NATIONAL STRATEGIC PLAN FOR HIGHER EDUCATION COLLEGES IN BANGLADESH: 2023-2031

COLLEGE EDUCATION DEVELOPMENT PROJECT (CEDP)
SECONDARY AND HIGHER EDUCATION DIVISION
MINISTRY OF EDUCATION
BANGLADESH

Foreword

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Acronyms

a2i	Aspire to Innovate
ADB	Asian Development Bank
ADP	Annual Development Program
BAC	Bangladesh Accreditation Council
BANBEIS	Bangladesh Bureau of Educational Information and Statistics
BBS	Bangladesh Bureau of Statistics
BCC	Bangladesh Computer Council
BCS	Bangladesh Civil Service
BCSIR	Bangladesh Council of Scientific and Industrial Research
BdREN	Bangladesh Research and Education Network
BDT	Bangladesh Taka
BEd	Bachelor of Education
BISE	Board of Intermediate and Secondary Education
BPSC	Bangladesh Public Service Commission
BOU	Bangladesh Open University
BNQF	Bangladesh National Qualifications Framework
BTEB	Bangladesh Technical Education Board
CESA	College Education Sector Analysis
COVID-19	Coronavirus Disease 2019
CPD	Continuous Professional Development
DIA	Directorate of Inspection and Audit
DSHE	Directorate of Secondary & Higher Education
DTE	Directorate of Technical Education
EMIS	Education Management Information System
ESA	Education Sector Analysis

ESP	Education Sector Plan
EU	European Union
FD	Finance Division
FFE	Food for Education
FRs	Financial Rules
FSP	Female Stipend Project
FY	Fiscal Year
FYP	Five Year Plan
4IR	Fourth Industrial Revolution
GDP	Gross Domestic Product
GED	General Economic Division
GoB	Government of Bangladesh
GO	Government Organization
NSPHEC	National Strategic Plan for Higher Education Colleges
ICT	Information and Communication Technology
IT	Information Technology
ILO	International Labor Organization
JSC	Junior School Certificate
LMIC	Lower Middle-Income Country
LFS	Labor Force Survey
MoE	Ministry of Education
MoF	Ministry of Finance
MoPA	Ministry of Public Administration
MoPME	Ministry of Primary and Mass Education
MPO	Monthly Pay Order
NAEM	National Academy for Education Management

NAP	National Action Plan
NEP	National Education Policy
NER	Net Enrollment Rate
NTRCA	Non-Government Teachers' Registration and Certification Authority
NTVQ	National Technical and Vocational Qualification
NTVQF	National Technical and Vocational Qualification Framework
NU	National University
OECD	Organization for Economic Co-operation and Development
OPGW	Optical Ground Wire
SHED	Secondary and Higher Education Division
TRs	Treasury Rules
TVED	Technical and Vocational Education Directorate
TVET	Technical and Vocational Education and Training
UDC	Union Digital Center
UDL	University Digital Library
UGC	University Grants Commission
UIS	UNESCO Institute for Statistics
UN	United Nations
UNCDP	UN Committee for Development Policy
UNESCO	United Nations Educational, Scientific and Cultural Organization

Executive Summary

In February 2019, the College Education Development Project (CEDP), under the Secondary and Higher Education Division (SHED) of the Ministry of Education (MoE), undertook initiatives to prepare a strategic plan for the improvement of higher education in the colleges affiliated with National University (Bangladesh). The National Strategic Plan for Higher Education Colleges in Bangladesh: 2023-2031 is the outcome of this initiative. This is the first strategic plan that focuses on the higher education college stream at the tertiary level.

This plan is guided by the National Education Policy 2010, Perspective Plan 2021-2041, Eighth Five Year Plan 2020-25, Strategic Plan for Higher Education in Bangladesh: 2018-2030, and the Sustainable Development Goals. Consistent with the national and international goals, it describes the programs, strategies, and activities to improve the teaching-learning environment and quality of higher education in the higher education colleges across the country by 2031.

Methodology and Program Design

Result Based Management (RBM) approach consisting of two-step procedure is followed while preparing this plan: (i) Education Sector Analysis (ESA) and (ii) Development of Strategic Plan based on the findings of the ESA. The process began with situation analysis of the higher education colleges involving academics, bureaucrats, and policymakers from the ministries/divisions, universities and colleges, and civil society organizations. Stakeholders' inputs, provided during the consultation meetings, were the key strength of this strategic plan. The National Strategic Planning Committee (NSPC) constituted by the Secondary and Higher Education Division (SHED) steered the development of the plan by providing expert directives whenever needed.

This plan contains programs encompassing six thematic areas: (i) Vision, Size, Shape and Scope; (ii) Access and Equity; (iii) Quality and Relevance; (iv) Management of Colleges; (v) Financing Colleges; and (vi) Development of Science, Technology, and ICT in Education. Altogether, there are 24 objectives, 46 strategies, and 116 activities. The strategies and the activities are designed to ensure that the objectives are achieved successfully.

Vision and Mission

The vision for higher education colleges is to furnish them with adequate resources necessary to deliver quality higher education in disciplines commensurate with the need of society and economy. To accomplish this Vision, and ensure socio-economic development of the

country, colleges need to produce human capital of international standard in terms of cognitive and non-cognitive abilities and social values by (i) teaching and training students; (ii) imparting research and professional training; and (iii) upskilling and reskilling graduates.

Currently, the higher education colleges are characterized by disparity in enrollment and allocation of resources along with shortage of teachers, weak assessment system, lack of teachers' training, weak coordination among the regulatory bodies, financial dependence etc. If the colleges would have increased resources, better infrastructure and quality teachers, as well as developed effective assessment system, they would have higher enrollment, better students, and contribute to creating learned citizens for the country.

Goals

Based on the findings of situation analyses of five thematic areas the strategic plan sets the following goals:

Goal 1: Equity in access to higher education in colleges and equitable allocation of government resources among the colleges, particularly the government colleges;

Goal 2: Improved performance of higher education college graduates in terms of knowledge, skills, and employability in the economy and the broader society;

Goal 3: Improved management structure endowed with adequate administrative and support staffs, along with accountable and transparent governing body in (non-government) colleges;

Goal 4: Increased opportunity for resource mobilization by the colleges and more allocation of government resources; and

Goal 5: More graduates in science and technology disciplines along with increased use of Information and Communication Technology (ICT) in teaching and learning process.

Implementation Arrangements

Action plans and implementation arrangements are included in the strategic plan, with a proposed organizational structure to manage the programs of interventions. Unlike DSHE's traditional process of implementing projects or programs, a decentralized implementation arrangement having colleges as cost centers is suggested. Implementation activities of this plan will be a joint responsibility of DSHE, UGC, and NU while having SHED in the coordination chair.

Monitoring and Evaluation

SHED will monitor the progress of the strategic plan. Regular reporting on the progress during the implementation of the strategies will be institutionalized to ensure that the objectives are achieved properly. In addition to the regular monitoring, program implementation partners will also monitor progresses using qualitative and quantitative indicators. A detailed monitoring and evaluation framework is developed with baseline data and key performance indicators. An effective evaluation plan for collecting and analyzing data to produce evidence and shared learning is also proposed.

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1. INTRODUCTION

1.1. Macroeconomic Context

Starting with the ignominious categorization of an undeveloped economy with 12 (twelve) percent GDP (gross domestic product) contraction in 1970-71 and per capita gross national income (GNI) below United States Dollar (USD) 100 (Ministry of Finance, 2021), Bangladesh has achieved impressive social and economic transformation by the 50th year of its independence. In 2021, per capita income of the citizens of the country was USD 2554 (The Financial Express, 2022). Although labeled a "bottomless basket"[1] (Faaland & Parkinson, 1976) a few decades ago, the country is now one of the budding economic powerhouses in Asia. It is anticipated that by 2041, the country will join the league of developed economies.

Bangladesh met the targets of the Millennium Development Goals (MDGs) well ahead of time. Access to concessional external assistance in the form of Official Development Assistance (ODA), General System of Preferences (GSP), and other facilities of duty and quota-free exports together helped build a strong socio-economic foundation for Bangladesh.

In fiscal year (FY) 1974-1975, the Government led by Bangabandhu Sheikh Mujibur Rahman elevated the underdeveloped economy of Bangladesh to the Least Developed Country (LDC) category (per capita GNI < $150, contribution of the secondary sector to GDP < 20 percent, balance of payments problem etc.). Building on the spectacular and continued economic growth and social progress, in 2018 Bangladesh met all the three criteria for graduation to be in the 'developing country' category. As the country qualified to become a developing country, the United Nations Committee for Development Policy (UNCDP) placed it under a 3-year observation period. After review, in March 2021, UNCDP found Bangladesh was continuing to meet the three criteria pertaining to graduation from the least developed country category. After another 3-year observation period, the final round of review is expected to be conducted by the UNCDP to confirm Bangladesh as a developing country by 2026.

In the pre-COVID-19 global economic context, GDP growth rate and macroeconomic stability were the key features of Bangladesh's economy. In FY 2018-19,

[1] US diplomat Johnson called Bangladesh a "bottomless basket" a left-handed compliment espoused by Dr. Henry Kissinger as well.

GDP growth rate reached a record of 8 percent with an average annual growth rate of around 7 percent per year for the previous 3 years (Ministry of Finance, 2021). Sector-wise disaggregation showed that during that period, the growth rate in the agriculture sector slowed down, while the growth rate in the manufacturing and service sectors went up.

The COVID-19 pandemic affected macroeconomic situations adversely and in FY 2019-20, GDP growth rate slowed down to 3.51 percent from 6 percent in the previous year (Ministry of Finance, 2021). However, food production, supply chains, and foreign remittance remained unaffected. By contrast, inflation rate rose to 5.56 percent in FY 2020-21, that was slightly higher than the target of 5.4 percent. Foreign remittance of Bangladeshi expatriates rose by 36 percent compared to the previous year. Consequently, the foreign exchange reserves remained at a decent level of USD 46.39 billion on 30 June 2021. Finally, the current account deficit stood at USD 3,808 million in FY 2020-21.

1.2. Socio-Demographic Context

From 1990 through 2020, Bangladesh registered a persistent improvement in social indicators, particularly in the contexts of education and health: the literacy rate crossed 73 percent; the net primary education enrollment rate increased to 97.34 percent in 2019 from 94.8 percent in 2010; primary school dropout rate declined to 17.9 percent in 2019 from 39.8 percent in 2010; life expectancy rate improved from 56.1 year in 1990 to 72.8 years in 2020; national population growth rate declined from 2.14 in 1990 to 1.37 in 2020; and crude death rate, infant mortality rate, and total fertility rate (per women) declined too (Table 1.1) (Finance Division, 2021).

Table 1.1: Trends of key social indicators

	1990	2000	2010	2020
National Population Growth (percent)	2.14	1.41	1.36	1.37
Crude Death Rate (in thousand)	11.4	4.9	5.6	5.1
Infant Mortality Rate (in thousand)	92	58	36	21
Total Fertility Rate (Per Women)	4.33	2.59	2.12	2.04
Life Expectancy	56.1	63.6	67.7	72.8

Source: Ministry of Finance (2021). *Bangladesh Economic Review, 2020*. Ministry of Finance, Government of Bangladesh.

Globally, Bangladesh has appeared as a role model of success in poverty reduction because of its achievements in this sector. The number of people under the poverty line declined to

35 million in 2019 (20.8 percent of 165.7) from 60 million (80 percent of 75 million) in 1972. However, the number of people under the poverty line increased slightly because of COVID-19.

The country's population growth rate remained steady at around 1.05 percent in 2019 (World Bank, 2019). Total population reached 165.55 million in FY 2018-19 from 149.7 million in FY 2010-11 (Ministry of Finance, 2019). Out of the total population, around 66 percent were within 30 and 64 years and economically active (Ministry of Finance, 2019). The size of the economically active working age population reached 62.1 million in 2017, from 53.7 million in 2009. With the acceleration of the vocational secondary education, including Qawmi Madrasah, a major transformation of population from human being to human capital would be plausible to reap the benefits of demographic dividend.

