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Dissertation On

Journey towards QAA (Quality Assurance and Accreditation) mechanism to improve quality education of HEIs (Higher Education Institutions) in Bangladesh – Issues, Challenges and Prospects.

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DECLARATION

I do hereby declare that this dissertation entitled "JOURNEY TOWARDS QAA (QUALITY ASSURANCE AND ACCREDITATION) MECHANISM TO IMPROVE QUALITY EDUCATION OF HEIs (HIGHER EDUCATION INSTITUTIONS) IN BANGLADESH – ISSUES, CHALLENGES AND PROSPECTS" is the output of my own research, under the supervision of Professor Salahuddin M. Aminuzzaman, PhD, Professor of Public Administration, University of Dhaka, Dhaka, Bangladesh. The whole dissertation is prepared for academic pursuit and solely aimed for the partial fulfillment for the degree of Masters of Arts in Governance and Development.

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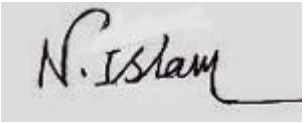

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CERTIFICATE

I hereby recommend and certify that this dissertation entitled **"**JOURNEY TOWARDS QAA (QUALITY ASSURANCE AND ACCREDITATION) MECHANISM TO IMPROVE QUALITY EDUCATION OF HEIs (HIGHER EDUCATION INSTITUTIONS) IN BANGLADESH – ISSUES, CHALLENGES AND PROSPECTS" is a research work conducted by Gazi Md. Nazrul Islam, MAGD-5, ID-13372018, under my supervision for partial fulfillment of the requirements for the Degree of MA in Governance and development, BRAC University, Dhaka, Bangladesh.

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This paper has been written as dissertation paper for Master of Arts in Governance and Development (MAGD) course, of Institute of Governance Studies (IGS), BRAC University. Doing MAGD with a research at IGS, BRAC University is intellectually stimulating and provides opportunities to learn from highly specialized and experience scholars in the field of governance and development as well as research. This dissertation is now towards the end of my MAGD program. This program could not have been completed without the support of several people whom I owe special thanks.

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The Author

Acronyms and Abbreviations

ACHEB: Accreditation Council for Higher Education in Bangladesh

ACPUB: Accreditation Council for Private Universities in Bangladesh

APQAN: Asia-Pacific Quality Assurance Network

AUQA: Australian Universities Quality Agency

CHEA: Council for Higher Education Accreditation

CMM: Capability Maturity Model

DEL: Draft Education Law

HEIs: Higher Education Institutions

HEQEP: Higher Education Quality Enhancement Project

IGS: Institute of Governance Studies

INQAAHE: International Network for Quality Assurance Agencies in Higher Education

ISO: International Standardize Organization

MoE: Ministry of Education

NACC: National Assessment and Accreditation Council

NEP: National Education Policy

NIST: National Institute of Standard and Technology

PUA: Private University Act

QAA: Quality Assurance and Accreditation

SA: Self Assessment

SPSS: Statistical Package for Social Science

TQM: Total Quality Management

UGC: University Grants Commission

UK: United Kingdom

UNESCO: United Nations Educational, Scientific and Cultural Organizations

USA: United States of America

VC: Vice Chancellor

Abstract

Quality of higher education is believed to be one of the most important aspects of national development through human resource development, imparting knowledge and social uplift in a country. Higher education institutions in general and policy agencies including ministry of education of Bangladesh are realizing the increasing role in national uplift through improving quality of higher education.

Purposes of this study are manifold: to explore the existing quality status and analyze the gaps between existing practices and formal quality assurance and accreditation (QAA) systems' practices, and to assess and tap the institutional learning and challenges of introducing of QAA mechanism in Bangladesh. Primary data are collected in order to determine the perceptions of faculty members towards quality improvement initiatives in Higher Education Institutions (HEIs). However, the intension is to explore the preparedness to introduce formal QAA mechanism and their implications on the institutional performance in the context of Bangladeshi HEIs.

The study revealed that HEIs in Bangladesh face a number of challenges in terms of formal quality assurance practices. The key variables brought from formal QA framework fell into six quality areas: leadership and institutional governance, curriculum, facilities, student, staff, and quality assurance process development. The study suggests that introducing formal QAA mechanism in HEIs in Bangladesh, the main challenge lies with quality assurance process development. Existing quality status from this study shows that quality areas of student, curriculum and facilities remain above the average level of standard, but the quality areas of leadership and institutional governance, staff and quality assurance process development are at worse condition as the surveyed population i.e. university teachers opined.

The findings would assist academicians to enhance quality assurance framework at national level as well as institutional level. However, the challenges the individual higher education institution would encounter to implement the formal QAA mechanism are addressed at length.

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CHAPTER ONE

1. Introduction

The purpose of this chapter is to set the background of the study. It begins with delineating the importance of quality assurance in respect of developing country like Bangladesh, growth tendency of higher education sector in Bangladesh and government response towards quality assurance and accreditation mechanism. Second section deals with the problems of quality education in the university level. This is followed by presentation of the purpose of research study in section three and research question in section four. Section five deals with the rational and significance of the study and in section six limitation of the research is presented. Finally, the organization of the dissertation is presented in section seven.

1.1 Background of the Study

Quality of higher education can contribute a lot to develop a country's competencies. It is often believed that quality of education is the key factor in determining the place of a nation in global competition (Materu P. , 2007). In an age of globalized and growth of knowledge based economy, it is important for Bangladesh to find a significant mechanism to increase the quality of higher education. The quality of a country's higher education sector as well as its assessment and monitoring is not only key to its social and economic well-being; it is also a determining factor affecting the status of that higher education system at the international level (UNESCO, Guidelines for quality provision in cross-border higher education, 2005).

Higher education sector in Bangladesh typically includes the universities along with university-affiliated colleges and the madrasas that provide education after higher secondary (up to grade 12) education. After the independence of Bangladesh in 1971, higher education was provided by the state and public universities were the only option for higher education and all were publicly financed autonomous entities. Next to the liberation, during 1972-73 Bangladesh had 6 universities and the students were 26,390 in number (Shamsul, 1985). The overall supply situation of higher education prior to the year 1990 can be characterized slower expansion due to autocratic rule in the country since 1975 and the political situation was not favorable to growth and expansion of higher education. Democratic process took the

place of autocracy in the country in year 1991 and government had followed an expansionary approach, particularly, in the sphere of degree colleges under the National University and liberally approved the charters for private universities. Private universities have grown rapidly in number and enrollment since the adoption of Private Universities Act 1992. Forty years later from the independence, in 2012 there were 34 public universities out of which 10 universities had 3,477 affiliated colleges and madrasas, 60 private universities and 22,05,183 students were studying in those institutions (UGC, 39th Annual Report, 2013).

Following this rapid expansion, the issue of the quality of higher education has become a point of discussion and major concern among all stakeholders including the government. There is a general concern that rapid enrollment expansion accompanied by inadequate infrastructure and resources, incompatibility of existing capacity and lack of organizational arrangements may result in deterioration of academic quality and standards. As a response to the increasing concerns, some initiatives such as policy improvement, implementation of quality specific development program and legislative improvement has been taken to enhance the quality of higher education by the government.

Policy improvement includes preparation of a long term (twenty years) strategic plan namely Strategic Plan for Higher Education in Bangladesh: 2006-2026, and formulation of a modern and scientific National Education Policy (NEP) – 2010 which among other issues promise to increase quality of higher education. In education policy it is mentioned that private universities, public universities and other institutions offering graduate and post-graduate degrees will be brought under surveillance to evaluate their performance and an Accreditation Council with adequate authority will be formed to carry out that responsibility (NEP, 2010). With the assistance of the World Bank, the apex body of the government of Bangladesh for university education, the University Grants Commission (UGC) since May, 2009 has been implementing a development program namely Higher Education Quality Enhancement Project (HEQEP). To improve the quality and relevance of the teaching and research environment in higher education institutions through encouraging both innovation and accountability within universities and by enhancing the technical and institutional capacity of the higher education sector, the Ministry of Education (MoE), the apex policy making and administrative body of the government of Bangladesh has undertaken this

quality specific development program. Legislative development includes up-gradation and modernization of Private University Act (PUA) 1992 through approving Private University Act (Act no. 35) 2010 which also among other issues promises to increase quality of private universities education. Article 36 of this Act provides to ensure the quality education and mentiones that each university shall have internal quality assurance cell/unit of its own and each of them must include a chapter or description in its annual report about measures taken by the university to assure the quality education and Article 38 provides for setting up of an independent, separate and national Accreditation Council for ensuring a set standard in higher education (PUA, 2010). To implement the national education policy, the MoE has already prepared a Draft Education Law (DEL) expounding the quality assurance and accreditation mechanism to assess and assure the quality of the education provided by both public and private institutions (DEL, 2013). Higher Education Institutions (HEIs) offering graduate and post-graduate program must have an internal quality assurance mechanism to get accreditation from the proposed Accreditation Council.

Therefore, formal quality assurance and accreditation (QAA) mechanism is an even more recent phenomenon in Bangladesh. The increasing concern for quality comes from growing recognition of the potentially powerful role of higher education for growth and its rapid expansion. The QAA mechanism has the potential to promote improvement in the HEIs and programs in ways that are linked not only to acquire competencies or employment of graduates but also to more efficient and transparent operations of the institution itself and its programs (Charman, 2006).So research relating to this mechanism will help to expedite immediate implementation of this mechanism in the higher education arena.

1.2 Problem Statement

Bangladesh is one of the most vibrating developing countries, presenting a distinct window of opportunity for the higher education sector. In the total education system, higher education has a special significance being the producers of leaders of social advancement, business, industry, technology, legal system, health services, public services, and politics. Thus higher education previously considered in Bangladesh as a privilege of the fortunate few, has been regarded as a basic absolute need for the prosperity, development and stability of the country. Poor quality or disconnection between the needs of graduates' attributes of

market and graduates produced by the HEIs has contributed to high level of graduates' unemployment and under employment. The current situation of higher education in Bangladesh appears to form a vicious cycle in which both the public and private universities unintentionally lower the quality of education due to competition (Yuto, 2006).

Public universities in Bangladesh still maintain their role as the "conscience of the society" and no longer pursue knowledge for their own sake; rather they provide qualified manpower and produce knowledge. The accountability and quality assurance of public universities is mainly practiced through the Senates, Syndicates, the vice-chancellors, faculty deans and other committees such as the academic councils and finance committees. Each public university relies on its own mechanism to ensure quality (Tasmina, 2008). The overall accountability culture of public universities teacher is concerned to the nation. In 39thannual report UGC noticed its deep concern about the accountability of the public university teachers:

> *….Many teachers do not attend their routine class regularly or they are absent in class without prior notice to the students. Even in practical class they are not present properly.….many teacher are absent from their work place….some of them alleged for teaching in more than one private university as part-time teacher and they spend more time to the private university rather their employing public university* (UGC, 39th Annual Report, 2013)

The overall quality condition in private universities is not satisfactory though some of them provide quality education and produce quality graduates. Many private universities operate their academic programs in industrial, commercial or residential areas. In the same building, some space is rented to the private universities for their academic program and the rest for restaurants, shops or other commercial purposes. As per regulation private universities have to operate their academic programs in their own campuses within the seven years since their inception. But, though 50 universities have passed 5-19 years of their academic operation, only 11 universities have been operating their academic function in their own campuses as per rules (UGC, 39th Annual Reporrt, 2013). It is commonly said that private universities are responsible for deteriorating the quality of higher education; even some institutions are selling certificates (Habibullah, Rouf, & Rana, 2012).

Many of the faculty members in Bangladeshi universities appear unmotivated to conduct their own academic research due to problems e.g. lack of research funding, absence of a staff development program, heavy teaching load, and an unclear system of recruitment and promotion (Yuto, 2006).It is generally agreed by academicians, education researchers and other stake holders that the quality of higher education in Bangladesh has declined steadily, in some areas quite alarmingly, over the last two decades (Aminuzzaman S. M., 2011). On the contrary, increasing importance of higher education to competitiveness and economic development changes brought about by the transition to a knowledge economy have created a demand for higher skill levels in most occupations. A new range of competences such as adaptability, team work, communication skills and the motivation for continual learning have become critical. Thus, HEIs are challenged to adjust their program structures, curricula, teaching and learning methods to adapt these new demands. In recognition of these challenges, greater attention is being focused on to establish a formal QAA scheme as this scheme addresses the attainment of all these demands.

Quality of higher education is considered as one of the most important aspects of human resource development, knowledge creation, and social uplift in the recent time. The formal quality assurance and accreditation mechanism is the golden key for entry into a knowledge based global society and also for gaining access to the competitive global market of talent and merit. All developing nations are moving fast to stamp their feet on the global competitiveness through establishing formal QAA scheme in their tertiary education sector. In Bangladesh it has to make sure that the academic standard and the quality provisions are satisfactory so that students, their families, employers, tax-paying citizens and the founder of private universities all get a good deal on their investment in higher education. But not much is known about how the HEIs in Bangladesh assure quality of higher education under the circumstances of rapid enrollment and program expansion, and in the face of a multitude of constraints including faculties reactions about institutional changes require to introduce the QAA scheme.

Hence, this study focuses on the analysis of the quality of Bangladeshi higher education and the university teachers' perception towards formal QAA mechanism. It sets out to examine existing quality of university education in terms of improving student learning, gaps and constraints, and to identify the contextual factors that influence the adoption and

implementation of formal QAA mechanism in the universities. Formal quality assurance and accreditation process follows a fundamental framework or structure under which overall quality of education program provides by HEIs is assessed and then provides level of satisfaction certificates by the competent authority. Fundamental areas of assessment regarding over-all quality of the education program are: leadership and governance, curriculum, student management, teaching and non-teaching staff management, available facilities relating to standard of quality education and continuous quality improvement or quality assurance process implementation. Therefore this study attempts to find out the quality status within the specific quality assurance framework so that it can address the challenging areas and find an innovative solution so that over-all quality of the country's higher education must be ensured.

1.3 Purpose of the Study

Purpose of this study is to evaluate the preparation of universities to introduce formal QAA mechanism in HEIs in Bangladesh. This research is meant to explore the existing quality status and find the gaps between existing practices and formal practices in established QAA practices developed countries especially developing countries in Asia-Pacific region and also to find improvement so that HEIs can enter the formal QAA process within a desirable time frame. Finally, this study broadly attempts to assess and tap the institutional learning and challenges of introduction of QAA in selected universities. This study comprises of analyses of organizational level quality assurance systems and practices; it deals with terms and concepts like quality and its assurance, quality assurance models and their underlying assumptions and with theories that can be used to explain how contextual factors influence existing practices and the sort of challenges that HEIs face in improving quality culture.

1.4 Research Question

This study comprises of analyses of programs and institutional level quality assurance systems and practices; it deals with terms and concepts like quality, its assurance and accreditation, QAA models and their underlying assumptions and with theories that could address QAA system in Bangladesh. Therefore, this research will address the question:

What are the specific academic and institutional challenges that affect the process of introduction of QAA mechanism in HEIs in Bangladesh?

1.5 Rational and Significance of the Study

Quality of higher education and its assurance come at the forefront of all crucial issues in the context of increasing recognition of the role of HEIs for national development of a developing country like Bangladesh. In Bangladesh context, research on higher education in general and on quality assurance in particular is inadequate. As formal QAA process is recent phenomenon to the HEIs, this research will meet the research gap in the topic of quality assurance and accreditation system. The old public universities (especially those established before 1990) are becoming complex in terms of expanding access and study programs and they depend on government for their full financial resources. These trends raise a concern about quality of education and thus lead to demands for accountability on the part of universities. Such changes necessitate undertaking of a study such as this, which helps to fill up the research gap on quality and quality assurance practices in Bangladeshi universities.

This study is significant because it adds both theoretical and practical knowledge to the available literature on how universities develop and implement quality assurance mechanisms to improve quality of their education that lead them to faster recognition from the accreditation council. This study helps to raise awareness of key stakeholders regarding the problems and challenges in the development and implementation of QAA mechanism and the areas that need improvement. This study will also help to form the viewpoint of administrators as it will enable them to clearly realize the mutual relationship between the intended objectives of a proposed plan, its implementation and the perception of the key stakeholders. Finally, it is expected that analytical information gathered for the study will help in any future policy formulation of the quality of higher education.

1.6 Limitations of the Study

The empirical focus of this study is limited to the analyses of systems and practices of assuring quality of education at program level of selected universities in Bangladesh. The degree under National University or affiliated colleges, or other institutions provide equal

levels degree is not focused in this study. Another limitation of this study is that perception of different stakeholders such as employers, students, and guardians' regarding quality of the higher education is not focused in this study. Besides, only the role of university regarding teaching-learning system is focused in this study. Other two roles of a university – research and community engagements are overlooked for this study.

1.7 Structure of the Dissertation

The structure of the dissertation is formed according to the format and guidelines approved by the Institute of Governance Studies (IGS) of Brac University, Dhaka, Bangladesh. Introduction, literature review, methodology, data analysis and discussion, and recommendation and conclusion are the component of this dissertation. Introductory chapter-1 introduces the background of research, problem statement, purpose of the research study, research question, rational and significance of the research study and limitations of the research. Chapter-2 presents the literature review. In this chapter, related terminologies relating to QAA mechanism, quality assurance model and literature related to this mechanism in developed countries, developing countries, networking agencies of quality assurance and literature related to the quality of higher education in Bangladesh are reviewed. Chapter-3 deals with the research methodologies, chapter-4 deals with the data analysis and findings, and chapter-5 is presents conclusion and recommendation.

CHAPTER TWO

2. Literature Review

2.1 Introduction

In this chapter literature related to quality of higher education especially quality assurance and accreditation focused literature is critically reviewed in international, regional and Bangladesh context. The issues on these concepts have been domains of debate in the literature concerning higher education; the focus being on what counts as quality and how that can be assured in higher education. This chapter deals with the arguments highlighted in the literature on quality assurance in higher education. It begins with the varied definitions proposed to grasp quality and its assurance. Another key dimension of the literature deals with the arguments on the different models of quality assurance. Such arguments are embedded in the power tension between improvement and accountability, respectively associated to internal and external quality assurance. A critical review of the different literature related to quality of higher education in Bangladesh context is presented in last section.

2.2 Conceptualizing Quality Assurance and Accreditation Mechanism in Higher Education

The basis for conceptualizing is, as in any field of study, to start with providing working definitions for the most frequent and endemic vocabulary. Accordingly, this study makes use of basic terminologies pervasive in the literature in order to carve the main theme of this study.

2.2.1 Defining Quality in Higher Education

Many discussions on quality start with a quote from the book Zen and the Art of Motorcycle Maintenance:

> *"Quality...you know what it is, yet you don't know what it is. But that's self-contradictory. But some things are better than others, that is they have more quality. But when you try to say what the quality is, apart from the things that have it, it all goes poof! There's nothing to talk about. But If you can't say what Quality*

is, how do we know what it is, or how do you know that it even exists? If no one knows what it is, then for all practical purposes it doesn't exist at all. But for practical purposes it really does exist. What else are the grades based on? Why else would people pay fortunes for some things and throw others in the trash pile? Obviously some things are better than others... but what's the 'betterness'? So round and round you go, spinning mental wheels and nowhere finding any place to get traction. What the hell is Quality? What is it?" (Pirsig, 1974)

The quote from Pirsig shows how desperately the writer is thinking about quality and reveals the problem that relates to quality. There is no general consensus on the concept of quality. An objective definition of quality does not exist, because quality is just like beauty, it is in the eyes of the beholder. While the general concept of quality is already a difficult concept in itself, quality in higher education is much more confusing, because it is not always clear what the "product" is and who the "client". Is the "graduate" the "product" that universities offer society and the labour market? Or is the graduate-to-be, the student, universities' "client" and the program that universities offer the product"? It only could be said that a university has a multiple product system and a multi-client system (IUCEA/DAAD, 2010). D. A. Gravin classified the various definitions of quality into five major groups (Gravin, 1988):

(1) Transcendent definitions. These definitions are subjective and personal. They are eternal but go beyond measurement and logical description. They are related to concepts such as beauty and love.

(2) Product-based definitions. Quality is seen as measurable variable. The basis for measurement is objective attributes of the product.

(3) User-based definitions. Quality is a means for customer satisfaction. This makes these definitions individual and partly subjective.

(4) Manufacturing-based definitions. Quality is seen as conformance to requirements and specifications.

(5) Value-based definitions. These definitions define quality in relation to costs. Quality is seen as providing good value comparing its costs.

