's participation in international conferences and for organizing national and international seminars, conferences and workshops.
7. Considerable financial support to professional associations for the publication of research journals.
8. Up gradation of the library of Quaid-e-Azam university to National library of science and technology.
9. Revision of University Acts for efficient management of universities.
10. Updating of all curricula and provision of research allowance for university teachers doing research and producing M.Phil and PhD students.

11. Provision of research grants and better salaries to highly qualified teachers appointed on contract basis.
12. Restructuring and diversification of degree level education.
13. Establishment of Funding Council for colleges in every province.
14. Establishment of Science Parks in selected universities.
15. Establishment of National Council of Academic Awards and Accreditation.
16. Establishment of community development centers in every university.
17. Establishment of four universities in public sector and 16 in private sector.
18. Provision of competitive grants to the institutions showing high level of external efficiency. (Govt. of Pakistan, 1992)

2.13.7 National Education Policy, 1998-2010

The National Education Policy was determined by the government of Pakistan in March 1998. The major emphasis of the policy was on inculcation of higher education with the Islamic ideology, promotion of intellectual faculties, increase in access to higher education and provision of up-to-date knowledge and technology to individuals. Major recommendations of the policy regarding higher education were:

1. Merit, the only touchstone for entry in higher education.
2. Instituting new disciplines in the public sector universities.
3. Transformation of selected disciplines into 'Centers of Advanced Studies and Research' at major institutions.
4. Increasing the allocation of resources to professional education.
5. Initiating one year B.A/ B.Sc. (Honors) after B.A/B.Sc. in all colleges.

6. Autonomy and degree awarding status to reputed degree colleges.
7. Merit, the only standard for selecting teachers and non-academic staff.
8. Strengthening of libraries and laboratories for meeting the international standards.
9. Revision of the curricula of universities at all levels.
10. Managing interaction between universities and industry.
11. Instituting technology parks and industrial research centers in the universities.
12. Setting up of M.Phil and PhD programmes in Centers of Excellence(CoEs) and other university departments, and split PhD programme in collaboration with the reputed foreign universities.
13. Development of linkage programme with foreign universities.
14. Establishment of Teachers Service Training Academy.
15. Development of linkage between universities and community.
16. Initiating contractual system of appointment for teachers in colleges and the universities.
17. Initial appointment of university lecturer in grade 18, university professor in grade 21 and meritorious professor in grade 22. (Govt. of Pakistan, 1998-2010)

2.13.8 National Education Policy 2009

The National Education Policy was determined by the government of Pakistan in August 2009. The major recommendations of the policy regarding higher education were:

1. *Steps shall be taken to raise enrolment in higher education sector from existing 4.7 % to 10% by 2015 & 15% by 2020.*

2. *Investment in higher education shall be increased to 20% of the education budget along with an enhancement of the total education budget to 7% of GDP.*
3. *A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization-that is, transmission of research knowledge through various forms of university-industry partnership and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy.*
4. *Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop.*
5. *Opportunities for collaboration with the world scholarly community should be provided for both post-graduate students and faculty alike.*
6. *Tenure Track system of appointment of faculty members will be institutionalized.*
7. *ICT must be effectively leveraged 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.*
8. *Additional television channels should be dedicated to the delivery of high-quality distance education programmes.*
9. *Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad.*

10. *For promoting quality in its teaching function, universities shall collaborate to be selective in specializing in particular areas rather then each university attempting to cover the whole range of programmes.*
11. *A continuous professional development (CPD) programme shall be designed for College and university teachers. The CPD, among other things, shall include the practice of subject-wise refresher courses for college teachers; Province/Area education departments shall ensure training of college teachers in pedagogical skills an educational administration.*
12. *Universities shall develop quality assurance programmes, which include peer evaluation including foreign.*
13. *Ranking system of the universities shall be made more broad-based including parameters that directly point to the quality of learning.*
14. *Need-based scholarships programs shall be developed and instituted to enhance equitable access to higher education.*
15. *Campuses of existing universities shall be established in second and third tier cities to facilitate the spread of higher education.*
16. *Recognizing the importance of social sciences in developing better social understanding transmission of civic and cultural values and the potential to reduce conflict, universities shall pay greater attention to this area in their research function.*
17. *A broad-based education system must be developed to ensure that graduates have not only mastered their respective areas of specialization but are also able to effectively interact with people having a wide variety of background.*

18. *Universities shall introduce integrated four-year Bachelor degree programmes.*
19. *Existing standardization of libraries and library professionals shall be reviewed keeping in view latest developments in the field of medical, engineering, information technology and other fields of professional and higher education to support academic work and research.*
20. *The lectures selected through the Public Service Commission shall be required to get at least six month pre-service training/diploma in teaching methodologies, communication skills, research and assessment techniques , so as to equip them with necessary teaching skills to undertake the job.*
21. *Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated.*
22. *Accreditation councils will be established to allow accreditation of undergraduate programs in the respective disciplines for which these councils are established.*
23. *Science based education at the bachelors level, including professional degree programmes, shall contain subjects in social sciences to allow the graduates to develop a more balanced world view.*
24. *Research linked to local industry, commerce, agriculture etc, shall be encouraged to support these areas through indigenous solutions and create linkages between academia and the market.*
25. *In order to ensure adherence to minimum standards of quality by all universities/degree awarding institutions, the HEC shall develop a process for*

periodic re-assessment of various programmes offered by institutions with regard to renewal of their degree awarding status. This provision shall be applicable to both public and private sector universities.

26. *Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute.*
27. *Universities of technology should be established to produce technologists required by industry.*
28. *National Centers in areas of economic importance should be identified and strengthened to contribute and compete at an international level.*
29. *Institution of higher learning should be encouraged and supported to generate intellectual property that is duly protected.*
30. *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.*

CHAPTER III

METHODS AND PROCEDURE OF RESEARCH

This chapter explains the method and procedure employed to conduct the present research. The procedure used for sample selection, instrument formulation, data collection and data analysis are discussed as follows:

3.1 POPULATION

All the Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of public sector universities of Islamabad were treated as population of the study. The total number of public sector universities in Islamabad was 9. All the public sector universities of Islamabad were federally funded. Higher Education Commission was the funding agency for allocating public funds from the federal government to the universities.

3.2 SAMPLE

Universal sampling techniques Mertens (2010) and Yow (2005) was used and all the Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of public sector universities of Islamabad (i.e. 9 universities) were taken as sample . But only 5 universities responded positively. Therefore, sample of the study consisted of concerned Directors, Assistant Directors,

Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of 5 public sector universities of Islamabad.

3.3 RESEARCH INSTRUMENT

In order to collect the data a detailed questionnaire (Appendix-A) was developed. This questionnaire was the main instrument for data collection. The questionnaire was developed after consulting relevant literature, consisting of books, National Education Policy 2009, research journals and different websites, and in consultation with the supervisor to collect data from different universities included in the sample. It was developed keeping in view the objectives of the study and policy actions of National Education Policy 2009, by having detailed discussion with the supervisor of this research study.

The above mentioned methods helped the researcher a lot to make the statements of questionnaire clear & purposeful. The questionnaire (Appendix-A) contained a dichotomous scale which included the following two responses i.e.

- Yes
- No

It also consisted of following scale i.e.

- To a Great Extent
- To some Extent
- Not at All

The total number of items in the questionnaire were 66. Most of the items were closed form. In some items the respondents were also asked to specify the problems, other than the problems mentioned in each item regarding the implementation of higher education provisions of National Education Policy 2009.

3.4 VALIDATION OF RESEARCH INSTRUMENT

Validity refers to the characteristics of an instrument by virtue of which it measures what it is meant to measure. The research instrument was validated through senior faculty members of Education Department of International Islamic University, Islamabad. Necessary improvements were made in the questionnaire in the light of expert opinions of the senior faculty members of Education Department of International Islamic University, Islamabad. Their list appears at the end in Appendix-B.

It may be mentioned here that the senior faculty members of International Islamic University Islamabad by and large were eligible to be appointed as administrators at senior position of the university and hence fully aware of the administrative functioning of the university. Therefore, they by and large represented the higher administrative officials of the university. This fact was also applied in rest of the universities of Islamabad.

3.5 DATA COLLECTION

The data were collected through researcher's personal visits. Researcher personally visited the sample universities of the study. The data were collected from five public sector universities of Islamabad. Questionnaire was distributed to the concerned

Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of different universities. Some universities were frequently visited in order to collected data from the respondents of the study.

3.6 DATA ANALYSIS

In order to make the study meaningful, the collected data were presented in tabular form. Frequencies were used to arrive at the findings of the study. The conclusions were drawn on the basis of the findings and the recommendations were given on the basis of conclusions.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The major objectives of this study were, to analyze the current status of implementation of higher education provisions of National Education Policy 2009, to identify the problems faced by different universities in the implementation and to forecast the stochastic prediction of implementation of National Education Policy 2009. This chapter deals with the presentation and analysis of data about the prognosis of implementation of higher education provisions of National Education Policy 2009, and the data collected through questionnaire (Appendix- A).

This chapter is divided into two parts. The first part deals with general analysis and the second part deals with comparative analysis of universities regarding prognosis of implementation of higher education provisions of National Education Policy 2009. Frequencies were used in order to analyze the data. A detailed description of data analysis is given, below every table. In order to make the description more clear and meaningful graphs are also used.

PART I

GENERAL ANALYSIS

RESEARCH QUESTION NO. 1

To what extent are the different universities implementing the provisions of National Education Policy 2009, regarding higher education along the line?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

Table 4.1 Steps for Building Cutting Edge Research Capacity N= 5

Item: Steps taken by the universities for building cutting edge research capacity.	Yes	No	Total
a. Short-term Courses	4	1	5
b. Seminars	4	1	5
c. Training Abroad	3	2	5
d. Training in Country	3	2	5

Figure 4.1 Steps for Building Cutting Edge Research Capacity

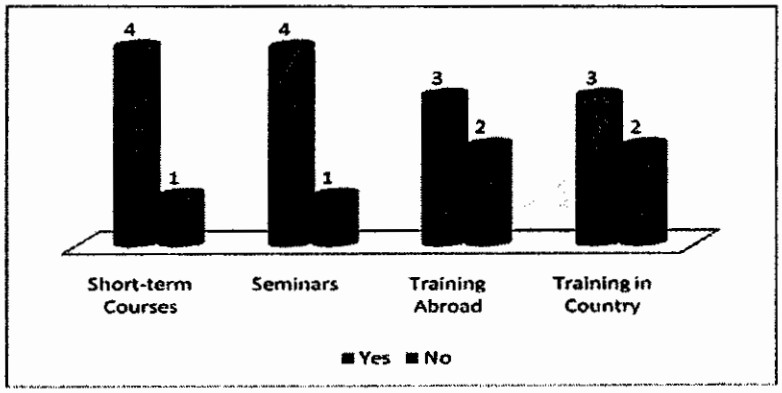

Table 4.1 and figure 4.1 show that 4 universities (i.e. 4 out of 5) conducted short-

term courses and seminars for building the capacity of their faculty members to undertake cutting edge research. One university (i.e. 1 out of 5) did not conduct short-term courses and seminars for building the capacity of their faculty members to undertake cutting edge research. Three universities (i.e. 3 out of 5) managed for the training of their faculty members abroad and within country for building the capacity to undertake cutting edge research. Two universities (i.e. 2 out of 5) did not manage training abroad and within country for building the capacity of their faculty members to undertake cutting edge research.

Table 4.2 Transmission of Research Knowledge to the Business Sector N=5

Item	Yes	No	Total
Transmission of research knowledge to the business sector by the universities.	4	1	5

Table 4.2 shows that 4 universities (i.e. 4 out of 5) transmitted research knowledge to the business sector. One (i.e. 1 out of 5) university did not transmit research knowledge to the business sector.

Table 4.3 Mechanisms for Transmitting Research Knowledge to the Business Sector N=4

Item: Mechanisms adopted by the universities for transmitting research knowledge to the business sector.	Yes	No	Total
a. University-Industry Partnership	4	-	4
b. Incubator Programme	1	3	4
c. Science Parks	-	4	4

Figure 4.2 Mechanisms for Transmitting Research Knowledge to the Business Sector

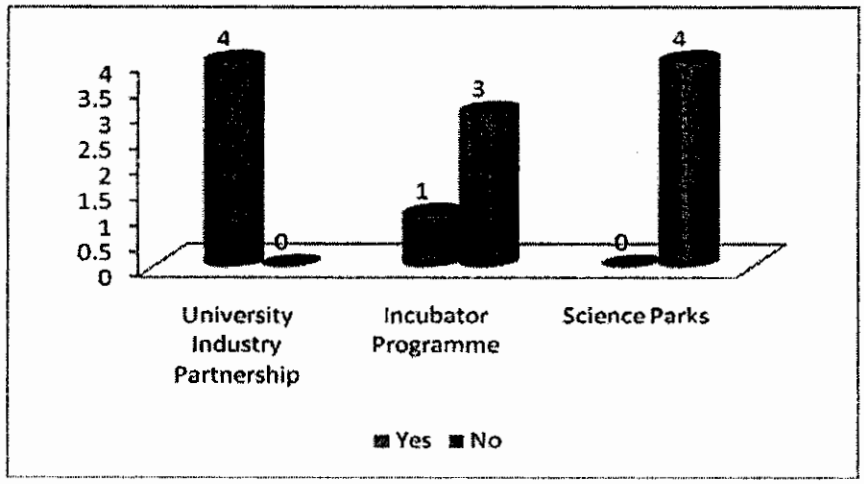

Table 4.3 and figure 4.2 show that the mechanism adopted by 4 universities (i.e. 4 out of 4) for transmitting research knowledge to the business sector was university-industry partnership. Three universities (i.e. 3 out of 4) did not develop incubator programme. Only 1 university(i.e. 1 out of 4) developed incubator programme. No university (i.e. 0 out of 4) developed science park.

POLICY ACTION NO.4

"Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

Table 4.4 Budget for Competitive Research Grants **N= 4**

Item	Yes	No	Total
Universities got budget for competitive research grants.	4	1	5

Table 4.4 shows that 4 universities (i.e. 4 out of 5) got budget for competitive research grants. One university (i.e.1 out of 5) did not get any budget for competitive research grants.

POLICY ACTION NO.5

"Opportunities for *collaboration* with the world scholarly community should be provided for both post-graduate students and faculty alike."