1.3. Political Contexts

Education policy decisions in Bangladesh are embroiled in vested political philosophy since the very beginning of its emergence as an independent country in 1971 (Chowdhury & Kabir, 2014). The first education commission of independent Bangladesh, Bangladesh Education Commission (BEC), was formed in 1972, led by an eminent scientist of the country Dr. Qudrat-i-Khuda (henceforth 'Khuda Commission'). The Khuda commission carried out its task independently and conscientiously to rebuild the education system of the country. The commission asserted that the fundamental principles of the constitution of Bangladesh should serve as the foundation of the goals and purposes of education. Education serves the goals and purposes of nationalism, socialism, democracy, secularism, patriotism and good citizenship, humanism and global citizenship, and moral values. It also serves as a tool for transforming society. The political change after the assassination of the Father of the Nation in August 1975 put an end to any action on the Khuda Commission report (Chowdhury and Kabir, 2014). Subsequent governments that ruled the country prepared several policy documents that included the English Teaching Taskforce Commission - 1976, the Bangladesh National Education Commission Report - 1988, the National Curriculum Committee -1991, the National Education Policy - 2000, the Bari Commission Report - 2002, the Miah Commission Report- 2004, and the National Education Policy - 2010.

The National Education Policy (NEP) 2010 came into light in 2010 after its approval by the parliament in December 2010 (MoE, 2010). Taking into account the Khuda Commission's report and subsequent recommendations, the NEP 2010 provided a framework highlighting the role of education for development of the nation. However, the NEP 2010 did not thoroughly follow the Khuda Commission report.

1.4. Context of Higher Education Colleges

Colleges[2], universities, and madrasahs are three major types of providers of higher education in Bangladesh. By the term 'higher education' this report means post-higher secondary (i.e., post-HSC) education pursued at undergraduate and graduate level either at a college or a university or a madrasah. By the term 'affiliating university' this report means a university that affiliates any degree program offered either by a college or a madrasah. Currently, out of 46 public universities, seventeen (17), including National University, serve as affiliating universities in Bangladesh. Under the affiliating universities, total number of higher education colleges and madrasahs were 3,985 in 2019 (UGC, 2020).

As per the education structure of Bangladesh, upon successful completion of higher secondary or equivalent level of education, a student can pursue higher education at a higher education institute on the basis of his/her past academic achievement and innate ability. According to the UGC of Bangladesh, around 4.5 million students enrolled in higher education (at both undergraduate and graduate level) as of 2019. Out of them, 2.94 million students were in the NU-affiliated colleges (UGC, 2020) (Table 1.2). Therefore, in 2019, the share of the NU-affiliated colleges in higher education, including higher education in madrasahs, was 66 percent. However, the ratio was 72 percent when the contribution of madrasahs to higher education was excluded.

According to Bangladesh Bureau of Statistics (BBS, 2015), the projected eligible population, population within the age bracket of 18 years and 22 years, for higher education was 16,824,000 in 2019 (BBS, 2015). The estimated enrollment ratio in higher education, including madrasahs, was 26 percent, and the estimated enrollment ratio, excluding madrasahs, was 24.41 percent in 2019.

Table 1.2: Number of students in higher education, 2019

Types of providers/Higher education Institutions (No. of institutions)	Male students	Female students	Total students	Share (Percent)

[2] By the word 'Colleges' this document means colleges that offer undergraduate and graduate programs.

Public university (46)	507928	309779	817707	18.44
Private university (105)	247947	101213	349160	7.87
NU-affiliated colleges (2268)	1500495	1440513	2941008	66.32
Other 16 public university-affiliated colleges and madrasahs (1717)	180602	145984	326586	7.36
Total	2436972	1997489	4434461	100

Data source: UGC (2020)

National University (NU) was established as an affiliating university in Bangladesh in 1992 following the pattern of the University of London - an examining and degree awarding university in England. In 2021, total number of affiliated general degree and honours college was 1969 (government college 13.4 percent and non-government college 86.6 percent) and 881 (government college 24.29 percent and non-government college 75.71 percent) as reported by the National University.[3]

The degree structure of higher education irrespective of providers is presented in Table 1.3, as per the Bangladesh National Qualifications Framework (BNQF).

Table 1.3: The structure of higher education degrees as per BNQF

Name of Degrees	Duration (Years)	BNQF level
Bachelor (Pass)	3 years	7
Bachelor (Honors)	4 years	7
Master's	01 or 02 years	9
Doctoral	3 years	10

Between 2006 and 2020, the total number of general education colleges increased tremendously from 1336 in 2006 to 1921 in 2020 (Table 1.4). Around 29 percent of these colleges were government colleges, and the remaining 71 percent were non-government colleges, thereby indicating the great significance of the role of non-government colleges in higher education.

[3] Source: Undergraduate Dean of the National University

Table 1.4: Total number of higher education colleges, universities, teachers, and students, 2006-2020

Year	2006	2012	2018	2020
Number of general colleges and universities				
General Government Colleges	241	250	557	557
General Non-Government Colleges	1095	1361	1335	1364
General Public Universities	10	13	16	19
Private Universities	51	58	101	103
Total	1396	1682	2009	2043
Number of teachers in general colleges and universities				
General Government College	10642	11512	25948	25261
General Non-Government College	43439	50218	55167	59110
General Public Universities	4742	5121	7745	8804
Private Universities	5759	8063	15075	15583
Number of students in general colleges and universities				
General Government College	503540	1165389	2123534	2310755
General Non-Government College	599428	1328352	1413612	1494616
General Public Universities	111741	341701	489448	701185
Private Universities	124267	297055	338485	335389

Source: Bangladesh Economic Review 2021.

Variations are evident among the higher education colleges in terms of inputs such as the total number of students and the student-to-teacher ratio. The variations are presented in Figure 1.1, which shows that the non-government colleges were smaller in size, while the government colleges were moderately medium in size. Also, the average student-to-teacher ratio in the non-government colleges was much lower than the average student-to-teacher ratio in the government colleges (Figure 1.2). For instance, in 2020, student-to-teacher ratios in the non-government and government colleges were 25:1 and 91:1 respectively. These variations have direct impact on teaching-learning environment in the colleges.

Figure 1.1: Average size of colleges

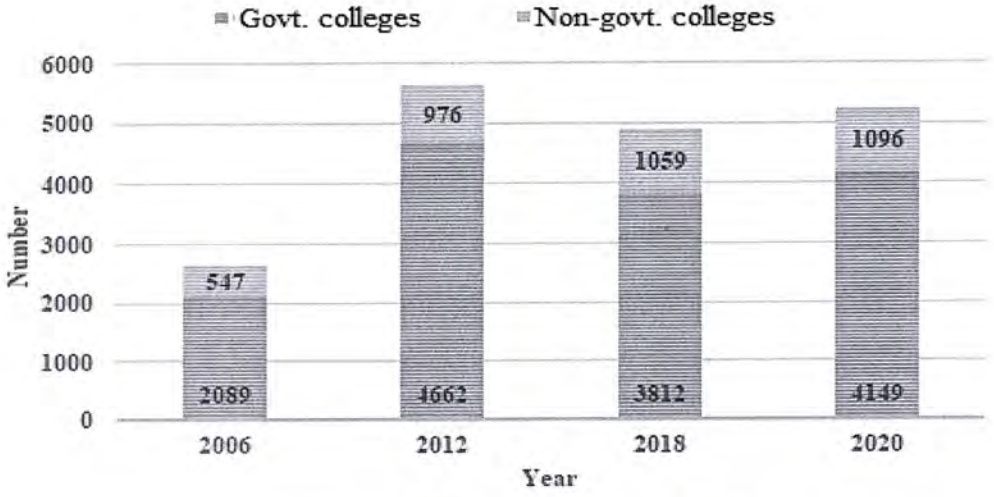
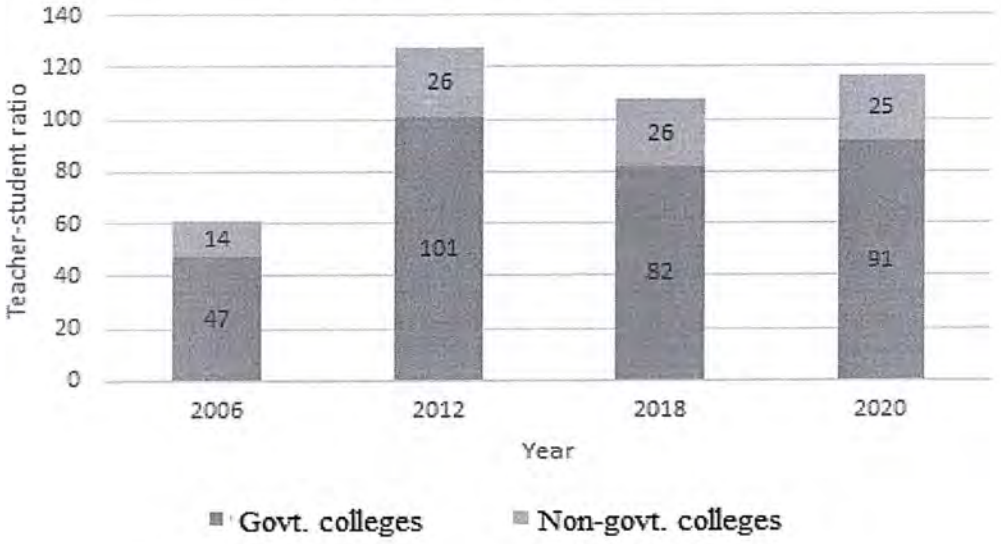


Figure 1.2: Teacher to student ratio



Data source: UGC, 2020

The management structures of the government and non-government colleges are different too. The variation is attributed to the underpinning legal frameworks pertaining to the management of the government and non-government colleges. The Secondary and Higher Education Division (SHED) and the Directorate of Secondary and Higher Education (DSHE) are two authorities responsible for the management of the government colleges. In addition, a Governing Body constituted by the National University is responsible for the management of each non-government college. One of the key responsibilities of SHED is framing policy and one of the key responsibilities of DSHE is implementing policy.

Directorate of Inspection and Audit (DIA) is responsible for monitoring the financial management practices in the non-government colleges.

1.5. Objective of the Strategic Plan

The objective of this strategic plan is to provide directions for the future courses of actions necessary to bring about desired changes in the higher education college sub-sector for quality education. The key areas are access and equity, quality and relevance, management of colleges, financing and financial management of colleges, and information and communication technology in education.

1.6. Rationale for the Strategic Plan

The affiliated college system of higher education began its journey in the undivided India during the British colonial rule. Prior to the partition in 1947, the British rulers founded a network of colleges to educate the citizens of the subcontinent. The Calcutta Presidency College was a part of it and established in 1817. During the British rule, the affiliated colleges were only providing higher education in this subcontinent, and there is a general perception that the quality of education was high, as many renowned academics and scholars graduated from the affiliated colleges.

After the independence of Bangladesh, the country inherited the affiliated college system of higher education. However, the role of the affiliated college system has been under public scrutiny for the last couple of years. It is often claimed the quality of graduates from affiliated colleges are below the expectations of the economy and the society at large because of the graduates' poor subject knowledge, limited soft skills, and high unemployment rate. Therefore, a reform agenda has become imperative to bring about changes in higher education colleges, so that the college graduates are worthy of the society and the economy. And to make it happen, a clear and unambiguous direction is required under the strategic plan.

A Strategic Plan is usually prepared following a disciplined bottom-up process to solve problems through the development of a multi-year vision of what results to achieve, and how they will be achieved. Through this process, a country endeavors to determine directions pertaining to solutions of problems and addressing issues.