In the discussion on quality in higher education, an article by D. Green is often quoted in which he makes a distinction between (Green, 1994) :

(1) *Quality as excellence.* In this concept, the emphasis is on high-level standards. Being the best, being excellent. People talking about promoting quality frequently mean promoting *excellence*;

(2) *Quality as fitness for purpose.* With this concept of quality, the basic question is if the university is able to achieve its formulated goals. It concerns the quality of the processes;

(3) *Quality as a threshold.* In this view, quality is seen as meeting threshold requirements. This quality concept often forms the basis for accreditation decisions;

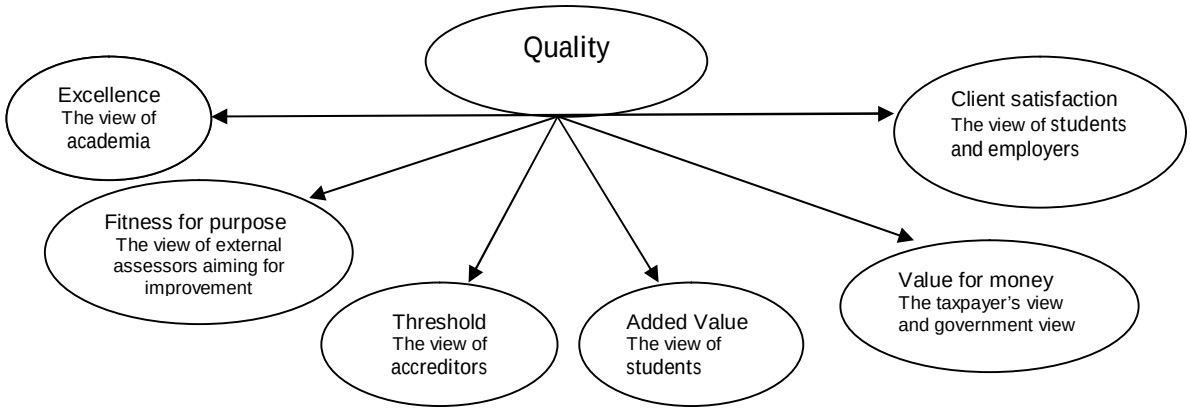
(4) *Quality as added value.* This concept emphasizes what happens to the students. Education is about doing something *to* the student. It is the method of formulating learning outcomes and realizing the outcomes in the graduates;

(5) *Quality as value for money*. This quality concept has its focus on efficiency. It measures outputs against inputs. It is often a concept supported by governments; and

(6) *Satisfaction of the client.* With the rise of the concept of the "student as a consumer", quality is described as: "something has quality when it meets the expectations of the consumer; quality is the satisfaction of the client".

This definition sustains the stakeholders' views of quality. In line with this, Cheng and Tam described quality as a system that constitutes the input, process, and output of the educational system and that provides services that completely satisfy both internal and external stakeholders by meeting their explicit and implicit expectations (Cheng, Y & Tam, W, 1997).On the basis of Green's definition different views regarding quality education may illustrates in following figure:

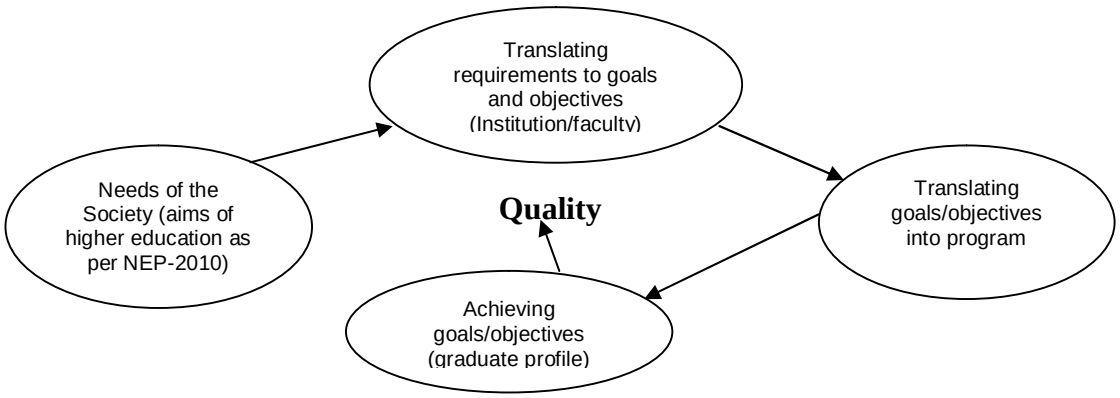
Figure-1: Different views of quality



The issue of education as a whole deserves special attention in the context of Bangladesh which emerged out as an independent country through a long gory War of Liberation causing the martyrdom of 3 million Bangladeshies along with heart-rending loss of chastity of 0.2 million females. The nation fought against all kinds of injustices including educational injustice done to it by the pre-liberation rulers. Therefore, as a legacy of the Liberation War, education has been given special importance in the constitution of Bangladesh. The directives of the constitution of Bangladesh regarding education are reflected in the Article 17 (b) which stipulates adopting effective measures by the state to relate 'education to the needs of society and produce properly trained and motivated citizens to serve those needs' (Constitution, 1972).In light with the spirit of the constitution, the government of Bangladesh has already formulated the National Education Policy'2010. In it, aims and objectives of Higher Education have been laid down as enabling students acquire research based world-class modern and fast advancing education which will encourage them identify the societal problems and also suggest solutions to them . In addition to this, it aims to promote unhindered practice of intellectual exercises and growth of free-thinking among the students, which will ultimately pave the way for building up liberal, humane, forward-looking citizens inspired by wisdom, creativity, human values and patriotism (NEP, 2010).

So in Bangladesh context, as far as possible, the needs of the society i.e. the requirements of all stakeholders (directives of the constitution) and the aims of higher education (stated in education policy) should be translated into the mission and goals of an institution and into the objectives of a faculty and of the educational program(s) as well as research program(s). The university or faculty or department, as ultimate supplier has challenges to provides graduates as required by the society. If this is the case, then it could be said that the university or faculty or department has 'quality' education presented in the following diagram.

Figure-2: Quality Education



2.2.2 Quality Assurance

Quality assurance means that the specific quality of goods and services has been maintained. Most authors on the concept of quality assurance quoted it as ‘a systematic, structured and continuous attention to quality in terms of quality maintenance and improvement (Vroeijenstijn A. , 1995). The goal of quality assurance is to improve the quality and continuously to do so for the betterment of the overall quality. To define quality assurance Wilger shares the views that quality assurance is a collective process by which a university ensures that the quality of educational process is maintained to the standards it has set itself (Wilger, 1997). In this case standards can be described as a statement in general or specific terms on the knowledge, understanding, skills and attitude to be demonstrated by successful graduates.

In the context of higher education, quality assurance is viewed as the ongoing development and implementation of ethos, policies, and process that aim to maintain and enhance quality as defined by articulated values and stakeholder needs (Boyle & Bowden, 1997). Quality assurance serves as a number of purposes. Apart from protecting student and employer interest and facilitating international recognition of the standards of awards, it is an important element for public accountability purposes, particularly to satisfy taxpayers about value for money and that government subsidies are supporting education activities of an appropriate standard (Grant, 2000).The International Network for Quality Assurance Agencies in Higher Education (INQAAHE) states that assurance of quality in higher education is a process of establishing stakeholder confidence that provision fulfils expectations or measures up to threshold minimum requirements. It embraces input, process and outcomes (INQAAHE, 2005).

Therefore, it could be said that assurance of quality in higher education is a process of establishing stakeholders’ confidence that provision (input, process and output) fulfills expectations or measures up to threshold minimum requirement. Quality assurance is all-embracing term for assessing, monitoring, guaranteeing, maintaining, and improving the quality of a HEIs or a program offered by HEIs or both. It is an ongoing continuous process of evaluating the quality of the education. It varies from accreditation, in the sense that the former is only a prerequisite for the latter.

2.2.3 External versus Internal Quality Assurance

There is a continuous debate in the quality assurance literature on whether the emphasis of quality assurance should be on accountability or on improvement. How appropriate balance between these two purposes might be struck is also another point (Campbell C & Rozsnhi C, 2002). The dichotomy between external (accountability-oriented) and internal (improvement-oriented) quality assurance exercises is a matter of how the exercise is initiated, who owns the practice and the resulting effect on higher education institutions. Internal quality assurance refers to those policies and practices whereby academic institutions themselves monitor and improve the quality of their education provision, while external quality assurance refers to supra-institutional policies and practices whereby external bodies assure the quality of higher education institutions and programs (Dill, 2007).

It is argued that external quality assurance is in general more accountability-oriented, summative, and judgmental and that it provides only a snapshot of quality, while internal quality assurance is more formative in nature and likely to lead to continual quality improvement efforts and the development of quality culture in institutions (Barnett, 1994). External quality assurance assumes the conceptions of quality as fitness for purpose and value for money, whereas the transformation view of quality is linked with internal quality assurance approach.

On the one hand, Van Vught argues that quality assurance systems that only emphasize on collegial peer review without reference to the needs of outside stakeholders like professional organizations, employers and other training organizations risk isolating higher education institutions from the rest of the world (Van Vught, 1994). On the other hand, the academic experts of the institutions may not take quality assurance systems seriously and are limited to merely providing accountability to the state. This suggests the need for the right balance between the two.

Therefore, the internal and external approaches are not mutually exclusive opposites but both are essential, in relative proportions, for successful quality assurance system at the HEIs. In this regards, the equilibrium between the internal and external mechanisms, mediated by institutional quality culture, is necessary for the effective implementation of

quality assurance in HEIs (Harvey, Impact of Quality Assurance: Overview of a discussion between representatives of external quality assurance agencies, 2006).

2.2.4 Self-Assessment

Self-assessment is an exercise conducted by the institution/department by itself to assess whether it programme(s) meet their educational objectives and outcomes with the purpose to improve quality of programme(s) and enhance students' learning. Peter Materu uses the term "academic review" is synonymous to "self assessment". According to Materu,

> "an academic review is a diagnostic self-assessment and evaluation of teaching, learning, research, service and outcomes based on a detailed examination of the curricula, structure, and effectiveness of a program as well as the quality and activities of its faculty. It is designed to give an institution an evaluation of its own academic programs based on a self-assessment by the unit, a peer review by colleagues outside the program, and a report on the findings" (Materu P. , 2007).

Through self-assessment process, an institution comes to know about their strengths and limitations regarding their offered program(s). It is like looking at the institution by itself in a 'mirror'. Self-assessment is the first step for ensuring quality and it is used as an indicator for continuous improvement. It is the cornerstone of the evaluation methodology and real quality that is the sustainable one assessed by institution it-self. Unlike an audit, an academic review can be limited to a single program and does not involve a site visit by reviewers external to an institution. The self-assessment report required for submission at the time of assessment for accreditation should be self-critical and reflective, as inspection and quality control imposed from outside would not work (Frazer, 1992). The focus of the self-assessment provider is on "students learning experience and achievements; learning resources; and on evaluation of curriculum design, content and organization; teaching, learning and assessment, students achievement, students support and guidance; leaning resources and quality assurance and enhancement" (Jackson, 1997).

2.2.5 Quality Monitoring / Quality Audit

Quality monitoring or quality audit is a process of examining institutional procedures for assuring quality and standards and whether the arrangements are implemented effectively

and achieve stated objectives. According to Materu, “Audit is a process of review of an institution or program to determine if its curriculum, staff, and infrastructure meet its stated aims and objectives. It is an evaluation of an institution or its program s in relation to its own mission, goals, and stated standards” (Materu P. , 2007). The function of quality monitoring or quality audit is to assess the quality of the program offered by an institution as well as assess the overall performance of the institution as a whole regarding maintenance of the quality education.

Quality audit is adopted to monitor commitment of staff, improvement in education system, determinations of academic standards, maintenance and enhancement of quality and standards and implementation of concept of fitness for purpose (Baird, 2006). It reassures external stakeholders such as employers, professional bodies and the general public about legitimate quality of a higher education institution. It also offers an impartial and objective mechanism for assessing the educational institution by a peer team not directly related to the institution. The team critically analyses the self-assessment report and the quality provisions based on established criteria and also checks institutional reports, records and policies as well as discussion with students and key staff (Mishra, 2006). The key difference between an audit and accreditation is that the latter focuses on standards external to the institution, usually national, and an assessment of the institution in terms of those standards (Materu P. , 2007)

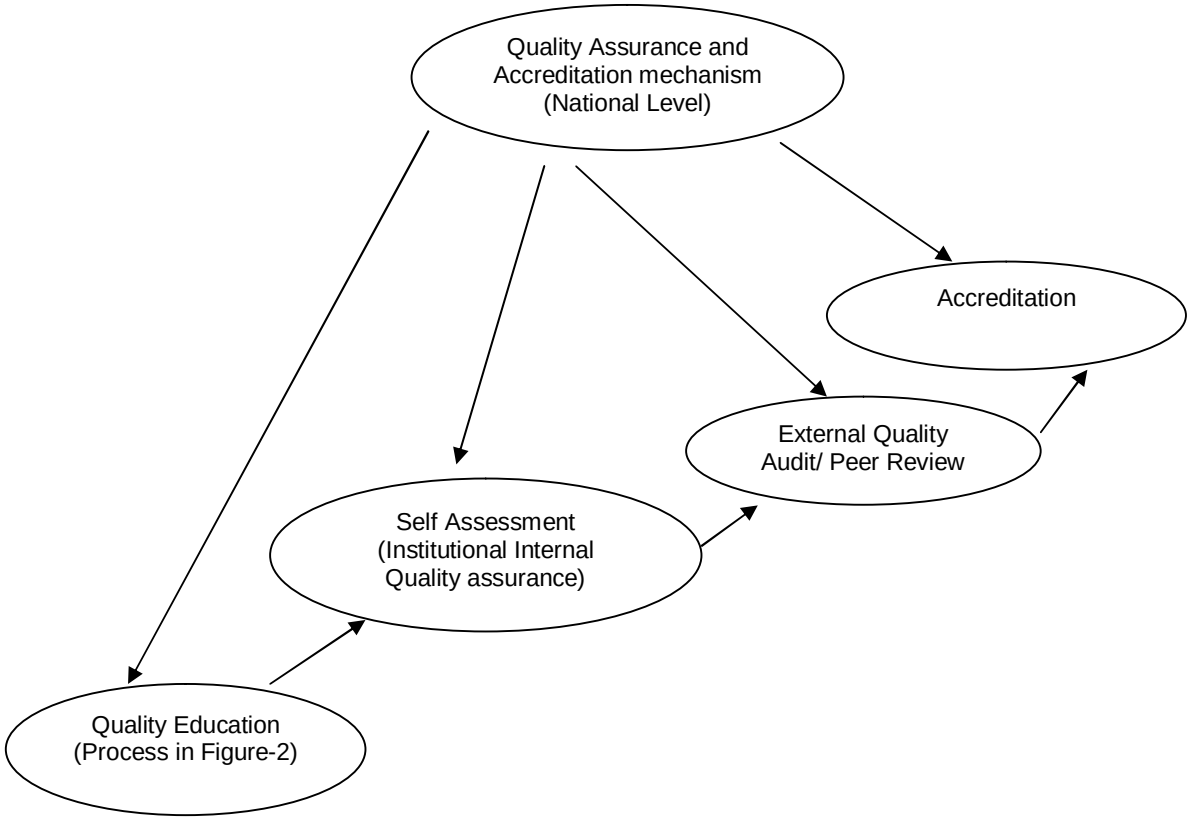
2.2.6 Accreditation

Accreditation is the immediate output of quality assurance process. Accreditation is a certification that an institution or a specific program possesses educationally appropriate objectives that are being achieved. If quality audit team or external quality monitoring team through a site-visit is satisfied with the appropriateness of achieving goals then they recommend to the accreditation board for providing accreditation. According to Farashuddin, “Educational Accreditation may be defined as a type of quality assurance process under which services and operations of educational institutions or programs are evaluated by an external agency to determine if applicable standards are met. If standards are met, accreditation status is granted by the agency” (Farashuddin, 2013).

Accreditation follows a systematic process. The process starts with the self-assessment done by the institution itself. Then external quality audit/review used to check the appropriateness of the assessment. The reviewers then report to the accreditation body and the body, if satisfied, provides accreditation to the institution. According to Materu, "The process is designed to determine whether or not an institution has met or exceeded the published standards (set by an external body such as a government, national quality assurance agency, or a professional association) for accreditation and is achieving its mission and stated purpose. The process usually includes a self-evaluation, peer reviews and site visits. Success results in accreditation of a program or an institution" (Materu P. , 2007).

From the North-American experience, Accreditation assures the educational community, the general public, and other agencies or organizations that an institution or program (a) has clearly defined and educationally appropriate objectives, (b) maintains conditions under which their achievement can reasonably be expected, (c) is in fact accomplishing them substantially, and (d) can be expected to continue to do so (Chernary, 1990). Accreditation is formal decision, based on evaluation of past performance, indicating that certain standards, certain minimum requirements are met (Vroeijenstijn, 2003). Therefore, the final concept of formal quality assurance and accreditation mechanism is presented in figure-3.

Figure-3: Conceptual Framework of Quality Assurance and Accreditation mechanism



2.3 Quality Assurance Models

As there are different views and interpretations of quality, there are different models of quality assurance as well. G. Williams noted that the occurrence of quality management approaches in higher education is a product of market ideologies of the 1980s and the managerialism that accompanied it (Williams, 1993). There are four popular models of quality assurance: Baldrige criteria, ISO 9000-2000, Capability Maturity Model, and Total Quality Management (TQM) (Mishra, 2006). These models were developed for various industries keeping in view their needs and all of them are process-oriented and emphasize on the development of a system of quality assurance. To get an overview so as to have an understanding of different models and criteria adopted in these models, a detailed description of them is provided.

2.3.1 Baldrige Criteria

The Baldrige criteria help organizations identify, understand, and manage the factors that determine their success. In the United States of America, the Malcom Baldrige National Quality Award is the highest award for performance excellence managed by National Institute of Standard and Technology (NIST). In order to promote quality awareness and recognize quality achievements, the Congress established this award in the year 1987. The 2007 criteria for performance excellence in education have several sub-categories that primarily focused on learner-centered excellence, which are summarized along with point values/weight in Table 1 (NIST, 2006).

Table 1: Balgrige Criteria for Performance Excellence in Education

2007 Categories	Point value
1. Leadership	120
1.1 Senior Leadership (guide and sustain the organization)	70
1.2 Governance and Social Responsibility	50
2. Strategic Planning	85
2.1 Strategy Development	40
2.2 Strategy Deployment	45
3. Students, Stakeholder and Market Focus	85
3.1 Students, Stakeholder and Market Knowledge	40
3.2 Student and Stakeholder Relationship and Satisfaction	45
4. Measurement, Analysis and Knowledge Management	90
4.1 Measurement, Analysis and improvement of Organizational Performance	45
4.2 Information and Knowledge Management	45
5. Workforce Engagement	85
5.1 Workforce Engagement	45
5.2 Workforce Environment	40
6. Process Management	85

6.1 Work System Design	35
6.2 Work Process Management and Improvement	50
7. Results	450
7.1 Student Learning Outcome	100
7.2 Student and Stakeholder Focused Outcomes	70
7.3 Budgetary, Financial and Market Outcomes	70
7.4 Workforce-Focused Outcomes	70
7.5 Process Effectiveness Outcomes	70
7.6 Leadership Outcomes	70
Total Points	1000

2.3.2 ISO 9001 Model

ISO 9001 refers to a series of standards for quality assurance within organizations, introduced in 1987 by the International Organization for Standardization (ISO), which is based in Geneva, Switzerland (Abraham, M; Crawford, J ; Carter, D; & Mazotta, F, 2000). The ISO approved guidelines for the application of ISO 9001: 2000 in education in October 2002 in Acapulco, Mexico in the International Workshop Agreement (IWA 2) that assists educational organizations in providing educational products in conformity with ISO 9001: 2000. It has 21 elements in four major sections: Management responsibility, resource management, product realization and measurement, analysis and improvement as shown in Table-2 (ISO, 2003).

Table 2: ISO 9001:2000 for educational organizations

5. Management responsibility
5.1 Management commitment in the educational organization
5.2 Customer focus in the educational organization
5.3 Quality policy in the educational organization
5.4 Planning
5.5 Responsibility, authority and communication
5.6 Management review in education sector
6. Resource management

6.1 Provision of resources in the educational organization 6.2 Human resources in the educational organization 6.3 Infrastructure in the educational organization 6.4 Work environment in the educational organization
7.Product realization
7.1 Planning of product realization in the educational organization 7.2 Customer-related process 7.3 Design and / or development 7.4 Purchasing 7.5 Production and service operation 7.6 Control of monitoring and measuring devices in educational organization
8. Measurement, analysis and improvement
8.1General guidance in the educational organization 8.2 Monitoring and measurement 8.3 Control of nonconformity products in the educational organization 8.4 Analysis of data in the educational organization 8.5 Improvement

The ISO 9001 and 9002 standards are meant for compliance that can be certified by a third party (an accreditation body approved by the IOS). Organizations interested in getting the certification contact a certification body and prove their compliance over a period of 6-8 months to satisfaction of the agency as per standards (Mishra, 2006).