Table 4.5 Collaboration with the World Scholarly Community within Country N=5

Item	Yes	No	Total
Collaboration of universities with the world scholarly community in connection with post-graduate students and faculty, within country.	5	-	5

Table 4.5 shows that all the sample universities (i.e. 5 out of 5) developed collaboration with the world scholarly community in connection with the post-graduate students and faculty within country.

Table 4.6 Collaboration with the World Scholarly Community in Abroad N=5

Item	Yes	No	Total
Collaboration of universities with the world scholarly community in connection with post-graduate students and faculty, in abroad.	5	-	5

Table 4.6 shows that all the sample universities (i.e. 5 out of 5) developed collaboration with the world scholarly community in connection with the post-graduate students and faculty in abroad.

POLICY ACTION NO.6

"*Tenure Track* system of appointment of faculty members will be institutionalized."

Table 4.7 Tenure Track System N=5

Item	Yes	No	Total	%
Universities adopted Tenure Track system.	5	-	5	100

Table 4.7 shows that all the sample universities (i.e. 5 out of 5) adopted tenure track system of appointment of faculty members.

POLICY ACTION NO.7

"ICT must be effectively leveraged 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."

Table 4.8 Provision of Access to Technical and Scholarly Information Resources N=5

Item	Yes	No	Total
Universities provided access to technical and scholarly information resources to researchers and teachers.	5	-	5

Table 4.8 shows that all the sample universities (i.e. 5 out of 5) provided access to technical and scholarly information resources to researchers and teachers.

Table 4.9 Facilitation of Scholarly Communication N=5

Item	Yes	No	Total
Universities facilitated scholarly communication between researchers and teachers.	5	-	5

Table 4.9 shows that all the sample universities (i.e. 5 out of 5) facilitated scholarly communication between researchers and teachers.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

Table 4.10 Doctoral Scholarships N=5

Item	In Country			Abroad		
	Yes	No	Total	Yes	No	Total
Universities awarded doctoral scholarships.	5	-	5	5	-	5

Table 4.10 shows that all the sample universities (i.e. 5 out of 5) awarded doctoral scholarships within country and abroad.

Table 4.11 Post-Doctoral Scholarships N=5

Item	Yes	No	Total
Universities awarded post-doctoral scholarships.	3	2	5

Table 4.11 shows that 3 universities (i.e. 3 out of 5) awarded post-doctoral scholarships.

Two universities (i.e. 2 out of 5) did not award post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

Table 4.12 Quality Assurance Programme N=5

Item	Yes	No	Total
Quality assurance programme developed in universities.	4	1	5

Figure 4.3 Quality Assurance Programme

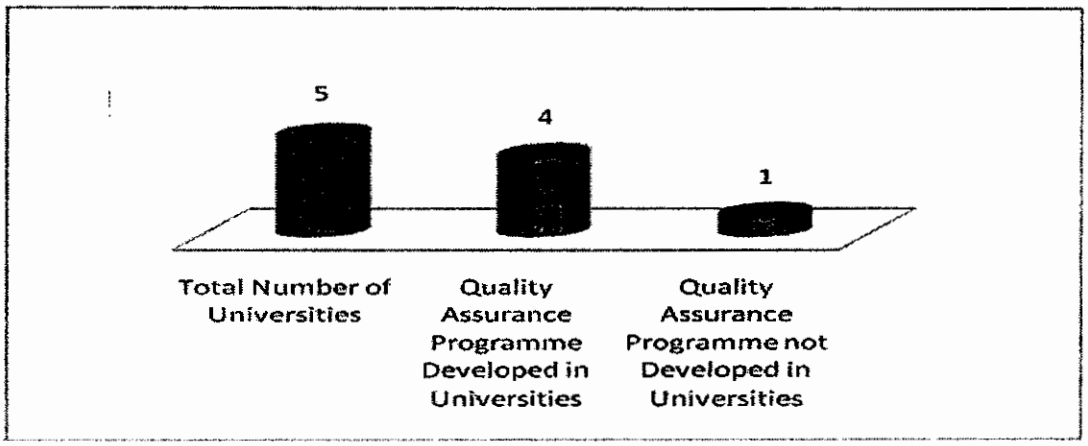

Table 4.12 and figure 4.3 show that quality assurance programme was developed in 4 universities (i.e. 4 out of 5). Quality assurance programme was not developed in 1 university (i.e. 1 out of 5).

Table 4.13 Peer Evaluation in Quality Assurance Programme **N=4**

Item	Yes	No	Total
Peer evaluation in quality assurance programme.	2	2	4

Table 4.13 shows that 2 universities (i.e. 2 out of 4) included and 2 universities (i.e. 2 out of 4) did not include peer evaluation in quality assurance programme.

Table 4.14 Foreign Expertise in Peer Evaluation **N=2**

Item	Yes	No	Total
Foreign expertise in peer evaluation.	-	2	2

Table 4.14 shows that 2 universities (i.e. 2 out of 2) did not include foreign expertise in peer evaluation.

POLICY ACTION NO.18

"Universities shall introduce integrated four-year Bachelor degree programmes"

Table 4.15 Integrated Four Year Bachelor Degree Programme **N=5**

Item	Yes	No	Total
Integrated four-year Bachelor degree programme in universities.	5	-	5

Table 4.15 shows that all the sample universities (i.e. 5 out of 5) launched integrated four- year bachelor degree programme.

POLICY ACTION NO.21

"Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated."

Table 4.16 Standards for Affiliated Colleges **N=5**

Items	Yes	No	Total
Universities affiliated the colleges.	3	2	5
Standards developed by the universities for affiliated colleges.	3	-	3
Warning to affiliated colleges on not following the standards.	3	-	3
Disaffiliation of colleges.	3	-	3

Table 4.16 shows that 3 universities (i.e. 3 out of 5) affiliated the colleges and developed standards for the affiliated colleges. These universities (i.e. 3 out of 3) warned the colleges and disaffiliated them on not following the standards.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

Table 4.17 Split-Degree Programme **N=5**

Item	Yes	No	Total
Universities developed split-degree programme in collaboration with foreign universities of good repute.	2	3	5

Table 4.17 shows that 3 universities (i.e. 3 out of 5) did not develop split-degree programme in collaboration with foreign universities of good repute. Two universities (i.e. 2 out of 5) developed split-degree programme in collaboration with foreign universities of good repute.

POLICY ACTION NO.30

"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"

Table 4.18 Modern Project Management Techniques **N=5**

Item	To a Great Extent	To Some Extent	Not At All	Total
Modern project management techniques in universities.	4	1	-	5

Figure 4.4 Modern Project Management Techniques

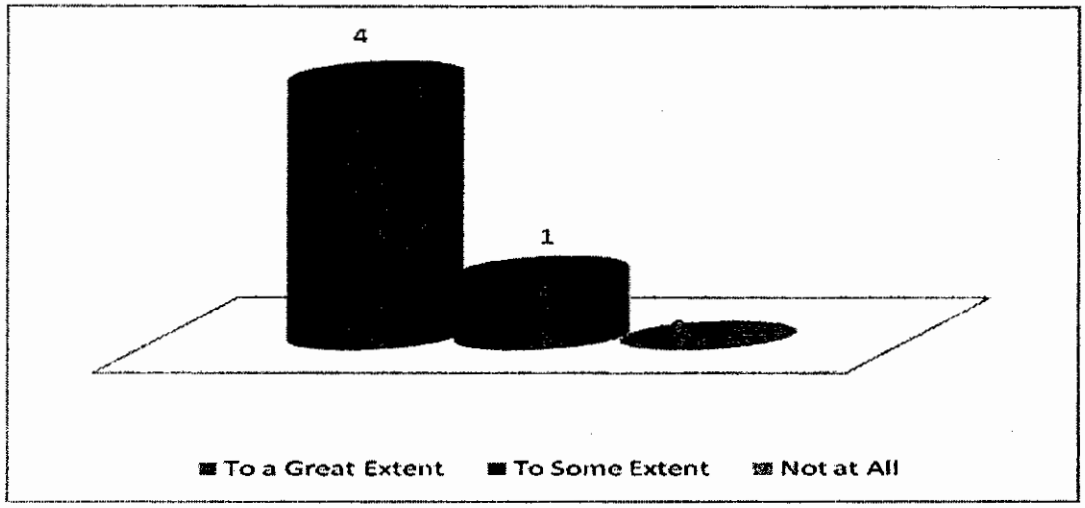

Table 4.18 and figure 4.4 show that 4 universities (i.e. 4 out of 5) adopted modern project management techniques to a great extent. One university (i.e.1 out of 5) adopted modern project management techniques to some extent.

Table 4.19 Modern Reporting Techniques **N=5**

Item	To a Great Extent	To Some Extent	Not At All	Total
Modern reporting techniques in universities.	2	3	-	5

Figure 4.5 Modern Reporting Techniques

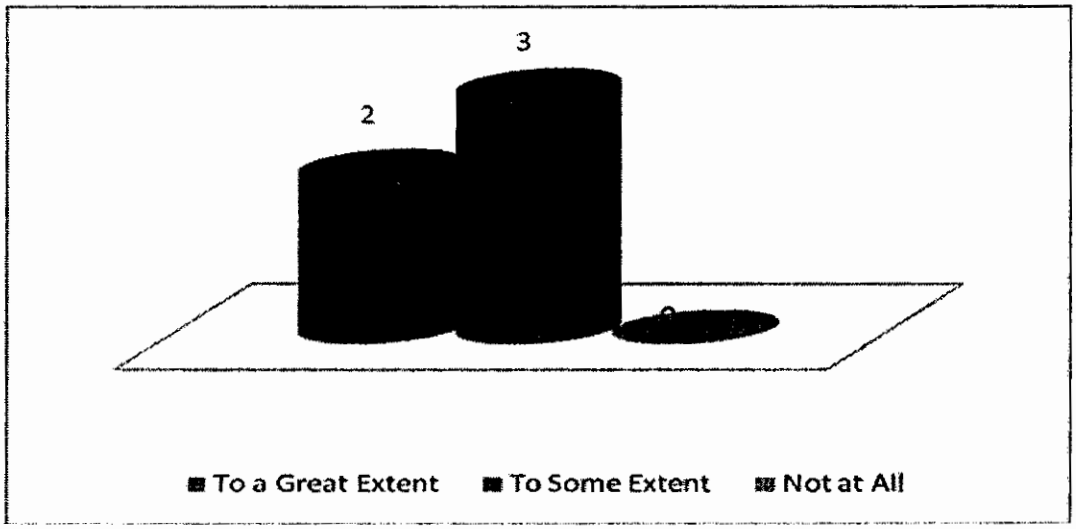

Table 4.19 and figure 4.5 show that 3 universities (i.e. 3 out of 5) adopted modern reporting techniques to some extent. Two universities (i.e. 2 out of 5) adopted modern reporting techniques to a great extent.

Table 4.20 Computerized Financial Management Systems **N=5**

Item	To a Great Extent	To Some Extent	Not At All	Total
Computerized financial management systems in universities.	4	1	-	5

Table 4.21 Problems in Developing Incubator Programme N = 3

Problems faced by the universities in developing incubator programme.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Funds	3	-	-	3
b. Lack of Awareness	1	1	1	3
c. Lack of Research Work	1	-	2	3
d. Lack of Faculty	-	2	1	3

Figure 4.7 Problems in Developing Incubator Programme

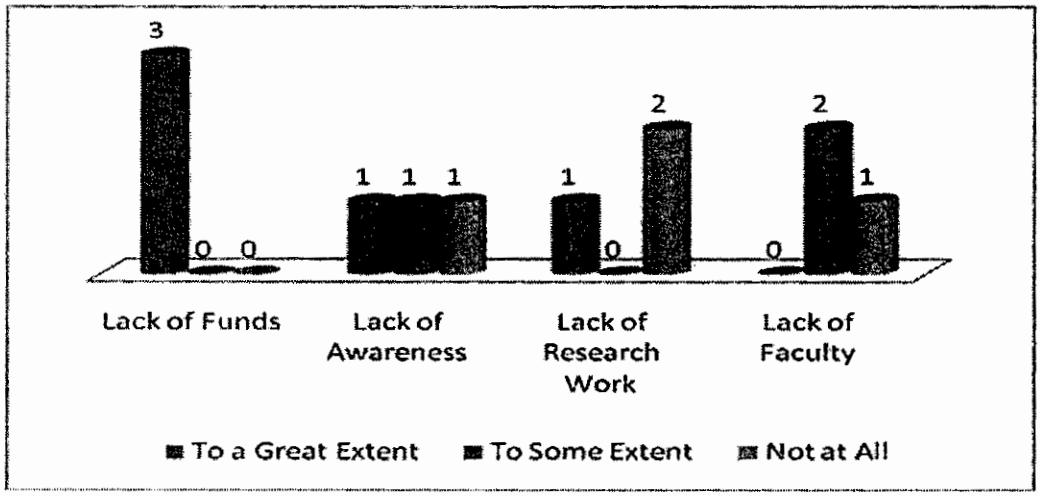

Table 4.21 and figure 4.7 show that 3 universities (i.e. 3 out of 3) faced the problem of lack of funds to a great extent in developing incubator programme. Two universities (i.e. 2 out of 3) faced the problem of lack of faculty to some extent in developing incubator programme. Two universities (i.e. 2 out of 3) did not face the problem of lack of research work at all in developing incubator programme. One university (i.e. 1 out of 3) faced the problems of lack of awareness and lack of research work to a great extent in developing incubator programme. One university (i.e.1 out of 3) faced the problem of lack of awareness to some extent in developing incubator programme. One university (i.e.1 out of 3) did not face the problems of lack of awareness and lack of faculty at all in developing incubator programme.