So far, Bangladesh has got two strategic plans: (i) Strategic Plan for Higher Education: 2006-2016 and (ii) Strategic Plan for Higher Education in Bangladesh: 2018-2030. The University Grants Commission of Bangladesh developed the former in 2006 and revised it in 2018. However, neither of the strategic plans thoroughly covered the academic and non-academic issues of the higher education colleges. Therefore, this National Strategic Plan for Higher Education Colleges in Bangladesh 2023-2031 is the first of its kind to fill this gap.

2. METHODOLOGY

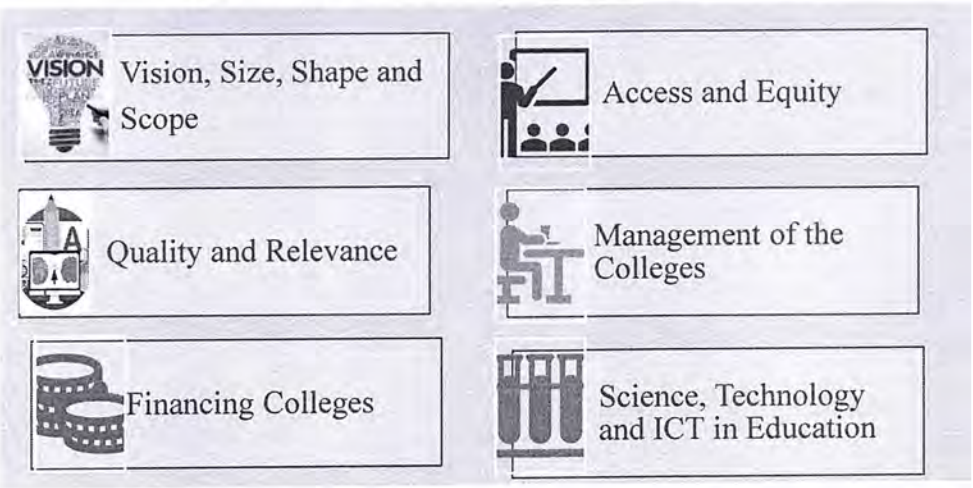
2.1. Approach and Method

Result-based management (RBM) as a management strategy (UNESCO, 2022) is used to develop this strategic plan for the higher education colleges under the management of SHED, Ministry of Education, Bangladesh. International development organizations like the United Nations, UNESCO, UNICEF have been using this approach to focus on results that have immense significance in addressing various types of sectoral issues. Strategic planning, based on RBM approach, is a useful way to achieve the desired results (UNDG, 2011).

Strategic plan development process involves activities at three main stages: understanding problems; choosing what to do to tackle the problems; and planning action (time bound action plan) to overcome the problems.

Education Sector Analysis, also known as Situation Analysis is a useful way to shed light on the problems of colleges (UNESCO, 2010; UNESCO, 2015). From January 2019 through January 2021, six expert committees constituted by the SHED conducted situation analyses as per Terms of References (ToR) and prepared six background studies within the stipulated time despite the outbreak and prevalence of COVID-19 pandemic across the country. The six studies cover the following six thematic areas listed in Figure 2.1

Figure 2.1: Six thematic areas of situation analyses



The studies have immense importance to the validation of understanding about current situations of the colleges and determining the relationships between problems and their

causes. Once the causes of the problems are identified, they are classified into three groups:

a) immediate causes;

b) underlying causes; and

c) structural causes.

This kind of classifications is crucial because interventions through programs or projects are feasible to overcome the core problems and the underlying causes but not the structural causes. Since the structural causes entail lack of policies, non-existence of institutions etc., interventions through projects or programs are not fit to influence the structural causes.

To derive objectives, strategies, and activities, a systematic approach is followed that is presented graphically in Figure 2.2. It is expected that the selected strategies and activities are consistent with the national policies, plans, and programs. Program planning is a key element of strategic plan.

Figure 2.2: Steps to develop objectives and activities

The program planning begins with the formulation of thematic area-based Problem Trees developed by drawing a logical connection between the problems and corresponding causes of the problems. The Problem Trees are transformed into Objective Trees and constitute the Theory of Change, which is a representation of how a development intervention is expected to lead towards the desired results.

Consultation was an integral part of the strategic plan development process. The consultation in various forms - expert review, policy dialogues, and dissemination workshops were carried out across the country. Lists of key stakeholders' consultations are given in the Annex (Annexes 5 and 6).

3. NATIONAL POLICIES AND PLANS

Alignment with national policies and plans, and commitment to international development goals are crucial for the development of this strategic plan. National Education Policy 2010, Strategic Plan for Higher Education in Bangladesh 2018-2030, Perspective Plan 2021-2041, Eighth-Five-Year Plan 2020-2025, the Government's commitment to Sustainable Development Goals, and the Delta Plan are considered here.

3.1. National Education Policy 2010

About higher education colleges, National Education Policy 2010 (NEP 2010) put forward the following directions (MoE, 2010):

- All necessary steps and care will be taken to improve the standard of higher education.
- 4-year Honors degree will be considered the terminal degree and acceptable /required qualification for jobs in all sectors excepting teaching positions at higher education institutions.

- Colleges now offering master's degrees under National University will continue to do so. However, the libraries, laboratories and infrastructural facilities of these colleges must be improved. Academic staff of these colleges must have the opportunities for wide-ranging academic training.
- English will be taught as a compulsory subject at the degree level of all colleges and universities.
- Steps will be taken to create necessary facilities for research in the degree colleges.
- Curricula and syllabi of higher education will be updated to meet international standards.
- Necessary investment in the education sector will be ensured to maintain international standard of higher education. Besides government funds, institutions of higher education will have to make use of students' fees and collect funds at personal levels to meet expenditures. At present, admission fees and tuition fees at the public colleges and universities are nominal.
- Tuition and other fees will be determined as per the financial solvency of the parents. Poor parents and students will benefit from such a system.
- Scholarships will be awarded to the students according to their merit and financial solvency of their parents. Moreover, provisions will be made for meritorious students for academic bank loans on easy terms.
- Academic staff's refreshers training is an urgent issue. With this in view, seminar or subject-based training will be organized at the universities during the long vacations. The academic staffs of colleges and universities can work together in such programs.
- Every university and college will follow a planned and fixed academic calendar. Academic calendar, containing the date of beginning of new classes, examinations, and all annual activities, will be published in printed form before the commencement of the academic year.
- These universities will/should not discriminate students in respect of race, religion, caste, socio-economic conditions, and physical disabilities. Such institutions will not be established and conducted for profiteering. They cannot advocate anything against our freedom, spirit of war of liberation and Bengali culture

To make alignment with the NEP 2010, the SPHEC has considered equity in access on the grounds of socioeconomic characteristics, development of classrooms, laboratories, and libraries of colleges, teachers' pedagogical training, and academic calendar.

3.2. Strategic Plan for Higher Education 2018-2030

The UGC of Bangladesh, a regulating body for higher education, has prepared the Strategic Plan for Higher Education in Bangladesh (SPHE) 2018-30 revising the earlier one (Strategic Plan for Higher Education 2006-201g6) to guide the courses of actions related to the development of public and private universities in Bangladesh in the coming years (UGC, 2018). The key contents of the SPHE include:

i. Operationalization of the Bangladesh Accreditation Council Act, 2017;

ii. Setting up the Higher Education Commission, replacing the UGC;

iii. Increasing public funding for higher education;

iv. Setting up "a world class flagship university";

v. Enacting an umbrella legislation for public universities;

vi. Amending the Private University Act 2010 to remove anomalies and to encourage private universities to be more responsive to quality and student welfare;

vii. Improving management and delivery of education at the National University institutions and at Bangladesh Open University;

viii. Encouraging private participation and endowment support;

ix. Ensuring proper, merit-based, and transparent faculty recruitment;

x. Enhancing financial management and transparency in universities;

xi. Introducing a needs-based scholarship Program;

xii. Setting up university-industry linkages;

xiii. Ensuring intellectual property rights;

xiv. Setting up a residential pedagogical training academy for university faculty; and

xv. Creating an ICT strategy for each higher education institutions.

Although the coverage of SPHE 2018-2030 exclusively limits itself to the public and private universities, some of the proposed initiatives can be leveraged to encompass higher education colleges. For example, Bangladesh Accreditation Council (BAC) started functioning since 2018 with a view to ensuring standards of higher education both at the public and private universities, and this can be leveraged by extending BAC's coverage to higher education colleges.

3.3. The Perspective Plan 2021-2041

The Perspective Plan (PP) of the Government of Bangladesh steers the future development activities of the country for the next five years. Hence, a strong alignment of this strategic plan with the PP will help to realize the goals and objectives of the PP too. The underpinning principle of the PP 2041 is Bangladesh will be a poverty free developed country by the year 2041 (GED, 2020, p.5). Regarding higher education, the main highlights of the Perspective Plan 2021-41 are as follows:

- ***Strengthening role of private sector participation in education:*** Education beyond 12 years of schooling will primarily be a private sector responsibility. The surge in private investment in higher education in recent years is encouraging and indicative of the capability of the private sector to take on this role. Public provision of higher education will continue with a focus on areas where private investment is lacking, on closing the gender gap in tertiary education, and in science, technology, and medicine.

- ***Enhancing standard and quality of colleges***: The standard and quality of colleges for higher education will be enhanced by providing necessary library, laboratory & IT facilities, and by offering appropriate training for the academic staff. ICT courses would be introduced in all the post-graduate colleges of Bangladesh. Accreditation process will be strengthened to pay due attention to quality aspects of private colleges and universities in terms of physical facilities and staffing quality.

- ***Promoting equity in access and distribution of resources:*** To ensure equity, need-based public scholarship programs will be provided to students who demonstrate the required competencies and meet the admission criteria in private colleges and universities.

- ***Eliminating gender gap in access to education***: The gender gap in higher education will be eliminated through scholarships for women and establishing public colleges for women at each district level.
- ***Strengthening University Grants Commission (UGC):*** The UGC will be empowered to take a leadership role in strengthening university education and advanced academic research. This will include restructuring the UGC to strengthen its capacity as the leader in policy matters and ensuring transparency and accountability in the academic, financial, and administrative affairs in the government and private universities.

In sum, PP 2041 outlines *strategies* for education and training to harness the demographic dividend by the year 2041. The PP 2041 has identified major challenges that include (i) converting the ongoing demographic transition whereby the share of the active population is increasing faster than the total population and (ii) making a true development dividend. The policy documents envision that this will be done by undertaking strategies to convert working age population into a well-educated and trained labor force. The strategic approaches under PP 2041 are: (i) strengthening policies, plans, legislations, and systems; (ii) emphasizing equity, inclusion, and gender equality; (iii) focusing on quality teaching and learning; (iv) promoting lifelong learning; and (v) addressing education in emergency situations.

3.4. The Eighth Five Year Plan 2020-2025

The PP 2041 spells out a long-term vision of a poverty-free and prosperous Bangladesh, whereas the Eighth Five Year Plan (8FYP) is the first in the series of 4 medium term development plans aimed at implementing the PP 2041. The 8FYP has identified the key challenges of higher education in universities, including tertiary colleges, across the country (GED, 2020a, p. 627). Therefore, there is no specific identified challenge about higher education colleges. The 8th 5-year plan has identified three key challenges:

- Low quality;
- Low enrollment; and
- Low job market relevance.