2.3.3 Total Quality Management (TQM) Model

TQM is derived from the 1951 Total Quality Control concept originated by Feigenbaum. TQM is a comprehensive philosophy that is grounded in implanting awareness of quality in all organizational processes. “TQM is a people driven process. It involves changed in people’s attitudes primarily. In addition, it deals with process orientation and continuous improvement of the process. It strives for empowerment and autonomy of the people involved in using production process. It asks people to continuously look for new ways to adapt to the changing environment. It is a continuous improvement plan, with an effort to bring out the best for the stakeholders as well as for the institution” (NAAC, 2003).

A variety of meanings and approaches to TQM have evolved over the past years (Kanji, 2001). Instead of focusing on what is unique in each approach, Harvey identified ten issues (Harvey, 1995) that are common in most Total Quality Management approaches that Berghe classified them into two categories (Berghe, 1997). The first five underlying concepts of TQM are: a clear customer focus; continuous improvement; quality assurance of internal processes; process orientation, and prevention instead of inspection to achieve quality. The other five issues: management and leadership commitment, involvement of all employees at all levels, teamwork, systematic problem solving, and focus on facts are operational principles of TQM. In this regard, quality assurance, as one of the underlying concepts, is an integral component of TQM and is linked to other components.

At the center of TQM is a systematic and continuous improvement of quality, which in itself is a process, the process of applying methods such as the Plan-Do-Check-Act (PDCA)-cycle (Ellen & Lawrence, 1992). In general, proponents of TQM argue that it is a deliberate, strategic and systematic organizational and management approach characterized by constant organizational effectiveness, innovation, improvement and change.

2.3.4 Capability Maturity Model

The United States (US) Air Force funded the Capability Maturity Model (CMM) initially at the Carnegle-Mellon Software Engineering Institute. The CMM was originally intended as a tool to evaluate the ability of government contractors to perform contracted software projects. Though the model is designed for software development, it can be used in other settings as a measure to assess the maturity of the process. The CMM is based on the concept of 'Key Process Areas' that collectively achieve a set of goals important for enhancing process capability. The CMM recognizes five levels that signify the following (Paulk, M, C; Curtis, B; Chrissis, M,B; Weber, C, V, 1993):

1) Initial: The software process is characterized as ad hoc, and occasionally even chaotic. Few processes are defined, and success depends on individual efforts.
2) Repeatable: Basic project management processes are established to track cost, schedule, and functionally.

3) Defined: The software process for both management and engineering activities is documented, standardized, and integrated into a standard software process for the organization.
4) Managed: Detailed measures of the software process and product quality are collected. Both the software process and products are quantitatively understood and controlled.
5) Optimizing: Continuous process improvement is enabled by quantitative feedback from the process and from piloting innovative ideas and technologies.

Quality has been interpreted in different domains of knowledge. Each one of these four models is based on a philosophy of its own, and can be applied to education and training situations with necessary adjustments as the university or agency desires. Among these five models, a single model cannot be directly applied to higher education. In contrast to industry, higher education has a multiple client system and a multiple product system. The basic principles stay intact, but the models are adapted to the specific characteristics of higher education. The models help discover strengths and weakness and show a holistic view of quality. Every country which has been practicing QAA mechanism has been practicing quality assurance model developed by the country's own perspectives. QAA mechanism established in developed countries as well as developing countries has been presented in the next section.

2.4 Quality Assurance and Accreditation mechanism in international perspectives

This section presents a review of the experiences of some developed and developing countries with purpose to drive at some international trends in quality QAA practices. The United States of America (USA), The United Kingdom (UK) and Australia are selected from the developed countries as they have long experience in quality assurance. Besides, Malaysia and India are selected as they are developing countries in Asia and also have the same experiences. Different quality assurance agencies all over the world formed different quality assurance network agencies at international level as well as the regional level for mutual recognition of their programs and sharing of their experiences. This section has divided into two sub-sections. In the first sub-section country/national level quality assurance process has been discussed and the second sub-section deals with network agencies. Finally a quality assurance framework developed by Asia-Pacific Quality

Assurance Network has been presented to compare whether developing QAA mechanism trend in Bangladesh is on the right track or not.

2.4.1 QAA Practice in Five Selected Countries

Before 1990s, there were very few external quality review agencies outside the United States. National governments and international bodies are hard pressed to find some internationally comparable standards by which to judge programs and degrees in order to assure quality education and increase the international recognition of credentials (Kapur & Crowley, 2008).

In the USA, the Council for Higher Education Accreditation (CHEA) recognition confers an academic legitimacy on accrediting organization (www.chea.org). In the UK, the role of the Quality Assurance Agency (QAA) is to inspect, audit and report on the quality procedures within institutions. The Quality Assurance Agency for Higher Education in the UK performs quality audits of the overseas partnerships through which British degrees are granted, with the same qualifications as for national institutions (www.qaa.ac.uk). Similarly, the Australian Universities Quality Agency (AUQA) has been established to monitor, audit and report on quality assurance in HEIs (www.auqa.edu.au). To regulate all activities and to increase the efficiency of higher education institutions the government of Malaysia established National Accreditation Board (LAN) in 1998. The Malaysian Quality Framework (MQF) was adopted in 2004, and the framework has become even more centrally controlled after the founding of Malaysian Quality Agency (MQA) which is a merger of LAN and the quality assurance division of the MOHE and responsible for the implementation of MQF (Fahmi, 2008) (www.mqa.gov.my).In India UGC of India established National Quality Assurance and Accreditation Council at Bangalore as a registered autonomous body on 16th September 1994 under an ACT (www.naacindia.org). The Quality Assurance aspects of these five countries are presented in following Table-3.

Table 3: QA aspects of some selected country

QA Aspect	USA	UK	Australia	Malaysia	India
Name of QA agency (National Body)	Commission on Accreditation CoA Federation of Regional	HEQC Quality Assurance Agency for	Australian Universities Quality Agency	Malaysian Qualifications Agency (MQA),	National Assessment and Accreditatio

	Accreditation of Higher Education (FRACHE) merged to form COPA then CHEA	Higher Education (QAAHE)	(AUQA), Australia	Malaysia (formerly LAN in 1997-2007)	n Council (NAAC), India
Year of establishment	COA-1949, FRACHE-1974, COPA-1993, CHEA-1997	HEQC 1993 to 1997, QAAHE 1997	2001	MQA 2007	1994
Established by	Private, Non-profit Organization	Government & Institutions. Register as a Private limited company	AUQA was established jointly by eight state governmen t and the Commonw ealth governmen t	Govt. MQA is a statutory body.	Govt . autonomous organization registered under Karnataka Societies Registration Act 1960.
Funded by	Subscription from Institution	Subscription from Institution	Both (annual grant and fees)	Both (annual grant and fees)	Both (annual grant and fees)
Unit For QA	Program and Institution	Institutional and subject review	Institution	Institution, faculty, program, themes, aspects.	Institution
Nature of the Process	Voluntary but mandatory for state funding	Mandatory	Voluntary but mandatory for federal funding	Voluntary by MQA Act but mandatory by government polices	Voluntary but some state governments have made it mandatory.
Major Functions	Self-Study, Site visit, Ongoing external review, review the function of regional and specialized accrediting bodies	Assuring academic quality and standards in higher education through audit.	Quality Enhanceme nt, Self Improveme nt, More Public Informatio n	Certification Accountabilit y, Self Improvement , Quality Enhancement	Assessment, accreditation , quality sustenance and enhancement
SA with Peer review	Yes	Yes	Yes	Yes	Yes
Reviewer profile	Subject experts, experts in general HE, employers/industr y representatives, QA staff,	Subject experts, experts in general HE, employers/in dustry	Experts in general HE, internation al members,	Subject experts, experts in general HE, employers/in dustry	Experts in general HE, employers/ industry representativ es, QA staff,

		representatives, QA staff,	QA staff	representatives, QA staff,	professional organization
Who appoints reviewers?	Accrediting Bodies	Quality assurance bodies	Governing Board	Governing Board-the Agency	composition is approved by the Director
Public Vs Privates	N/A	Applies same standards.	Applies same standards.	Applies same standards.	Applies same standards.
Validity of Outcome	Ten year with five-years interim report	Six years	Five years	In general 5 years..	Five years

Most of the quality assurance aspects of these countries exhibit similarities in terms of the purpose, scope, methods of quality assurance. Though the funding and agency owned has the dissimilarities but methodologically every country follows self-evaluation, followed by external review, on site visit and common features of the quality assurance system across the countries. On the basis of common characteristics practices by the national level QAA agencies of the above countries, Bangladesh has to form an indigenous national level QAA agency with appropriate authority so that quality of higher education may improve up to international standards and practices. To harmonize the quality assurance practices done by national agency and to establish mutual recognition of the diploma provided by universities, different international and regional quality assurance agencies are working as a network. agency. In the next section regional quality assurance agencies' profiles that are applicable for Bangladesh has been discussed.

2.5 Quality Assurance Network Agency

About the quality guarantee of higher education offered across the border, the international organization shows a guideline. In 2005, OECD and the UNESCO jointly establish "guidelines for quality provision in cross-border tertiary education". This guideline aims for providing the international framework related to the quality assurance of cross-border higher education to improve dissemination of high quality higher education in the world, and then to enhance the benefit from it to the maximum, and to protect a student from low quality education. And it does not intend to establish unified standard or common rules as a purpose, but assumes each country has a responsibility to guarantee the quality of higher education according to each higher education system. In addition, its purpose is to contribute

to improve the international cooperation and harmonization about quality assurance based on trust between countries and respect of the variety of the higher education system (Kinoshita, 2009).

The International Network for Quality Assurance Agencies in Higher Education (INQAACHE) was established in 1991 to collect and disseminate information on current and developing theory and practice on the assessment, improvement and maintenance of quality in higher education (http://www.che.org). In April 2005, the INQAACHE general assembly in Wellington, New Zealand agreed on the "INQAACHE Guidelines of Good Practice" which is the result of discussion and consultations involving representatives from over 65 countries (www.inqaahe.org).

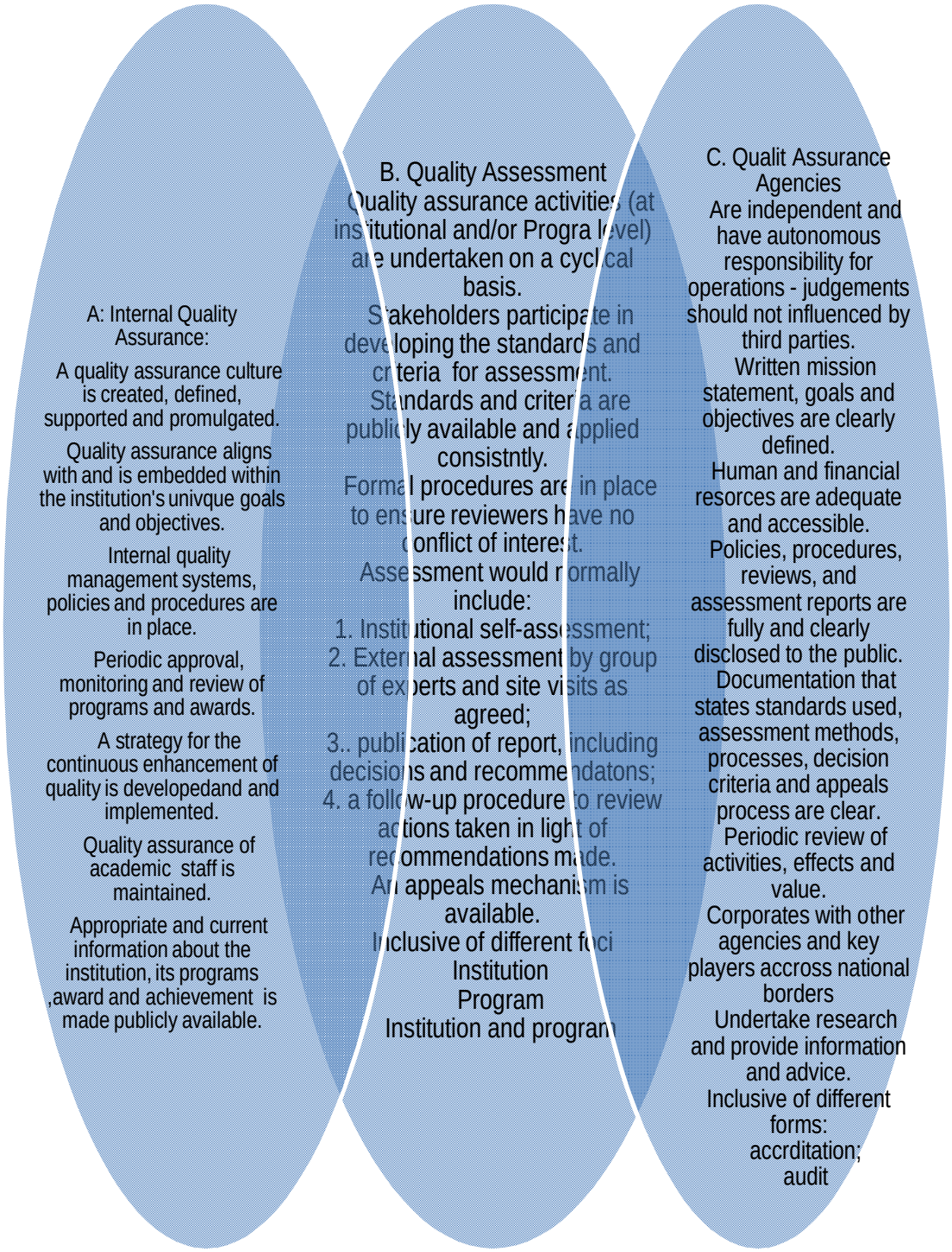
2.5.1 Regional Quality Assurance Network Agency:

In Asia, the Asia Pacific Quality Network (APQN) was established in 2003 and 60 organizations from 26 countries and areas are involved as its network members (www.apqn.org). The mission of APQN is to enhance the quality of higher education in Asia and the Pacific region through strengthening the work of quality assurance agencies and extending the cooperation among them. In addition, the ASEAN Quality Assurance Network (AQAN) was established in 2008 by ASEAN countries' quality assurance agencies or representatives from ministries for higher education quality assurance. The network has 11 organizations from 10 ASEAN countries as its members (www.aun.chula.ac.th).

On February 18, 2008 Annual Conference of the APQN was held in Chiba, Japan. An important outcome from the meeting was the development of the draft 'Chiba Principles' for quality assurance in higher education in the Asia-Pacific. The 'Chiba Principles' emphasize a generic approach that has relevance for all higher education institutions, quality assurance agencies and quality assessment practices in the region regardless of the level of development, size and national context. A premise underlying the principles is that prime responsibility for quality assurance rests with the individual higher education institution. The principle recognized that each country's higher education system might connect with different elements of the principles and those adjustments and refinements in practices and policies may be necessary for some institutions. The 'Chiba Principles' are in details

presented in Figure-4. As Bangladesh is one of them in this region, initially it may introduce its QAA mechanism in consistence with this principle.

Figure 4: Framework for Higher Education Quality Assurance Principle in the Asia-Pacific Region (Source: http://www.apqn.org)



2.5.2 Quality assurance of higher education in Bangladesh context

The subject of formal QAA mechanism is new to the Bangladeshi higher education system mentioned in the introductory chapter. Only recently people have started recognizing these terminologies. Being new concepts, they create more of an apprehension rather than a readiness to attempt to understand what they mean. During the last decades there was a sharp increase in awareness amongst all connected with higher education regarding the need for maintaining quality in university-level institutions and desirability for adopting formal QAA process. Numerous studies have already been done in the mean time. They can be categorized in two sections: studies relating to quality determinant that are not focused formal QAA mechanism but recommend the adoption of accreditation, and studies as well as initiatives relating to formal QAA mechanism. In view of these findings this section has been divided by two sections. In the first sub-section, literature relating to quality issues both public and private university and in the second sub-section, literatures relating to formal QAA mechanism as well as initiatives taken to develop a formal QAA mechanism have been discussed.

2.5.3 Studies relate to quality determinants

Numerous studies have been conducted to examine the spectrum and factors affecting quality higher education in Bangladesh (Andaleeb, 2003; Alam, Haque, & Siddique, 2006; Tasmina, 2008; Islam, 2008; Aminuzzam, M. S., 2008; Momen, & Baniamin, 2010; Ali, 2011; Villanvea, 2011; Sarkar, Rana, & Zitu, 2013; Hoque, Mowla, Chowdhury, & Uddin, 2013; Sultan & Tarafder, 2013). Andaleeb conducted a study in 2003 focusing nine critical factors to revitalize quality of higher education. Factors are: teacher quality, method and content, peer quality, direct facilities, indirect facilities, administrative efficacy, political climate, gender effects and expected satisfaction with higher education (Andaleeb, 2003). Alam, Haque and Siddique in a research paper mentions that quality control in higher education mainly involves with quality of inputs which is selection of students and quality of processing of inputs to final products. He argues that important issue in the processing of students, in the supply of trained teachers, books and equipment relevant to the courses and method of delivery used in classrooms (Alam, Haque, & Siddique, 2006).

In a research paper Tasmina mentioned that UGC's concerns regarding private universities are – courses offered by private university, management and administration, financial management, physical condition, faculty profile, and assessment of students (Tasmina, 2008). In 2008, Rabiul conducted a study and found that quality of higher education depends on teachers' responsibility and teaching skills of teachers, educational curriculum, library uses, accessibility of higher education, and economic status of the students. He also mentioned teachers and student politics, financial crisis, lack of residential halls, shortage of seats for the applicants and involvement of teachers with other activities identified as barriers to enhance the quality of higher education in Bangladesh. He also identified poor quality of teaching staff, traditional teaching method, corruption and nepotism, teachers and students' politics, inadequate library and laboratory facilities, and weak financial base as the challenges of higher education in Bangladesh (Islam, 2008). Aminuzzaman conducted a study about the quality issues of higher education in Bangladesh in 2008. In his study paper about public universities' quality assurance system, he mentioned that public university in Bangladesh limit their internal quality to student enrolments, faculty recruitment, curriculum development, examination process, certification and maintaining discipline through the 'Board of Residence and Discipline'. He also mentioned that educational institutions are facing some constraint to do research like inadequate financial support, lack of priority in deciding areas of research, lack of facilities, lack of industry and corporate support in research and above all teachers' negative attitude of doing research as there are no adequate incentive provisions and teachers' engagement with the national politics. In concluding section he presents some way forward directions such as establishment of accreditation council that will be autonomous, reforms in governance and leadership structure of the universities, establish accountability and transparency in higher education sector, initiatives for academic and professional development, introduction of incentives and reward for research, quality assessment training for young faculties, academic ombudsman and overall quality enhancement of the primary and secondary education (Aminuzzaman M. S., 2008).

Momen and Baniamin conducted a study in 2010 focusing quality factors of public university education. The study has been done through two broad quality factors - internal and external. Internal factors include student intake, faculty recruitment, staff development, teaching method, library & laboratory facilities, and external factors include politicization

(overall political culture of the country), unplanned expansion and financial constrains and conclude that both internal and external factors deteriorate the qualities of higher education in public universities. They noted that though public university act provides much more autonomy but absence of own adequate resources and sole dependency on the government makes public universities always fragile in actual terms. In concluding remarks they recommend to establish a monitoring board under UGC to assess the quality of higher education, recruiting efficient teachers, reward to the good teachers, and to develop IT infrastructure, modern library facilities, human resource development centers (Momen & Baniamin, 2010).

Mozahar Ali conducted a research to appraise the teacher performance of five selected universities with some indicators to measure the quality of higher education. The indicators include student learning, quality of teaching, course satisfaction, research fund, and research publications. At the introduction of his research paper he remarked, evaluation of the teacher performance is almost absent in public universities of Bangladesh. To assess teachers' performance the study considered five variables - mastery on the subject matter, communication and presentation skills, examination and assessment skills, leadership for students' development, and ethics & professional behavior (Ali, 2011). Villaneva in a workshop presentation addressed five major steps to conduct accreditations: institution self-survey, pre-survey visit, formal survey visit, initial accreditation, and full accreditation. In his presentation he argued self-survey process is an analysis of the university's educational resources and effectiveness, by its own faculty and staff, and should be viewed as an inherent responsibility for continuing development. He also mentioned that self-survey provides basis for improvements, setting up of priorities and indicative areas for future expansions (Villaneva, 2011).