Table 4.22 Problems in Developing Science Parks N=4

Problems faced by the universities in developing science parks.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Funds	4	-	-	4
b. Lack of Infrastructure	2	2	-	4
c. Lack of Innovation	1	-	3	4
d. Lack of Faculty	-	2	2	4

Figure 4.8 Problems in Developing Science Parks

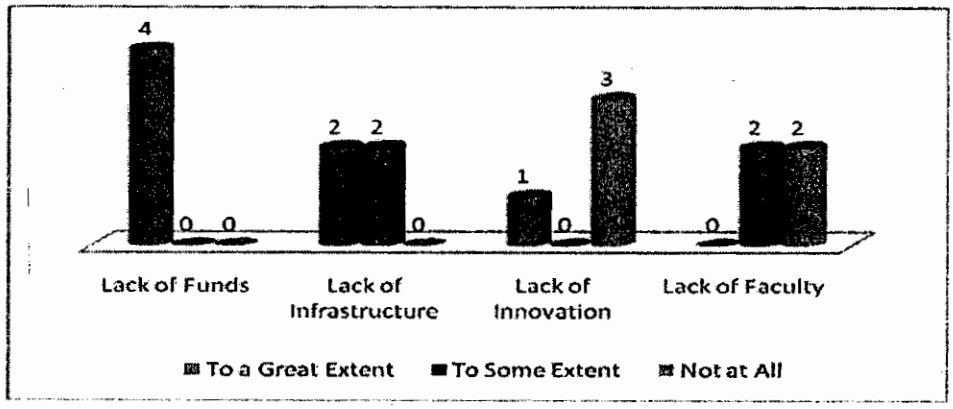

Table 4.22 and figure 4.8 show that 4 universities (i.e. 4 out of 4) faced the problem of lack of funds to a great extent in developing science parks. Three universities (i.e. 3 out of 4) did not face the problem of lack of innovation at all in developing science parks. Two universities (i.e. 2 out of 4) faced the problem of lack of infrastructure to a great extent in developing science parks. Two universities (i.e. 2 out of 4) faced the problem of lack of infrastructure and lack of faculty to some extent in developing science parks. Two universities (i.e. 2 out of 4) did not face the problem of lack of faculty at all in developing science parks. One university (i.e.1 out of 4) faced the problem of lack of innovation to a great extent in developing science parks.

Table 4.23 Problems in Transmitting Research Knowledge to the Business Sector N=1

Problems faced by the university in transmitting research knowledge to the business sector.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Funds	1	-	-	1
b. Lack of Infrastructure	1	-	-	1
c. Lack of Innovation	1	-	-	1
d. Untrained Staff	1	-	-	1

Table 4.23 shows that only one university faced the problems of lack of funds, lack of infrastructure, lack of innovation and untrained staff to a great extent in transmitting research knowledge to the business sector.

POLICY ACTION NO.4

"Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

Table 4.24 Problems in Making the Research Grants Available N=1

Problems faced by the university in making the research grants available.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of identification of Sponsors	1	-	-	1
b. Lack of mutual meetings with the agencies	1	-	-	1
c. Lack of generate on resources through Fee etc	1	-	-	1

Table 4.24 shows that only one university faced the problem of lack of identification of sponsors, lack of mutual meetings with the agencies and lack of generate on resources through fee to a great extent in making the research grants available.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

Table 4.25 Problems in Awarding Post-Doctoral Scholarships N=2

Problems faced by the universities in awarding post-doctoral scholarships.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Funds	2	-	-	2
b. Lack of Faculty	1	1	-	2
c. Visa Problems	1	1	-	2
d. University Policy	-	-	2	2

Figure 4.9 Problems in Awarding Post-Doctoral Scholarships

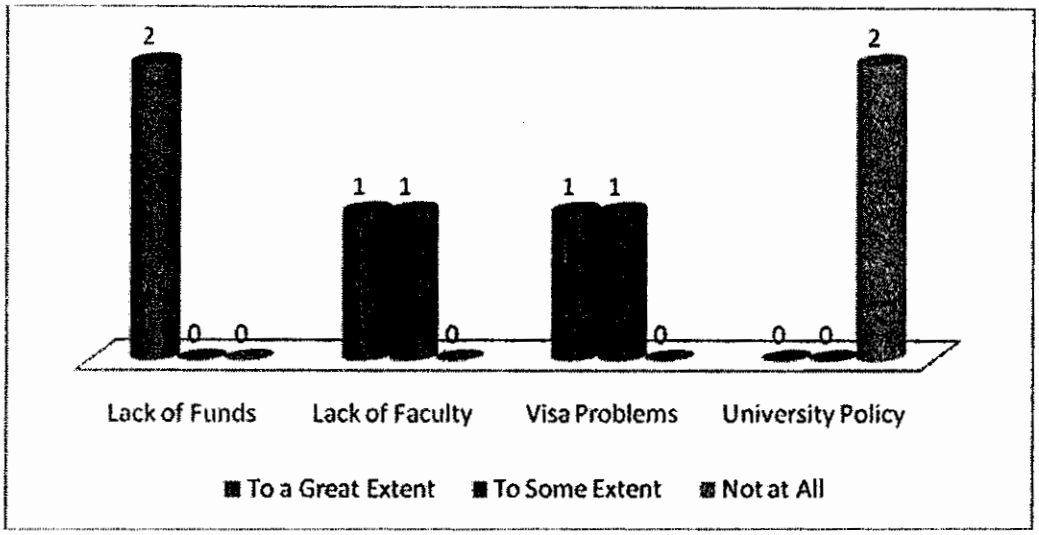

Table 4.25 and figure 4.9 show that 2 universities (i.e. 2 out of 2) faced the problem of lack of funds to a great extent in awarding post-doctoral scholarships. Two universities (i.e. 2 out of 2) did not face the problem of university policy at all in awarding post-doctoral scholarships. One university (i.e. 1 out of 2) faced the problems of lack of faculty and visa problems to a great extent in awarding post-doctoral scholarships. One

university (i.e.1 out of 2) faced the problems of lack of faculty and visa problem to some extent in awarding post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

Table 4.26 Problems in Including Peer Evaluation **N=2**

Problems, if the universities did not include peer evaluation in quality assurance programme..				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Funds	-	2	-	2
b. Local Politics	2	-	-	2
c. Mutual Jealousy	2	-	-	2
d. Personal Biases	2	-	-	2
e. Any other (Please Specify) Low Motivation Level of Faculty Members	2	-	-	2

Figure 4.10 Problems in Including Peer Evaluation

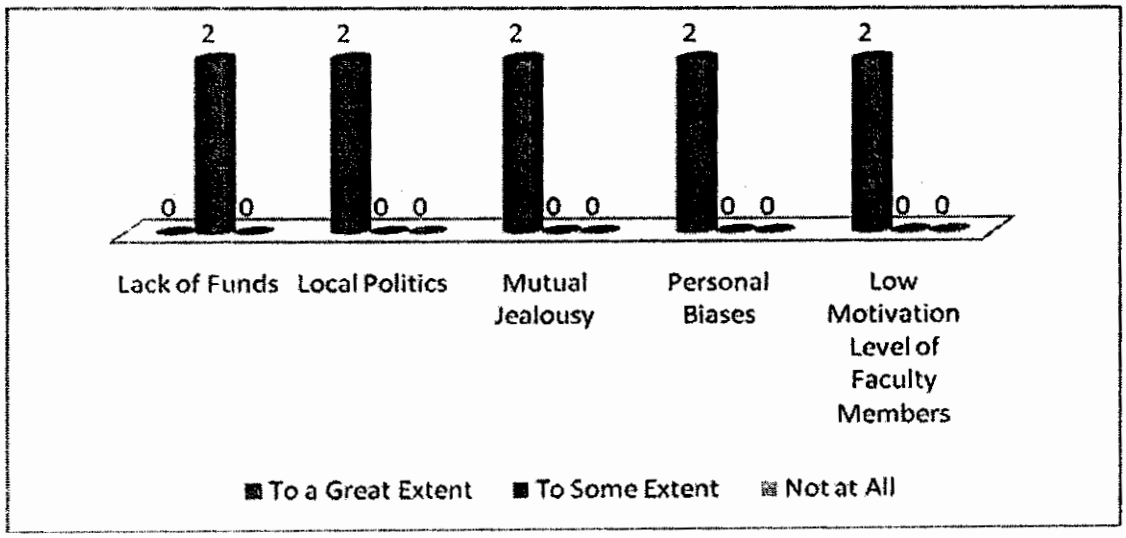

Table 4.26 and figure 4.10 show that 2 universities (i.e. 2 out of 2) faced the problems of

local politics, mutual jealousy, personal biases and low motivation level of faculty members to a great extent in including peer evaluation in quality assurance programme. Two universities (i.e. 2 out of 2) faced the problem of lack of funds to some extent in including peer evaluation in quality assurance programme.

Table 4.27 Problems in Including Foreign Expertise in Peer Evaluation N=2

Problems, if the universities did not include foreign expertise in peer evaluation.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Linkages	-	1	1	2
b. Non-Availability of Experts List	-	1	1	2
c. Lack of Funds	2	-	-	2
d. Low Motivation Level of Faculty Members	2	-	-	2
e. Any other(Please Specify) Poor Management	2	-	-	2

Figure 4.11 Problems in Including Foreign Expertise in Peer Evaluation

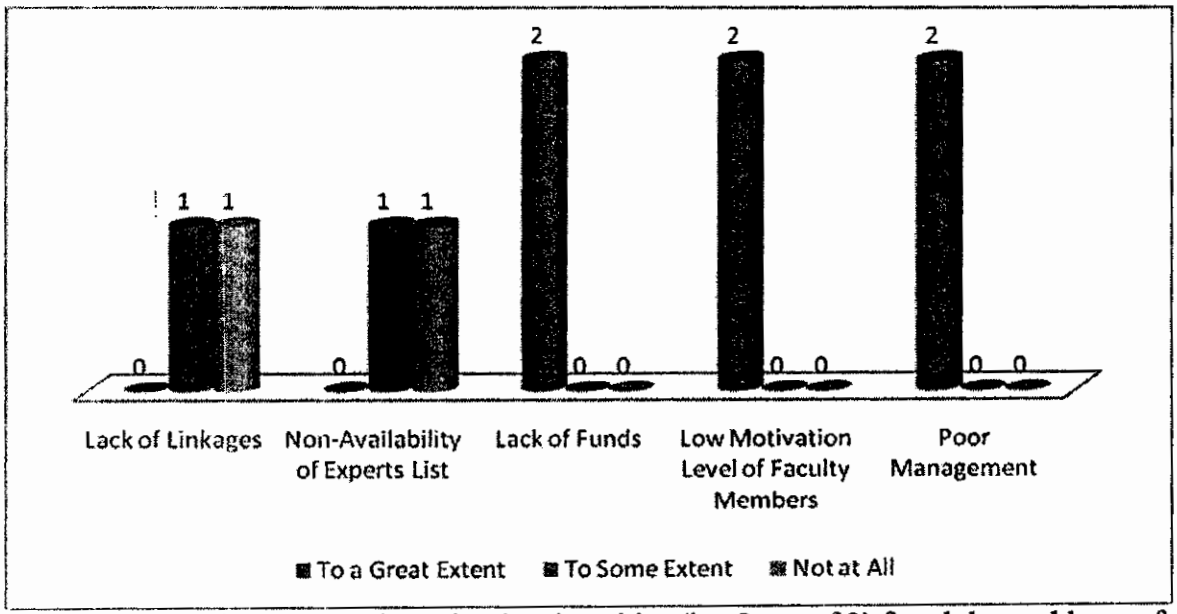

Table 4.27 and figure 4.11 show that 2 universities (i.e. 2 out of 2) faced the problems of

lack of funds, low motivation level of faculty members and poor management to a great extent in including foreign expertise in peer evaluation. One university (i.e. 1 out of 2) faced the problems of lack of linkages and non-availability of experts list to some extent in including foreign expertise in peer evaluation. One university (i.e.1 out of 2) did not face the problems of lack of linkages and non-availability of experts list at all in including foreign expertise in peer evaluation.

Table 4.28 Problems in Developing Quality Assurance Programme N=1

Problems, if the quality assurance programme was not developed.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Funds	1	-	-	1
b. Administrative Problems	1	-		1
c. Low Motivation Level of Faculty Members	1	-	-	1
d. Resistance to Change	1	-	-	1

Table 4.28 shows that only one university faced the problems of lack of funds, administrative problems, low motivation level of faculty members and resistance to change to a great extent in developing quality assurance programme.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

Table 4.29 Problems in Developing Split-Degree Programme N=3

Problems faced by the universities in developing split-degree programme.				
Problems	**To a Great Extent**	**To Some Extent**	**Not At All**	**Total**
a. Lack of Funds	2	-	1	3
b. Lack of Relevant Information	2	1	-	3
c. Low Motivation (i) Faculty (ii) Students	1	-	2	3
d. Eligibility Criteria	1	2	-	3
e. Any other (Please Specify) University Policy	1	-	2	3

Figure 4.12 Problems in Developing Split-Degree Programme

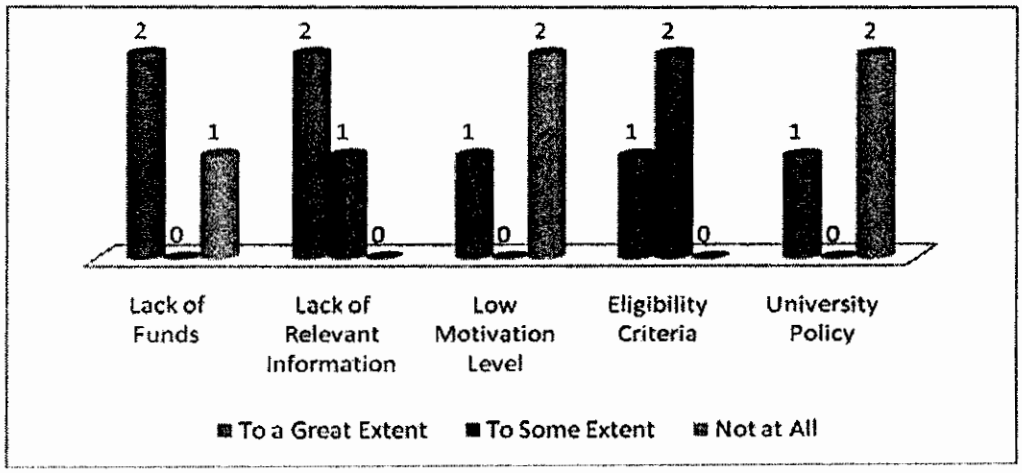

Table 4.29 and figure 4.12 show that 2 universities (i.e. 2 out of 3) faced the problems of lack of funds and lack of relevant information to a great extent in developing split-degree programme in collaboration with the foreign universities of good repute. Two universities (i.e. 2 out of 3) faced the problem of eligibility criteria to some extent in developing split-

degree programme. Two universities (i.e. 2 out of 3) did not face the problems of low motivation of faculty and students, and university policy at all in developing split-degree programme. One university (i.e. 1 out of 3) faced the problems of low motivation of faculty and students, eligibility criteria and university policy to a great extent in developing split- degree programme. One university (i.e. 1 out of 3) faced the problem of lack of relevant information to some extent in developing split-degree programme. One university (i.e. 1 out of 3) did not face the problem of lack of funds at all in developing split-degree programme.