The key strategies proposed in the 8th 5-year Plan are:

i. **Increased public education expenditure as a percentage of GDP:** Increasing public spending in education to 4 percent of GDP by FY2031 and 5 percent of GDP by FY2041. In line with those targets, public spending is targeted to reach 3.5 percent of GDP by FY2025.

ii. **Public-private partnership:** Private sector is the largest employer of the graduates. Hence it is important to involve them in the curriculum development process. The 8th 5-year Plan will seek inputs from private businesses in curriculum development and develop public-private partnerships in the development and delivery of skills for employment programs,

iii. **Demand side intervention through sharing knowledge of job market demand:** Demand side interventions can work on choosing the right stream of education and vocational training. The return from switching to vocational training for a below average student can be higher than persisting with general education. But to take advantage of this outcome, students (and their parents) need to be aware of the skills demands. Accordingly, the 8th 5-year plan will seek to involve parents in education development.

iv. **Strengthen the relevance of education to skills and employment:** Early childhood learning interventions lead to better school readiness through enhanced cognitive, numerical, and literacy skills. Providing remedial assistance to struggling students is also important. Additional teaching can be provided to those students who are willing to stay after school to improve their learning. Studies have shown that remedial assistance keeps students in school longer and lowers dropout rate. The 8FYP will undertake necessary reforms to strengthen the relevance of the education system.

v. **Strengthen teacher quality and skills:** Education outcomes are only as good as the quality of curriculum and the quality of academic staff. Future curriculum reviews will focus towards developing competency, not content-learning. Academic staff will be trained and made familiar with this approach and be incentivized sufficiently in performing their jobs.

vi. **Strengthen research on education and skills improvements:** There is a dearth of quality data that can be used to track skills mismatch in different sectors. This is essential to develop effective education and skills policies. For this, BBS will regularly conduct separate surveys on skills and create a separate database. Also, new indicators will need to be developed that measures the quality-aspect of education and

training. The latter will make it easier to align education objectives with industry-demands and the industry development policies.

3.5. Sustainable Development Goals

Sustainable Development Goals (SDGs) contain 17 (seventeen) goals, where goal 4 is to ensure inclusive and equitable quality education for all and promotion of lifelong learning opportunities. Some highlights of the goal 4 are as follows:

i. By 2030, ensure equal access for all women and men to affordable and quality technical, vocational, and tertiary education, including university;

ii. By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship;

iii. By 2030, eliminate gender disparities in education and ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous people, and children in vulnerable situations;

iv. By 2030, ensure that all youth and a substantial proportion of adults, both men and women, achieve literacy and numeracy.

Having the SDGs in consideration, the Government of Bangladesh expresses its commitments in its manifesto in the following ways (Government of Bangladesh, 2020).

i. Giving highest allocations for education and proper utilization of the fund will be ensured. The objectives of the education curricula are to create inquisitiveness among the students, acquisition of knowledge and creating better opportunities to learn about the unbiased correct history of the country and the nation.

ii. All out efforts will be taken to improve the standard of education. Assuming the importance of the knowledge of language and mathematics, a large project will be taken for the training of mathematics academic staffs of primary and secondary schools.

iii. Bangladesh will be made free from illiteracy. The rate of dropout at primary level will be brought down to zero. Dropout decreased to 20 percent in the last ten years. The dropout until Class Eight will be brought down to 5 percent.

iv. School feeding will be made universal among all schools in the villages and suburban areas and in the schools in low-income urban areas.

v. The subsidy disbursed to students from primary to higher levels will continue.

vi. The requirement of academic staff, officers and staff will be based on merit, qualifications, and experience only.

vii. Encouragement and assistance will be provided to university academic staff for research. Allocations for this purpose will be increased. At least one private or public university will be established in each district.

viii. Curriculum of the madrasah education will be updated, and vocational education will be made an integrated part of religious education.

ix. Opportunity will be created for the ethnic groups to get education in their own languages and textbooks will be distributed to them free of cost.

x. Initiatives will be taken to print books for all visually impaired students from primary to university levels. The disabled people will be trained to become human resources.

xi. Despite all welfare initiatives, including the salary and status enhancement of the academic staff, there may remain some disparities in the salary structure of primary school academic staff, which will be dealt with judiciously in the next term.

3.6. Delta Plan

Climate change and natural hazards appear as long-term challenge to development goals. To mitigate the challenges, the Government of Bangladesh has prepared a separate development plan known as Delta Plan 2100 that covers agriculture, fisheries, live-stock, environment, ecology, biodiversity, land, and water sector of the economy (GED, 2018). Key goals of the Delta Plan are as follows:

i. Ensure safety from floods and climate change related disasters; enhance water security and efficiency in water usages;

ii. Ensure sustainable and integrated river systems;

iii. conserve and preserve wetlands and ecosystems and promote their wise use;

iv. develop effective institutions and equitable governance for in country and transboundary water resource management; and

v. achieve optimal and integrated use of land and water resources.

4. VISION, MISSION, SIZE AND SHAPE

On March 20, 1973, the Father of the Nation Bangabandhu Sheikh Mujibur Rahman elaborated his vision for education in his address at the first convocation of Bangladesh University of Engineering and Technology (BUET) (Bhuiyan, 2021). The Father of the Nation envisioned an education system that produces skilled human resources characterized by improved general and technological knowledge that offsets external dependence. The underlying principles of the Father of the Nation's education philosophy (Bhuiyan, 2021) entail:

- Producing innovative human beings;
- Building an appropriate education system; and
- Ensuring balanced and sustainable socio-economic development.

The Father of the Nation took proactive measures to materialize his vision and created the *Qudrat-e-Khuda* Commission to reform the education system. The Commission published its interim report in June 1973, followed by the final report in May 1974. The 309-page report titled Bangladesh Education Commission Report is the foundation of reform in the education system in Bangladesh.

4.1. Vision

The vision of the higher education colleges in Bangladesh is:

To furnish colleges with adequate resources for delivering quality higher education in disciplines commensurate with the need of society and economy.

4.2. Mission

To ensure socio-economic development of the country, colleges produce human capital of international standard in terms of cognitive and non-cognitive abilities and social values by:

- Teaching and training students;
- Imparting research and professional training; and
- Upskilling and reskilling graduates.

4.3. Size and Shape

The demand for higher education likely to rise by 2031 despite demographic transition. The demographic transition has shown that the country's labor force will reach nearly 53 million by 2050, and this will be useful to the rising growth of the economy (CEDP, 2021b). In 2016, total eligible population of higher education i.e., population within the age group of 18 and 22 years (inclusive) was 14,622,000. And by 2031, total eligible population is likely to reach 14,261,000 (BBS, 2015). It means that, by 2031, total eligible population for higher education will drop by 2.5 percent (compared to the base year 2016). However, the downfall of eligible population does not mean the downfall of enrollment in higher education, as the enrollment is conditional upon the number of HSC graduates and students' zeal for higher education. By 2031, the estimated total HSC graduates are likely to reach around 1.01 million from 0.69 million in 2018, with some seasonal changes in 2021 and 2027 (CEDP, 2021b, p. 39). If the government adheres to its expansion policy and other things remain unchanged, the projected total student enrollment in undergraduate programs is likely to be 3.94 million by 2031 (CEDP, 2021b, p.42).

Increased outbound student mobility. Before the outbreak of COVID-19, to pursue higher education abroad, outbound student flows from Bangladesh surged considerably. According to the UNESCO Institute for Statistics, the total number of outbound students rose from 15,000 in 2005 to 56,000 in 2017 (World Education News Review, 2019). Thus, Bangladesh has become a source country of international students for many developed and developing countries such as Australia, England, Malaysia, USA etc. One of the key factors driving outbound student mobility is the rising middle class, who can afford higher education abroad. It is expected that in the future, the flow will continue rising, provided that COVID-19 situation improves significantly.

Increased engagement of the private sector in higher education. The role of the private sector in delivering higher education has been rising in Bangladesh. In 2018, around 71 percent of the total NU affiliated colleges were non-government colleges (BANBEIS, 2018). It is expected that the trend will continue in the coming years.

Enrollment ratio remains low in the global context. According to the background study (CEDP, 2021b) in 2019, the enrollment ratio in higher education altogether was 26 percent in 2019, where the share of the NU affiliated higher education colleges was 17.45 percent (of the eligible population between 18 years and 22 years). When compared with other

countries, the enrollment ratio is still low: China (51 percent), South Korea (94 percent), Malaysia (45 percent), Indonesia (36 percent), Iran (70 percent) etc. (UNESCO Institute for Statistics, 2021). Globally, USA's higher education Gross Enrollment Ratio (GER) is 88 percent, UK's is 60 percent, Germany's is at 70 percent and Canada's is 69 percent (Kancharla, 2019)

4.4. Key Considerations for Strategic Planning

Some previous policy recommendations are yet to be implemented fully: Bangladesh has a few policies and programs on higher education such as National Education Policy 2010 and Strategic Plan for Higher Education: 2018-2030. Although the government has been working and implementing some programs or projects as per directions of the plans, many policy recommendations are yet to be implemented.

There is no supply-side constraints of higher education: In 2019-2020 academic session of the NU, total number of seats in the 1st year undergraduate programs in 43 public universities and the higher education colleges affiliated with NU was approximately 905,196.[4] Against this supply of seats, in 2018, the total number of HSC graduates who got GPA greater than or equivalent to 2.0 was 845,298.[5] Assuming that everyone, having the minimum academic qualification, desired to enroll in higher education, it was estimated that around 60,000 more seats were available altogether in the public universities and the higher education colleges affiliated with NU. This is one of the key strengths of the affiliated college system of higher education.

Higher education in colleges is at the stage of massification: Relevant literature classifies state of higher education based on enrollment ratio. A higher education system is classified as 'elite system' if the enrollment ratio is less than 15 percent (of the total eligible population), and the system is classified as 'mass system' if the enrollment ratio is in-between 15 percent and 50 percent (Agarwal, 2016). In 2019, the estimated enrollment ratio in the NU affiliated general higher education colleges was around 18 percent (CEDP, 2021b). Therefore, the college system of higher education can be classified as 'mass higher

[4] 43 public universities had 47,171, NU affiliated colleges had 421,890 seats in Bachelor's (honors) plus 421,890 seats in Bachelor's (pass) programs.
[5] Minimum GPA in HSC required to apply for admission into undergraduate (pass) and undergraduate (honors) programs are 2.0 and 2.5 respectively.

education'. The expert committee believes achieving quality education is challenging in a mass system of higher education.

***Average size of non-government colleges is small*:** Around 43 percent non-government colleges are small in terms of student number (on average student size was less than or equal to 2000). Because of its small size, the small non-government colleges cannot mobilize enough revenues to become self-sufficient financially. Consequently, after establishment, the small colleges lobby with the government to become enlisted for financial supports under "Monthly Payment Order" program.

Affiliation of new general colleges will be limited. Despite increased pressure on the demand for higher education, expert opinion is not to increase general higher education NU-affiliated colleges in the short run (CEDP, 2021b). However, completely halting affiliation is not feasible. NU will give new affiliation to deserving and reputed colleges. With an increasing opportunity for technical and vocational education, Bangladesh is likely to respond through those tracks to meet the rising demand for general higher education. Along this line, NU can have new affiliates if necessary for the Diploma programs and skill-based short courses that they are planning to start from 2023.

Enrollment ratio will remain at 17 percent. According to the experts, the enrollment ratio will remain unchanged at 17 percent over the next few years.

Average years of schooling (or education attainment) among the population of age 25 years and above have increased: In Bangladesh, the average years of schooling have increased from 4.1 years in 2000 to 5.8 years in 2017. One of the completed background studies reported that a country with a higher level of average years of schooling achieves higher per capita income (CEDP, 2021b, pp. 20-21).

4.5. Key Cross-Cutting Strategies

Colleges to be under the framework of the Bangladesh Accreditation Council (BAC):

Since 2018, BAC has been working to manage the quality of higher education in the public and private universities across the country. So far, BAC's activities have not covered the affiliated colleges directly. By extending coverage to the affiliated colleges, BAC can engage itself with the management of quality of higher education in the affiliated colleges across the country.

Adequate government investment to be made in colleges: NEP 2010 has recommended more investment in higher education colleges to overcome the current problems of the colleges (MoE, 2010). In line with NEP 2010, relevant authorities such as NU, DSHE, and SHED can undertake new investment projects or programs to support increased investment in higher education colleges.

Increased accountability pertaining to financial management in colleges: Besides adequate investment in colleges, financial accountability in fund management is critical. The affiliating university authority will supervise activities related to financial management practiced in colleges, particularly in non-government colleges, so that teachers of the non-government colleges are paid salaries and other allowances regularly as per NU's provisions.