In 2013 a study was conducted by Sarkar, Rana and Zitu with ten quality factors to find out the quality status of two public universities. The factors are class held according to credit hour, classes taken using multimedia/overhead projector, teaching quality of the teachers, quality and expectation of student learning, library facilities, availability of books and journals in the library, laboratory facilities, research facilities, subject matter of course/curricula and syllabus completed within course period. They also compare factors in respect of the studied universities and conclude that limited resources and insufficient

facilities are the main challenges for quality of higher education in Bangladesh (Sarkar, Rana, & Zitu, 2013). Hoque, Mowla, Chowdhury and Uddin conducted a research on private business schools using 66 independent variables under broad 8 qualitative factors. The broad factors are – faculty credentials (4 variables), intake selection system (4 variables), assessment system (14 variables), campus facilities (15 variables), research environment (8 variables), university leadership (6 variables), market orientation (11 variables) and corporate attachment (8 variables). They analyzed the data by using 'factor analysis', Principal Compound Analysis (PCA). The study was done to find the satisfaction of the student to their studied universities (Hoque, Mowla, Chowdhury, & Uddin, 2013). Sultan and Tarafder conducted a study by using critical factors in Service Quality Measurement. The quality factors are reliability, responsiveness, competence, access, courtesy, communication, creditability, security, understanding or knowing the customers, and tangibility. Their study finds three main dimensions affecting the satisfaction. They are reliability, responsiveness, and competence. They used seven points scale to measure the satisfaction (Sultan & Tarafder, 2013).

Information about initiatives of accreditation related formal system and structure is found in a paper that was presented to 'Inter-Governmental Workshop on Regional Accreditation Modeling and Accrediting the Accreditors' which was held in Manila, Philippines from 15 to 26 August 2005 by Mohammed Asaduzzaman, Chairman, University Grants Commission of Bangladesh. From this paper it is found that UGC proposed to establish an Accreditation Council for Higher Education in Bangladesh (ACHEB) to the Ministry of Education in 2005 (Asaduzzaman, 2005). But it was not that much welcome by the ministry. It is assumed that there is no chance to transform the proposal into execution. Some prominent and well reputed private universities were very much interested to this proposal and it was clear in a paper that was presented to World Bank Learning Seminar held in CIEP, France on June 18-20, 2006 by Carmen Z. Lamagna, Vice Chancellor of American International University-Bangladesh. In his paper he mentioned that private universities of Bangladesh showed interest to establish quality assurance process and if UGC permits, they might go for the accreditation with the National Assessment and Accreditation Council (NACC), European Quality Improvement System (EQUIS) or the Association to Advance College Schools of Business (AACSB), all autonomous institutions. In this paper, it is found that the UGC and

Ministry of Education prepared a proposal for the accreditation process namely Accreditation Council for Private Universities of Bangladesh (ACPUB) (Lamagna, 2006). In the same way a paper presented by Mohammad Farashuddin, Chairman, East West University Trusty in BASANA International Conference held in August 15-17, 2013, was proposed a structural overview to establish an Accreditation Council for Higher Education in Bangladesh (ACHEB) (Farashuddin, 2013). These mentioned papers show that there were several initiatives already taken to establish an accreditation council in Bangladesh. The initiatives regarding accreditation council process focus only private university. But no study was found which focused about establishment of formal quality assurance and accreditation mechanism for HEIs in Bangladesh.

There is a strong opinion by many authors for the view that quality of higher education in Bangladesh is deteriorating and to maintain quality of higher education as well as to improve over-all quality of higher education most of the authors recommended to form a quality assurance and accreditation council at national level to oversee the quality of higher education. In this context quality assurance and accreditation process becomes effective when it focuses on the core educational processes and conditions that affect quality of student learning. This is related to the issues on what should the purpose of the quality assurance and accreditation body be. The review also showed that there are two quality assurance approaches, namely informal system, the improvement‐led internal and no accreditation regarding quality of education, and second one is formal system, satisfaction-led accountability‐oriented external with power relations between the different stakeholders of higher education. It is argued that the formal system i.e. accountability‐oriented quality assurance encourages compliance culture whether student learning is enhanced through improvement‐led quality processes and strategies that improve the core educational processes.

2.5.4 Initiatives undertaken to develop formal QAA mechanism in Bangladesh

Quality assurance and accreditation mechanism starts with Self-Assessment exercise. This exercise conducted by the concerned Department or Faculty to evaluate whether their program meets its educational objectives and outcomes with the purpose to improve program's quality and enhance students' learning. Self-Assessment is to improve quality,

not for providing quality. The quality will be proved by quality audit and accreditation, which is the second-step goal of Self-Assessment and this practice has been followed by all QAA bodies of developed or developing countries as a whole. For initiating the QAA process in Bangladesh HEQEP (mentioned in background section) (www.ugc-heqep.gov.bd) has a provision for funding Self-Assessment sub-projects. Twenty six Self-Assessment sub-projects are being implemented in fifteen public universities. To familiar with the process and understanding on Self-Assessment exercise, these sub-projects team members have participated in different training courses conducted by international experts in this area. Professor Dr. Colin N Peiris, Director of Quality Assurance and Accreditation Council of Srilanka, facilitated two training courses at UGC between 2012 and 2013. Twenty one faculties involved in the Self-Assessment participated in two weeks training courses at HELP University, Malaysia in 2013. Dr. Louise Zak, accreditation consultant and retired Associate Director , NEASC Commission on Institutions of Higher Education, USA facilitated a workshop to share knowledge about QAA process from international aspects. However, Rozilini M Fernandez-Chung, faculties of HELP University Malaysia and Quality Assurance Specialist work with World Bank and have been working with HEQEP to facilitate QAA process in Bangladesh.

The QAA of each country decides on Self-Assessment criteria on which Self-Assessment exercises are carried out, decisions are made and further resources are allocated for quality enhancement. Number and magnitude of these criteria varies from country to country; some are common and some are specific to country context. On the other hand, Graduate Profiles are skills that equip graduates for employment and citizenship and lay the foundations for a lifetime continuous learning and personal development. For every country, they have specific graduate profiles mainly formulated by QAA body or Ministry of Education. As Bangladesh did not have formal practice of QAA mechanism, there were no common criteria both for Self-Assessment exercise and Graduate Profiles. To perform Self-Assessment exercise as first phase of QAA processes, the sub-project of HEQEP fixes common guideline and criteria for quality assurance and develops a Quality Assurance Framework/Quality Code for Bangladesh. The main features of the quality framework are as follows:

1. **Governance:** Organization and Management mainly focused on: i. Vision, mission and goals, ii. Objectives aligned with institutional goals, iii. Administrative structure of academic program development, iv. Development process through different concerned committee meetings, v. Program management, and vi. Academic documentation.
2. **Curriculum:** Design, Content and Review mainly focused on: i. Effectiveness of Curriculum in achieving learning outcomes, ii. Programs are at a suitable academic level, iii. Curriculum facilitates progress to employment and/or further study, iv. How often the department reviews the curriculum? and v. How student feedback, comments from examiners and employer views are taken into account in reviewing curriculum?
3. **Teaching:** Learning and Learning Assessment mainly focused on: i. Teaching, learning, and assessment strategy, ii. Does this strategy enable students to achieve intended learning outcomes, iii. Are learning outcomes and assessment requirements clear to students and staff, and iv. Is student workload balanced and reasonable?
4. **Institutional:** Infrastructure and Facilities mainly focused on: i. Class-rooms and laboratory are adequately equipped, ii. Offices are adequate to enable faculty to carry out their duties and responsibilities, iii. The entity have infrastructure to support new trends in learning such as IT-Lab & E-learning, iv. The library must possess an up-to-date technical collection, v. There are sufficient support and financial resources to attract and retain high quality faculty and provide the means for them to maintain competence as teachers and scholars, and vi. Financial resources provide to acquire and maintain library holdings, labs and IT facilities.
5. **Staff:** Faculty and Non-academic mainly focused on: i. Basic qualification, ii. Recruitment policy, iii. Teacher student ratio, iv. Work load, v. Promotion/career development, and vi. Staff development – induction/foundation training.
6. **Student:** Support, Counseling and Development mainly focused on: i. Recruitment & admission procedure, ii. Progress and completion, iii. Student achievement, iv. Aims and learning outcomes for the program reviewed and achieved, v. Departmental strategy for providing effective academic guidance and counseling to students, vi. Evidence regarding students' progress & achievement enhanced by the

academic guidance they receive, and vii. Links between the department and other student services units.

7. **Research and Extension:** Research and society engagement mainly focused on: i. Research fund allocation, ii. Research output of development, iii. Publications in impact journals, iv. Patent registered, v. Consultancy service proved, vi. Community service provided vii. Community development initiatives and viii. Engagement of students in community services.
8. **Process Control**: Quality assurance process control mainly focused on: i. Conducting Self Assessment after every five years, ii. Benchmarking for a specific time and evaluating achievement, iii. Re-setting of standard on the basis of evaluation report, iv. Linking with corporate world, v. Initiating accreditation, vi. Developing quality culture and adopting good practices

The graduate skills are as follows:

1. **Cognitive Skills:** mainly focused on recalling knowledge based on taught program, understanding of subject specific theories and appreciation of current issues, demonstration ability of multi-disciplinary and inter-disciplinary perspective, and ability to appraise academic literature and other sources of information.
2. **Practical and Problem Solving Skills:** mainly focused on applying a range of methods to solve problems, using technologies to address problems, presenting results of investigations in a number of formats and interpreting practical results with guidance.
3. **Numeracy and Analytical Skills:** mainly focused on solving straightforward numerical problems using appropriate techniques, making conversant in collection & management of data, analyzing data using appropriate statistical tools and conversant in handling qualitative & quantitative data.
4. **Entrepreneurship and Innovation Skills:** mainly focused on love and enjoyment of new ideas, actions, discovery and learning, initiative in all planning and actions independently or in collaboration, process in optimistic attitude in all aspects and love to take risks etc.
5. **Communication and ICT Skills:** mainly focused on communicating to a variety of audience in written, graphical and verbal forms, proficient in Bengali as 1st language

and in English as 2nd language, making contribution to group discussions, listening to others, have negotiation skills and handle computer-based information with guidance on appropriate techniques or packages.

6. **Interpersonal, Teamwork & Leadership Skills:** mainly focused on organizing a team, identify team goals, reflect on team performance, apply teamwork and leadership skills for efficient performance, plan and organize social events effectively and demonstrate relevant techniques and abilities to address and solve social issues.
7. **Self management and Personal Development Skills:** mainly focused on recognizing the existence of moral and ethical issues associated with the subject, remain honest, sincere and punctual in situations, have dedication and commitment to work, identify targets for personal, academic and career development, recognize personal weakness and strength and appreciate the need for professional code of conduct.
8. **Commitment to Community, Country and Humanity:** mainly focused on identifying development needs of community, share with others the issues and concerns of community development, committed to the service of family, local community, school/university, country and humanity, have respect for the community and as a whole the country, and do not discriminate caste, class, race, gender, religion etc.

In order to ensure quality of higher education in Bangladesh through establishment of quality assurance mechanisms and quality assurance cells at the national and institutional levels, World Bank agreed to finance an additional amount of 27.4 million US$ for establishment of QAA mechanism and Government of Bangladesh (GoB) agreed to invest additional 9.4 million US$ (total allocation for this mechanism is 36.8 million US$)under HEQEP project which will be implemented within December 2018 (PID, 2013). Earlier this additional financing under the original allocation of HEQEP 1st phase, it provides support to develop a voluntary development of self-assessment process at university level through faculties as well as provides training, process facilitation and so on.

CHAPTER THREE

3. Conceptual Framework and Research Methodology

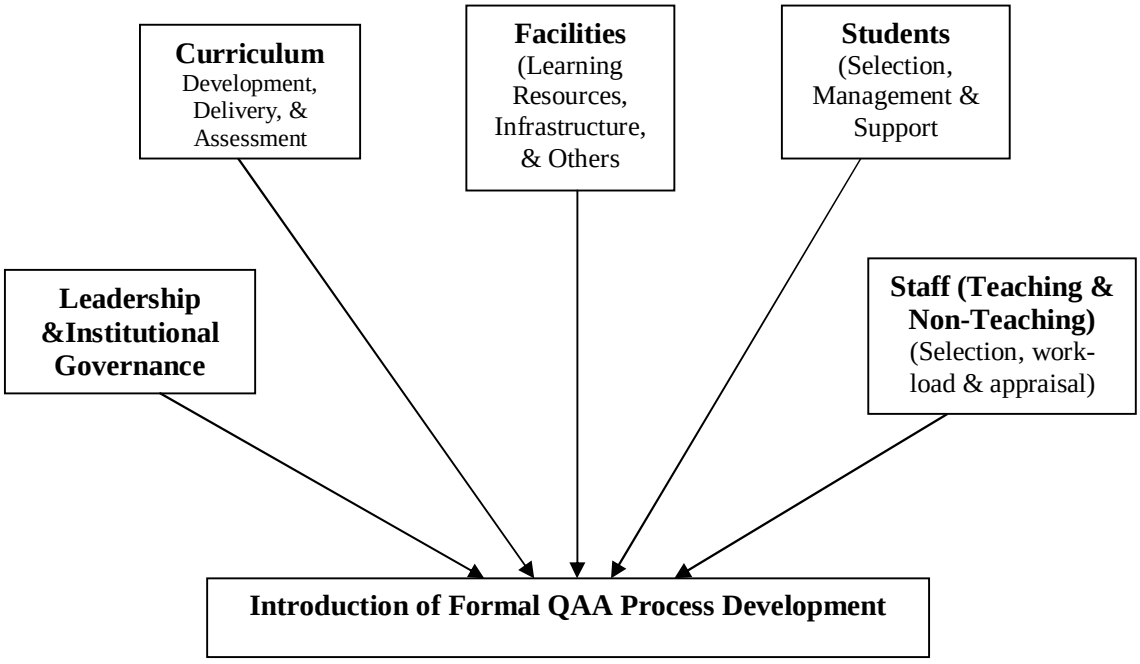
3.1 Conceptual Framework of the Study

The conceptual framework of the study is identified from the quality assurance literature. The framework has been conceptualized through the figure 2, quality education, figure 3, conceptual framework of quality assurance and accreditation mechanism, figure 4, framework for quality assurance principles provided by APQAN in the perspective described in literature review chapter and finally from the quality assurance area that has already been recognized by the Bangladeshi academicians. Necessary adjustment has been made on the basis of quality assurance models criteria that are applicable for Bangladesh. As the research looks for the specific academic and institutional challenges that affect the process of introduction of QAA mechanism in HEIs in Bangladesh, reasonably, factors that are essentials to implement the formal QAA in HEIs are main considering aspects to develop the conceptual framework of the study.

By design, this study deals with organizations and their environmental contexts. Scott stressed that "organizations are not closed systems, sealed (off from) their environments, but open to and dependent on flows of personnel and resources from outside their own systems" (Scott, 1981). Consequently the theoretical framework has been developed considering universities in an open systems perspective. Organizations, as open systems, exchange ideas with and give feedback to their external environment. Morgan stated that " the systems approach builds on the principle that organizations, like organisms, are 'open' to their environment and must achieve an appropriate relation with that environment if they are to survive" (Morgan, 1998). The elements of the system are: goals and strategies, culture, behavior and processes, technology, and structure. This system processes the inputs and delivers the outputs. Several scholars discussed elements of open systems theory as it relates to higher education institutions. Birnbaum, for example, viewed colleges and universities as open and dynamic systems composed of patterns of interacting elements and subsystems loosely or tightly coupled to each other and to their environment (Birnbaum, 1988). He also suggested that in order to learn how colleges and universities work, it is necessary to see them as organizations, as systems, and as inventions. His argument brings it to the general

applicability of open systems to universities. Certainly, universities have many generic characteristics in common with other organizations. They have their goals, hierarchical systems and structures, officials who carry out specific duties, decision making processes that set institutional policy, and a bureaucratic administration that handles routine business. Much emphasis has, however, been given to the unique nature, purpose and dynamics of universities. Thus, elements of this system have been taken in to consider developing the theoretical framework of the study illustrates in figure-5.

Figure 5: Conceptual Framework of the Study



3.2 Operationalization of Variables

The variables under study are operationalized in this section based on the main constructs of the conceptual framework presented in the preceding section. The operationalization begins with the assumption derived from the open systems' perspective that higher education institutions, like other organizations, are open systems designed to transform inputs into outputs. In this perspective, the dimensions of quality assurance depend on the task scope of an organization. The task scope refers to the functions for which an organization has primary responsibility. In higher education context, many universities articulate the functions of education, research and community engagement in their vision and mission statements and the universities in Bangladesh are no exceptions in this regard. However, in Bangladeshi

higher education, the universities seem to be more engaged in teaching and learning rather than de‐emphasized two functions; viz. research and community service. One of the notable limitations of this study presented in introductory chapter that it emphasizes the teaching learning process of the university rather other role of university such as research and community engagement. The focus on education can be observed in the nation's priority and emphasis on enrolment and institutional expansion both at graduate and postgraduate levels. In terms of operationalization, the key variables of university characteristics fall into six categories: leadership and institutional governance, curriculum of the degree programs, students, teaching and non-teaching staff, available facilities and continuous quality improvement functions. These elements might affect changes such as adoption of formal quality assurance and accreditation mechanism. Therefore six areas that are relating to implement the formal QAA mechanism are sets as an independent variable and challenge of implementation of formal QAA in HEIs is set as a dependent variable for the study.

3.2.1 Independent Variables

Six sets of factors comprise independent variables of this study. They are – (1) Leadership and Institutional Governance, (2) Curriculum including development, delivery and assessment, (3) Students including intake/selection, management and support, (4) Staff including teaching and management staff, (5) Facilities including infrastructure, teaching learning, co-curricular, and others, and (6) Quality Assurance Process or Continuous Quality Improvement. Each of these variables are operationalized as follows:

(1) Leadership and Institutional Governance: It connotes the role of central executives like VC and Deans as the ones supposed to engage in quality initiative is considered an important factor for the adoption and implementation of formal QAA process in universities. In this study, institutional leadership is operationalized in terms of university's leadership (VC, Deans, academic council) having knowledge about formal QAA mechanism and its implementation, and their commitment to implement the formal QAA process. Institutional governance is operationalized in terms of the university's vision, mission, goals and objectives, key performance indicators, structure and functions, documentations and availability of information, and overall accountability, transparency and enforcement of policies etc.

(2) Curriculum including development, delivery and assessment: This is operationalized in terms of appropriate process followed in designing and reviewing curriculum, curriculum delivery and student assessment taking place with appropriate and transparent regulations enforcement.

(3) Facilities including infrastructure, teaching learning, co-curricular, and others: This is operationalized in terms of appropriate and adequate modern infrastructural facilities, classroom and teaching-learning facilities, library and laboratory facilities, co-curricular services facilities, and allocation of available financial resources etc.

(4) Students including intake/selection, management and support services: This is operationalized in terms of clear statement of procedures for student selection and entry level requirement, student management systems and support service for the student including career development and alumni management.

(5) Staff including teaching and management staff: This is operationalized in terms of transparent and competitive selection policy and procedures, development of staff appraisal, student-staff ratios and foundation training for newly recruited teaching and non-teaching executives etc.

3.2.2 Dependent Variables

Introduction of Formal QAA Process Development is set as a dependent variable for this study. This is operationalized in terms of a university's internal quality assurance practice, enforcement of continuous quality improvement strategic plan, practice of self-assessment and implementation of report's recommendation and expertise in doing peer review for validation of self-assessment report.

3.3 Research Methods, Source of Data, Sampling, Collection and Techniques of Analysis

This section is the third and the last section of chapter three of this study. In this section, the first sub-section presents the overview of the research methods. The second sub-section

deals with the data sources, sampling and data collection, and finally the third sub-section deals with the techniques of data analysis.

3.3.1 Research Methods

A mixed methods strategy appears to be the most appropriate methodology for this study given the purpose of the research, the research questions and the situations in which this study took place. First, the formal QAA mechanism is a new phenomenon in Bangladesh and it is in the initial stage. Second, the introduction of QAA process in higher sector is a complex issue that may look different at each of the different levels. The combination of these two factors means that different research methods may be best suited to the parts of the study, which is precisely the complexity with which mixed methods strategies are designed to cope.

Researchers stated that mixed methods research is often the best way to address the complex research questions in which they are currently interested (Plano, 2005). Mixed methods research is characterized as “an emerging methodology” by Creswell and Plano Clark who pointed out that this method appears to reflect an opening for many quantitative researchers to use qualitative data (Creswell & Plano, 2007). In addition, Currall and Towler’s review suggested that when organizational and management researchers used a combination of qualitative and quantitative methods to investigate organizational phenomena, their research yielded greater information than could be achieved through a single method (Currall & Towler, 2003).