RESEARCH QUESTION NO.3

What are the prospects of implementation of higher education provisions of National Education Policy 2009 by the year 2015, which are not currently being implemented by the universities?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

Table 4.30 Stochastic prediction of Implementation of Developing Incubator Programme by the Year 2015 N=3

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	1	-	-	-	-	2	-	-	-	-	-

Table 4.30 shows that the stochastic prediction of implementation of developing incubator programme in most of the universities (i.e. 2 out of 3) was 50% by the year

2015. One university had no stochastic prediction of implementation of developing incubator programme by the year 2015.

Table 4.31 Stochastic prediction of Implementation of Developing Science Parks by the Year 2015 N=4

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	1	-	-	-	-	2	-	1	-	-	-

Table 4.31 shows that in some universities (i.e. 2 out of 4) there was 50% stochastic prediction of implementation of developing science parks by the year 2015. In 1 university there was no stochastic prediction and in the other university there was 70% stochastic prediction of implementation of developing science parks by the year 2015.

Table 4.32 Stochastic prediction of Implementation for Transmitting Research Knowledge to the Business Sector by the Year 2015 N=1

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	-	1	-	-	-	-	-	-	-	-	-

Table 4.32 shows that the stochastic prediction of implementation for transmitting research knowledge to the business sector for just one university was 10% by the year 2015.

POLICY ACTION NO. 4

"Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

Table 4.33 Stochastic prediction of Implementation for the Availability of Research Grants by the Year 2015 N=1

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	-	1	-	-	-	-	-	-	-	-	-

Table 4.33 shows that there was only 10% stochastic prediction of implementation in one university for the availability of research grants by the year 2015.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

Table 4.34 Stochastic prediction of Implementation of Post-Doctoral Scholarships by the Year 2015 N=2

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	-	1	-	-	-	-	-	1	-	-	-

Table 4.34 shows that the stochastic prediction of implementation of post-doctoral scholarships in one university was 70% and in the other university, there was 10% stochastic prediction of implementation of post-doctoral scholarships by the year 2015.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

Table 4.35 Stochastic prediction of Implementation of Peer Evaluation by the Year 2015 N=2

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	-	-	1	-	-	-	-	-	1	-	-

Table 4.35 shows that in one university the stochastic prediction of implementation of including peer evaluation in quality assurance programme was 20% by the year 2015. In the other university there was 80% stochastic prediction of implementation of including peer evaluation in quality assurance programme by the year 2015.

Table 4.36 Stochastic prediction of Implementation of Including Foreign Expertise in Peer Evaluation by the Year 2015 N=2

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	-	-	-	-	-	1	-	-	1	-	-

Table 4.36 shows that in one university there was 80% stochastic prediction and in the other university there was 50% stochastic prediction of implementation of including foreign expertise in peer evaluation by the year 2015.

Table 4.37 Stochastic prediction of Implementation of Quality Assurance Programme by the Year 2015 N=1

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	-	-	-	-	-	1	-	-	-	-	-

Table 4.37 shows that there was 50% stochastic prediction of implementation of quality assurance programme in the university by the year 2015.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

Table 4.38 Stochastic prediction of Implementation of Split-Degree Programme by the Year 2015 N=3

Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	-	1	-	-	-	-	2	-	-	-	-

Table 4.38 shows that there was 60% stochastic prediction of implementation of split-degree programme in most of the universities (i.e. 2 out of 3) by the year 2015. There was 10% stochastic prediction of implementation of split-degree programme in just one university by the year 2015.

PART II

COMPARITIVE ANALYSIS

RESEARCH QUESTION NO. 4

How do different universities stand relatively in terms of their existing capacity to implement higher education provisions of National Education Policy 2009?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

Table 4.39 University-Wise Break-Up of Data Regarding Steps for Building Cutting Edge Research Capacity N= 5

Universities	Short-term Courses		Seminars		Training Abroad		Training in Country	
	Yes	No	Yes	No	Yes	No	Yes	No
AIOU	√	-	√	-	√	-	√	-
AU	√	-	-	√	-	√	-	√
IIUI	√	-	√	-	√	-	√	-
NDU	-	√	√	-	-	√	-	√
QAU	√	-	√	-	√	-	√	-
Total	4	1	4	1	3	2	3	2

Table 4.39 shows that AIOU conducted short-term courses, seminars, training in abroad and within country for building the capacity of faculty members to undertake cutting edge research.

AU conducted short-term courses for building the capacity of faculty members to undertake cutting edge research. Seminars, training in abroad and within country were not managed by AU.

IIUI conducted short-term courses, seminars, training in abroad and within country for building the capacity of faculty members to undertake cutting edge research.

NDU conducted only seminars for building the capacity of faculty members to undertake cutting research. Short-term courses, training in abroad and within country were not managed by the university.

QAU conducted short-term courses, seminars, training in abroad and within country for building the capacity of faculty members to undertake cutting edge research.

Table 4.40 University-Wise Break-Up of Data Regarding Transmission of Research Knowledge to the Business Sector N=5

Item: Transmission of research knowledge to the business sector by the universities.			
Universities	**Yes**	**No**	**Total**
AIOU	√	-	5
AU	√	-	
IIUI	√	-	
NDU	-	√	
QAU	√	-	
Total	4	1	5

Table 4.40 shows that AIOU, AU, IIUI and QAU transmitted research knowledge to the business sector. NDU did not transmit research knowledge to the business sector.

Table 4.41 University-Wise Break-Up of Data Regarding Mechanisms for Transmitting Research Knowledge to the Business Sector N=4

Item: Mechanisms adopted for transmitting research knowledge to the business sector.						
Universities	**University Industry Partnership**		**Incubator Programme**		**Science Parks**	
	Yes	**No**	**Yes**	**No**	**Yes**	**No**
AIOU	√	-	-	√	-	√
AU	√	-	-	√	-	√
IIUI	√	-	√	-	-	√
QAU	√	-	-	√	-	√
Total	4	-	1	3	-	4

Table 4.41 shows that AIOU developed partnership with the industry. Incubator

programme and science parks were not developed by AIOU.

AU developed partnership with the industry. Incubator programme and science parks were not developed by AU.

IIUI developed partnership with the industry and incubator programme. Science park was not developed by IIUI.

QAU developed partnership with the industry. Incubator programme and science parks were not developed by QAU.

POLICY ACTION NO.4

"Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

Table 4.42 University-Wise Break-Up of Data Regarding Budget for Competitive Research Grants N=5

Item: Universities got budget for competitive research grants.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	-	√
QAU	√	
Total	4	1

Table 4.27 shows that AIOU, AU, IIUI and QAU got budget for competitive research grants. NDU did not get any budget for competitive research grants.

POLICY ACTION NO.5

"Opportunities for *collaboration* with the world scholarly community should be provided for both post-graduate students and faculty alike."

Table 4.43 University-Wise Break-Up of Data Regarding Collaboration with the World Scholarly Community within Country N=5

Item: Collaboration of universities with the world scholarly community in connection with post-graduate students and faculty, within country.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	√	-
QAU	√	-
Total	5	-

Table 4.43 shows that AIOU, AU, IIUI, NDU and QAU developed collaboration with the world scholarly community in connection with the post-graduate students and faculty within country.

Table 4.44 University-Wise Break-Up of Data Regarding Collaboration with the World Scholarly Community in Abroad N=5

Item: Collaboration of universities with the world scholarly community in connection with post-graduate students and faculty, in abroad.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	√	-
QAU	√	-
Total	5	-

Table 4.44 shows that AIOU, AU, IIUI, NDU and QAU developed collaboration with the world scholarly community in connection with the post-graduate students and faculty in abroad.

POLICY ACTION NO.6

"*Tenure Track* system of appointment of faculty members will be institutionalized."

Table 4.45 University-Wise Break-Up of Data Regarding Tenure Track System N=5

Item: Universities adopted Tenure Track system.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	√	-
QAU	√	-
Total	5	-

Table 4.45 shows that AIOU, AU, IIUI, NDU and QAU adopted tenure track system of appointment of faculty members.

POLICY ACTION NO.7

"ICT must be effectively leveraged 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."

Table 4.46 University-Wise Break-Up of Data Regarding Provision of Access to Technical and Scholarly Information Resources N=5

Item: Universities provided access to technical and scholarly information resources to researchers and teachers.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	√	-
QAU	√	-
Total	5	-

Table 4.46 shows that AIOU, AU, IIUI, NDU and QAU provided access to technical and scholarly information resources to researchers and teachers.

Table 4.47 University-Wise Break-Up of Data Regarding Facilitation of Scholarly Communication N=5

Item: Universities facilitated scholarly communication between researchers and teachers.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	√	-
QAU	√	-
Total	5	-

Table 4.47 shows that AIOU, AU, IIUI, NDU and QAU facilitated scholarly communication between researchers and teachers.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

Table 4.48 University-Wise Break-Up of Data Regarding Doctoral Scholarships N=5

Item: Universities awarded doctoral scholarships.				
Universities	**In Country**		**Abroad**	
	Yes	**No**	**Yes**	**No**
AIOU	√	-	√	-
AU	√	-	√	-
IIUI	√	-	√	-
NDU	√	-	√	-
QAU	√	-	√	-
Total	5	-	5	-

Table 4.48 shows that AIOU, AU, IIUI, NDU and QAU awarded doctoral scholarships within country and abroad.

Table 4.49 University-Wise Break-Up of Data Regarding Post-Doctoral Scholarships N=5

Item: Universities awarded post-doctoral scholarships.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	-	√
QAU	-	√
Total	3	2

Table 4.49 shows that AIOU, AU and IIUI awarded post-doctoral scholarships. NDU and QAU did not award post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

Table 4.50 University-Wise Break-Up of Data Regarding Quality Assurance Programme N=5

Item: Quality assurance programme developed in universities.		
Universities	**Yes**	**No**
AIOU	√	-
AU	-	√
IIUI	√	-
NDU	√	-
QAU	√	-
Total	4	1

Table 4.50 shows that quality assurance programme was developed in AIOU, IIUI, NDU and QAU. Quality assurance programme was not developed in AU.

Table 4.51 University-Wise Break-Up of Data Regarding Peer Evaluation in Quality Assurance Programme N=4

Item: Peer evaluation in quality assurance programme.		
Universities	**Yes**	**No**
AIOU	√	-
IIUI	√	-
NDU	-	√
QAU	-	√
Total	2	2

Table 4.51 shows that AIOU and IIUI included peer evaluation in quality assurance programme. NDU and QAU did not include peer evaluation in quality assurance programme.

Table 4.52 University-Wise Break-Up of Data Regarding Foreign Expertise in Peer Evaluation N=2

Item: Foreign expertise in peer evaluation.		
Universities	**Yes**	**No**
AIOU	-	√
IIUI	-	√
Total	-	2

Table 4.52 shows that AIOU and IIUI did not include foreign expertise in peer evaluation.

POLICY ACTION NO.18

"Universities shall introduce integrated four-year Bachelor degree programmes"

Table 4.53 University-Wise Break-Up of Data Regarding Integrated Four Year Bachelor Degree Programme N=5

Item: Integrated four-year Bachelor degree programme in universities.		
Universities	**Yes**	**No**
AIOU	√	-
AU	√	-
IIUI	√	-
NDU	√	-
QAU	√	-
Total	5	-

Table 4.53 shows that AIOU, AU, IIUI, NDU and QAU launched integrated four-year bachelor degree programme.

POLICY ACTION NO.21

"Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated."

Table 4.54 University-Wise Break-Up of Data Regarding Universities Affiliated the Colleges N=5

Item: Universities affiliated the colleges.		
Universities	**Yes**	**No**
AIOU	-	√
AU	√	-
IIUI	-	√
NDU	√	-
QAU	√	-
Total	3	2

Table 4.54 shows that AIOU and IIUI did not affiliate the colleges. AU, NDU and QAU affiliated the colleges.

Table 4.54(a) University-Wise Break-Up of Data Regarding Standards for Affiliated Colleges N=3

Item: Standards developed by the universities for affiliated colleges.		
Universities	**Yes**	**No**
AU	√	-
NDU	√	-
QAU	√	-
Total	3	-

Table 4.54(a) shows that AU, NDU and QAU developed standards for affiliated colleges.

Table 4.54(b) University-Wise Break-Up of Data Regarding Warning to Affiliated Colleges N=3

Item: Warning to affiliated colleges on not following the standards.		
Universities	**Yes**	**No**
AU	√	-
NDU	√	-
QAU	√	-
Total	3	-

Table 4.54(b) shows that AU, NDU and QAU warned the colleges affiliated with their universities on not following the standards.

Table 4.54(c) University-Wise Break-Up of Data Regarding Disaffiliation of Colleges
N=3

Item: Disaffiliation of colleges.		
Universities	**Yes**	**No**
AU	√	-
NDU	√	-
QAU	√	-
Total	3	-

Table 4.54(c) shows that AU, NDU and QAU disaffiliated the colleges on not following the standards.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

Table 4.55 University-Wise Break-Up of Data Regarding Split-Degree Programme
N=5

Item: Universities developed split-degree programme in collaboration with foreign universities of good repute.		
Universities	**Yes**	**No**
AIOU	√	-
AU	-	√
IIUI	√	-
NDU	-	√
QAU	-	√
Total	2	3

Table 4.55 shows that AIOU and IIUI developed split-degree programme in collaboration with foreign universities of good repute.

AU, NDU and QAU did not develop split-degree programme in collaboration with foreign universities of good repute.

POLICY ACTION NO.30

"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"

Table 4.56 University-Wise Break-Up of Data Regarding Modern Project Management Techniques N=5

Item: Modern project management techniques in universities.			
Universities	**To a Great Extent**	**To Some Extent**	**Not at All**
AIOU	√	-	-
AU	√	-	-
IIUI	√	-	-
NDU	-	√	-
QAU	√	-	-
Total	4	1	-

Table 4.56 shows that AIOU, AU, IIUI and QAU adopted modern project management techniques to a great extent. NDU adopted modern project management techniques to some extent.

Table 4.57 University-Wise Break-Up of Data Regarding Modern Reporting Techniques N=5

Item: Modern reporting techniques in universities.			
Universities	**To a Great Extent**	**To Some Extent**	**Not at All**
AIOU	√	-	-
AU	-	√	-
IIUI	-	√	-
NDU	-	√	-
QAU	√	-	-
Total	2	3	-

Table 4.57 shows that AIOU and QAU adopted modern reporting techniques to a great extent. AU, IIUI and NDU adopted modern reporting techniques to some extent.