A small effective and functional governing body: Currently, NU constitutes a governing body (GB) for each non-government college consisting of 15 (fifteen) members. By revising the regulation concerned, NU must reconstitute the GB for each non-government college, consisting of 10 (ten) members instead of 15 (fifteen), including two female members. The composition of the GB should be as follows: (i) One chairperson (ii) One DSHE representative (iii) Two education board representatives (iv) Two affiliating university representatives (including a chairperson) (v) Two teacher representatives (vi) One guardian representative (vii) One member-secretary (principal of the college concerned will work as member-secretary by default).

Innovative training opportunity: The ongoing training programs for college teachers offered by NU shall continue and be expanded to regional centers in due course. Those teachers who have been receiving training as Master Trainers at Nottingham University, Malaysia, will be involved in training others in the future by applying state-of-the-art training approaches.

Innovative promotion policy for teachers: According to expert committee opinion, the existing policy for the promotion of the members of the B.C.S. (General Education) cadre service who serve in the government colleges as academician is not encouraging for them to pursue a doctoral study or make any endeavor for research publications. A change in the policy such as revised promotion policy - where completing PhD or publishing research will add points and expedite promotion. This change in policy may motivate BCS cadre

members in academic positions in government colleges to undertake doctoral study and have research publications in peer-reviewed journals both at home and abroad.

Increased role of Non-Government Teacher Registration and Certification Authority (NTRCA): NTRCA recruits teachers who teach at undergraduate pass level in non-government colleges. Under the current legal framework, NTRCA recruits neither any bachelor (honors) or master's level teacher, nor any principal. Thus, the role of NTRCA is limited. A revised NTRCA Act mandating NTRCA with an increased role in recruiting teachers for teaching at Bachelor's (Pass), Bachelor's (Honors), and Master's level as well as appointing principals is highly desirable. Alternatively, an independent commission for recruitment of teachers like the Bangladesh Public Service Commission can be created to recruit teachers and principals in the non-government colleges.

Innovative and alternative new courses in line with the needs of the job market: The affiliating university (NU) should work on delivering short courses: diploma and post-graduate certificate degree programs. For short-course, the subject area must include subjects that are of high demand in the job market, and the courses can use the existing on-campus and off-campus facilities. Upon completion of a short course, a graduate will have the skills that match with the demands of the job market. The government shall decentralize the existing facilities of NU to the regional centers of the country in line with the National Education Policy 2010.

Collaboration and resources sharing among colleges: Since most of the colleges suffer from financial constraints, the colleges in close vicinity may collaborate and share their resources. For instance, large colleges may allow students from small colleges to access their laboratory and library facilities. In pursuance of the principle, the government may create resource hubs such as libraries, laboratories, and computer laboratories in some selected big colleges across the country, where students of all the colleges in the nearby areas will have access to the resource hubs.

Open educational resources (OER) for all: Since repeated production of education resources is costly and time-consuming, the affiliating university should develop and maintain OER. Students at the higher education colleges should have access to OER free of charge.

Technology-enabled learning platform in delivering education: The affiliating university (NU) should introduce a blended system of both online and face-to-face teaching-learning

process. Each higher education college/institute should use Learning Management System (LMS) to offer courses and for learning assessments.

5. PRIORITY PROGRAMS AND CORE STRATEGIES

5.1. Guiding Principles

The comprehensive goal of the strategic plan is to contribute to the achievement of the goals, sub-goals and objectives of PP 2041, Eighth Five Year Plan 2021, and SDG 4. The current NEP 2010 has provided 30 aims and objectives of which the key objectives are: to build up citizens who will possess scientific, secular, liberal, humane, progressive, and forward-looking mindset; to ensure quality of higher education in all disciplines and motivate students to do research; and to create a congenial and necessary environment for research within the country through the cultivation of knowledge and sciences (MoE, 2010). With these objectives in consideration, comprehensive goals and sub-goals of this strategic plan are developed in 5 (five) areas: access and equity; quality and relevance; management of colleges; financing of colleges; and science, technology, and ICT use in education. The guiding principles of the strategic plan are:

- The goals are consistent with the national policies and programs;
- The policies are driven with measurable goals, formal and regular reporting and flexible to required changes;
- The outcomes are evidence-based and effective to achieve national goals;
- The activities are implementable with minimum resource; and
- The results are sustainable in the long run.

5.2. Priority Program Areas for College System Development

5.2.1. Access and Equity

Conceptually, access to higher education means enrollment and progression irrespective of students' age (Lewin, 2015), and (education) equity means a fair and impartial distribution

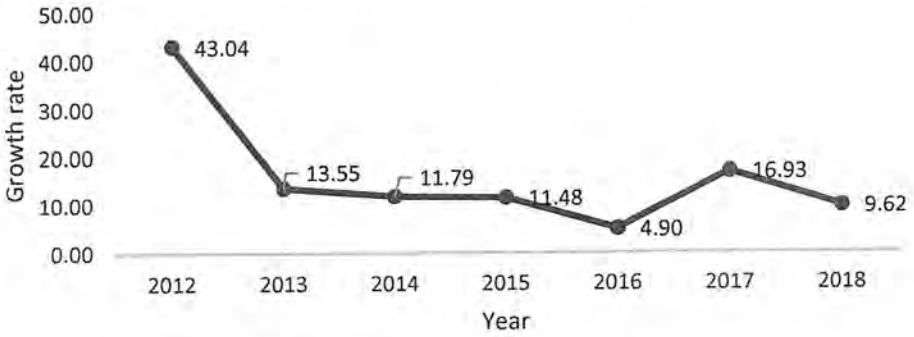
of learning opportunity at all levels of education, where one of the key principles is *equality of opportunity* (UNESCO-UIS, 2018, pp. 17).

Equity refers to the concept of justice, that is linked to the notion of equal chances of all. The constitution of Bangladesh strives to create a country in which each citizen possesses a fair chance to survive, thrive and reach his/her full potentials. With equity, an individual is treated according to his/her ability or need to ensure equal chance for him/her. Equity does not refer to equality. Equality is a concept based on mathematical premise and associated with the notion of equal consideration of all, irrespective of ability and needs. The following Sub-section describes the access and equity situations of the affiliated colleges in higher education and equity in the allocation of government resources among the colleges based on evidence.

Current Situations

Enrollment ratio increased substantially in last one decade (between 2006 and 2018). The gross enrollment ratio in the undergraduate programs, such as Bachelor's (pass), Bachelor's (honors) and graduate (masters) programs, increased substantially in 2018 compared to that in 2006. In 2018, the rate of change in enrollment ratio (or enrollment growth rate) was 356 percent in the government colleges and 98.42 percent in the non-government colleges. Relatively the growth rate of enrollment was higher in the honors programs (CEDP, 2020b, pp, 14). This means that the higher education colleges experienced increased enrollment in the honors programs. Between 2011 and 2018, in honors colleges[6] average enrollment growth (in the current year compared to the previous years) rate was 15 percent approximately (Figure 5.1). The highest growth rate was seen in 2012, and the lowest in 2016 (Figure 5.1) (BANBEIS, 2019).

Figure 5.1: Enrollment growth in honors colleges, 2011-2018



[6] The definition of honors colleges is colleges which offer Bachelor's (honors) degree programs.

Data Source: BANBEIS, 2018

The government colleges absorb more students than the non-government colleges do. In terms of the total enrollment of students, the share of the government colleges is greater than that of the non-government colleges (CEDP, 2020b). This signifies the importance of government colleges in higher education. The surges in enrollment in government colleges might be attributed to horizontal expansion of government colleges across the country and that is the result of the nationalization of the non-government colleges occasionally.

There is no supply-side constraint of higher education opportunity. This is one of the strengths of the affiliated college system under NU. The background study reported that in the 2019-2020 academic session, out of the total seats in the first year Bachelor's (honors) degree programs, 12 percent remained vacant; and out of total seats in Bachelor's (pass) degree program, 43 percent remained vacant (CEDP, 2020b). Furthermore, compared to the 2017-18 academic session, the number of vacant seats increased in the 2019-2020 academic session. The number of vacant seats remained high in undergraduate pass degree programs (CEDP, 2020b). This implies that there is no supply-side constraint of higher education. The affiliated higher education colleges have adequate capacity to admit more students.

One of the key driving factors is that the supply of seats is greater than the number of HSC graduates who are eligible to apply for admission into higher education colleges. For example, in the academic session 2019-2020, total number of HSC graduates, having grade point average (GPA) greater than or equivalent to 2.0, was 852, 292 (or 0.85 million). On the other hand, in 2018, the total number of available seats in the 1st year bachelor's or equivalent degree program was 952,662 (or 0.95 million) altogether (CEDP, 2020b).[7] That means, the supply of seats is greater than the demand of higher education in colleges.

Another driving factor is that among the eligible HSC graduates, the willingness to study in higher education colleges is not as intense as it is in case of the public universities. The low interest might be attributed to the overall belief that there is lack of quality education in higher education colleges.

[7] GPA less than or equivalent to 2.00 is considered because the lowest GPA (in HSC) to be qualified to apply for admission into Bachelor (Pass) degree program in affiliated colleges is 2.00.

Enrollment in science and technology related discipline is relatively low. The distribution of enrollment in science, social science, commerce, arts, and humanities was 10 percent, 32 percent, 29 percent, and 29 percent respectively in 2019 (CEDP, 2020b). Compared to the enrollment ratio in science and technology disciplines in public university, enrollment ratio in higher education colleges in the same field was relatively very low. The situation might be attributed to the limited number of colleges offering undergraduate programs in science and technology. For instance, at the undergraduate and graduate levels only five (5) science subjects are available: Physics; Chemistry; Mathematics; Zoology; and Botany.

Household education spending and marital status of the students are two statistically significant barriers to enrollment in post-higher secondary education. According to the situation analysis report, despite passing HSC examination, 13 percent of the students did not enroll in higher education in Bangladesh in 2014. The reasons for not enrolling in post-higher secondary education are different for male and female students. For male students, one of the major reasons for not enrolling was household poverty and for female students it was their marital status. Due to poverty many households could not bear students' out-of-pocket expenditures for cost of transportation, accommodation, books, and stationeries etc. On the other front, because of marriage, many female students were unable to enroll in post-higher secondary education despite successful completion of higher secondary certificate (HSC) examination. Here, social attitude toward girls' education plays a critical role too. Many parents continue to foster age old views that girls will be busy with household responsibilities and for this higher education is unnecessary.

Gender disparity remains present marginally. The gender parity situation improved in higher education colleges affiliated with NU. In 2018, the estimated gender parity index was 0.89 which was 0.53 in 2006. From the perspective of absolute gap, in bachelor's (honors) and master's colleges, the distribution of enrollment of male and female students was 53 percent and 47 percent respectively in 2019 (CEDP, 2020b). That is, the absolute gap between the male and female in enrollment was 6 percentage points. Despite some gap, girls' participation in higher education is encouraging.

Ethnographic studies and educational researches have observed that typically parents believe that women are less worthy of education or less capable and less competent than men in many workplaces (Sarkar, 2017). Since households need cash

to invest in education, they take decisions regarding investment in education considering the best for the households' economic future (Mahmud & Amin, 2006). In major cases, the traditional view is that sons are the primary source of old-age supports to their parents, while girls typically become a member of another household after marriage. Consequently, this factor serves as a strong incentive for parents to invest in their sons' education as a form of long-term social insurance. (Sarkar, 2017).