Here, both qualitative and quantitative method of studies aimed to fully identify and explain the adoption of formal QAA mechanism at the university level by confronting and confirming data from documents and leaders' experiences and perceptions. However, studying quality assurance as a public policy is a complex and multifaceted process that involves the perspectives of different actors and, the collection and analysis of data from different sources. Moreover, employing a single approach to study quality assurance systems and practices at institutional level may limit the comprehensiveness of the data and accuracy of the findings. Hence, the mixed methods design was selected for this study to generate greater understanding about the issues under study.

3.3.2 Data Sources, Sampling and Collection

Non-random, convenience sampling method is used for this study. In introductory chapter it is mentioned that to improve the quality and relevance of the teaching and research environment in HEIs, UGC has been implementing a development program namely HEQEP. Under this project 165 university teachers successfully implemented teaching-learning and research development sub-projects in 27 public universities and 3 private universities as sub-project manager (SPM) through academic innovation fund (AIF) scheme. SPMs are well concerned about over-all quality of higher education and have an introductory knowledge about formal QAA through their implantation experience of quality-specific development project. All the SPMs are primarily selected as sample population for the study. The questionnaire was distributed to them through emails.

But finally total of 60 questionnaires collected from the university teachers. Out of 60 surveyed samples 15 (25%) questionnaire filled in through direct interviews and 45 (75%) questionnaire were received though returned mail. These questionnaires were collected from the 17 universities of which 15 are public universities and 2 are private universities (Annexure – 2).

3.3.3 Techniques of Data Analysis

In this study, the data collected through questionnaires were coded, entered, cleaned and analyzed using the Statistical Package for Social Sciences (SPSS 15) computer software. The quantitative data was reduced into descriptive statistics such as percentages; correlations etc. The demographic information of the respondents provided in table 5 presents in the first section of the next chapter 4 where a detail of findings and analysis is presented.

A validity test is executed to check the validity of the instrument and a descriptive statistics of data is also provided to explain the characteristics of sample. The mean response is calculated by adding all items of construct and divided by the total number. The standard deviation of each item is also calculated to check dispersion or variability of the data.

CHAPTER FOUR

4. Findings and Analysis

4.1 Introduction

Introduction of formal QAA process development as discussed in the previous chapters deals with prime contributory factors presented in conceptual framework. This chapter deals with analyses of empirical data pertaining to quality of education in the selected public and private universities in Bangladesh. Obtained data will be analyzed both quantitatively and qualitatively in order to demonstrate challenging factors to introduce formal QAA system in Bangladesh. This entire chapter is divided in three broader parts. First part deals with demographic presentation of the respondents followed by determination of reliability of instruments used for collection of data. The second part takes into account descriptive analyses like frequency percentage, mean, standard deviation for 29 items and 6 constructs of the collected questionnaires. In the end part three overall status of six quality assurance factors and their correlation analysis are presented.

4.2 Demographic Description and Reliability Analysis

Demographic data of the sample population presents in the following table 4.

Table 4: Educational Qualification, Professional Rank and Length of Experience of Surveyed Population

Educational Qualification			Professional Rank/Position			Length of Teaching Experience		
Last Degree	No.	%	Rank/Position	No.	%	Experience	No.	%
Post Doc	2	3.3	Professor	35	58.3	Up to 5 yrs.	7	11.7
PhD	45	75.0	Associate Professor	16	26.7	5-10 yrs.	10	16.7
MPhil	2	3.3	Assistant Professor	9	15.0	11-15 yrs.	17	28.3
Masters	11	18.3	Lecturer	0	0.0	16-20 yrs.	12	20.0
Total	60	100	Total	60	100	20 yrs. Plus	14	23.3

It is found that out of 60 surveyed populations 75% of the respondents have PhD degree, 18% have only master degree and 2% have post doc and MPhil degree respectively. Moreover, 58% are in professor rank, 27% are in associate professor rank, and 15% are in

assistant professor rank. Furthermore, 28% have 11 to 15 years teaching experience, 23% have more than 20 years teaching experience, 20% have 16 to 20 years teaching experience, 17% have 6 to 10 years teaching experience, and only 12% have less than 5 years teaching experience.

Reliability Analysis:

The reliability of each of the constructs of the questionnaire is measured by the determination Cronbach's coefficient alpha and presented in table 5 (Annex – 3). Reliability coefficients of 0.70 or more are usually considered adequate (Cronbach, 1951), however, Nunnally suggests the alpha value between 0.50 and 0.60 is also acceptable (Nunnally, 1989)

Table 5: Reliability Analysis

Construct	No. of items	Cronbach Alpha
Leadership & Governance (1 to 10)	10	0.87
Curriculum (11 to16)	6	0.84
Facility (17 to 19)	3	0.78
Student (20 to 23)	4	0.75
Staff (23 to 25)	3	0.72
QA Process Development (27 to 29)	3	0.81

It is revealed that most of the constructs have Cronbach's reliability coefficient value from 0.75 to 0.87 which suggest very high reliability of these constructs. Only one construct (Staff) has 0.72 reliability coefficient which is again an indication of high reliability as acceptable range of Cronbach's Alpha is 0.70 or more.

4.3 Descriptive Statistics

This section of dissertation presents findings of survey data analyses on universities teacher's perception on the existing system of academic and institutional practices of assuring quality of education in their department/faculty/institute in particular and the university in general. For this, total 29 indicators/items were set under 6 variables (5 independent and 1 dependent) mentioned in chapter 3. Each of these indicators/items were

rated on a six point rating scale (1 = highly unsatisfactory; 2 = unsatisfactory; 3 = moderately unsatisfactory; 4 = moderately satisfactory; 5 = satisfactory; 6 = highly satisfactory). Mean and standard deviations of each of afore mentioned constructs were calculated in order to check precision level of each quality assurance practice in HEIs.

4.3.1 Leadership and Institutional Governance

This variable includes 10 items of which 2 items for leadership and 8 items for institutional governance. Descriptive statistics of these items present in table with mean value and standard deviation.

Leadership knowledge about formal QAA mechanism and its implementation:

Leadership (VC, Pro VC, and Dean) knowledge about formal QAA mechanism and its implementation process is the key factor to introduce formal QAA process in university level. Descriptive statistics of this item presents in the following table 6.1.1

Table 6.1.1: Leadership knowledge about formal QAA mechanism and its implementation

N=60

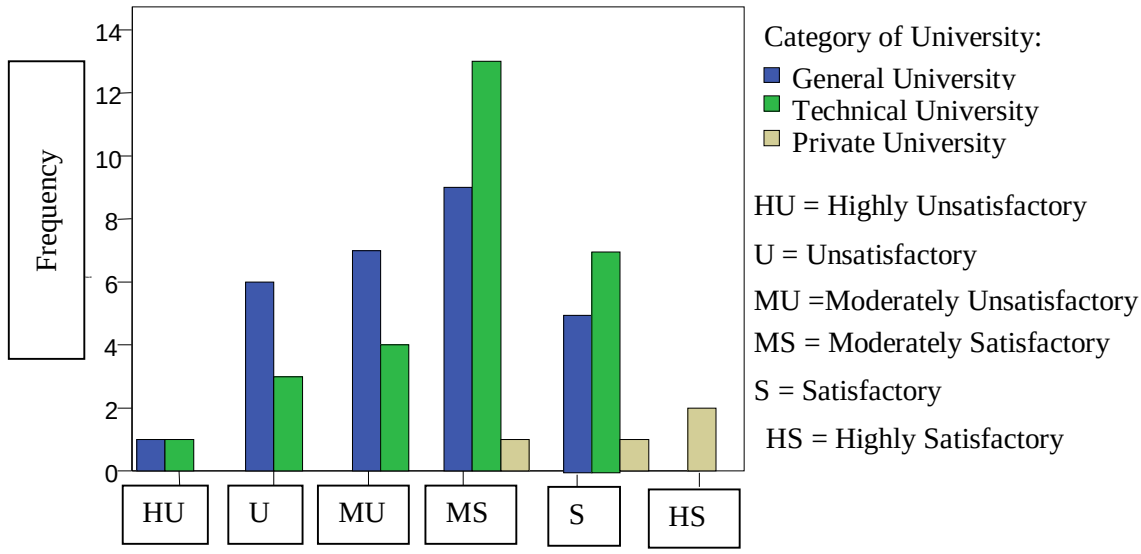
Name of scale	Percent
Highly Unsatisfactory	3.3
Unsatisfactory	15.0
Moderately Unsatisfactory	18.3
Moderately Satisfactory	38.3
Satisfactory	21.7
Highly Satisfactory	3.3

Range = 1 – 6, Mean = 3.7 and Std. Dev. = 1.17

Descriptive statistics indicates that 36.7% respondents (university teachers) perceive that university leadership's knowledge about formal QAA mechanism and its implementation is unsatisfactory; 63.3% perceive that it is satisfactory but among them 38.3% perceive that it is moderately satisfactory. It means that only 25% of the surveyed population think that it is at the satisfactory and the above level. The presented table and figure indicate that in Bangladesh third forth of the university teachers perceive that university leadership's knowledge about formal QAA mechanism and its implementation is at below the satisfactory level. The mean value of the scale is 3.7 but scale's value of particularly satisfactory level is 5.

So to make learn and aware the university leadership about formal QAA mechanism and its implementation is one of the challenging factors for formal QAA process development in HEIs in Bangladesh. But this perception varies upon the category of universities. Surveyed universities are categorized as technical university, general university and private university (please see annex-2). Category-wise leadership's knowledge about formal QAA mechanism and its implementation is presented through a bar chart in the following figure 6

Figure 6: Bar Chart of leadership's knowledge about formal QAA mechanism and its implementation by university category



50% of the respondents of general university perceive that leadership knowledge about QAA mechanism is unsatisfactory, 28.6% of the respondents of technical university perceive that it is unsatisfactory whereas none of the respondent from private universities perceive that it is unsatisfactory. So leadership knowledge about formal QAA mechanism and its implementation is a more challenging factor to general university compared with technical university or private university.

Leadership Commitment to implement formal QAA process:

Leadership commitment is another important factor for implementation of formal QAA mechanism in university level. Descriptive statistics of this item is presented in the following table 6.1.2.

Table 6.1.2: Leadership Commitment to implement formal QAA process

N=60

Name of scale	Percent
Highly Unsatisfactory	6.7
Unsatisfactory	15.0
Moderately Unsatisfactory	25.0
Moderately Satisfactory	26.7
Satisfactory	16.7
Highly Satisfactory	10.0

Range = 1 – 6, Mean = 3.62 and Std. Dev. = 1.38

Descriptive statistics indicates that 46.7% respondents (university teachers) perceive that university leadership's commitment to implement formal QAA mechanism is unsatisfactory; 53.3% perceive that it is satisfactory but among them 26.73% perceive that it is moderately satisfactory. It means that only 26.7% of the surveyed population think that it is at the satisfactory and the above level. The presented table and figure indicate that in Bangladesh 73.3% of the university teachers perceive that university leadership's commitment to implement formal QAA process is at below the satisfactory level. The mean value of the scale is 3.62 but scale's value of particularly satisfactory level is 5. So to get the university leadership commitment motivated to implement the formal QAA process is another challenging factor for formal QAA process development in HEIs in Bangladesh.

So, it is clear that the university leaderships have neither adequate knowledge about formal QAA mechanism nor the commitment to implement it in their respective universities. So both the factors of leadership create tough challenge to introduce the formal QAA mechanism in Bangladesh.

University's Vision, Mission is aligned with the NEP and publicly known:

University's vision and mission should be aligned with the national policy's vision and mission and these should be publicly well-known for formal QAA process development. Descriptive statistics of this item presents in the following table 6.1.3.

Table 6.1.3: University's Vision, Mission is aligned with the NEP and publicly known

N=60

Name of scale	Percent
Highly Unsatisfactory	10.0
Unsatisfactory	18.3

Moderately Unsatisfactory	21.7
Moderately Satisfactory	28.3
Satisfactory	15.0
Highly Satisfactory	6.7

Range = 1 – 6, Mean = 3.4 and Std. Dev. = 1.4

Descriptive statistics indicates that 50% respondents (university teachers) perceive that university's vision and mission compare to vision and mission set in national education policy is unsatisfactory; 50% perceive that it is satisfactory but among them 28.3% perceive that it is moderately satisfactory. It means that only 21.7% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 78.3% of the university teachers perceive that university's vision, mission statements and matching of this statement with national education policy as well as dissemination of this statement are at below the satisfactory level. The mean value of the scale is 3.4 but scale's value of particularly satisfactory level is 5. So formulation or reformulation of university's vision, mission aligned with the aims and objectives of national education policy as well as dissemination of this statement to the society is another challenging factor for formal QAA process development in HEIs in Bangladesh.

University's Specific Objectives and KPIs of different areas:

Each university should have specific objectives and KPIs of different areas to ensure governance for quality education. These objectives and KPIs should be consistent with university's vision and mission. Descriptive statistics of this item is presented in the following table 6.1.4

Table 6.1.4: University's specific objectives and KPIs of different areas

N=60

Name of scale	Percent
Highly Unsatisfactory	10.0
Unsatisfactory	18.3
Moderately Unsatisfactory	33.3
Moderately Satisfactory	31.7
Satisfactory	3.3
Highly Satisfactory	3.3

Range = 1 – 6, Mean = 3.1 and Std. Dev. = 1.16

Descriptive statistics indicates that 61.7% respondents (university teachers) perceive that university's specific objectives and KPIs of different areas are unsatisfactory; 38.3% perceive that it is satisfactory but among them 31.7% perceive that it is moderately satisfactory. It means that only 6.6% of the surveyed population think that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 93.3% of the university teachers perceive that in line with the vision and mission of the university, specific objectives set by the university in different areas such as teaching & learning, research, etc. and regular monitoring of respective KPIs by the university management are at below the satisfactory level. The mean value of the scale is 3.1 but scale's value of particularly satisfactory level is 5. So regular monitoring of KPIs which were set in terms of university's specific objectives by the university management is the most challenging governance issue for formal QAA process development in HEIs in Bangladesh.

Department's Specific Objectives and respective KPIs:

In line with the university's specific objectives and KPIs of different areas, each department should have their own specific objectives and KPIs to ensure governance of the quality education. Descriptive statistics of this item is presented in the following table 6.1.5

Table 6.1.5: Faculty/Department's specific objectives and KPIs of different areas

N = 60

Name of scale	Percent
Highly Unsatisfactory	10.0
Unsatisfactory	13.3
Moderately Unsatisfactory	30.0
Moderately Satisfactory	31.7
Satisfactory	13.3
Highly Satisfactory	1.7

Range = 1 – 6, Mean = 3.3 and Std. Dev. = 1.21

Descriptive statistics indicates that 53.3% respondents (university teachers) perceive that specific objective and KPIs set by faculty/department and other administrative unit consistent to the university's objectives and KPIs of different areas are unsatisfactory; 46.7% perceive that it is satisfactory but among them 31.7% perceive that it is moderately

satisfactory. It means that only 15% of the surveyed population think that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 85.0% of the university teachers perceive that specific objective and KPIs set by faculty/department and other administrative unit consistent to the university's objectives and KPIs of different areas are at below the satisfactory level. The mean value of the scale is 3.3 but scale's value of particularly satisfactory level is 5. So to set specific objectives and respective KPIs and to monitor those by department and other administrative unit are other challenging factor for formal QAA process development in HEIs in Bangladesh.

Governance4: Individual Faculty's Specific Objectives and KPIs:

Individual faculty's specific objectives and KPIs aligned with the department's objectives and KPIs can ensure the governance of quality education in the department level. Descriptive statistics of this item is presented in the following table 6.1.6

Table 6.1.6: Individual Faculty's specific objectives and KPIs

N = 60

Name of scale	Percent
Highly Unsatisfactory	13.3
Unsatisfactory	15.0
Moderately Unsatisfactory	38.3
Moderately Satisfactory	20.0
Satisfactory	10.0
Highly Satisfactory	3.3

Range = 1 – 6, Mean = 3.08 and Std. Dev. = 1.26

Descriptive statistics indicates that 66.7% respondents (university teachers) perceive that specific objective and KPIs set by faculty/department and other administrative unit consistent to the department's objectives and respective KPIs are unsatisfactory; 33.3% perceive that it is satisfactory but among them 20.0% perceive that it is moderately satisfactory. It means that only 13.3% of the surveyed population think that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 86.7% of the university teachers perceive that each individual faculty in the department/institute sets his/her own objectives aligned

with departmental/institute's objectives and the respective KPIs are at below the satisfactory level. The mean value of the scale is 3.08 but scale's value of particularly satisfactory level is 5. So to get motivate the individual faculties to set their own objectives aligned with departmental/institute's objectives and the respective KPIs are considerable challenging factor for formal QAA process development in HEIs in Bangladesh.

Committees of Courses functional and performed adequately:

Committees of courses play vital role to improve over-all quality of the program. It should be functional and perform effectively to ensure institutional governance. Descriptive statistics of this item is presented in the following table 6.1.7

Table 6.1.7: Committee of courses functional and performed adequately

N = 60

Name of scale	Percent
Highly Unsatisfactory	1.7
Unsatisfactory	15.0
Moderately Unsatisfactory	30.0
Moderately Satisfactory	26.7
Satisfactory	18.3
Highly Satisfactory	8.3

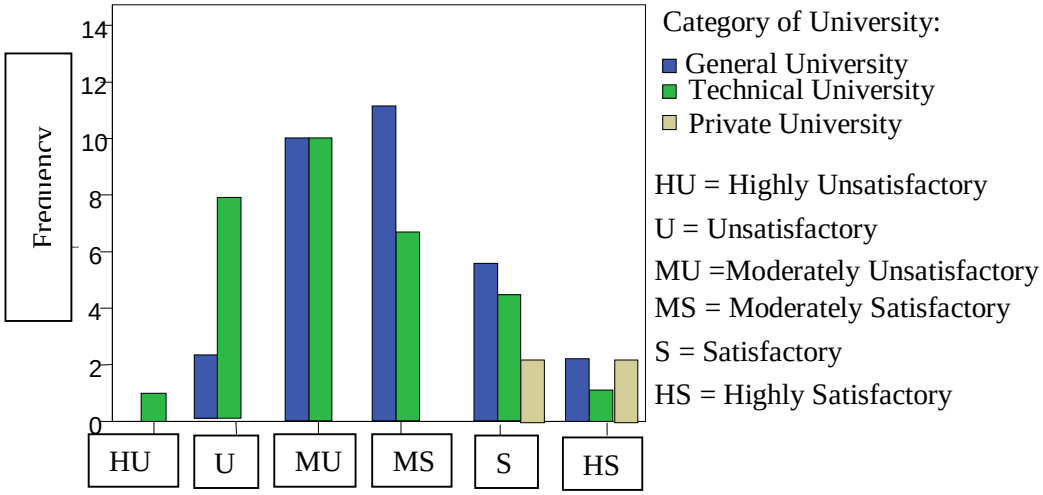
Range = 1 – 6, Mean = 3.7 and Std. Dev. = 1.23

Descriptive statistics indicates that 46.7% respondents (university teachers) perceive that regular functionality and performance of the committees of courses are unsatisfactory; 53.3% of the respondents find them satisfactory but among them 26.7% perceive that it is moderately satisfactory. It means that only 26.6% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 73.3% of the university teachers perceive that committees of courses are functional and consulting with the stakeholders they find the matter of require improvement are at below the satisfactory level. The mean value of the scale is 3.7 but scale's value of particularly satisfactory level is 5. So to ensure functional and efficient committees of courses is another most challenging factor for formal QAA process development in HEIs in Bangladesh.

Perception about functionality of committees of courses varies upon the category of universities. University category-wise functionality of committees of courses and their performance is presented through a bar chart in the following figure 7.

Figure 7: Bar Chart of functionality of committee of courses and their adequate performance by university category



39.3% of the respondents of general university perceive that regular functionality and performance of the committees of courses is unsatisfactory; 60.7% of the respondents of technical university perceive that it is unsatisfactory whereas none of the respondents from private universities express the same views. So regular functionality and performance of the committees of courses is a more challenging factor for technical university compared with general university or private university.

Program Objectives, Course Content, Grading, and Graduates Records:

Proper documentation, dissemination and available information about program objectives, course content, grading systems and graduate records are another important governance issues to ensure quality education. Descriptive statistics of this item is presented in the following table 6.1.8.