Table 4.58 University-Wise Break-Up of Data Regarding Computerized Financial Management System N=5

Item: Computerized financial management systems in universities.			
Universities	**To a Great Extent**	**To Some Extent**	**Not at All**
AIOU	√	-	-
AU	√	-	-
IIUI	√	-	-
NDU	-	√	-
QAU	√	-	-
Total	4	1	-

Table 4.58 shows that AIOU, AU, IIUI and QAU adopted computerized financial management systems to a great extent. NDU adopted computerized financial management systems to some extent.

RESEARCH QUESTION NO. 5

What are the different adverse factors affecting the implementation of higher education provisions of National Education Policy 2009, relatively in the sample universities?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process
of the economy."

Table 4.59 University-Wise Break-Up of Data Regarding Problems in Developing Incubator Programme N = 3

Item: Problems faced by the universities in developing incubator programme.												
	a. Lack of Funds			**b. Lack of Awareness.**			**c. Lack of Research Work.**			**d. Lack of Faculty**		
Universities	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**
AIOU	√	-	-	-	-	√	-	-	√	-	-	√
AU	√	-	-	√	-	-	√	-	-	-	√	-
QAU	√	-	-	-	√	-	-	-	√	-	√	-
Total	3	-	-	1	1	-	1	-	2	1	2	1

Table 4.59 shows that AIOU faced the problems of lack of funds to a great extent in developing incubator programme. Lack of awareness, lack of research work and lack of faculty were not the problems at all for the university in developing incubator programme.

AU faced the problems of lack of funds, lack of awareness and lack of research work to a great extent in developing incubator programme. Lack of faculty was the problem to some extent for the university in developing incubator programme.

QAU faced the problem of lack of funds to a great extent in developing incubator programme. Lack of awareness and lack of faculty were the problems to some extent for the university in developing incubator programme. Lack of research work was not a problem at all for QAU in developing incubator programme.

Table 4.60 University-Wise Break-Up of Data Regarding Problems in Developing Science Parks N=4

Item: Problems faced by the universities in developing science parks.												
	a. Lack of Funds			**b. Lack of Infrastructure**			**c. Lack of Innovation**			**d. Lack of Faculty**		
Universities	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**
AIOU	√	-	-	√	-	-	-	-	√	-	-	√
AU	√	-	-	√	-	-	√	-	-	-	√	-
IIUI	√	-	-	-	√	-	-	-	√	-	-	√
QAU	√	-	-	-	√	-	-	-	√	-	√	-
Total	4	-	-	2	2	-	1	-	3	-	2	2

Table 4.60 shows that AIOU faced the problems of lack of funds and lack of infrastructure to a great extent in developing science parks. Lack of innovation and lack of faculty were not the problems at all for AIOU in developing science parks.

AU faced the problems of lack of funds, lack of infrastructure and lack of innovation to a great extent in developing science parks. Lack of faculty was a problem to some extent for the university in developing science parks.

IIUI faced the problem of lack of funds to a great extent in developing science parks. Lack of infrastructure was a problem to some extent for the university in developing science parks. IIUI did not face the problems of lack of innovation and lack of faculty at all in developing science parks.

QAU faced the problem of lack of funds to a great extent in developing science parks. Lack of infrastructure and lack of faculty were the problems to some extent for the university in developing science parks. QAU did not face the problem of lack of innovation at all in developing science parks.

Table 4.61 University-Wise Break-Up of Data Regarding Problems in Transmitting Research Knowledge to the Business Sector N=1

Item: Problems in transmitting research knowledge to the business sector.

University	Problems	To a Great Extent	To Some Extent	Not at All
NDU	a. Lack of Funds	√	-	-
	b. Lack of Infrastructure	√	-	-
	c. Lack of Innovation	√	-	-
	d. Untrained Staff	√	-	-

Table 4.61 shows that NDU faced the problems of lack of funds, lack of infrastructure, lack of innovation and untrained staff to a great extent in transmitting research knowledge to the business sector.

POLICY ACTION NO.4

"Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

Table 4.62 University-Wise Break-Up of Data Regarding Problems in Making the Research Grants Available N=1

Item: Problems in making the research grants available.				
University	**Problems**	**To a Great Extent**	**To Some Extent**	**Not at All**
NDU	a. Lack of identification of Sponsors	1	-	-
	b. Lack of Mutual Meetings with the Agencies	1	-	-
	c. Lack of Generate on Resources through Fee etc	1	-	-

Table 4.62 shows that NDU faced the problems of lack of identification of sponsors, lack of mutual meetings with the agencies and lack of generate on resources through fee etc to a great extent in making the research grants available.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

Table 4.63 University-Wise Break-Up of Data Regarding Problems in Awarding Post- Doctoral Scholarships N=2

Item: Problems faced by the universities in awarding post-doctoral scholarships.												
Universities	**a. Lack of Funds**			**b. Lack of Faculty**			**c. Visa Problems**			**d. University Policy**		
	To a Great Extent	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**
NDU	√	-	-	√	-	-	√	-	-	-	-	√
QAU	√	-	-	-	√	-	-	√	-	-	-	√
Total	2	-	-	1	1	-	1	1	-	-	-	2

Table 4.63 shows that NDU faced the problems of lack of funds, lack of faculty and visa problems to a great extent in awarding post-doctoral scholarships. University policy was not a problem at all for NDU in awarding post-doctoral scholarships.

QAU faced the problem of lack of funds to a great extent. Lack of faculty and visa problems were faced by the university to some extent in awarding post-doctoral scholarships. University policy was not a problem at all for QAU in awarding post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

Table 4.64 University-Wise Break-Up of Data Regarding Problems in Including Peer Evaluation **N=2**

Item: Problems, if peer evaluation was not included in quality assurance programme..															
Universities	**a. Lack of Funds**			**b. Local politics**			**c. Mutual Jealousy**			**d. Personal Biases**			**e. Low Motivation Level of Faculty Members**		
	To a Great Extent	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**
NDU	-	√	-	√	-	-	√	-	-	√	-	-	√	-	-
QAU	-	√	-	√	-	-	√	-	-	√	-	-	√	-	-
Total	-	2	-	2	-	-	2	-	-	2	-	-	2	-	-

Table 4.64 shows that NDU and QAU faced the problem of lack of funds to some extent in including peer evaluation in quality assurance programme. Local politics, mutual jealousy, personal biases and low motivation level of faculty members were faced by NDU and QAU to a great extent in including peer evaluation in quality assurance programme.

Table 4.65 University-Wise Break-Up of Data Regarding Problems in Including Foreign Expertise in Peer Evaluation
N=2

Item: Problems, if the universities did not include foreign expertise in peer evaluation.															
Universities	**a. Lack of Linkages**			**b. Non-availability of Experts List**			**c. Lack of Funds**			**d. Low Motivation Level of Faculty Members**			**e. Poor Management**		
	To a Great Extent	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**	**To a Great Extent**	**To Some Extent**	**Not at All**
AIOU	-	-	√	-	-	√	√	-	-	√	-	-	√	-	-
IIUI	-	√	-	-	√	-	√	-	-	√	-	-	√	-	-
Total	-	1	1	-	1	1	2	-	-	2	-	-	2	-	-

Table 4.65 shows that AIOU faced the problems of lack of funds, low motivation level of faculty members and poor management to a great extent in including foreign expertise in peer evaluation. AIOU did not face the problems of lack of linkages and non-availability of experts list at all in including foreign expertise in peer evaluation.

IIUI faced the problems of lack of funds, low motivation level of faculty members and poor management to a great extent in including foreign expertise in peer evaluation. Lack of linkages and non-availability of experts list were faced by the university to some extent in including foreign expertise in peer evaluation.

Table 4.66 University-Wise Break-Up of Data Regarding Problems in Developing Quality Assurance Programme N=1

Item: Problems faced by the universities in developing quality assurance programme.					
University	**Problems**	**To a Great Extent**	**To Some Extent**	**Not at All**	**Total**
AU	a. Lack of Funds	√	-	-	1
	b.Administrative Problems	√	-	-	1
	c. Low Motivation Level of Faculty Members	√	-	-	1
	d. Resistance to Change	√	-	-	1

Table 4.66 shows that AU faced the problems of lack of funds, administrative problems, low motivation level of faculty members and resistance to change to a great extent in developing quality assurance programme.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

Table 4.67 University-Wise Break-Up of Data Regarding Problems in Developing Split-Degree Programme **N=3**

n: Problems faced by the universities in developing split-degree programme.															
versities	a. Lack of Funds			b. Lack of Relevant Information			c. Low Motivation Level (i) Faculty (ii) Students			d. Eligibility Criteria			e. University Policy		
	To a Great Extent	To Some Extent	Not at All	To a Great Extent	To Some Extent	Not at All	To a Great Extent	To Some Extent	Not at All	To a Great Extent	To Some Extent	Not at All	To a Great Extent	To Some Extent	Not at All
	√	-	-	√	-	-	-	-	√	-	√	-	-	-	√
U	√	-	-	√	-	-	√	-	-	√	-	-	-	-	√
U	-	-	√	-	√	-	-	-	√	-	√		√	-	-
al	2	-	1	2	1	-	1	-	2	1	2	-	1	-	2

Table 4.67 shows that AU faced the problems of lack of funds and lack of relevant information to a great extent in developing split-degree programme. Eligibility criteria were faced by the university to some extent in developing split-degree programme. Low motivation level of faculty and students, and university policy were not the problems at all for AU in developing split-degree programme.

NDU faced the problems of lack of funds, lack of relevant information, low motivation level of faculty and students, and eligibility criteria to a great extent in developing split-degree programme. NDU did not face the problem of university policy at all in developing split-degree programme.

QAU faced the problem of university policy to a great extent in developing split-degree programme. Lack of relevant information and eligibility criteria were the problems to some extent in developing split-degree programme. QAU did not face the problem of lack of funds at all in developing split-degree programme.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

Table 4.72 University-Wise Break-Up of Data Regarding Stochastic prediction of Implementation of Awarding Post-Doctoral Scholarships by the Year 2015 N=2

Percentages	Universities	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	NDU	-	√	-	-	-	-	-	-	-	-	-
	QAU	-	-	-	-	-	-	-	√	-	-	-

Table 4.72 shows that in NDU the stochastic prediction of implementation of awarding post-doctoral scholarships was 10% by the year 2015.

There was 70% stochastic prediction of implementation of awarding post-doctoral scholarships in QAU by the year 2015.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

Table 4.73 University-Wise Break-Up of Data Regarding Stochastic prediction of Implementation of Peer Evaluation by the Year 2015 N=2

Percentages	Universities	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	NDU	-	-	√	-	-	-	-	-	-	-	-
	QAU	-	-	-	-	-	-	-	-	√	-	-

Table 4.73 shows that NDU had 20% stochastic prediction of implementation of including peer evaluation in quality assurance programme by the year 2015. QAU had 80% stochastic prediction of implementation of including peer evaluation in quality assurance programme by the year 2015.

Table 4.74 University-Wise Break-Up of Data Regarding Stochastic prediction of Implementation of Including Foreign Expertise in Peer Evaluation by the Year 2015 N=2

Percentages	Universities	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	AIOU	-	-	-	-	-	√	-	-	-	-	-
	IIUI	-	-	-	-	-	-	-	-	√	-	-

Table 4.74 shows that in AIOU the stochastic prediction of implementation of including foreign expertise in peer evaluation was 50% by the year 2015.

IIUI had 80% stochastic prediction of implementation of including foreign expertise in peer evaluation by the year 2015.

Table 4.75 University-Wise Break-Up of Data Regarding Stochastic prediction of Implementation of Quality Assurance Programme by the Year 2015 N=1

University	Percentages	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
AU	Frequency	-	-	-	-	-	√	-	-	-	-	-

Table 4.75 shows that the stochastic prediction of implementation of quality assurance programme in AU was 50% by the year 2015.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

Table 4.76 University-Wise Break-Up of Data Regarding Stochastic prediction of Implementation of Split-Degree Programme by the Year 2015 N=3

Percentages	Universities	0 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
Frequency	AU	-	√	-	-	-	-	-	-	-	-	-
	NDU	-	-	-	-	-	-	√	-	-	-	-
	QAU	-	-	-	-	-	-	√	-	-	-	-

Table 4.76 shows that in AU there was 10% stochastic prediction of implementation of split-degree programme by the year 2015.

In NDU and QAU there was 60% stochastic prediction of implementation of split-degree programme by the year 2015.

DISCUSSION

Government of Pakistan launched National Education Policy 2009. The present study was conducted to forecast about the feasibility of implementation of higher education provisions of National Education Policy 2009. In this policy R&D promotion has also been discussed. R&D plays a pivotal role in the progress of a country. It extends the boundaries of knowledge and upgrades the existing technology. The results of the study showed that for building the capacity of faculty members to conduct and absorb cutting edge research, most of the universities are conducting short-term courses, seminars, training abroad and within country. For knowledge mobilization, only university-industry partnership has been adopted in most of the universities. Incubator programme and science parks have not developed by most of the universities. The major reason behind it is lack of funds. There is great need of putting special emphasis towards the availability of funds, as innovation is incumbent for development. It results in higher quality jobs, successful business, better services and more efficient processes.

Competitive research grants for funding are available in most of the universities. All the sample universities have developed collaboration with the world scholarly community in connection with the post-graduate students and faculty, provided access to technical and scholarly communication resources to researchers and teachers, facilitated scholarly communication between researchers and teachers, adopted tenure track system of appointments and launched four-year bachelor degree programme. Doctoral scholarships have been awarded in all the universities. Most of the universities have also awarded post-doctoral scholarships.

Quality assurance programme has been developed in most of the universities. Some universities have included peer evaluation in quality assurance programme, whereas, no university has included foreign expertise in peer evaluation. Most of the universities have affiliated the colleges and developed standards for the affiliated colleges. Split-degree programme in collaboration with the foreign universities of good repute has not been developed in most of the universities. Modern project management & reporting techniques and computerized financial management system have been adopted by most of the universities.

So, as far as the current status of implementation is concerned most of the policy provisions have been implemented by the universities. The universities have found weak in research and development, which is indispensable for the development of country. Though quality assurance programme has developed in most of the universities but, foreign expertise in peer evaluation has not included in the universities. Split-degree programme in collaboration with the foreign universities of good repute has not been developed in most of the universities.