Urban-rural disparity in the enrollment in both undergraduate honors and graduate programs is present. By students' residences, urban-rural disparity in enrollment is present (CEDP, 2020b). In 2018, while enrollment rates of the students of urban and rural origins in undergraduate (pass) degree program were 51 percent and 49 percent respectively, enrollment rates of the same in undergraduate (honors) degree programs were 76 percent and 24 percent. On the other hand, enrollment rates in graduate programs were 96 percent and 4 percent respectively (Table 5.1). Table 5.1 further shows that urban-rural absolute gaps in enrollment in undergraduate (pass) degree, undergraduate (honors) degree, and master's degree programs were 2.0, 52.0, and 92.0 respectively. Furthermore, urban-rural parity index of enrollment in undergraduate (pass) degree, undergraduate (honors) degree, and master's programs was 0.96, 31.0, and 0.04. Because of low absolute gap and high parity index, urban-rural disparity in enrollment in undergraduate (pass) degree program was almost none. In contrast, because of high absolute value and low parity index, urban-rural disparity in enrollment in undergraduate (honors) and master's program was observed. Low enrollment of students of rural origins may be attributed to household poverty situation and unfair household decision about investment in boys' education.

Table 5.1: Parity indices by location of residence of students

	Urban (percent)	Rural (percent)	Absolute gap	Parity index
1	2	3	4 = (2÷3)	5 = (3÷2)
Undergraduate (Pass)	51	49	2.0	0.96
Undergraduate (Honors)	76	24	52	0.31
Master's	96	4	92	0.04

Disparity in enrollment by students' economic status is low. In 2019, around 43 percent of the total students enrolled in the affiliated higher education colleges was from poor households i.e., households having a monthly average income of less than Tk. 10,000.

On the other hand, only 9 percent students who enrolled in the 43 public universities was from poor households (Table 5.2).

Table 5.2: Parity index by students' economic status

	Less than 10 K (percent)	Between 10K and 40K (percent)	Between 41K and 60 K (percent)	Over 60K (percent)	Parity index (Bottom ÷Top)
Affiliated colleges of NU	43	49	6	2	11.5

Thus, viewed from the students' economic status, disparity in enrollment in colleges is relatively low. The estimated parity index between the bottom 50 percent (who had monthly income of less than or equal to 40K) and the top 50 percent of the study population (who had monthly income of 41K or more) was 11.5 (Table 5.2). So, the enrollment situation is in favor of the students of poor households in the affiliated general higher education colleges.

Disparity in enrollment by division is present. By divisions, there is a disparity in enrollment in undergraduate (honors) and master's degree programs (CEDP, 2020b). Out of eight administrative divisions, students from Barisal and Sylhet Divisions are behind the students from the other divisions in terms of enrollment in undergraduate (honors) degree programs. Students of Dhaka Division are ahead of the students of all other divisions. The divisional disparity might be attributed to the high density of college-going age population in the Dhaka division.

Inequality in the allocation of government resources amongst government colleges is present. There exists evidence of inequity in the allocation of government resources (i.e., government spending per student and deployment of teacher per student) among the government colleges (CEDP, 2020b). As recipients of government resources, the government colleges in Dhaka division are ahead of and those in Sylhet Division are behind of other Divisions (Table 5.3).[8] This means that the students enrolled in the government colleges in Dhaka division have access to better facilities and opportunities compared to the students enrolled in the government colleges of the other divisions.

[8] Distributional inequity is measured by the Coefficient of Variance (CV).

The impact is that the colleges that need more resources are actually deprived of minimal resources. The situation might be attributed to the failure of the competent authorities in the allocation of government resources based on the principle of equity.

Table 5.3: Estimated coefficient of variation

Divisions	Teacher-student ratio	Per student government expenditure
Chattogram	0.42	0.50
Dhaka	0.96	0.82
Mymensingh	0.53	0.75
Rajshahi	0.67	0.67
Rangpur	0.60	0.21
Sylhet	0.14	0.16

Source: CEDP (2020b)

DSHE is a competent authority to allocate government resources among the government colleges. However, DSHE barely practices any resource mapping before resource allocation. Traditionally, the authority follows incremental budgeting formula (Islam, 2003), where before budget allocation, the authority assesses the current year's budget based on the preceding year's budget and its historical trend. As a result, the resource-poor colleges seldom receive adequate resources.

Core Problems

Disparity in student enrollment prevails despite substantial improvement in total enrollment in terms of gender (male-female), location of student's residence (urban-rural) and their economic status. There is inequity in the allocation of government resources among the government colleges.

Theory of Change

If the students of any group (by gender, location, ethnicity, and physical or mental characteristics) who are academically eligible but disadvantaged in enrollment in higher education, have access to a favorable college environment and financial supports, more and more students are likely to enroll in higher education. Moreover, if the colleges having resource constraints receive increased amount of government resources, a fairer and more favorable learning opportunity will be available to students. Thus, equity in access to higher education in colleges and allocation of government resources will be achieved.

Goal, Objectives, and Strategies

Goal: The overall goal is to achieve equity in students' access to higher education and allocation of government resources to colleges, particularly government colleges by the year 2031. The goal is broken down into several sub-goals or objectives. To achieve the objectives, a number of strategies and corresponding activities are drafted. Full description of the objectives, strategies, and required activities are suggested below:

Objective 1. Increased enrollment and degree completion of academically eligible but socially disadvantaged students

The guiding principle here is the Principle of Meritocracy. It means that subject to eligibility, the enrollment of students who are female, physically challenged, socially marginalized, and environmentally displaced should increase.

Strategy 1.1: Undertake financial support programs for female, physically challenged, and students of ethnic origins

Bangladesh government has been implementing girls' stipend program for long with a view to raising girls' enrollment in education. However, the program does not cover every stream of higher education except undergraduate (pass) program. Research evidence supports that girls' stipend programs increased girls' school completion by 0.8 year and delayed marriage by 0.4 year (Yeasmin, 2016). Therefore, as a strategy, stipend program may be extended to cover beneficiaries from under-represented groups. Under this strategy, desired activities are -

- Commissioning new stipend program or expanding ongoing stipend projects/programs for students from the target groups; and
- Adopting and implementing free tuition policy for the students of the target groups.

  These actions will reduce households' monetary burden for children's education, thereby creating increased opportunity for enrollment and completion of higher education for students of the under-represented groups.

Strategy 1.2: Create a favorable environment for female and physically challenged students

This strategy is not to treat everyone equally, for example boys and girls, but to treat them differentially according to the needs of different groups such as male, female and differently able/physically challenged students. To accomplish the strategy, key activities are-

- Appointing more female teachers and administrative staff;
- Constructing/ refurbishing campus facilities, including ladies' corner and washroom facilities considering the needs of adult females;
- Constructing toilets with special facilities for students with physical disabilities;
- Constructing ramp and lift facilities for physically challenged students; and
- Constructing on-campus accommodation facilities for female students.

The activities will create better environment for current and future students from the under-represented groups and qualified students will have increased opportunities for enrollment and completion of higher education.

Objective 2. Increased enrollment in science and technology related degree programs

Strategy 2.1. Undertake capacity development of colleges offering degree programs in science and technology related disciplines

This strategy aims at removing the supply-side constraints resulting from limited scope of science and technology study. Under this strategy, activities are as follows.

- Affiliating increased number of new academic programs in science and technology related disciplines in the government colleges; and
- Increasing (physical and non-physical) capacities of colleges in delivering academic programs in science and technology disciplines.

The actions will create more diversity in terms of subject choice and increase the number of higher education colleges with capacity to deliver education in science and technology disciplines.

Objective 3. Increased enrollment of meritorious and eligible students from rural areas in undergraduate (honors) and graduate degree programs

Strategy 3.1. Adopt motivational initiative for students from rural areas

This strategy aims at encouraging the students from rural areas about the benefits of higher education so that their interest in higher education grows. Desired activities under this strategy include-

- Arranging attractive financial assistance/scholarship programs to support the students from rural areas; and
- Introducing counseling and mentoring program to support academically weak students from rural areas.

The activities will raise motivation of students and their parents about the socio-economic benefits of higher education.

Objective 4. Increased resource allocation to resource-poor high performing colleges

Strategy 4.1: Develop the capacity of DSHE officials in resource planning and management

This strategy aims at overcoming the problem of inequity in the allocation of government resources. Desired activities under this strategy include -

- Revising DSHE organogram and strengthening DSHE's capacity in resource planning and resource management including creation of a new wing responsible for appointment, promotion and posting of academics;
- Providing training to officials who are working in DSHE and colleges on resource planning and management; and
- Undertaking dedicated development projects for resource-poor colleges.

The activity will increase institutional capacity of DSHE and colleges in resource planning and management.

Strategy 4.2: Develop budget preparation and management capacity of the relevant personnel of DSHE and colleges

The strategy aims at strengthening the abilities and skills of the colleges and DSHE officials in budget preparation and budget management. To accomplish the strategy, activities are -

- Conducting in-service training activities for relevant personnel of colleges and DSHE in budget preparation and budget management; and
- Creating a new section responsible for finance and budgeting in colleges with adequate staff.

The activities will increase the capacities of the colleges in budget preparation based on their actual needs and decrease disparity in the allocation of government resources among the colleges across the country.

Risks and Assumptions

Bangladesh is a country prone to natural hazards like seasonal floods and cyclones. These seasonal events may hamper the activities of the colleges and constrain students from attending colleges physically. Although currently government policies are quite supportive to the expansion of the scope of enrollment in tertiary education and materializing gender equity in access to higher education, the existing policy may need to shift in the coming days due to the changing contexts of macroeconomic situations.

In addition, there is a lack of policy to support total elimination of inequity in the distribution of resources among the government colleges. Thus, the achievement of the desired results in access and equity depends on the adoption of supportive public policy measures.

5.2.2. Quality and Relevance

In the NU-affiliated higher education colleges, improvement of quality and relevance of higher education is the most sought-after goal. Current government is committed to good quality education at all levels. However, the current situations of higher education colleges are not conducive to delivering quality higher education. The following sub-section describes the existing situations of quality and relevance of higher education in the NU-affiliated colleges across the country.

Current Situations

Acute shortage of teachers: Acute shortage of teachers is a key problem of the higher education colleges. Because of acute shortage of teachers, student-to-teacher ratio (i.e., number of students per teacher) is high. For instance, in the government and non-government colleges, average student-to-teacher ratios are 89:1 and 43:1 respectively (CEDP, 2021c). As the non-government colleges generally enroll relatively lower number of students, average student-to-teacher ratio is lower than that of the government colleges. Because of the high ratio, the teachers experience higher teaching load than expected; effective monitoring of the progress of student learning remains absent; and above all, specialized course-specific teaching is hampered. `

The underlying causes of acute shortage of teachers are two folds. First, majority of the government colleges enroll huge number of students which is incongruent with their teaching capacity, thereby adversely affecting the quality of teaching. Secondly, there are fewer teaching positions than the optimum number. According to the 8th 5-year plan of the

Government of Bangladesh, the desired student-to-teacher ratio is 17:1 and ideal student size is around 6,000 (GED, 2020a, p. 636).

The problem has further been aggravated due to shortage of teachers having training in pedagogy. Teachers barely have any opportunity to receive training in pedagogy, although NU has been providing some subject-based training. The scope of subject-based training is reported to be very limited. As per the background study, some teachers have never received any training in their 15 (fifteen) years of service. According to the expert committee, teachers need training in pedagogy to strengthen their skills in delivering quality teaching.

Coexistence of higher secondary education and higher education streams: A key weakness of the colleges affiliated with NU is the existence of two different streams of education: secondary (intermediate) education and higher education. The consequence of the coexistence is that a given pool of teachers has been teaching in both the streams simultaneously. In the expert committee meetings[9], the experts viewed that the ongoing arrangement was not conducive to maintaining quality education. The experts suggested that the colleges must not engage those teachers who teach intermediate students in teaching degree level students.

The given situation is attributed to the existing NU Regulations for Affiliation of Colleges. According to the regulations, a college begins its journey as an intermediate college. Upon successful operation for 3 years, an intermediate college fulfils a precondition to apply for affiliation as a higher education college. Consequently, after having been affiliated successfully, the college runs two separate streams of education side by side: intermediate education and higher education.