Table 6.1.8: Program Objectives, Structure, Course Content, Grading, and Graduates records

N = 60

Name of scale	Percent
Highly Unsatisfactory	0
Unsatisfactory	21.7

Moderately Unsatisfactory	25.0
Moderately Satisfactory	20.0
Satisfactory	26.7
Highly Satisfactory	6.7

Range = 1 – 6, Mean = 3.72 and Std. Dev. = 1.2

Descriptive statistics indicates that 46.7% respondents (university teachers) are of the opinion that proper documentation, dissemination and available information about program objectives, course content, grading systems and graduate records are unsatisfactory; 53.3% of them those are satisfactory but among them 20.0% find those are moderately satisfactory. It means that 33.4% of the surveyed population perceive that those are at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 66.7% of the university teachers perceive that program objective, structure, course content, grading system, degree requirement, students and graduate records by enrolment, drop out, assessment, placement, and feedback are documented and available for ready reference is at below the satisfactory level. The mean value of the scale is 3.72 but scale's value of particularly satisfactory level is 5. So the governance issue in this area is comparatively less challenging factor considering all other governance issues for formal QAA process development in HEIs in Bangladesh.

Performance of the resources and function of the support unit:

Performance and quality of program related resources and well-responsive function of the support unit can ensure the governance issues relating to the quality education. Descriptive statistics of this item is presented in the following table 6.1.9.

Table 6.1.9: Performance of resources and function of the support unit

N = 60

Name of scale	Percent
Highly Unsatisfactory	11.7
Unsatisfactory	16.7
Moderately Unsatisfactory	38.3
Moderately Satisfactory	20.0
Satisfactory	11.7
Highly Satisfactory	1.7

Range = 1 – 6, Mean = 3.08 and Std. Dev. = 1.2

Descriptive statistics indicates that 66.7% respondents (university teachers) perceive that performance and quality of resources and function of the different support unit are unsatisfactory; 33.3% perceive that it is satisfactory but among them 20.0% perceive that it is moderately satisfactory. It means that only 13.4% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 86.7% of the university teachers perceive that quality of program related resources and services delivered by different support unit are at below the satisfactory level. The mean value of the scale is 3.08 but scale's value of particularly satisfactory level is 5. So to ensure quality of program related resources and support services in terms of the resources' or services' performance is another most challenging factor for formal QAA process development in HEIs in Bangladesh.

TPIs and RPIs well documented and evaluation from student and peers

Teaching performance indicators (TPIs) as well as research performance indicators (RPIs) are the essential factors for ensuring good governance. Promotion of the teachers depends on evaluation by the peers and the students can ensure the teacher's responsibility and can enhance the quality of higher education. Descriptive statistics of this item is presented in the following table 6.1.10

Table 6.1.10: TPIs and RPIs well documented and evaluation from student and peers

N = 60

Name of scale	Percent
Highly Unsatisfactory	13.3
Unsatisfactory	35.0
Moderately Unsatisfactory	36.7
Moderately Satisfactory	10.0
Satisfactory	1.7
Highly Satisfactory	3.3

Range = 1 – 6, Mean = 2.62 and Std. Dev. = 1.11

Descriptive statistics indicates that 85% respondents (university teachers) perceive that consideration of TPIs and RPIs, and promotion of the teacher on the basis of evaluation of teaching performance by the peers and the students are unsatisfactory; 15% perceive that it is satisfactory but among them 10.0% perceive that it is moderately satisfactory. It means

that only 5% of the surveyed populations perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 95.0% of the university teachers perceive that practice of TPIs and RPIs and teaching evaluation by both the students and the peers for further development and consideration for promotion are at below the satisfactory level. The mean value of the scale is 2.62 but scale's value of particularly satisfactory level is 5. So the introduction of the practice of TPIs and RPIs and teaching evaluation by both the students and the peers for further development and consideration for promotion are two of the most important governance challenging factors for formal QAA process development in HEIs in Bangladesh.

4.3.2 Curriculum

This variable includes curriculum development, curriculum delivery and assessment process of the program. This variable consists of 6 sub-variables of which 2 for curriculum development, 2 for curriculum delivery and 2 for assessment. Descriptive statistics of this item is presented in with mean value and standard deviation.

Need assessment, stakeholder engagement, reviews feedback:

To ensure quality education as well as to meet the demand of the society, HEIs should develop their curriculum through need assessment, consultative meeting with key stakeholders, alumni surveys, exit interviews with prospective graduates etc. and should regularly review the process with feedback. The following table (table 6.2.1) presents the descriptive statistics of this item.

Table 6.2.1: Need assessment, stakeholder engagement, reviews feedback for curriculum development

N = 60

Name of scale	Percent
Highly Unsatisfactory	5.0
Unsatisfactory	10.0
Moderately Unsatisfactory	23.3
Moderately Satisfactory	43.3
Satisfactory	13.3
Highly Satisfactory	5.0

Range = 1 – 6, Mean = 3.65 and Std. Dev. = 1.14

Descriptive statistics indicates that 38.3% respondents (university teachers) perceive that curriculum development through need assessment, stakeholder engagement and regular up-date of curriculum on the basis of feedback is unsatisfactory; 61.7% perceive that it is satisfactory but among them 43.3% perceive that it is moderately satisfactory. It means that only 18.3% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 81.7% of the university teachers perceive that curriculum development through need assessment, stakeholder engagement and regular up-date of curriculum on the basis of feedback is at below the satisfactory level. The mean value of the scale is 3.65 but scale's value of particularly satisfactory level is 5. Though the overall satisfaction of this item is comparatively higher, 43.3% respondents opined that it is moderately satisfactory. As this variable requires documentation and scale 4 indicates that it is not efficient example of uses, it remains another challenging factor for formal QAA process development in HEIs in Bangladesh.

Structure and content of curriculum are adequate with vision, skills and outcomes:

Curriculum content and structure should adequately match with university's vision and mission, and program's goals and objectives as well as admission requirement to ensure quality education. Curriculum should also match required skills, credit hours, instruction of assessment methods, outcome based content and language. All of these factors should consider when HEIs develop curriculum for a specific program. The following table (table 6.2.1) presents the descriptive statistics of this item.

Table 6.2.2: Structure and content of curriculum are adequate with vision, skills and outcomes

N = 60

Name of scale	Percent
Highly Unsatisfactory	1.7
Unsatisfactory	6.7
Moderately Unsatisfactory	28.3
Moderately Satisfactory	28.3
Satisfactory	30.0
Highly Satisfactory	5.0

Range = 1 – 6, Mean = 3.93 and Std. Dev. = 1.10

Descriptive statistics indicate that 36.7% respondents (university teachers) perceive that skills and outcomes of program consistent with curriculum are unsatisfactory; 63.3% perceive that it is satisfactory but among them 28.3% perceive that it is moderately satisfactory. It means that 35.0% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 65.0% of the university teachers perceive that skills and outcomes of program consistent with curriculum are at below the satisfactory level. The mean value of the scale is 3.93 but scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is a less challenging factor for formal QAA process development in HEIs in Bangladesh.

Use different teaching-learning method and aids and motivates co-curricular activities:

To deliver the developed curriculum, departments should use different teaching learning methods and aids and motivate co-curricular activities that meet the quality education. Descriptive statistics of this item is presented in the following table 6.2.3

Table 6.2.3: Use different teaching-learning method and aids and motivates co-curricular activities

N = 60

Name of scale	Percent
Highly Unsatisfactory	1.7
Unsatisfactory	5.0
Moderately Unsatisfactory	18.3
Moderately Satisfactory	33.3
Satisfactory	35.0
Highly Satisfactory	6.7

Range = 1 – 6, Mean = 4.15 and Std. Dev. = 1.07

Descriptive statistics indicate that 25.0% respondents (university teachers) perceive that to deliver the developed curriculum, department's using of different teaching learning methods, and aids and motivating co-curricular activities are unsatisfactory; 75% perceive that it is satisfactory but among them 33.3% perceive that it is moderately satisfactory. It means that 41.7% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 58.3% of the university teachers perceive that to deliver the developed curriculum, department's using of different teaching learning methods, and aids and motivating co-curricular activities are at below the satisfactory level. The mean value of the scale is 4.15 and scale's value of particularly satisfactory level is 5. The mean value is above the moderately satisfactory scale's value 4. Perception of respondents indicates that it is a comparatively less challenging factor for formal QAA process development in HEIs in Bangladesh.

Execution of program taking place with time-frame, handbook and resources:

Smooth execution of program with required time-frame maintenance and usage of student handbook and availability of resources for curriculum delivery are another pre condition for quality education. The following table (table 6.2.4) presents the descriptive statistics of this item.

Table 6.2.4: Execution of program taking place with time-frame, handbook and resources

N = 60

Name of scale	Percent
Highly Unsatisfactory	3.3
Unsatisfactory	10.0
Moderately Unsatisfactory	18.3
Moderately Satisfactory	36.7
Satisfactory	23.3
Highly Satisfactory	8.3

Range = 1 – 6, Mean = 3.92 and Std. Dev. = 1.21

Descriptive statistics indicates that 31.7% respondents (university teachers) perceive that smooth execution of program with required time-frame maintenance and usage of student handbook and availability of resources for curriculum delivery are unsatisfactory; 68.3% perceive that it is satisfactory but among them 36.7% perceive that it is moderately satisfactory. It means that 31.6% surveyed population perceive that it is at satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 68.3% of the university teachers perceive that smooth execution of program with requires time-frame maintenance and usage of student handbook and availability of resources for curriculum delivery are at below the

satisfactory level. The mean value of the scale is 3.92 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is another challenging factor for formal QAA process development in HEIs in Bangladesh.

Relationship between course content and learning achievement:

Relationship between course content and learning achievement assessed through maintaining representative validation is one of the important factors for quality education. Descriptive statistics of this item is presented in the following table 6.2.5

Table 6.2.5: Relationship between course content and learning achievement

N = 20

Name of scale	Percent
Highly Unsatisfactory	3.3
Unsatisfactory	6.7
Moderately Unsatisfactory	20.0
Moderately Satisfactory	30.0
Satisfactory	35.0
Highly Satisfactory	5.0

Range = 1 – 6, Mean = 4.02 and Std. Dev. = 1.15

Descriptive statistics indicates that 30% respondents (university teachers) perceive that smooth execution of program with required time-frame maintenance and usage of student handbook and availability of resources for curriculum delivery is unsatisfactory; 70% perceive that it is satisfactory but among them 30% perceive that it is moderately satisfactory. It means that 40% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 60% of the university teachers perceive that smooth execution of program with required time-frame maintenance and usage of student handbook and availability of resources for curriculum delivery are at below the satisfactory level. The mean value of the scale is 4.02 and scale's value of particularly satisfactory level is 5. The mean value is above the moderately satisfactory scale's value 4. Perception of respondents indicates that it is a comparatively less challenging factor for formal QAA process development in HEIs in Bangladesh.

Diversified assessment method used and well circulated:

Usage of diversified assessment method and circulation of CGPA criteria and benchmark, related tools for assessment should circulate among students are another precondition of quality education. Descriptive statistics of this item is presented in the following table 6.2.6

Table 6.2.6: Diversified assessment method used and well circulated

N = 60

Name of scale	Percent
Highly Unsatisfactory	0
Unsatisfactory	3.3
Moderately Unsatisfactory	25.0
Moderately Satisfactory	28.3
Satisfactory	26.7
Highly Satisfactory	16.7

Range = 1 – 6, Mean = 4.28 and Std. Dev. = 1.12

Descriptive statistics indicates that 28.3% respondents (university teachers) perceive that usage of diversified assessment method, and circulation of related tools for assessment circulate among students are unsatisfactory; 71.7% perceive that it is satisfactory but among them 28.3% perceive that it is moderately satisfactory. It means that 43.3% of the surveyed population perceive that it is at the satisfactory and the above level.

Presented table and figure indicate that in Bangladesh 56.7% of the university teachers perceive that usage of diversified assessment method, and circulation of related tools for assessment circulate among students are at below the satisfactory level. The mean value of the scale is 4.28 and scale's value of particularly satisfactory level is 5. The mean value is above the moderately satisfactory scale's value 4. Perception of respondents indicates that it is a comparatively less challenging factor for formal QAA process development in HEIs in Bangladesh.

4.3.3 Facilities

This variable includes facilities of learning resources, infrastructural facilities and support service facilities etc. sub-variables. Descriptive statistics of this item is presented in table with mean value and standard deviation.

Learning resources (class room, library, laboratory, ICT) adequate to quality education:

How different types of learning resources such as modern, well equipped, usable and adequate library facility, laboratory facilities, ICT facilities and classroom facility meet the demand of overall quality education is the main considering factor of this sub-variable. Descriptive statistics of this item is presented in the following table 6.3.1

Table 6.3.1: Learning resources (class room, library, laboratory, ICT) adequate to quality education

N = 60

Name of scale	Percent
Highly Unsatisfactory	0
Unsatisfactory	8.3
Moderately Unsatisfactory	18.3
Moderately Satisfactory	30.0
Satisfactory	36.7
Highly Satisfactory	6.7

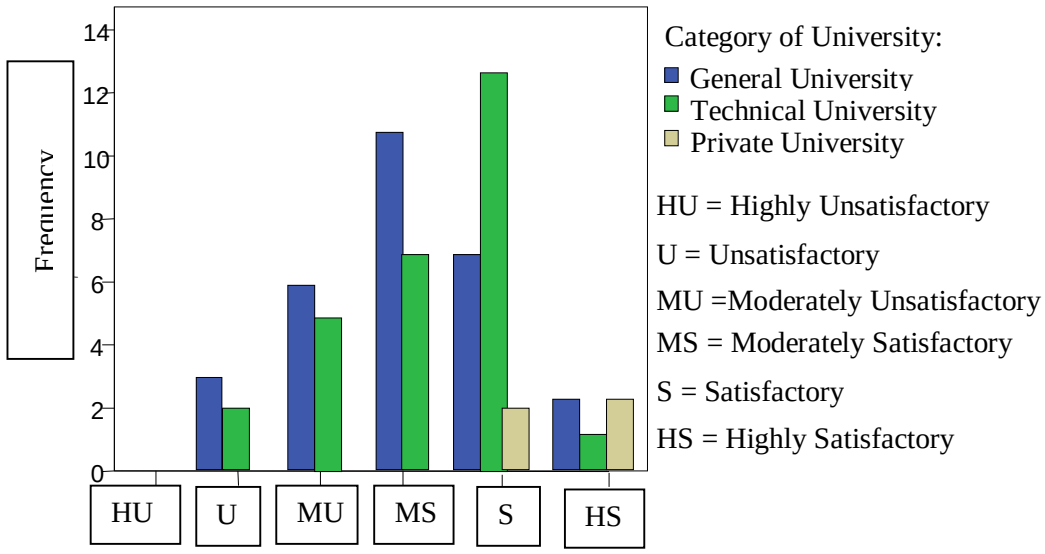
Range = 1 – 6, Mean = 4.15 and Std. Dev. = 1.07

Descriptive statistics indicates that 26.7% respondents (university teachers) perceive that learning resources (class room, library, laboratory, ICT etc.) adequate to quality education is unsatisfactory; 73.3% perceive that it is satisfactory but among them 30% perceive that it is moderately satisfactory. It means that 43.3% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 56.7% of the university teachers perceive that learning resources (class room, library, laboratory, ICT) adequate to quality education is at below the satisfactory level. The mean value of the scale is 4.15 and scale's value of particularly satisfactory level is 5. The mean value is above the moderately satisfactory scale's value 4. Perception of respondents indicates that it is a comparatively less challenging factor for formal QAA process development in HEIs in Bangladesh.

Perception about learning resources (class room, library, laboratory, ICT) adequate to quality education varies upon the category of universities. University category-wise perception of this sub-variable is presented through a bar chart in the following figure 8.

Figure 8: Bar Chart of learning resources (class room, library, laboratory, ICT) adequate to quality education by university category



32.1% of the respondents of general university think that learning resources (class room, library, laboratory, ICT) adequate to quality education is unsatisfactory; 25% of the respondents of technical university perceive that it is unsatisfactory whereas none of the respondents from private universities express the same views. However, 28.57% of the general university teachers, 50% of the technical university teachers and 100% of the private university teachers perceive that learning resources is at the satisfactory and above the level. So adequate learning resources is a more challenging factor for general university compared with technical university or private university.

Adequate Infrastructure (modern and well equipped building, spaces, auditorium):

Modern academic and administrative and building with adequate space, conference center and auditorium with audio-visual aids, seminar room with adequate space, and cafeteria are the important facilities to meet the requirements of quality education. Descriptive statistics of this item presents in the following table 6.3.2

Table 6.3.2: Adequate infrastructure (modern and well equipped building, spaces, auditorium)

N 60

Name of scale	Percent
Highly Unsatisfactory	1.7
Unsatisfactory	16.7

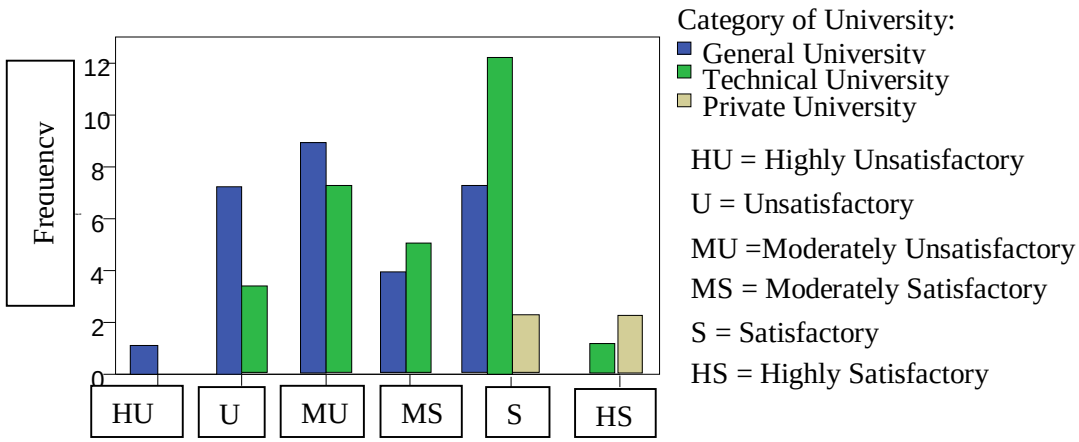
Moderately Unsatisfactory	26.7
Moderately Satisfactory	15.0
Satisfactory	35.0
Highly Satisfactory	5.0
Total	100.0

Range = 1 – 6, Mean = 3.8 and Std. Dev. = 1.27

Descriptive statistics indicates that 45% respondents (university teachers) perceive that modern academic and administrative and building with adequate space, conference center and auditorium with audio-visual aids, seminar room with adequate space, and cafeteria that are essential requirements for quality education are unsatisfactory. 55% of the respondents perceive that it is satisfactory but among them 15% perceive that it is moderately satisfactory. It means that 40% of the surveyed population perceive that it is at the satisfactory and the above level. The presented table and figure indicate that in Bangladesh 56.7% of the university teachers perceive that adequate infrastructure (modern and well equipped building, spaces, auditorium) are at below the satisfactory level. The mean value of the scale is 3.8 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is other challenging factor for formal QAA process development in HEIs in Bangladesh.

Perception about adequate infrastructural facilities (modern and well equipped building, spaces, and auditorium) varies upon the category of universities. University category-wise perception of this sub-variable is presented through a bar chart in following figure 9.

Figure 9: Bar Chart of adequate infrastructural facilities (modern and well equipped building, spaces, and auditorium) by university category



60.71% of the respondents of general university perceive that adequate infrastructure facilities (modern and well equipped building, spaces, auditorium) are unsatisfactory; 35.71% of the respondents of technical university perceive that it is unsatisfactory whereas none of the respondents from private universities perceives that it is unsatisfactory. However, 25% of the general university teachers, 46.43% of the technical university teachers and 100% of the private university teachers perceive that infrastructural facilities is at the satisfactory and above the level. So adequate infrastructural facilities are more challenging factor to general university compared with technical university or private university.

Adequate supportive (scholarship, medical, sports, transport, security, etc.) facility:

Available and adequate scholarships, medical facilities, sport facilities, transport facilities, security facilities and allocation of financial resources are the important supportive facilities to ensure quality education. The following table (table 6.3.3) presents the descriptive statistics of this item.