The major problems faced by the universities in developing incubator programme and science parks, and in awarding post-doctoral scholarships is lack of funds. Some universities have faced the problems of local politics, mutual jealousy, personal biases and low motivation level of faculty members to a great extent in including peer evaluation. The major problems faced by the universities in including foreign expertise in peer evaluation are, lack of funds, low motivation level of faculty members and poor management. In developing split-degree programme lack of funds and lack of relevant information are the major problems faced by the universities. So, lack of funds is the

major problem in the implementation of policy provisions. It is the main reasons behind the policy actions which are not being implemented.

The stochastic prediction of implementation of incubator programme and science parks is 50% by the year 2015. There is 10% stochastic prediction of implementation of post-doctoral scholarships in one university and in the other university it is 70%. Stochastic prediction of implementation for including peer evaluation in quality assurance programme in one university is 20% and in the other university it is 80% by the year 2015. There is 50% stochastic prediction of implementation of foreign expertise in peer evaluation in one university and in the other university it is 80% by the year 2015. The stochastic prediction of implementation of split-degree programme is 60% by the year 2015.

It is found that AIOU, IIUI and QAU have conducted short-term courses, seminars, training abroad and within country for building the capacity of faculty members to undertake cutting edge research. For knowledge mobilization university-industry partnership is developed by AIOU, AU, IIUI and QAU. Incubator programme is developed by IIUI only. So, IIUI have adopted more mechanisms of transmitting research knowledge to the business sector (i.e. university-industry partnership and incubator programme). AIOU, AU, IIUI and QAU have got budget for competitive research grants and developed collaboration with the world scholarly community within country and abroad in connection with post-graduate students and faculty. AIOU, AU, IIUI, NDU and QAU have adopted tenure track system, provided access to technical and scholarly information resources, facilitated scholarly communication among researchers and teachers, and launched integrated four-year bachelor degree programme.

AIOU, AU, IIUI, NDU and QAU have awarded doctoral scholarships, whereas, post-doctoral scholarships have been awarded by AIOU, AU and IIUI. Quality assurance programme has been developed in AIOU, IIUI, NDU and QAU. Colleges are affiliated with AU, NDU and QAU and standards have been developed for the affiliated colleges by these universities. AU, NDU and QAU have not developed split-degree programme. AIOU, AU, IIUI and QAU have adopted project management techniques and computerized financial management system to a great extent. AU, IIUI and NDU have adopted modern reporting techniques to some extent.

AIOU, AU and QAU have faced the problem of lack of funds to a great extent in developing incubator programme. Lack of funds is also a major problem for developing science parks in AIOU, AU, IIUI and QAU, and for awarding post-doctoral scholarships in NDU and QAU. Local politics, mutual jealousy, personal biases and low motivation level of faculty members are the major problems faced by NDU and QAU in including peer evaluation in quality assurance programme. AIOU and IIUI have faced the problems of lack of funds, low motivation level of faculty members and poor management to a great extent in including foreign expertise in peer evaluation. Lack of funds and lack of relevant information are the major problems for AU and NDU in developing split-degree programme.

There is 50% stochastic prediction of implementation of incubator programme in AU and QAU. In AU and IIUI the stochastic prediction of implementation of developing science parks is 50% by the year 2015. In NDU there is 10% stochastic prediction and in QAU there is 70% stochastic prediction of implementation of post-doctoral scholarships by the year 2015. In NDU there is 20% stochastic prediction and in QAU there is 80%

stochastic prediction of implementation of peer evaluation by the year 2015. In AIOU there is 50% stochastic prediction and in IIUI the stochastic prediction of implementation of including foreign expertise in peer evaluation is 80% by the year 2015. NDU and QAU have equal chances of implementation of split-degree programme by having a stochastic prediction of 60% by the year 2015.

CHAPTER V
SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY

Since the inception of Pakistan different education policies have been launched. The implementation status of these education policies varied. Government of Pakistan launched National Education Policy 2009. The purpose of the study was to analyze the current status of implementation of National Education Policy 2009 and to forecast about the feasibility of implementation of National Education Policy 2009 regarding higher education. The major objectives of the study were:

- To analyze the current status of implementation of higher education provisions of National Education Policy 2009.
- To identify the major problems faced by different universities in the implementation of higher education provisions of National Education Policy 2009.
- To forecast the stochastic prediction of implementation of higher education provisions of National Education Policy 2009.
- To compare the status of implementation of higher education provisions of National Education Policy 2009 among the universities of Islamabad.

In order to achieve the objectives of the study, a questionnaire was designed. The population of the study consisted of all the Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of public sector universities of Islamabad (i.e. 9). Sample of the study consisted of

concerned Directors, Assistant Directors, Registrar, Dean, Deputy Dean, Manager, Consultant, Research officers and Data Analyst of five public sector universities of Islamabad. Data were collected through researcher's personal visits. The data were processed and analyzed using frequencies. Data on different policy actions were presented in tabular form. Conclusions were drawn on the basis of findings of the study, and recommendations were given on the basis of conclusions.

5.2 FINDINGS

Findings revealed through the analysis of data have been discussed in two parts i.e. general findings and comparative findings.

GENERAL FINDINGS

RESEARCH QUESTION NO.1

To what extent are the different universities implementing the provisions of National Education Policy 2009, regarding higher education along the line?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

1. Four universities (i.e. 4 out of 5) conducted short-term courses and seminars, whereas, 3 universities (i.e. 3 out of 5) managed for the training of their faculty members abroad and within country for building the capacity to undertake cutting edge research.
2. Four universities (i.e. 4 out of 5) transmitted research knowledge to the business sector. The mechanism adopted by all these 4 universities (i.e. 4 out of 4) for transmitting research knowledge to the business sector was university-industry partnership.
3. Three universities (i.e. 3 out of 4) did not develop incubator programme. Only 1 university(i.e. 1 out of 4) developed incubator programme.
4. No university (i.e. 0 out of 4) developed science park.

POLICY ACTION NO.4

"*Competitive research grants* for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

5. Four universities (i.e. 4 out of 5) got budget for competitive research grants. One university (i.e. 1 out of 5) did not get budget for competitive research grants.

POLICY ACTION NO.5

"Opportunities for *collaboration* with the world scholarly community should be provided for both post-graduate students and faculty alike."

6. All the sample universities (i.e. 5 out of 5) developed collaboration with the world scholarly community in connection with the post-graduate students and faculty within country and abroad.

POLICY ACTION NO.6

"*Tenure Track* system of appointment of faculty members will be institutionalized."

7. All the sample universities (i.e. 5 out of 5) adopted tenure track system of appointment of faculty members.

POLICY ACTION NO.7

"ICT must be effectively leveraged 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."

8. All the sample universities (i.e. 5 out of 5) provided access to technical and scholarly information resources to researchers and teachers, and facilitated scholarly communication between researchers and teachers.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

9. All the sample universities (i.e. 5 out of 5) awarded doctoral scholarships within in country and abroad, and 3 universities (i.e. 3 out of 5) awarded post-doctoral scholarships. Two universities (i.e. 2 out of 5) did not award post-doctoral scholarship for faculty development.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

10. Quality assurance programme was developed in 4 universities (i.e. 4 out of 5). Two universities (i.e. 2 out of 4) did not include peer evaluation in quality assurance programme. Two universities (i.e. 2 out of 2) did not include foreign expertise in peer evaluation.

POLICY ACTION NO.18

"Universities shall introduce integrated four-year Bachelor degree programmes"

11. All the sample universities (i.e. 5 out of 5) launched integrated four-year bachelor degree programme.

POLICY ACTION NO.21

"Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated."

12. Three universities (i.e. 3 out of 5) affiliated the colleges and developed standards for the affiliated colleges. The colleges were warned and disaffiliated on not following the standards.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

13. Three universities (i.e. 3 out of 5) did not develop split-degree programme in collaboration with foreign universities of good repute.

POLICY ACTION NO.30

"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"

14. Four universities (i.e. 4 out of 5) adopted modern project management techniques to a great extent. Three universities (i.e. 3 out of 5) adopted modern reporting techniques to some extent. Four universities (i.e. 4 out of 5) adopted computerized financial management systems to a great extent.

RESEARH QUESTION NO.2

What are the different factors adversely affecting the implementation of National Education Policy 2009, regarding higher education?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

15. Three universities (i.e. 3 out of 3) faced the problem of lack of funds to a great extent in developing incubator programme. Two universities faced the problem of lack of faculty to some extent in developing incubator programme.
16. Four universities (i.e. 4 out of 4) faced the problem of lack of funds to a great extent in developing science parks. Two universities (i.e. 2 out of 4) faced the problem of lack of infrastructure and lack of faculty to some extent in developing science parks.
17. Lack of funds, lack of infrastructure, lack of innovation and untrained staff were the problems to a great extent for just one university in transmitting research knowledge to the business sector.

POLICY ACTION NO.4

"*Competitive research grants* for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

18. One university faced the problems of lack of identification of sponsors, lack of mutual meetings with the agencies and lack of generate on resources through fee to a great extent in making the research grants available.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

19. Two universities (i.e. 2 out of 2) faced the problem of lack of funds to a great extent in awarding post-doctoral scholarships. One university (i.e. 1 out of 2) faced the problems of lack of faculty and visa problems to some extent in awarding post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

20. Two universities (i.e. 2 out of 2) faced the problems of local politics, mutual jealousy, personal biases and low motivation level of faculty members to a great extent in including peer evaluation in quality assurance programme. These universities (i.e. 2 out of 2) faced the problem of lack of funds to some extent in including peer evaluation in quality assurance programme.
21. Two universities(i.e. 2 out of 2) faced the problems of lack of funds, low motivation level of faculty members and poor management to a great extent in including foreign expertise in peer evaluation. One university (i.e. 1 out of 2) faced the problems of lack of linkages and non-availability of experts list to some extent in including foreign expertise in peer evaluation.
22. Only one university (i.e. 1 out of 5) faced the problems of lack of funds, administrative problems, low motivation level of faculty members and resistance to change to a great extent in developing quality assurance programme.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

23. Two universities (i.e. 2 out of 3) faced the problems of lack of funds and lack of relevant information to a great extent in developing split-degree programme. Two

universities (i.e. 2 out of 3) faced the problem of eligibility criteria to some extent in developing split-degree programme.

RESEARCH QUESTION NO.3

What are the prospects of implementation of higher education provisions of National Education Policy 2009 by the year 2015, which are not currently being implemented by the universities?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

24. The stochastic prediction of implementation of incubator programme in most of the universities (i.e. 2 out of 3) was 50% by the year 2015. In one university (i.e. 1 out of 3) there was no stochastic prediction of implementation of incubator programme by the year 2015.
25. There was 50% stochastic prediction of implementation of developing science parks in some universities (i.e. 2 out of 4) by the year 2015. In one university(i.e. 1 out of 4) there was 70% stochastic prediction of implementation of science parks by the year 2015.
26. The stochastic prediction of implementation of transmitting research knowledge to the business sector for just one university was 10% by the year 2015.

POLICY ACTION NO. 4

"*Competitive research grants* for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

27. There was only 10% stochastic prediction of implementation in just one university for the availability of research grants by the year 2015.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

28. The stochastic prediction of implementation of post-doctoral scholarships in one university was 70% and in the other university, there was 10% stochastic prediction of implementation of post-doctoral scholarship by the year 2015.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

29. In one university there was 20% stochastic prediction of implementation of including peer evaluation in quality assurance programme by the year 2015. In the other university the stochastic prediction of implementation of including peer evaluation in quality assurance programme was 80% by the year 2015.

30. In one university there was 80% stochastic prediction and in the other university there was 50% stochastic prediction of implementation of including foreign expertise in peer evaluation by the year 2015.
31. There was 50% stochastic prediction of implementation of quality assurance programme in the university by the year 2015.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

32. There was 60% stochastic prediction of implementation of split-degree programme in most of the universities (i.e. 2 out of 3) by the year 2015. In one university (i.e. 1 out of 3) there was 10% stochastic prediction of implementation of split-degree programme by the year 2015.

COMPARATIVE FINDINGS

RESEARCH QUESTION NO.4

How do different universities stand relatively in terms of their existing capacity to implement higher education provisions of National Education Policy 2009?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

33. AIOU, AU, IIUI and QAU conducted short-term courses, and AIOU, IIUI, NDU and QAU conducted seminars for building the capacity of faculty members to undertake cutting edge research. AIOU, IIUI and QAU managed for the training of faculty members abroad and within country for building the capacity to undertake cutting edge research.
34. AIOU, AU, IIUI and QAU transmitted research knowledge to the business sector. University-industry partnership was adopted by AIOU, AU, IIUI and QAU for transmitting research knowledge to the business sector.
35. AIOU, AU and QAU did not develop incubator programme. IIUI developed incubator programme.
36. AIOU, AU, IIUI and QAU did not develop science park.

POLICY ACTION NO.4

"*Competitive research grants* for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

37. AIOU, AU, IIUI and QAU got budget for competitive research grants. NDU did not get budget for competitive research grants.

POLICY ACTION NO.5

"Opportunities for *collaboration* with the world scholarly community should be provided for both post-graduate students and faculty alike."

38. AIOU, AU, IIUI, NDU and QAU developed collaboration with the world scholarly community in connection with the post-graduate students and faculty within country and abroad.

POLICY ACTION NO.6

"Tenure Track system of appointment of faculty members will be institutionalized."

39. AIOU, AU, IIUI, NDU and QAU adopted tenure track system of appointment of faculty members.

POLICY ACTION NO.7

"ICT must be effectively leveraged 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."

40. AIOU, AU, IIUI, NDU and QAU provided access to technical and scholarly information resources to researchers and teachers, and facilitated scholarly communication between researchers and teachers.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

41. AIOU, AU, IIUI, NDU and QAU awarded doctoral scholarships within country and abroad. Post-doctoral scholarships were awarded by AIOU, AU and IIUI. NDU and QAU did not award post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

42. Quality assurance programme was developed in AIOU, IIUI, NDU and QAU. NDU and QAU did not include peer evaluation in quality assurance programme. AIOU and IIUI did not include foreign expertise in peer evaluation.

POLICY ACTION NO.18

"Universities shall introduce integrated four-year Bachelor degree programmes"

43. AIOU, AU, IIUI, NDU and QAU launched integrated four-year bachelor degree programme.

POLICY ACTION NO.21

"Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated."