Shortage of teachers holding doctorate degree and lacking in the track record of quality research publications: The colleges have been historically suffering from an acute shortage of teachers holding PhD degrees and have a track record of research publications. According to the background study, as of 2014, around 5 percent teachers had PhD degree, and the remaining teachers had master's degree (CEDP, 2021c). The experts viewed that a master's degree or equivalent degree was not enough academic qualification to teach undergraduate and graduate students.

[9] The 'expert committee' means the committee of experts for Quality and Relevance Group.

The immediate and structural causes of the shortage of teachers holding PhD are attributed to: (i) widespread apathy among the teachers towards doctoral study and research publications; (ii) lack of scholarship; (iii) lack of research fund; and (iv) the existing teacher promotion policy in colleges, particularly government colleges. According to the existing rules and regulations pertaining to academic promotion in government colleges, a lecturer requires neither a doctorate degree nor any research publication to become eligible for promotion. The given rules generally discourage teachers to pursue doctoral study and undertake research work.

Unsatisfactory teaching-learning environment: The teaching-learning environment in the colleges is unsatisfactory. The immediate cause of the problem is an acute shortage of required number of classrooms, lack of office room for teachers, unequipped laboratories, limited library facilities and books/journals, lack of Internet connectivity etc. According to the background study, most of the college graduates have the perception that improved physical facilities are very important for good teaching-learning environment (CEDP, 2021c).

Weak assessment systems: The current assessment system of NU is very weak. Under the current system, a student can secure good grade in an examination even without attending classes. The primary reasons are as follows: traditional way of setting question paper; lack of check and balance in marking students' answer scripts; and finally, lack of engagement of (assessment) committee in the overall management of student assessment procedure.

Traditional way of setting question paper means that a teacher prepares a question paper based on the previous two to three years' question papers, where an examinee makes a good guess by solving previous years' question papers. In this way, an examinee may secure good grade in an examination without attending class lectures and learning the course content thoroughly. The practice results in low turnout of students in the classroom.

According to the current assessment system of NU, one examiner evaluates and marks students' written answer scripts, where there is no room for a second examiner to review the assessment carried out by the first examiner. It is reported that under the current one-examiner system, although the time of processing and publishing results is shorter compared to the two-examiner system, the check and balance in marking answer scripts is weak.

The background study also reports that an Examination Committee constituted by an affiliating university is rarely engaged in assessment activities, result publication, or even managing assessment related activities like creating roster for examinations, tabulation, and result publication leaving rooms for questioning the reliability of the assessment system.

Academically average and below-average achievers are enrolled in colleges: Academic standing of the students who get enrolled in colleges is satisfactory on an average. In 2018, the estimated average GPA obtained in HSC examinations was 4.00 out of 5.0. However, the share of high achievers i.e., students who obtained GPA 5 in HSC is low because high achievers always prefer a public university to a higher education college. Moreover, students and their parents express negative attitudes towards the social and economic benefits of higher education in colleges.

Short span of teaching time in an academic session: Upon closure of the scheduled time for student intake in the 1st year undergraduate bachelor programs, the colleges have only 8 (eight) months left to complete an academic session. Within the given 8-month period, the colleges often remain busy with examinations of various types. On the other hand, during the scheduled examinations, college authorities suspend pre-scheduled classes to accommodate examinations. Due to the lack of separated examination halls, most colleges cannot hold classes and exams simultaneously. This shortens the contact hours for a teacher and ultimately results in failure to complete the syllabus before the final examination.

High graduate unemployment rate: The performance of higher education college graduates in the economy is highly unsatisfactory. According to the background study, on an average 42.5 percent of the college graduates are unemployed, 17.5 are employed and the rest are either in further study programs or not in the job market. Of the unemployed graduates, the share of male and female is almost same i.e., 50 percent. The unemployment rate is relatively low among those graduates who have obtained Bachelor (pass) degree. The underlying reason may be that the expected wage rate per month of a Bachelor (pass) graduate is lower than that of a Bachelor (honors) graduate.

One of the key reasons for unemployed graduates is the low monthly wage offered by employers to college graduates. According to the background study, on an average 46 percent of the unemployed graduates have denied job offer because of low monthly wage (average Tk. 10,000/-), 16 percent of the unemployed graduates have not accepted job

offers due to job location; and the other graduates have not accepted job offers due to other reasons. The empirical evidence (Jones 1988, Prasad 2003, Deschacht et. al. 2021) shows the duration of unemployment spells and the reservation wage move together in the same direction. This theory states that the higher the reservation wages, the higher the duration of unemployment. In other words, low reservation wage rate may increase the probability of being employed.

Another driving factor behind graduate unemployment is low soft skills. According to the background study, employers have identified that higher education college graduates are very weak in the following areas: (i) communication in English and (ii) knowledge of computer application (CEDP, 2021c). However, the college graduates are strong in reading and writing in Bangla. International experiences show that the relationship between employability and employment status is far from straightforward. There is a statistically significant relationship between the employment status and soft skill level of a graduate. For instance, a graduate, whose soft skill is high, has a high probability of being employed suggesting that colleges must focus on soft skills development along with regular course content.

Core Problems

The colleges are featured by acute shortage of teachers, high student-to-teacher ratio, coexistence of two different streams of education, dilapidated classrooms, lack of books and libraries, lack of trained teachers, weak student assessment system, and low share of teachers holding doctorate degree and track record of research publications. They collectively produce low-quality college graduates in terms of skills, knowledge and employment in the society and the economy at large.

Theory of Change

If colleges of higher education are featured by an adequate number of high-quality teachers, low student-to-teacher ratio, academic infrastructure of good quality, and improved student assessment system, then they can become capable of producing citizens who are knowledgeable and resourceful for the society and the economy.

Goal, Objectives, and Strategies

Goal: The overall goal is better (improved) performance of graduates in terms of knowledge, skills and employment in the economy and the society at large by the year 2031. The goal is broken down into a few sub-goals or objectives, and to realize the

objectives, several strategies and required activities are identified. Full descriptions of the objectives, strategies, and activities are presented below.

Objective 1. Separated management of higher education and higher secondary education

Strategy 1.1: Prepare and enforce rules and regulations for higher secondary and higher education

This strategy addresses structural cause(s) of the problem - coexistence of intermediate and higher education college education side-by-side in a college. This strategy makes sure that the input-output process is strong in terms of inputs and processes. To achieve the objective, desired activities under the strategy are -

- Drafting an Act (like Private University Act 2010) that would enable the colleges to be founded as higher education and research institute;
- Revising NU Regulations for Affiliation of Colleges; and
- Revising Education Boards' Regulations for Affiliation of Secondary and Higher Secondary School that would enable the secondary schools to introduce higher secondary education program (i.e., HSC).

These activities will pave the way for the forthcoming colleges to be founded as college for higher education and research.

Objective 2. Increased number of teachers with doctoral degree and research publications

Strategy 2.1: Allocate adequate funds for doctoral study and research

This strategy is to overcome teachers' apathy towards doctoral study, research, and publications. The activities recommended under the strategy are-

- Undertaking fellowship/stipend programs to support interested teachers financially;
- Undertaking initiatives for research grants to fund research projects; and
- Circulating research grants opportunity among potential applicants widely.

The activities will overcome barriers associated with research funding and create increased opportunity for research by the teachers.

Strategy 2.2: Establish performance-based promotion policy

This strategy aims at overcoming in-service teachers' apathy towards pursuing PhD, doing research, and publications too. To accomplish the strategy, recommended activities are -

- Revisiting government regulations for promotion of B.C.S. (General Education) Cadre officials, so that having PhD and track records of research publication are made mandatory for promotion;
- Revisiting NU Regulation regarding service-conditions of teachers of Non-Government affiliated colleges in line with the promotion policy of government college teachers; and
- Ensuring proactive role of NU in promoting research and research publications in colleges.

These activities will motivate a teacher by law to pursue doctoral study and publish research paper(s) to qualify for promotions to the senior academic positions.

Objective 3. Increased number of colleges with improved teaching-learning environment

Strategy 3.1: Prepare and execute effective monitoring and supervision plans

This strategy ensures that colleges of higher education always maintain student-teacher ratio, and physical facilities at satisfactory level. To accomplish the strategy, desired activities are -

- Developing policy pertaining to monitoring activities by the NU;
- College visits by academics from NU and nearby colleges;
- Preparing monitoring reports to generate knowledge and share findings; and
- Sharing monitoring reports among the stakeholders such as BAC, NU, DSHE, and SHED.

These activities will ensure sustainable teaching-learning environment in colleges.

Strategy 3.2: Ensure policy supports for adequate investment to make teaching-learning environment conducive to quality education

This strategy is to overcome the problem of unsatisfactory academic environment due to insufficient investment in higher education colleges. This strategy includes following activities -

- Renovating old classrooms and constructing new classrooms: minimum 4 (four) classrooms per department;
- Constructing office rooms for academic members: creating a workstation for every teacher;
- Appointing qualified teachers on continuous basis at a ratio of minimum 12 (twelve) teachers in each department of an honors and master's college as per Enam Commission Report;
- Appointing permanent support staff in each department as per requirement;
- Constructing examination hall at each upazila;
- Constructing library buildings with all amenities;
- Providing dedicated internet connectivity; and
- Allocating budget for consumables and maintenance works.

Strategy 3.3: Strict adherence to NU reference book

This strategy aims at overcoming the problem of using non-peer reviewed books written by local authors and published by local publishers as textbook or reference books instead of the NU recommended books. This strategy includes –

- Strict adherence to NU's recommended books as textbooks and reference books; and
- Undertaking initiative by NU for publishing and marketing books/journals.

Strategy 3.4: Develop functional relationships among BAC, NU, DSHE, and colleges

This strategy is to address the problems regarding the management of quality education in colleges. Currently, there is no assigned authority in colleges to coordinate with NU regarding management of quality of higher education. Under this strategy, activities are:

- Forming a permanent body within each college and assigning the body with responsibilities of quality management;
- Revising NU Act to enable each college to initiate the constitution of Institutional Quality Assurance Cell (IQAC);
- Aligning policies, procedures and activities of the Institutional Quality Assurance Cell (IQAC) of each college with those of NU's IQAC and ensuring coordination between them; and
- Adding a budget line for the IQAC.

Objective 4. Increased number of trained teachers

Strategy 4.1: Continuous professional development (CPD) opportunity

This strategy will address the problems of limited training opportunity of the teachers in colleges. Although NU has been providing subject-based training to the academics, the training opportunity is extremely limited. Key activities to accomplish this strategy are -

- Maintaining a budget line regarding teachers' training in each college;
- Introducing CPD in training institutions like NAEM, BPATC, NU, DU etc.; and
- Encouraging teachers to enroll in certificate programs at home and abroad.

The activities will create increased opportunity for training.

Objective 5. Improved and innovative performance evaluation system

The competent authority needs to take initiative to reform every step of students' performance evaluation system from setting question paper to result publication.

Strategy 5.1: Develop and implement innovative mechanism for question paper setting

To accomplish this strategy, following activities are proposed -

- Preparing guidelines for question paper developers;
- Preparing guidelines for answer script examiners; and
- Introducing a combination of subjective and objective assessment of students' performance.

Strategy 5.2: Establish strict check and balance in evaluating and marking answer scripts

This strategy is to overcome the problem of lost credibility of current student assessment processes. To accomplish this strategy, activities are as follows.

- Re-introducing two-examiner system to assess students' written exam scripts;
- Reducing examination time from 4 (four) hours to 3 (three) hours; and
- Replicating international good practices regarding formulation and implementation of student assessment.

Objective 6. Increased number of good quality graduates

Strategy 6.1: Update curriculum and align degree programs with employers' demand and market needs

This strategy aims at addressing problems like non-relevance of degree programs in the local and global economy. Here, the focus is on increasing the market relevance of degree programs to facilitate skills acquisition in subjects that are of high demand in the job market. It includes following activities:

- Knowledge creation and sharing about skills demand in the job market;
- Introducing dual degree programs in combination of general degree program and soft skill development program;
- Introducing college-specific non-credit skills development courses; and
- Training the teachers to develop soft skills of students.