Table 6.3.3: Adequate supportive (scholarship, medical, sports, transport, security, etc.) facility

N = 60

Name of scale	Percent
Highly Unsatisfactory	3.3
Unsatisfactory	23.3
Moderately Unsatisfactory	21.7
Moderately Satisfactory	30.0
Satisfactory	13.3
Highly Satisfactory	8.3

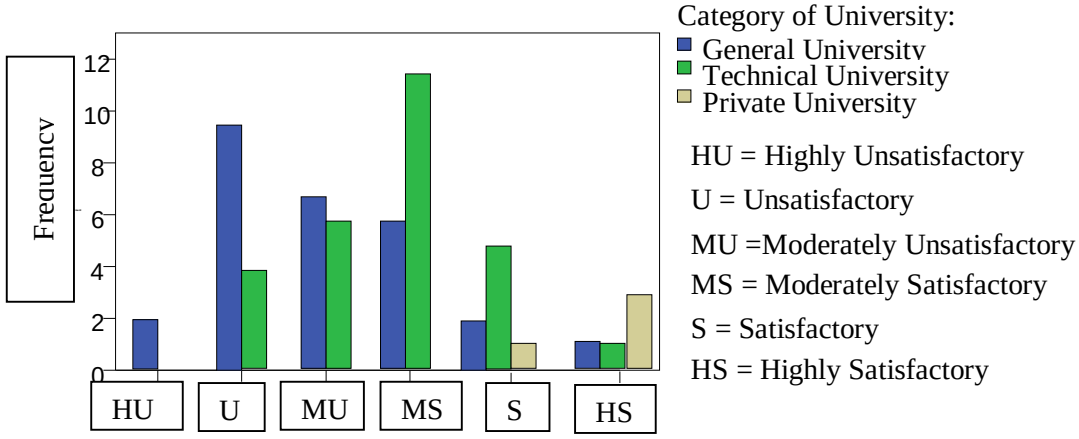
Range = 1 – 6, Mean = 3.52 and Std. Dev. = 1.30

Descriptive statistics indicates that 48.3% respondents (university teachers) perceive that adequate supportive (scholarship, medical, sports, transport, security, etc.) facilities are unsatisfactory. 51.7% of the respondents perceive that it is satisfactory but among them 30% perceive that it is moderately satisfactory. It means that only 21.6% of the surveyed population perceive that it is at the satisfactory and the above level. The presented table and figure indicate that in Bangladesh 78.3% of the university teachers perceive that adequate supportive (scholarship, medical, sports, transport, security, etc.) facilities are at below the satisfactory level. The mean value of the scale is 3.52 and scale's value of particularly

satisfactory level is 5. Perception of respondents indicates that it is another challenging factor for formal QAA process development in HEIs in Bangladesh.

Perception about adequate supportive (scholarship, medical, sports, transport, security, etc.) facility varies upon the category of universities. University category-wise perception of this sub-variable is presented through a bar chart in the following figure 10.

Figure 10: Bar Chart of adequate supportive (scholarship, medical, sports, transport, security, etc.) facility by university category



67.86% of the respondents of general university perceive that adequate supportive (scholarship, medical, sports, transport, security, etc.) facilities are unsatisfactory; 35.71% of the respondents of technical university perceive that it is unsatisfactory whereas none of the respondent from private universities perceives that it is unsatisfactory. However, 10.71% of the general university teachers, 21.43% of the technical university teachers and 100% of the private university teachers perceive that supportive facilities are at the satisfactory and above the level. So adequate supportive facilities are more challenging factor to general university compared with technical university or private university.

4.3.4 Student

This variable includes student selection, student management, student support service and foster linkage with alumni etc. sub-variables. Descriptive statistics of this item is presented in table with mean value and standard deviation.

Maintain entry level requirement, relation to learning outcome, ensure access in terms of merit:

Entry level requirement in relation to learning outcome and transparent and merit basis admission policy are other important conditions to ensure quality education. Descriptive statistics of this item is presented in the following table 6.4.1

Table 6.4.1: Maintain entry level requirement, relation to learning outcome, ensure access in terms of merit

N = 60

Name of scale	Percent
Highly Unsatisfactory	0
Unsatisfactory	0
Moderately Unsatisfactory	3.3
Moderately Satisfactory	15.0
Satisfactory	38.3
Highly Satisfactory	43.3

Range = 1 – 6, Mean = 5.22 and Std. Dev. = 0.82

Descriptive statistics indicates that only 3.3% respondents (university teachers) perceive that entry level requirement in relation to learning outcome and transparent and merit basis admission policy are unsatisfactory. 96.7% of the respondents perceive that it is satisfactory but among them 15% perceive that it is moderately satisfactory. It means that 81.7% of the surveyed population perceive that it is at the satisfactory and the above level. No respondents perceive that it is highly unsatisfactory or unsatisfactory. So it is undoubted that incase of student selection, universities maintained the standard and it is consistent with the quality education.

The presented table and figure indicate that in Bangladesh 18.3% of the university teachers perceive that entry level requirement in relation to learning outcome and transparent and merit basis admission policy are at below the satisfactory level. The mean value of the scale is 5.22 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is a example of best practices and there is a minimum challenge about student selection process for formal QAA process development in HEIs in Bangladesh.

Student management efficiency, student council and alumni engagement:

Student management i.e. provides student ID card, health and library card, ensure student

code of conducts and functional student council as well as student engagement with alumni plays a vital role to ensure quality education. Descriptive statistics of this item is presented in the following table 6.4.2

Table 6.4.2: Student management efficiency, student council and alumni engagement

N = 60

Name of scale	Percent
Highly Unsatisfactory	1.7
Unsatisfactory	3.3
Moderately Unsatisfactory	11.7
Moderately Satisfactory	26.7
Satisfactory	43.3
Highly Satisfactory	13.3

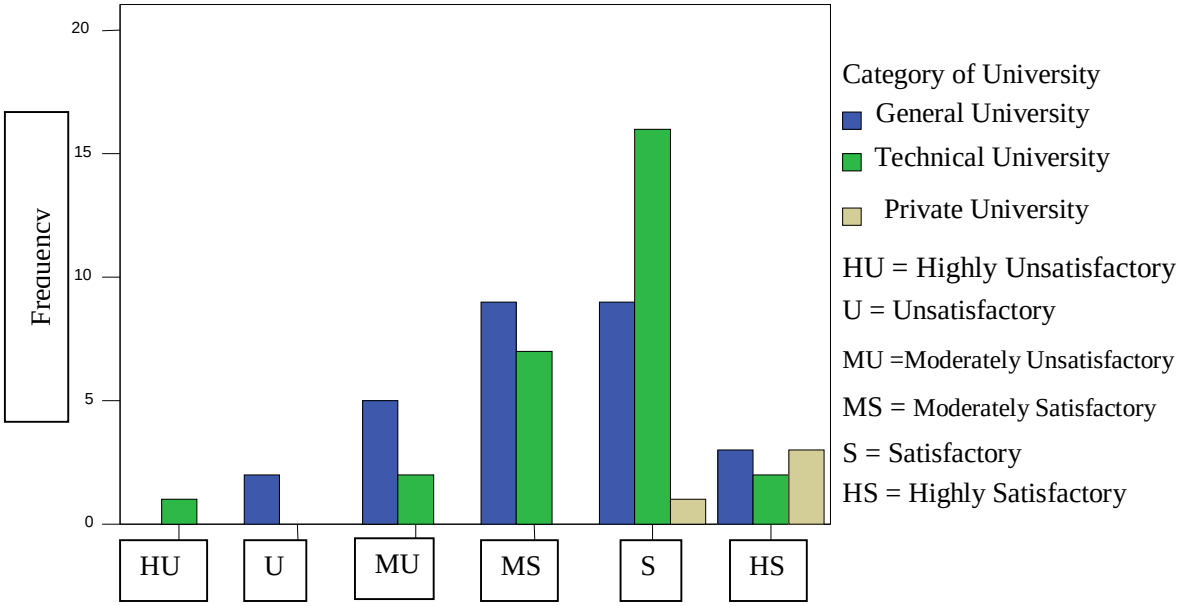
Range = 1 – 6, Mean = 4.47 and Std. Dev. = 1.08

Descriptive statistics indicates that only 16.7% respondents (university teachers) perceive that student management, student council and alumni engagement are unsatisfactory. 83.3% of the respondents perceive that it is satisfactory but among them 26.7% perceive that it is moderately satisfactory. It means that 56.6% of the surveyed population perceive that it is at the satisfactory and the above level.

Presented table and figure indicates that in Bangladesh 43.3% of the university teachers perceive that student management efficiency, student council and alumni engagement is at below the satisfactory level. The mean value of the scale is 4.47 and scale's value of particularly satisfactory level is 5. The mean value is above the moderately satisfactory scale's value 4. Perception of respondents indicates that it is a comparatively less challenging factor for formal QAA process development in HEIs in Bangladesh.

Perception about student management, student council and alumni engagement varies upon the category of universities. University category-wise perception of this sub-variable is presented through a bar chart in the following figure 11.

Figure 11: Bar Chart of student management efficiency, student council and alumni engagement by university category



25% of the respondents of general university perceive that student management, student council and alumni engagement are unsatisfactory; 10.71% of the respondents of technical university perceive that it is unsatisfactory whereas none of the respondents from private universities perceive that it is unsatisfactory. However, 42.86% of the general university teachers, 64.29% of the technical university teachers and 100% of the private university teachers perceive that student management services is at the satisfactory and above the level. So efficient student management service is a more challenging factor to general university compared with technical university or private university.

Student support service including career development:

Universities should provide adequate and required support services including career development so that it can meet the standards of quality education. Descriptive statistics of this item is presented in the following table 6.4.3

Table 6.4.3: Student support service including career development

N = 60

Name of scale	Percent
Highly Unsatisfactory	3.3
Unsatisfactory	11.7

Moderately Unsatisfactory	33.3
Moderately Satisfactory	31.7
Satisfactory	18.3
Highly Satisfactory	1.7

Range = 1 – 6, Mean = 3.55 and Std. Dev. = 1.08

Descriptive statistics indicates that 48.3% respondents (university teachers) perceive that student support services including career development are unsatisfactory. 51.7% of the respondents perceive that it is satisfactory but among them 31.7% perceive that it is moderately satisfactory. It means that only 20% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 80% of the university teachers perceive that student support services including career development are at below the satisfactory level. The mean value of the scale is 3.55 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is another challenging factor for formal QAA process development in HEIs in Bangladesh.

Foster linkage with alumni, play role in building professionalism and alumni feedback:

Clear policy to foster linkage with alumni and encourage them to play role in building professionalism and feedback from them on curriculum and program development are another essential factors for quality education. Descriptive statistics of this item is presented in the following table 6.4.4

Table 6.4.4: Foster linkage with alumni, play role in building professionalism and alumni feedback

N = 60

Name of scale	Percent
Highly Unsatisfactory	5.0
Unsatisfactory	15.0
Moderately Unsatisfactory	38.3
Moderately Satisfactory	30.0
Satisfactory	8.3
Highly Satisfactory	3.3

Range = 1 – 6, Mean = 3.32 and Std. Dev. = 1.09

Descriptive statistics indicates that 58.3% respondents (university teachers) perceive that foster linkage with alumni, play role in building professionalism and alumni feedback are

unsatisfactory. 41.7% of the respondents perceive that it is satisfactory but among them 30% perceive that it is moderately satisfactory. It means that only 11.6% of the surveyed population perceive that it is at the satisfactory and the above level. The presented table and figure indicate that in Bangladesh 88.3% of the university teachers perceive that foster linkage with alumni, play role in building professionalism and alumni feedback are at below the satisfactory level. The mean value of the scale is 3.32 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is a more challenging factor for formal QAA process development in HEIs in Bangladesh.

4.3.5 Staff (Teaching and Non-teaching)

This variable includes minimum qualification and selection process of staff, staff word load and monitoring, and training of the staff etc. sub-variables. Descriptive statistics of this item is presented in table with mean value and standard deviation.

Minimum qualification, recruitment policy and staff appraisal:

Minimum qualification of the staff, transparent recruitment process by following the recruitment policy are others important factors for quality education. Descriptive statistics of this item is presented in the following table 6.5.1

Table 6.5.1: Minimum qualification, recruitment policy and staff appraisal

N = 60

Name of scale	Percent
Highly Unsatisfactory	5.0
Unsatisfactory	5.0
Moderately Unsatisfactory	21.7
Moderately Satisfactory	36.7
Satisfactory	20.0
Highly Satisfactory	11.7

Range = 1 – 6, Mean = 3.97 and Std. Dev. = 1.24

Descriptive statistics indicates that 31.7% respondents (university teachers) perceive that minimum qualification of the staff, transparent recruitment processes by following the recruitment policy and staff appraisal are unsatisfactory. 68.3% of the respondents perceive that it is satisfactory but among them 36.7% perceive that it is moderately satisfactory. It means that 31.7% of the surveyed population perceive that it is at the satisfactory and the above level. The presented table and figure indicate that in Bangladesh 68.3% of the

university teachers perceive that minimum qualification of the staff, transparent recruitment processes by following the recruitment policy and staff appraisal are at below the satisfactory level. The mean value of the scale is 3.97 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is a more challenging factor for formal QAA process development in HEIs in Bangladesh.

Staffs work load (staff-student ratio), Job description by position and staff monitoring:

Desire level of staff work load (staff-student ratio), job description by position and staff monitoring etc. are the essential conditions for quality education. Descriptive statistics of this item is presented in the following table 6.5.2

Table 6.5.2: Staffs work load (staff-student ratio), Job description by position and staff monitoring

N = 60

Name of scale	Percent
Highly Unsatisfactory	3.3
Unsatisfactory	21.7
Moderately Unsatisfactory	28.3
Moderately Satisfactory	25.0
Satisfactory	20.0
Highly Satisfactory	1.7

Range = 1 – 6, Mean = 3.42 and Std. Dev. = 1.18

Descriptive statistics indicates that 53.3% respondents (university teachers) perceive that staffs work load (staff-student ratio), job description by position and staff monitoring are unsatisfactory. 46.7% of the respondents perceive that it is satisfactory but among them 25% perceive that it is moderately satisfactory. It means that only 21.7% of the surveyed population perceive that it is at satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 78.3% of the university teachers perceive that staff work load (staff-student ratio), job description by position and staff monitoring are at below the satisfactory level. The mean value of the scale is 3.42 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is comparatively more challenging factor for formal QAA process development in HEIs in Bangladesh.

Training facility for the teaching and non-teaching staff:

Training motivates the staff to change their behavior and practice positively. Foundation training is essential both for the teaching and non-teaching staff to meet the demand of quality education. Descriptive statistics of this item is presented in the following table 6.5.3

Table 6.5.3: Training facility for the teaching and non-teaching staff

N = 60

Name of scale	Percent
Highly Unsatisfactory	28.3
Unsatisfactory	23.3
Moderately Unsatisfactory	35.0
Moderately Satisfactory	8.3
Satisfactory	5.0
Highly Satisfactory	0

Range = 1 – 6, Mean = 2.38 and Std. Dev. = 1.13

Descriptive statistics indicates that 86.7% respondents (university teachers) perceive that training facility for the teaching and non-teaching staff is unsatisfactory. 13.3% of the respondents perceive that it is satisfactory but among them 8.3% perceive that it is moderately satisfactory. It means that only 5% of the surveyed population perceive that it is at satisfactory and the above level. The presented table and figure indicate that in Bangladesh 95% of the university teachers perceive that training facility for the teaching and non-teaching staff is at below the satisfactory level. The mean value of the scale is 2.38 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is comparatively a more challenging factor for formal QAA process development in HEIs in Bangladesh.

4.3.6 Quality Assurance (QA) Process Development

This variable includes strategic policy of quality assurance as well as establishment of internal quality assurance unit and appointment of quality assurance staff, implementation of self-assessment process, and conducts peer review etc. sub-variables. Descriptive statistics of this item is presented in table with mean value and standard deviation.

Strategic policy for quality assurance and internal quality assurance cell:

University should have a strategic quality assurance plan with internal quality assurance unit to introduce the formal QAA process. Descriptive statistics of this item is presented in the following table 6.6.1

Table 6.6.1: Strategic policy for quality assurance and internal quality assurance cell

N = 60

Name of scale	Percent
Highly Unsatisfactory	26.7
Unsatisfactory	38.3
Moderately Unsatisfactory	21.7
Moderately Satisfactory	10.0
Satisfactory	3.3
Highly Satisfactory	0

Range = 1 – 6, Mean = 2.25 and Std. Dev. = 1.06

Descriptive statistics indicates that 86.7% respondents (university teachers) are the opinion that strategic quality assurance plan with internal quality assurance unit is unsatisfactory. 13.3% of them respondents perceive that is satisfactory but among them 10% find this moderately satisfactory. It means that only 3.3% of the surveyed population perceive that it is at the satisfactory and the above level.

The presented table and figure indicate that in Bangladesh 96.7% of the university teachers perceive that strategic quality assurance plan with internal quality assurance unit is at below the satisfactory level. The mean value of the scale is 2.25 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is comparatively more challenging factor for formal QAA process development in HEIs in Bangladesh.

Self-assessment and its recommendation implementation:

Self-assessment is the primary process of formal QAA mechanism. To improve the quality of education departments as well as university should prepare self-assessment and have to implement the recommendation of the self-assessment repot. Descriptive statistics of this item is presented in the following table 6.6.2.

Table 6.6.2: Self-assessment and its recommendation implementation

N = 60

Name of scale	Percent
Highly Unsatisfactory	30.0
Unsatisfactory	35.0
Moderately Unsatisfactory	16.7
Moderately Satisfactory	13.3
Satisfactory	0
Highly Satisfactory	5.0

Range = 1 – 6, Mean = 2.33 and Std. Dev. = 1.31

Descriptive statistics indicates that 81.7% respondents (university teachers) perceive that self-assessment and its recommendation implementation are unsatisfactory. 18.3% of the respondents perceive that it is satisfactory but among them 13.3% perceive that it is moderately satisfactory. It means that only 5% of the surveyed population perceive that it is at the satisfactory and the above level.

Presented table and figure indicate that in Bangladesh 95% of the university teachers perceive that self-assessment and its recommendation implementation are at below the satisfactory level. The mean value of the scale is 2.33 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is comparatively more challenging factor for formal QAA process development in HEIs in Bangladesh.

Faculty experience to conduct external peer review:

Peer review is essential factor for the reliability and credibility of the self-assessment. Experienced peer reviewer can expedite the formal QAA process implementation. The following table (table 6.6.2) presents the descriptive statistics of this item.

Table 6.6.3: Faculty experience to conduct external peer review

N = 60

Name of scale	Percent
Highly Unsatisfactory	15.0
Unsatisfactory	30.0
Moderately Unsatisfactory	18.3
Moderately Satisfactory	21.7
Satisfactory	11.7
Highly Satisfactory	3.3

Range = 1 – 6, Mean = 2.95 and Std. Dev. = 1.38

Descriptive statistics indicates that 63.3% respondents (university teachers) perceive that faculty experience to conduct external peer review is unsatisfactory. 46.7% of the respondents perceive that it is satisfactory but among them 21.7% perceive that it is moderately satisfactory. It means that only 15% surveyed population perceive that it is at satisfactory and the above level.

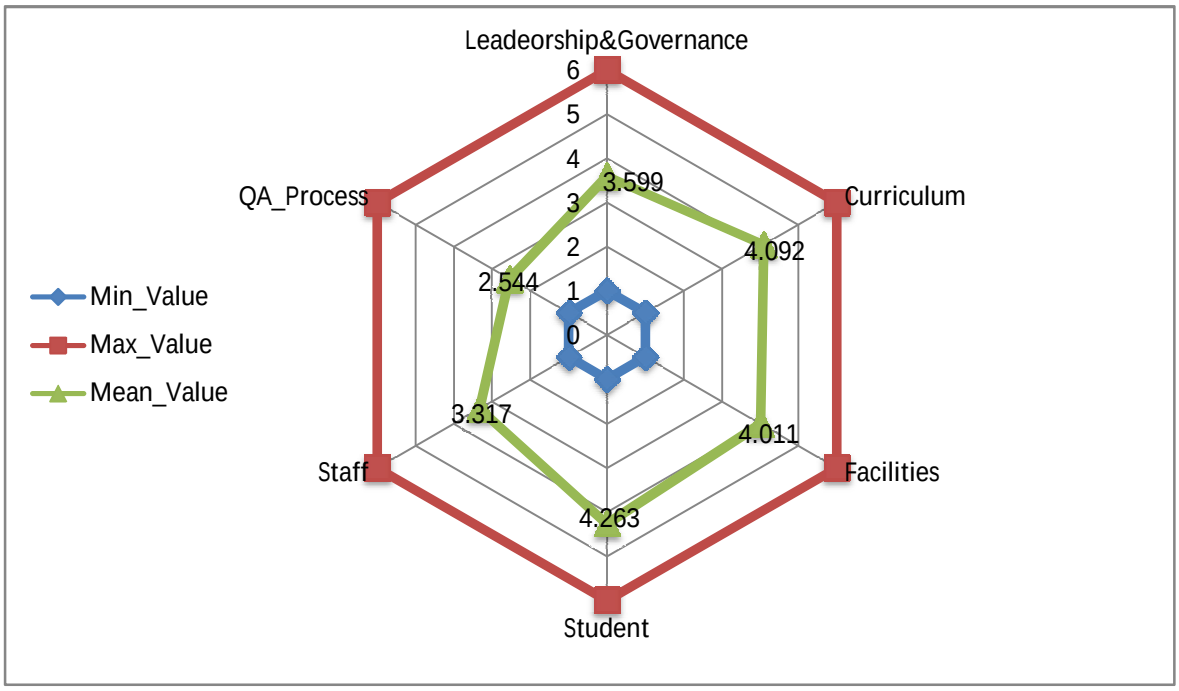
Presented table and figure indicate that in Bangladesh 85% of the university teachers perceive that faculty experience to conduct external peer review is at below the satisfactory level. The mean value of the scale is 2.95 and scale's value of particularly satisfactory level is 5. Perception of respondents indicates that it is comparatively more challenging factor for formal QAA process development in HEIs in Bangladesh.