44. AU, NDU and QAU affiliated the colleges, and developed standards for the affiliated colleges. The colleges were warned and disaffiliated on not following the standards.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

45. AU, NDU and QAU did not develop split-degree programme in collaboration with the foreign universities of good repute.

POLICY ACTION NO.30

"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"

46. AIOU, AU, IIUI and QAU adopted modern project management techniques to a great extent. AU, IIUI and NDU adopted modern reporting techniques to some extent. AIOU, AU, IIUI and QAU adopted computerized financial management systems to a great extent.

RESEARCH QUESTION.5

What are the different adverse factors affecting the implementation of higher education provisions of National Education Policy 2009, relatively in the sample universities?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

47. AIOU, AU and QAU faced the problem of lack of funds to a great extent in developing incubator programme. AU and QAU faced the problem of lack of faculty to some extent in developing incubator programme.
48. AIOU, AU, IIUI and QAU faced the problem of lack of funds to a great extent in developing science parks. IIUI and QAU faced the problem of lack of infrastructure and, AU and QAU faced the problem of lack of faculty to some extent in developing science park.
49. NDU faced the problems of lack of funds, lack of infrastructure, lack of innovation and untrained staff to a great extent in transmitting research knowledge to the business sector.

POLICY ACTION NO.4

"*Competitive research grants* for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

50. NDU faced the problems of lack of identification of sponsors, lack of mutual meetings with the agencies and lack of generate on resources through fee to a great extent in making the research grants available.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

51. NDU and QAU faced the problem of lack of funds to a great extent in awarding post-doctoral scholarships. QAU faced the problem of lack of faculty and visa problem to some extent in awarding post-doctoral scholarships for the faculty development.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

52. NDU and QAU faced the problems of local politics, mutual jealousy, personal biases and low motivation level of faculty members to a great extent in including peer evaluation in quality assurance programme. Lack of funds was faced by

NDU and QAU to some extent in including peer evaluation in quality assurance programme.

53. AIOU and IIUI faced the problems of lack of funds, low motivation level of faculty members and poor management to a great extent in including foreign expertise in peer evaluation. IIUI faced the problem of lack of linkages and non-availability of experts list to some extent in including foreign expertise in peer evaluation.

54. AU faced the problems of lack of funds, administrative problems, low motivation level of faculty members and resistance to change to a great extent in developing quality assurance programme.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

55. AU and NDU faced the problems of lack of funds and lack of relevant information to a great extent in developing split-degree programme. AU and QAU faced the problem of eligibility criteria to some extent in developing split-degree programme.

RESEARCH QUESTION NO.6

How do different universities stand relatively in terms of the prospects of implementation of National Education Policy 2009, regarding higher education by the year 2015?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

56. In AU and QAU there was 50% stochastic prediction of implementation of developing incubator programme by the year 2015. In AIOU there was no stochastic prediction of implementation of incubator programme by the year 2015.
57. There was 50% stochastic prediction of implementation of developing science parks in AU and IIUI by the year 2015. In QAU there was 70% stochastic prediction of implementation of science park by the year 2015.
58. The stochastic prediction of implementation for transmitting research knowledge to the business sector in NDU was 10% by the year 2015.

POLICY ACTION NO. 4

"Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

59. There was 10% stochastic prediction of implementation in NDU for making the research grants available by the year 2015.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

60. NDU had 10% stochastic prediction and QAU had 70% stochastic prediction of implementation of awarding post-doctoral scholarships by the year 2015.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

61. NDU had 20% stochastic prediction of implementation of including peer evaluation in quality assurance programme by the year 2015. QAU had 80% stochastic prediction of implementation of including peer evaluation in quality assurance programme by the year 2015.
62. In AIOU the stochastic prediction of implementation of including foreign expertise in peer evaluation was 50% by the year 2015. IIUI had 80% stochastic

prediction of implementation of including foreign expertise in peer evaluation by the year 2015.

63. The stochastic prediction of implementation of quality assurance programme in AU was 50% by the year 2015.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

64. In NDU and QAU there was 60% stochastic prediction of implementation of split-degree programme by the year 2015. In AU there was 10% stochastic prediction of implementation of split-degree programme by the year 2015.

5.3 CONCLUSIONS

Conclusions revealed through the findings of the study have been discussed in two parts i.e. general conclusions and comparative conclusions.

GENERAL CONCLUSIONS

RESEARCH QUESTION NO.1

To what extent are the different universities implementing the provisions of National Education Policy 2009, regarding higher education along the line?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various

and abroad, adopted tenure track system and provided access to technical and scholarly information resources and, facilitated scholarly communication between researchers and teachers.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

4. All the sample universities have awarded doctoral scholarships. Most of the universities have awarded post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

5. Quality assurance programme has been launched in most of the universities Some universities have not included peer evaluation in quality assurance programme. No university has not included foreign expertise in peer evaluation.

POLICY ACTION NO.18

"Universities shall introduce integrated four-year Bachelor degree programmes"

6. All the sample universities have launched integrated four-year bachelor degree programme.

forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

1. Most of the universities have developed partnership with the industry. Most of the universities have not developed incubator programme. No university has developed science park.

POLICY ACTION NO.4

"*Competitive research grants* for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

2. Most of the universities are getting budget for competitive research grants.

POLICY ACTION NO.5

"Opportunities for *collaboration* with the world scholarly community should be provided for both post-graduate students and faculty alike."

POLICY ACTION NO.6

"*Tenure Track* system of appointment of faculty members will be institutionalized."

POLICY ACTION NO.7

"ICT must be effectively leveraged 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."

3. All the sample universities have developed collaboration with the world scholarly community in connection with post-graduate students and faculty within country

POLICY ACTION NO.21

"Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated."

7. Most of the universities have affiliated the colleges and developed standards for the affiliated colleges.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

8. Most of the universities have not developed split-degree programme.

POLICY ACTION NO.30

"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"

9. Most of the universities have adopted modern project management techniques and computerized financial management systems to a great extent. Modern reporting techniques are adopted by most of the universities to some extent.

RESEARH QUESTION NO.2

What are the different factors adversely affecting the implementation of National Education Policy 2009, regarding higher education?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

10. Lack of funds is the major problem faced by most of the universities in developing incubator programme and science parks.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

11. The major problems in including peer evaluation in quality assurance programme as identified by the universities pertains to local politics, mutual jealousy, personal biases and low motivation level of faculty members.
12. The major problems faced by the universities in including foreign expertise in peer evaluation are related to lack of funds, low motivation level of faculty members and poor management.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

13. Major problems in developing split-degree programme includes those pertaining to lack of funds and lack of relevant information about the programmes of other universities with whom collaboration was to be sought for starting split degree programmes.

RESEARCH QUESTION NO.3

What are the prospects of implementation of higher education provisions of National Education Policy 2009 by the year 2015, which are not currently being implemented by the universities?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

14. There is 50% stochastic prediction of implementation of incubator programme and science parks in the universities by the year 2015.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

15. There is 20% stochastic prediction of implementation of including peer evaluation in quality assurance programme in one university and 80% in the other university by the year 2015.
16. There is 50% stochastic prediction of implementation of including foreign expertise in peer evaluation by the year 2015 and 80% in the other university.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

17. The stochastic prediction of implementation of split-degree programme is 60% in the universities by the year 2015.

COMPARATIVE CONCLUSIONS

RESEARCH QUESTION NO.4

How do different universities stand relatively in terms of their existing capacity to implement higher education provisions of National Education Policy 2009?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

18. AIOU, AU, IIUI and QAU have developed partnership with the industry. AIOU, AU and QAU have not developed incubator programme. AIOU, AU, IIUI and QAU have not developed science parks.

POLICY ACTION NO.4

"Competitive research grants for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop."

19. AIOU, AU, IIUI and QAU have got budget for competitive research grants.

POLICY ACTION NO.5

"Opportunities for *collaboration* with the world scholarly community should be provided for both post-graduate students and faculty alike."

POLICY ACTION NO.6

"*Tenure Track* system of appointment of faculty members will be institutionalized."

POLICY ACTION NO.7

"ICT must be effectively leveraged 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."

20. AIOU, AU, IIUI, NDU and QAU have developed collaboration with the world scholarly community in connection with post-graduate students and faculty within country and abroad, have adopted tenure track system of appointment of faculty members, and provided access to technical and scholarly information resources, facilitated scholarly communication between researchers and teachers.

POLICY ACTION NO.9

"Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad."

21. AIOU, AU, NDU, IIUI and QAU have awarded doctoral scholarships. AIOU, AU and IIUI have awarded post-doctoral scholarships.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

22. Quality assurance programme has been launched in AIOU, IIUI, NDU and QAU. NDU and QAU have not included peer evaluation in quality assurance

programme. AIOU and IIUI have not included foreign expertise in peer evaluation.

POLICY ACTION NO.18

"Universities shall introduce integrated four-year Bachelor degree programmes"

23. AIOU, AU, IIUI, NDU and QAU have launched integrated four-year bachelor degree programme.

POLICY ACTION NO.21

"Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated."

24. AU, NDU and QAU have affiliated the colleges and developed standards for the affiliated colleges.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

25. AU, NDU and QAU have not developed split-degree programme.

POLICY ACTION NO.30

"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"

26. AIOU, AU, IIUI and QAU have adopted modern project management techniques and computerized financial management systems to a great extent. Modern reporting techniques have been adopted by AU, IIUI and NDU to some extent.

RESEARCH QUESTION.5

What are the different adverse factors affecting the implementation of higher education provisions of National Education Policy 2009, relatively in the sample universities?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

27. Lack of funds is the major problems faced by AIOU, AU and QAU in developing incubator programme and science parks. IIUI faced the problem of lack of funds only for developing science parks.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

28. The major problems in including peer evaluation in quality assurance programme as identified by NDU and QAU are pertaining to local politics, mutual jealousy, personal biases and low motivation level of faculty members.
29. The major problems faced by AIOU and IIUI in including foreign expertise in peer evaluation are related to lack of funds, low motivation level of faculty members and poor management.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

30. Major problems for AU and NDU in developing split-degree programme includes those pertaining to lack of funds and lack of relevant information about the programmes of other universities with whom collaboration was to be sought for starting split degree programmes.

RESEARCH QUESTION NO.6

How do different universities stand relatively in terms of the prospects of implementation of National Education Policy 2009, regarding higher education by the year 2015?

POLICY ACTION NO.3

"A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy."

31. In AU and QAU there is 50% stochastic prediction of implementation of developing incubator programme and there is 50% stochastic prediction for the implementation of developing science parks in AU and IIUI by the year 2015.

POLICY ACTION NO.12

"Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise."

32. There is 20% stochastic prediction of implementation of including peer evaluation in quality assurance programme in NDU and 80% in QAU by the year 2015.
33. There is 50% stochastic prediction of implementation of including foreign expertise in peer evaluation in AIOU and 80% in IIUI by the year 2015.

POLICY ACTION NO.26

"Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute."

34. The stochastic prediction of implementation of split-degree programme is 60% in NDU and QAU by the year 2015.

5.4 RECOMMENDATIONS

1. Universities may be authorized by Government to start fund raising programmes so that they may become financially strong to take appropriate steps for implementing provisions of the National Education Policy 2009 pertaining to higher education.
2. Universities may plan for starting a series of programmes to create awareness among faculty members and other stakeholders about developing incubator programme and its need and importance for the universities. This may be taken up as a regular feature of the universities.
3. Universities may also strengthen their libraries with latest material like books, journals etc. on incubator program and science parks to provide an opportunity to their faculty members for keeping themselves abreast of the information about incubator programme and science parks.
4. Possibilities may be explored by universities for ensuring collaboration with private sector organizations for fund raising purposes to develop incubator

programme and science parks as per provisions of the National Education Policy, 2009.

5. In-service faculty development programme may be started as a regular feature highlighting the aspects like quality of instruction and de-politicization of education so that the teachers may concentrate on their professional activities.
6. To enhance the motivation level of teachers, universities may start giving incentives to them. They may be in the form of advanced increments at the time of induction, salary increase and promotion so that the focus of teachers may be solely towards their professional development.
7. The practice of peer evaluation needs to be encouraged in universities for enhancing the quality of instruction and research. This needs a thorough planning to break inhibitions about this practice in faculty members and other stakeholders. This, in turn, entails the need for starting a series of seminars on this aspect of evaluation.
8. Government may provide necessary information to the universities about split-degree programme. So that universities may have an awareness of what basically this programme is and how it will help in flourishing their graduates and improving the standard of their university. Not only this, provisions of funds is also very important step which government should make available for the implementation of this policy action in the universities.

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Appendix A

HIGHER EDUCATION PROVISIONS OF EDUCATION POLICY 2009: A PROGNOSIS OF IMPLEMENTATION

Name of University: .....
Name of the Department: .....