The finding shows that many of the quality issues for adoption of formal QAA mechanism are missing in the context of Bangladeshi HEIs. To introduce formal QAA process in HEIs in Bangladesh the main challenge lies with quality assurance process development i.e. continuous quality improvement process. Leadership and governance is more challenging factor for formal QAA mechanism, and then staff, student, facility and curriculum are less challenging factors accordingly.

4.4 Over all status of Six QA factors

The overall status of six quality assurance (QA) factors could be presented on the basis of average perception of the surveyed population (university teachers). Perception of the surveyed teachers may be presented through a Radar Chart, where average perception indicates the overall condition of the each individual's QA factor. Overall status of the six QA factors is presented in the following figure 12.

Figure 12: Status of six variables



The figure indicates that 'Student' QA factor is comparatively less challenging as university's teachers perceive that implementation status of this factor is above the average level. Second less challenging factor is 'Curriculum', third less challenging factor is 'Facilities', forth less challenging factor is 'Staff', fifth less challenging factor is ''Leadership and Governance' and finally most challenging factor is QA process development. Initiatives' regarding QAA process development is a new concept in Bangladesh, so the main challenge lies with this QA area. In Bangladesh universities are maintaining standards in case of selecting students for admission, so this quality factor is less challenging issues for formal QAA process implementation.

4.5 Correlation Analysis

Correlation among 6 variables is presented in table 7. Correlation table indicates that there are 15 significant correlations coefficient. The dependent variable Quality Assurance (QA) process development has 5 significant correlations, highest one with Leadership and Institutional Governance variable (r = .458**), second highest with Student variable (r =

.443**), third highest with Staff variable (r = .418**), fourth highest with Facility variable (r = .338**) and finally fifth highest with Curriculum variable (r = .312**).

Table 7: Correlation among dependent and independent variables

Variable	Leadership & Governance	Curriculum	Facility	Student	Staff	QA Process
Leadership & Governance	1	.718**	.692**	.813**	.600**	.458**
Curriculum		1	.538**	.749**	.430**	.312*
Facility			1	.645**	.639**	.338**
Student				1	.587**	.443**
Staff					1	.418**
QA Process						1

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

From table 7 it is observed that all six variables were significantly associated with each other with positive coefficients. However, the strength of independence of variables pairs vary from minimum 0.312 (Curriculum and QA Process) to maximum 0.813 (Leadership & Governance and Student). From the correlation analysis of variables, it is obvious that all the factors are linked to each other which depicts that for the development of a congenial and conducive quality organization culture in universities all studied factors are pivotal. Secondly, positive values of Pearson correlation coefficient show that adoption of one factor ease and facilitate the adoption and performance of other factors. The highest Pearson correlation coefficient's value 0.813 (Leadership & Governance and Student) depicts that presence and prevailing of strong leadership and governance is essential to ensure efficient student management and support services.

CHAPTER FIVE

5.1 Conclusion and Recommendations

The study found that HEIs in Bangladesh face a number of issues in terms of formal quality assurance practices. The main problem statement of this study was to find out the quality status within the specific quality assurance framework so that it can address the challenging areas and finds an innovative solution so that over-all quality of the country's higher education can be ensured. The ultimate purpose of this study was to assess and tap the institutional learning and challenges of introduction of formal QAA mechanism in selected universities. Thus, the research question was: What are the specific academic and institutional challenges that affect the process of introduction of QAA mechanism in HEIs in Bangladesh? So there were three major dimensions of the research: first to review the models of formal QAA mechanism for HEIs in Bangladesh, second to review the existing quality of education provided by HEIs in Bangladesh in terms of formal mechanism and third, to identify the challenges affecting adoption of formal QAA mechanism in HEIs in Bangladesh.

After the introduction of the study in chapter 1, the issues of formal QAA mechanism are presented in chapter 2. The same chapter reviews the relevant literature, identifies and stressed the formal quality assurance framework. On the basis of quality assurance framework, conceptual framework of the study and research methodology are presented in chapter 3. Chapter 4 presents and analyzes the data of the existing quality of higher education on the basis of formal QAA framework. The key variables from QAA framework used in this study fell into six quality areas: leadership and institutional governance, curriculum, facilities, student, staff, and quality assurance process development (chapter 3). Existing quality status from this study shows that quality areas of student, curriculum and facilities remain above the average level as the surveyed population of the selected university perceived so. But the quality areas of leadership and institutional governance, staff, and quality assurance process development are at worse condition (chapter 4).

The study suggests that to introduce formal QAA process in HEIs in Bangladesh the main challenge lies with quality assurance process development. The universities do not have any strategic plan for quality improvement or even any quality assurance unit. A few of the

department conduct self-assessment process but most of them do not follow the recommendation provided in the self-assessment report. However, expertise in this area creates additional challenges to expedite the implementation process. A few of faculties have the expertise on external peer review that is essential for accreditation purpose.

In staff quality area, status of training facilities both for the teaching and non-teaching staff is very poor. So to provide training facility for the staff is mostly challenging factor in this area compared to challenges to ensure desired staff-student ratio and recruitment of staff by following recruitment policy, and to prepare and follow staff appraisal.

In leadership and institutional governance quality area, status of practice to follow TPIs and RPIs as well as KPIs is very poor. This is one of the most challenging factors because it relates to the individual faculty's performance evaluation process. Monitoring the performance of the resources and support service unit is another challenging factor. Leadership knowledge about formal QAA process and its implementation is another challenges factor in this area. This challenge creates another additional challenge as leadership commitment to implement formal QAA process is not at more satisfactory level. Compared to technical universities and private universities this is more challenging to general university. Besides, functional committees of courses are more challenging to the technical university.

The status of curriculum quality area is above the average level but in development process consultation with all stakeholders and reviews the feedback is still a challenging factor. It requires additional documentation to establish the best practice in this area. Same thing is applicable to student quality area. In student quality area functional alumni and career development support service are still a challenging factor though the status of the student quality area is above the average level.

In facility quality area, learning resources, infrastructure and support services facilities are challenging areas to the general universities. Satisfaction about facilities is higher to the technical university as well as private university. So there are still challenges in this area to the general universities. In this study only two private universities are surveyed and both of these two are the law abiding as they are functioning in their own campus. So this perception may be applicable only to those who operate in own campuses.

Overall, the study has demonstrated that many of the quality issues for adoption of formal QAA mechanism are missing in the context of Bangladeshi universities. There is a quality gap between the intended best practices and actual quality assurance practices, and quality of higher education, particularly teaching-learning is constrained by a multitude of interrelated problems. This calls for a closer attention to the existing quality education systems and practices. In accordance with the findings, the implications and recommendations for introduction of formal QAA mechanism in HEIs in Bangladesh are presented below.

(i) Comprehensive and extensive seminars and workshops may be arranged exclusively for the leadership so that leadership can share knowledge about formal QAA mechanism and its implementation. However, brochures, leaflets and hand books for disseminating the knowledge about formal QAA process could be developed and distributed among the leaders.

(ii) Comprehensive and extensive training courses may be arranged for the faculties, especially for the young faculties so that they can get motivated to implement the formal QAA process.

(iii) Consultation and documentation may be maintained in every level of decision process. Performance indicators may be set for each and every formal activity. Besides, monitoring mechanism and incentives or reward must based on performance evaluation.

(iv) Required budget allocation may be provided so that university can ensure facilities essentially required for the standard of quality education. Budget allocation for the general university may be increased so that they can be enhanced their facilities for improving quality education as technical universities.

(v) Student support services could be extended so that career development services could be provided. In addition to this, functionality of alumni can also be enhanced.

(vi) A separate and autonomous training institute may be established for the university staff and foundation training might be made compulsory for young professionals.

(vii) A law stipulating the formulation of an independent body at the national level can be enacted so that every HEI can introduce this process in their own institution and there may be a specific time frame to introduce the process.

(viii) Since the nature and function of the university varies, the national body could have three wings, one for general university, one for technical university, and one for private university.

5.2 Suggestions for further research

This study attempted to explore several aspects related to higher education quality, quality assurance in Bangladesh perspective and preparation to implement the formal QAA framework. The researcher has come across several aspects which can be used as food for thought for further relevant studies to the theme of present work. This study has been done focusing on university's main task 'education'. The other tasks of the university 'research' and 'community engagement' are not brought within the purview of this study. Besides, this study is based on faculty members' perceptions. Similar studies based on all three tasks of university as well as based on perception of other stakeholders like students, non teaching employees, and employers may also be conducted. Again, only two law abiding private universities are included in the sample size of this study. But it does not reflect actual picture of remaining universities. Similar studies includes the representative samples from private universities may also be conducted.

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Annexure 1: Survey Questionnaire

Certification from the supervisor

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March 28, 2014

TO WHOM IT MAY CONCERN

Dear Sir / Madam

I am pleased to introduce Mr. Gazi Md. Nazrul Islam, a Master of Arts Governance and Development (MAGD) student of Institute of Governance Studies (IGS), Brac University, who is in a process of undertaking a research as partial fulfillment of his Master's Thesis under my supervision. Mr. Islam's research topic is "*Journey towards QAA (Quality Assurance and Accreditation) Mechanism to Improve Quality Education of HEIs (Higher Education Institutions) in Bangladesh – Issues, Challenges and Prospects*".

In connection with his research, he is planning to undertake a survey of selected respondents. I would appreciate it very much if you kindly spare some of valued time to fill in the attached questionnaire. To maintain research ethics, we assure that all information provided by you will remain confidential and only be used for academic purpose.

Thanks and best regards.

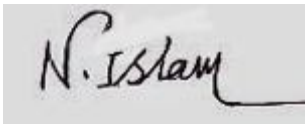
Dr. Salahuddin M. Aminuzzaman
Professor of Public Administration\
University of Dhaka
Contact No: 01711533898

Questionnaire for Instructors

Purpose

This questionnaire is designed to collect relevant information about your views on the systems, and existing academic and institutional practices of assuring quality of education in your department/ faculty/institute in particular and the university in general. Your response to the items of this questionnaire will remain confidential and the results will be used to examine how existing practices can tap the formal quality assurance and accreditation mechanism, and what challenges have to be faced to introduce the formal system. It is hope you will be able to take time and carefully complete this questionnaire. Please use "×" or any other mark to indicate your responses for items.

Thank you for your time and cooperation.



(Gazi Md. Nazrul Islam)
MAGD 5th Batch
IGS, Brac University, Dhaka.

I. GENERAL

1.1. University_____

1.2. Faculty/Institute_____

1.3. Department _____

1.4. Sex Male ☐ Female ☐

1.5. Educational qualification

MA/MSS ☐ MCom/MBA ☐ MSc. ☐

Others (specify) _____

MPhil ☐ Others Post Graduate Diploma (specify)

_____

PhD ☐ Others (specify) _____

1.6. Academic rank

Lecturer ☐ Assistant Professor ☐ Associate Professor ☐

Professor ☐ Others (please specify) _____

1.7. Area of specialization _____

1.8. Year/s of service in University _____

2. Formal Quality Assurance and Accreditation mechanism: An Implementation Assessment

Please mention your level of judgment on the following statements about implementation of QAA systems in your Institute on six-point scale (1 = Highly Unsatisfactory; 2 = Unsatisfactory; 3 = Moderately Unsatisfactory; 4 = Moderately Satisfactory; 5 = Satisfactory; 6 = Highly Satisfactory). Alternatively if the subject matter is practice with document/evidence related then consider your opinion with same scale comparing (1 = nothing about planning and practice, 2 = subject matter is in planning stage but no evidence about practice; 3 = documents available but no evidence that they are used; 4 = documents available and evidence that they are used; 5 = clear evidence on the efficiency of the aspect, 6 = example of good practice).

2.1 Leadership and Governance

1.1	**Leadership**	1	2	3	4	5	6
1	University leadership (VC, Deans, academic council) has knowledge about formal QAA mechanism and its implementation.						
2	There is a commitment among university leadership to implement the formal QAA process						
1.2	**Governance**						
3	The university has a clearly formulated vision & mission statement aligned with targeted aims and objectives of the higher education fixes in National education Policy-2010 and is publicly known.						
4	In line with the vision and mission the university sets the overall goal and objectives. Specific objectives in different areas such as teaching & learning, Research, R&D, etc. and respective KPIs regularly monitor by the university management.						
5	Department/institute and other administrative unit set its own objectives consistent to the university's objectives in the areas and the respective KPIs.						
6	Each individual faculty in the department/institute sets his/her own objectives aligned with departmental/institute's objectives and the respective KPIs.						
7	Committee of courses is functional, consulting with the stakeholders committee recommends courses and approved though competent authority and reviews the matter of requires improvement, upgrading after every 2-3 years cycle.						
8	Program objective, structure, course content, grading system, degree requirement; students and graduate records by enrolment, drop out, assessment, placement, and feedback are documented,& publicly available						
9	Quality of program related resources and support services monitor regularly in terms of the resources' or services' performance, and the function of all support unit of the university are well structure within authority relationship and performance management						
10	Clearly formulated Teaching Performance Indicators (TPIs) and Research Performance Indicators (RPIs) well documented &						

	circulated, and teaching evaluation by both the students and the peers well recorded for further development and considered for promotion						

2.2 Curriculum

2.1	**Development**	1	2	3	4	5	6
11	Curriculum developed through need assessment, consultative meeting with key stakeholders, alumni surveys, exit interviews with prospective graduates and etc. and regularly reviews with feedback.						
12	Curriculum content and structure adequately match with university's vision and mission, and program's goals and objectives as well as admission requirement, required skills, credit hours, instruction of assessment methods, outcome based content and language.						
2.2	**Delivery**						
13	Department/institute uses different teaching learning methods, and aids and motivates co-curricular activities that meet the quality education.						
14	Smooth execution of program take place with requires time-frame maintenance, student handbook and resources available with access.						
2.3	**Assessment**						
15	Relationship between course content and learning achievement assess through maintaining representative validation.						
16	Diversified assessment method used, and CGPA, criteria and benchmark, related tools for assessment circulate among students.						

2.3 Facilities

17	Learning Resources such as modern, well equipped, usable and adequate library facility, laboratory facilities, ICT facilities and classroom facility meet the demand of overall quality education.						
18	Modern academic, administrative and residential building with adequate space, conference center and auditorium with audio-visual aids, seminar room with adequate space, and cafeteria that meet quality education						
19	Available and adequate scholarships, medical facilities, sport facilities, transport facilities, security facilities and allocation of financial resources is adequate to meet the demand of quality education						

2.4 Student

20	Entry Level Requirement maintained and clear statement of procedures for student selection publicly available and transparent relationship between selection and learning outcome ensured and any type of discrimination is strictly prohibitive.						
21	Provides student ID, library, health card, and student code of conduct circulated and strictly follows, student council is functional,						

	encourage students to engage with alumni, feedback from guardians encourages.						
22	Provides adequate and require support services including career development that meet the standards of quality education.						
23	Clear policy to foster linkage with alumni and encourage alumni to play role in building professionalism and to give feedback on curriculum and program development.						

2.5 Staff (teaching and non-teaching)

		1	2	3	4	5	6
24	Minimum qualification for position sets and staff appraisal develops to meet the demand of quality education. Clear recruitment policy formulated and enforced transparently,						
25	Staff work load is at desire level and job description by position is functioning and monitor accordingly and recorded.						
26	Arrange training (including foundation training for newly recruited teaching and non teaching officers) for all level staff as per staff appraisal.						

2.6 Continuous Quality Improvement (Quality Assurance Process)

27	University has a strategic quality assurance plan with internal quality assurance unit, and there is a responsible teaching staff to evaluate the departments/ institutes' quality assurance process.						
28	Department has done self-assessment, and self-assessment report is available and recommendations is in implementing stage.						
29	Teaching staff in department has experience to conduct external peer review for accreditation purpose.						

Annexure - 2: Name of surveyed university, Number and Percentage of Surveyed Population

Sl. No.	Name of University	Type of University	No. of survey	Percentage of survey
General University				
1	University of Chittagong (CU)	Public	5	8.3%
2	University of Dhaka (DU)	Public	9	15%
3	Jagannath University (JnU)	Public	3	5%
4	Jahangirnagar University (JU)	Public	5	8.3%
5	Khulna University	Public	2	3.3%
6	Rajshahi University	Public	4	6.7%
	Total of General University (number 6)		**28**	**46.7%**
Technical University				
7	Bangladesh Agricultural University (BAU)	Public	6	10%
8	Bangobondhu Sheikh Mujibur Rahman University (BSMRAU)	Public	2	3.3%
9	Bangladesh University of Engineering and Technology (BUET)	Public	5	8.3%
10	Chittagong University of Engineering and Technology (CUET)	Public	2	3.3%
11	Chittagong Veterinary and Animal Sciences University (CVASU)	Public	3	5%
12	Khulna University of Engineering and Technology (KUET)	Public	1	1.7%
13	Patuakhali University of Science and Technology (PUST)	Public	4	6.7%
	Total of Technical University (number 7)		**28**	**46.7%**
Total of Public University (number 15)			**56**	**93.3%**
16	Independent University, Bangladesh (IUB)	Private	1	1.7%
17	North South University (NSU)	Private	3	5%
Total of Private University (number 2)			**4**	**6.7%**
Total University Surveyed (number 17)			**60**	**100%**

Annexure – 3: Constructs Coding Uses in the Analysis Process:

(1) Leadership and Institutional Governance = Lead_Gov
Lead_Gov1: Leadership Knowledge about formal QAA mechanism and its implementation
Lead_Gov2: Leadership Commitment to implement formal QAA mechanism
Lead_Gov3: Governance1: University's Vision, Mission
Lead_Gov4: Governance2: University's Specific Objectives and KPIs of different areas
Lead_Gov5: Governance3: Department's Specific Objectives and respective KPIs
Lead_Gov6: Governance4: Faculty's Individual Objectives and KPIs
Lead_Gov7: Governance5: Committee of Courses functional and performed adequately
Lead_Gov8: Governance6: Program Objectives, Course Content, and Graduates records
Lead_Gov9: Governance7: Performance of the resources and function of the support unit
Lead_Gov10: Governance8: TPIs and RPIs and evaluation from student considered

(2) Curriculum: Development (=Cur_Dev), Delivery (=Cur_Del), Assessment (=Cur_Ass)
Cur_Dev11: Curriculum Development1: Need assessment, stakeholder engagement, reviews
Cur_Dev12: Curriculum Development2: Structure and content, adequate with outcomes
Cur_Del13: Curriculum Delivery1: Use different teaching-learning method and aids
Cur_Del14: Curriculum Delivery2: Execution of program with time-frame and resources
Cur_Ass15: Curriculum Assessment1: Relationship between course content and learning
Cur_Ass16: Curriculum Assessment2: Diversified assessment method used, well circulated

(3) Facilities

Facility17: Facility1: Learning resources (class room, library, laboratory, ICT) adequate
Facility18: Facility2: Infrastructure (modern and well equipped building, spaces, auditorium
Facility19: Facility3: Supportive (scholarship, medical, sports, transport, security, etc.)

(4) Student
Student20: Student1: Maintain entry level requirement, relation to learning outcome
Student21: Student2: Student management efficiency, student council, alumni and feedback
Student22: Student3: Student service including career development
Student23: Student4: Foster linkage with alumni, play role in building professionalism

(5) Staff

Staff24: Staff1: Minimum qualification, recruitment policy and staff appraisal
Staff25: Sfaff2: Staff work load (staff-student ratio), Job description etc
Staff26: Staff3: Training facility for the teaching and non-teaching staff

(6) Introduction of Formal QAA Process Development = QA_Pro
QA_Pro27: QA Process1: Strategic policy for quality assurance
QA_Pro28: QA Process3: Faculty experience to conduct external peer review
QA_Pro29: QA Process3: Faculty experience to conduct external peer review