The policy provisions, as per serial numbers appearing in the policy document, have been quoted in the questionnaire and relevant questions have been asked below different policy provisions/actions. Please go through the questionnaire and provide the requisite information in the relevant column/space as below:

S.No	Policy Action	Response
3	A two-fold strategy for R&D promotion at universities shall be pursued. In the first case, basic research in the universities and research institutions shall focus on building the capacity to conduct and absorb cutting edge research. The second strand shall be a focus on knowledge mobilization - that is, transmission of research knowledge through various forms of university-industry partnerships and incubator programmes and science parks to the business sector. This commercialization strategy aims at assist the innovation process of the economy	
i.	What steps does your university take for building the capacity of faculty to undertake cutting edge* research? Please tick the relevant option. (You may tick against more than one option). a. Short-term Courses b. Seminars c. Training Abroad d. Training in Country e. Any other (Please Specify)	☐ ☐ ☐ ☐

* The latest or most advanced stage in the development of something.

ii	Does your university transmit research knowledge to the business sector? **Yes/ No**	
a	If 'Yes', what mechanism do you adopt for transmitting research knowledge to the business sector? Please tick the relevant option. (You may tick against more than one option). a. University Industry Partnership b. Incubator* Programme c. Science Parks** d. Any other (Please Specify	

iii	Has your university developed partnership with the industry? Please tick one. **Yes / No**											
(a)	If your university has not developed partnership with the industry, what are the problems? Please tick in just one box against the relevant problem. (You may tick against more than one problem).											
	Problems	**To a Great Extent**			**To Some Extent**				**Not at All**			
	a. Lack of Funds											
	b. Lack of Awareness											
	c. Lack of Research Work											
	d. Low Motivation Level of Faculty											
	e. Any other (Please Specify)											
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in the relevant box.											

iv	Has your university developed incubator programme? Please tick one. **Yes / No**											
(a)	If your university has not developed incubator programme, what are the problems? Please tick in just one box against the relevant problem. (You may tick against more than one problem).											
	Problems	**To a Great Extent**			**To Some Extent**				**Not at All**			
	a. Lack of Funds											
	b. Lack of Awareness											
	c. Lack of Research Work											
	d. Lack of Faculty											
	e. Any other (Please Specify)											
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											

* An entity organized to deliver support services to businesses during the start-up phase.
** An area usually linked with a university, where scientific research is carried on in cooperation.

v	Has your university developed any science park? Please tick one. **Yes / No**											
(a)	If your university has not developed science park, what are the problems? Please tick in just one box against the relevant problem. (You may tick against more than one problem).											
	Problems	**To a Great Extent**					**To Some Extent**			**Not at All**		
	a. Lack of Funds											
	b. Lack of Infrastructure											
	c. Lack of Innovation											
	d. Lack of Faculty											
	e. Any other (Please specify)											
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											
vi (a)	If your university does not share research knowledge to the business sector, what are the problems? Please tick in just one box against the relevant problem. (You may tick against more than one problem).											
	Problems	**To a Great Extent**					**To Some Extent**			**Not at All**		
	a. Lack of Funds											
	b. Lack of Innovation											
	c. Lack of Infrastructure											
	d. Untrained Staff											
	e. Any other (Please Specify)											
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											
4	*Competitive research grants* for funding must be available to ensure that the best ideas in area of importance are recognized, and allowed to develop.											
i	Does your university get any budget for competitive research grants? Please tick one **Yes / No**											
(a)	If 'No', what are the problems in making the competitive research grants available? Please tick the relevant option. (You may tick against more than one option).											
	a. Lack of identification of sponsors											
	b. Lack of mutual meetings with the agencies											
	c. Lack of generate on resources through Fee etc.											
	d. Any other (Please Specify)											

(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	0	1	2	3	4	5	6	7	8	9	10
	Put the tick mark (√) in relevant box.											

5	Opportunities for *collaboration* with the world scholarly community should be provided for both post-graduate students and faculty alike.

i Is the university having any collaboration with the world scholarly community in connection with post-graduate students and faculty? Please tick in the relevant box.

	Post-graduate Students		Faculty	
	Yes	No	Yes	No
In Country				
Abroad				

ii (a) What are the major problems faced in collaborating with the world scholarly community in connection with the post-graduate students? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	To a Great Extent	To Some Extent	Not at All
a. Lack of Funds			
b. Problems of Visa			
c. Controlling Logistics			
d. University Policy			
e.Any Other (Please Specify)			

(b) What is the stochastic prediction of its implementation out of 10 by the year 2015? Put the tick mark (√) in relevant box.

	0	1	2	3	4	5	6	7	8	9	10
In Country											
Abroad											

iii (a) What are the major problems faced in collaborating with the world scholarly community in connection with the faculty? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	To a Great Extent	To Some Extent	Not at All
a. Lack of Funds			
b. Low Motivation Level of Faculty Members			
c. Problems of Visa			
d. University Policy			
e. Any other (Please Specify)			

(b) What is the stochastic prediction of its implementation out of 10 by the year 2015? Put the tick mark (√) in relevant box.

In Country	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Abroad	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**

6 *Tenure Track* system of appointment of faculty members will be institutionalized

i. Has your university adopted Tenure Track system? Please tick one. **Yes / No**

ii(a) If 'No', what are the problems in adopting this system? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	**To a Great Extent**	**To Some Extent**	**Not at All**
a. Lack of Funds			
b. Faculty Members are not Fully Aware			
c. Administrative Problems			
d. Faculty Members are not Ready to take Risk			
e. Any Other (Please Specify)			

(b)

What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Put the tick mark (√) in relevant box.											

7 ICT must be effectively leveraged 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.

i Does your university provide access to technical and scholarly information resources to researchers and teachers? Please tick one. **Yes / No**

(a) If 'No' what are problems in providing access to technical and scholarly information resources? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	**To a Great Extent**	**To Some Extent**	**Not at All**
a. Untrained Staff			
b. Lack of Equipment			
c. Lack of Funds			
d. University Support			

	e. Any other (Please Specify)											
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											

ii Does your university facilitate scholarly communication between researchers and teachers? Please tick one. **Yes / No**

(a) If 'No' what are the problems in facilitating scholarly communication between/among researchers and teachers? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	To a Great Extent	To Some Extent	Not at All
a. Untrained Staff			
b. Lack of Equipment			
c. Lack of Linkages			
d. University Support			
e. Any other (Please Specify)			

(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											

9 Faculty development doctoral and post-doctoral scholarships shall be awarded to meritorious students for pursuing their studies both in Pakistan and abroad.

i Does your university award doctoral and post- doctoral scholarships? Please tick in the relevant box.

	Doctoral Scholarships		Post-doctoral Scholarships	
	Yes	No	Yes	No
In Country				
Abroad				

ii (a) What are the problems in awarding doctoral scholarships? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	To a Great Extent	To Some Extent	Not at All
a. Lack of Funds			
b. Lack of Faculty			
c. Visa Problems			
d. University Policy			
e. Any other (Please Specify)			

(b) What is the stochastic prediction of its implementation out of 10 by the year 2015? Put the tick mark (√) in relevant box.

	0	1	2	3	4	5	6	7	8	9	10
In Country											
Abroad											

iii (a) What are the problems in awarding post-doctoral scholarships? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	To a Great Extent	To Some Extent	Not at All
a. Non-availability of Funds			
b. Lack of Faculty			
c. Visa Problems			
d. University Policy			
e. Any other (Please Specify)			

(b)

What is the stochastic prediction of its implementation out of 10 by the year 2015?	0	1	2	3	4	5	6	7	8	9	10
Put the tick mark (√) in relevant box.											

12 Universities shall develop quality assurance programmes, which include peer evaluation including foreign expertise.

i Has quality assurance programme been developed in your university? Please tick one. **Yes / No**

ii Does the quality assurance programme include peer evaluation? Please tick one. **Yes / No**

(a) If 'No' what are the problems in including peer evaluation? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	To a Great Extent	To Some Extent	Not at All
a. Lack of Funds			
b. Local Politics			
c. Mutual Jealousy			
d. Personal Biases			
e. Any other (Please Specify)			

(b)

What is the stochastic prediction of its implementation out of 10 by the year 2015?	0	1	2	3	4	5	6	7	8	9	10
Put the tick mark (√) in relevant box.											

iii Does the peer evaluation include foreign expertise? Please tick one. **Yes / No**

(a) If 'No' what are the problems in including foreign expertise in peer evaluation? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

	Problems	**To a Great Extent**			**To Some Extent**					**Not at All**			
	a. Lack of Linkages												
	b. Non-Availability of Experts List												
	c. Lack of Funds												
	d. Low Motivation Level of Faculty Members												
	e. Any other (Please Specify)												
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
	Put the tick mark (√) in relevant box.												
iv (a)	If the quality assurance programmes has not been developed what are the problems faced in developing this programme? Please tick in just one box against the relevant problem. (You may tick against more than one problem).												
	Problems	**To a Great Extent**				**To Some Extent**				**Not at All**			
	a. Lack of Funds												
	b. Administrative Problems												
	c. Low Motivation Level of Faculty Members												
	d. Resistance to Change												
	e. Any other (Please Specify)												
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
	Put the tick mark (√) in relevant box.												
18	Universities shall introduce integrated four-year Bachelor degree programmes												
i	Has the integrated four-year Bachelor degree programme been launched? Please tick one. **Yes / No**												
(a)	If 'No', what are the problems in launching the integrated four-year Bachelor degree programme? Please tick in just one box against the relevant problem. (You may tick against more than one problem).												
	Problems	**To a Great Extent**				**To Some Extent**				**Not at All**			
	a. Lack of Funds												
	b. Lack of Infrastructure												
	c. Lack of Faculty												
	d. Administrative Difficulties												
	e. Any other (Please specify)												
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	
	Put the tick mark (√) in relevant box.												
21	Universities shall develop standards for colleges affiliated with them and these must then be categorized accordingly. Colleges falling below a certain level must be warned and eventually disaffiliated.												

i.	Is any college affiliated with your university? Please tick one. **Yes / No**											
(a)	Has your university developed standards for affiliated colleges? Please tick one. **Yes / No**											
(b)	Are the affiliated colleges warned, if they do not follow the standards? Please tick one **Yes / No**											
(c)	Are the colleges disaffiliated, if they do not follow the standards? Please tick one. **Yes / No**											
ii(a)	If the standards for affiliated colleges have not been developed by the university, what are the problems in developing the standards? Please tick in just one box against the relevant problem. (You may tick against more than one problem).											
	Problems	**To a Great Extent**			**To Some Extent**			**Not at All**				
	a. Lack of Faculty											
	b. Untrained Staff											
	c. Low Motivation Level of Faculty Members											
	d. University Policy											
	e. Any other (Please Specify)											
(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											
26	Universities shall be encouraged to develop split-degree programmes in collaboration with foreign universities of good repute.											
i	Is your university offering split-degree programme in collaboration with foreign universities of good repute? Please tick one. **Yes / No**											
(a)	If 'No', what are the problems in offering split-degree programme? Please tick in just one box against the relevant problem (You may tick against more than one problem)											

Problems	**To a Great Extent**	**To Some Extent**	**Not at All**
a. Lack of Funds			
b. Lack of Relevant Information			
c. Lack of Motivation (i) Faculty (ii) Students			
d. Eligibility Criteria			
e. Any other (Please Specify)			

	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
(b)	Put the tick mark (√) in relevant box.											

30	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.
i	Has the university adopted modern project management techniques? Please tick one. **Yes / No**
(a)	If 'No' what are the faced in adopting the modern project management techniques? Please tick in just one box against the relevant problem. (You may tick against more than one problem).

Problems	**To a Great Extent**	**To Some Extent**	**Not at All**
a. Lack of Funds			
b. Lack of Training			
c. Lack of Faculty			
d. Low Motivation Level of Faculty Members			
e. Any other (Please Specify)			

(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											

ii	Has the university adopted modern reporting techniques? Please tick one. **Yes / No**
(a)	If 'No' what are the problems in adopting the modern reporting techniques? Please tick in just one box against the relevant problem (You may tick against more than one problem)

Problems	**To a Great Extent**	**To Some Extent**	**Not at All**
a. Lack of Faculty			
b. Lack of Training			
c. Lack of Literature			
d. Low Motivation Level of Faculty Members			
e. Any other (Please Specify)			

(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											
iii	Has the university adopted computerized financial management systems? **Yes / No**											
(a)	If 'No' what are the problems in adopting computerized financial management systems? Please tick in just one box against the relevant problem (You may tick against more than one problem).											

Problems	To a Great extent	To Some Extent	Not at All
a. Lack of Funds			
b. Lack of Faculty			
c. Lack of Equipment			
d. Lack of Training			
e. Any other (Please Specify)			

(b)	What is the stochastic prediction of its implementation out of 10 by the year 2015?	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
	Put the tick mark (√) in relevant box.											

APPENDIX B

LIST OF EXPERTS WHO IMPROVED QUESTIONNAIRE

- Dr. Khalid Hassan Bokhari, Former Chairman, Department of Education, International Islamic University, Islamabad
- Dr. Nabi Bux Jumani, Dean, Faculty of Social Sciences, International Islamic University, Islamabad
- Dr. Syed Asad Abbas Rizvi, Assistant Professor, Department of Education, International Islamic University, Islamabad
- Dr. Samina Yasmeen, Assistant Professor (In-charge Female Section), Department of Education, International Islamic University, Islamabad
- Dr. Shamsa Aziz, Assistant Professor, Department of Education, International Islamic University, Islamabad
- Dr. Shazia Naureen, Assistant Professor, Department of Education, International Islamic University, Islamabad
- Dr. Munazza Mahmood, Lecturer, Department of Education, International Islamic University, Islamabad

APPENDIX C

LIST OF UNIVERSITIES

- Allama Iqbal Open University, Islamabad
- Air University, Islamabad
- International Islamic University, Islamabad
- National Defence University, Islamabad
- Quaid-e-Azam University, Islamabad

Appendix D

LIST OF RESPONDENTS

S.No	Name of Respondents	Designation	Department	University
1	Ilyas Ahmad	Registrar	Academics	Allama Iqbal Open University, Islamabad.
2	Iqbal Hussain	Sr. Research Officer	Research and Evaluation Centre	Allama Iqbal Open University, Islamabad
3	Munawwar Hussain Sulehri	Regional Director	Quality Enhancement Cell	Allama Iqbal Open University, Islamabad.
4	Shah Jehan Khattak	Director	ICT	Allama Iqbal Open University, Islamabad.
5	Air Cdre Dr. Irfan-Ul-Haq (Retd.)	Consultant R &D	Research Management	Air University, Islamabad
6	Air Cdre Dr. Khalid M. Tahir (Retd)	Director	International Cooperation Office	Air University, Islamabad
7	Dr. Q. Isa Daud Pota	Director	Academics	Air University, Islamabad
8	Nasira	Assistant HR Officer	Human Resource	Air University, Islamabad
9	Shams Ur Rehman	PA to Director	Academics	Air University, Islamabad
10	Dr. Arbab Ali Khan	Deputy Dean,	Faculty of Engineering and Technology	International Islamic University, Islamabad
11	H.M.Ijaz Abbasi	Assistant Director	Personnel	International Islamic University, Islamabad
12	Imran Ullah Khan Marwat	Assistant Director	Quality Enhancement Cell	International Islamic University, Islamabad

13	Muhammad Riaz	Director	Quality Enhancement Cell	International Islamic University, Islamabad
14	Shagufta Haroon	Director	Academics	International Islamic University, Islamabad
15	Dr. Pervaiz Iqbal Cheema	Dean	Faculty of Contemporary Studies	National Defence University, Islamabad.
16	Arsalan Khan	Data Analyst	Quality Enhancement Cell	Quaid-e-Azam University, Islamabad
17	Sabih-ur-Rehman	Director(P&D)	Administration	Quaid-e-Azam University, Islamabad
18	Zulfiqar Ali	Manager	Students Financial Assistance & Scholarships	Quaid-e-Azam University, Islamabad