Strategy 6.2. Education-industry collaboration for graduate internship

This strategy aims at creating an effective graduate internship program. To implement the strategy following activities are suggested:

- Setting up a dedicated center staffed with required workforce like Industry Liaison Officer in each college to support the internship program; and
- Signing Memorandum of Understanding (MoU) between National University and Industries for internship programs.

Objective 7: Dual study programs consisting of academic programs and apprenticeship in selected disciplines of Science, Technology, Commerce and Business disciplines.

Strategy 7.1: Revised academic degree programs offered by NU

This strategy aims to introduce a new concept designed in the light of the successful "Dual Degree Program" model offered to German students. This strategy includes following activities:

- Developing dual degree programs by the NU Academic Council; and
- Conducing study to get an insight of apprenticeship opportunity

Strategy 7.2.: Regulatory framework to support dual academic degree programs

To implement the new concept of dual degree programs regulatory framework needs to be designed and partnership agreement with business associations has to be initiated. Therefore, this strategy includes the following activities:

- NU sign MoU with industries/ trade organization for apprenticeship opportunity
- UGC/Government enact law to support dual degree program

Risk and Assumptions

It is important to note that quality is not static. With changing environment and advancement of technology, it needs to be dynamic and always endeavor for excellence. Quality assurance must be understood within the framework developed by BAC. Delayed engagement of BAC with the affiliated colleges appears to be a significant risk factor. Furthermore, the prevailing political culture of the country that practices unplanned expansion of higher education institutions may hinder planned expansion of teaching and learning in higher education.

5.2.3. Management of Higher Education Colleges

Broadly, by management type, the higher education colleges are of two types – (i) government college and (ii) non-government college; and the non-government colleges are of two types - (i) government aided (or Monthly Payment Order listed) colleges and (ii) self-financed colleges. Out of the total number of higher education colleges affiliated with NU, 15 percent colleges are government-managed and the remaining 85 percent colleges are privately managed (BANBEIS, 2018). This sub-section describes the situations of management of the colleges affiliated with NU.

Current Situations

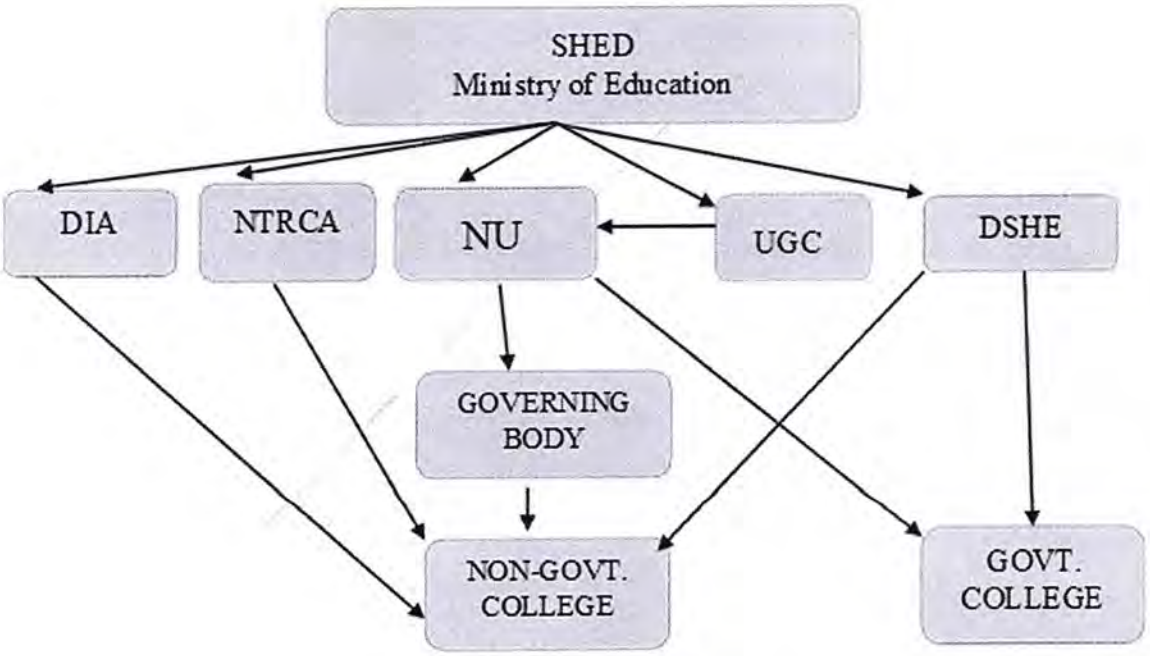
Existence of multiple controls and inadequate coordination. Three key agencies manage personnel and financial matters of the colleges: SHED, NU and DSHE. In addition, NTRCA and DIA manage personnel and financial matters of the non-government colleges directly. Thus, multiple controls are in existence regarding the management of higher education colleges.

The linkage among the key agencies is presented in Figure 5.2. SHED is the highest management and policymaking body. Along with SHED, DSHE is also responsible for the management of government colleges and implementation of government policies. NU is an

autonomous body/entity responsible for the management of the academic matters of the higher education colleges. However, the responsibility of managing academic matters of intermediate colleges lies with the Board of Intermediate and Secondary Education.

There exists no formal mechanism for ensuring coordination among these government agencies. However, some sort of informal coordination exists. NU is accountable to UGC for matters pertaining to the management of the university itself. However, NU is not accountable to UGC for matters related to the management of the colleges. To elaborate the matter further, there is no horizontal relationship among UGC, DSHE and NU. Although there is representation of SHED and DSHE in the Academic Council and the Senate of NU, coordination between the management bodies in discharging responsibilities in their respective areas is very weak (CEDP, 2021c).

Figure 5.2 Linkage among the agencies



Existence of multiple legal frameworks for personnel and financial management. Rules and regulations regarding the management of the government colleges and the non-government colleges vary from each other. The underlying legal frameworks are: (i) Bangladesh Civil Service Recruitment Rules 1981; (ii) Bangladesh Civil Service (Examination for Promotion) Rules 1986; and (iii) Bangladesh Government Service Act 2018. Moreover, legal frameworks pertaining to the management of financial matters of the government colleges and government fund of the non-government colleges are:

Government Financial Rules (FRs); and Treasury Rules (TRs). DIA conducts auditing of the records of financial transactions in the non-government colleges.

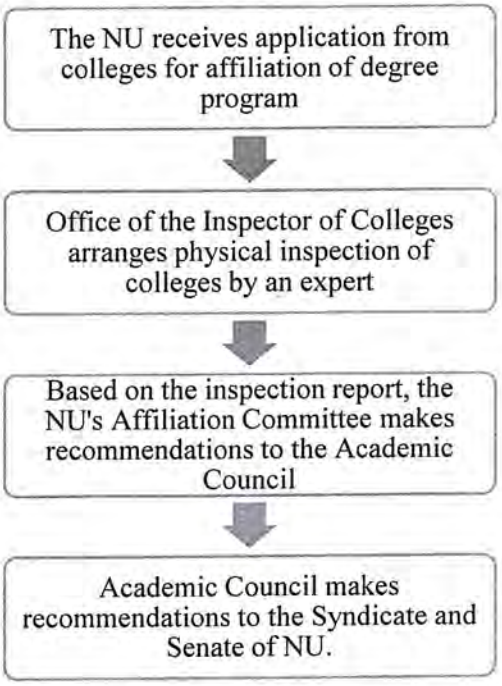
Apart from the NU regulations regarding service-conditions of non-government affiliated colleges, there is no known rules and regulations related to the management of non-government funds of the non-government colleges.

Co-existence of two different streams of education. Higher secondary education (otherwise is known as intermediate education) and higher education college education are completely two different streams of education. In Bangladesh, affiliated colleges run the two different streams side-by-side using the given stock of human and non-human resources. This situation is attributed to the current regulations for affiliation of colleges. Evidence indicates that the affiliation system of higher education prevails in many countries such as in India, Pakistan, Nepal, UK and USA. However, in these countries, coexistence of intermediate and higher education college education programs does not exist.

According to the NU Regulations for Affiliation of Colleges 2019, a college is eligible to apply for affiliation as Degree Pass college after its operation as intermediate college for 3 years. A Degree Pass college is eligible to apply for affiliation as Honors College after its operation as Degree Pass college for 3 years. NU's step-by-step process of affiliation of colleges is presented in Figure 5.3.

Because of the given affiliation process, a college starts functioning as a higher secondary college (intermediate college) after obtaining affiliation from the Board of Intermediate and Secondary Education. An intermediate college later is transformed into a higher education college after obtaining affiliation from NU. However, after obtaining affiliation as higher education college, the college in question never gives up higher secondary education program. Thus, the Regulations for Affiliation of College give birth to the coexistence of higher secondary education and higher education within the same campus. This is a historical problem that Bangladesh inherited from its British rulers.

Figure 5.3: A flow chart of affiliation process



Absence of organizational structure and shortage of staff: The acute shortage of administrative staff is a key problem of the higher education colleges. The colleges do not have administrative positions, such as Head of the Department; Proctor; Administrative Officer/ Section Officer; and Audit and Finance Officer. Some colleges are huge in terms of student number, where the Principal or the Vice-principal manages administrative, academic, financial and campus disciplinary responsibilities. For a principal to take on multiple roles and responsibilities seems unmanageable and cumbersome. Under the given circumstances, the principal of a college often assigns teachers with administrative responsibilities. This added responsibility increases teachers' workload and ultimately hampers their teaching.

The underlying reason for this situation is the lack of any approved official internal organogram at the college level with provisions for administrative positions. For instance, Head of the Department is never appointed officially. This position is a self-paced unofficial position. As a result, a teacher who carries out administrative responsibility as a Head of the Department is not entitled to claim any Charge Allowance for assuming additional responsibilities.

Lack of transparency in the functioning of the governing body. In the non-government colleges, only the Governing Body (GB) manages both personnel and financial matters. On the other hand, no GB is constituted in the government colleges. According to the existing NU Regulations regarding formation of GB in a non-government college, it requires a GB to consist of 15 (fifteen) members, including a Chairperson and a Member Secretary.

According to the background study, regarding the management of the non-government colleges, a GB barely practices good governance (CEDP, 2021c). Most of the activities of the GB are not transparent and there is lack of accountability. Although a GB holds scheduled meetings regularly, the body takes decisions as per the direction of the Chairperson. In most of the cases, the chairperson and the member secretary take decisions jointly before any meeting is held. Later, they share decisions with other GB members. The decision-making process in the GB is not democratic as the members cannot always freely participate in the decision-making process. About the management of financial matters, anecdotal evidence also indicates that a GB does not manage college's accounts i.e., a statement of revenue collection and fund disbursements with full accountability and transparency. Fund embezzlement by GB members through submitting false vouchers and statements of expenditures is not uncommon (CEDP, 2021c). Financial auditing is also sometimes unduly influenced by the Chairperson or the Member Secretary. Other issues that emerged in the situation analysis are: (i) GB does not present statements of income and expenditure correctly and (ii) it does not compensate academic and administrative staff from the college fund as per the NU regulations (CEDP, 2021c).

Dysfunctional Board of Directors and Board of Studies: NU Act 1992 has mandated formation of a Board of Directors to look after the management of the administrative matters, and a Board of Studies to oversee the management of academic matters of the colleges. The members of the two bodies are drawn from colleges and universities. Currently, the bodies are dysfunctional because of lack of administrative initiatives, and thus, this burdens the administrative officials of National University with academic management related affairs.

Core Problems

The management of colleges is characterized by weak coordination among the regulatory bodies (SHED, NU and DSHE), existence of diverse legal frameworks, absence of internal college organogram, insufficient number of non-teaching officials, non-transparent and unaccountable governing body, and, last but not the least, dysfunctional Board of Directors

and Board of Studies in NU.

Theory of Change

If the coordination among the regulatory authorities of the higher education colleges is formalized and strengthened, the colleges can get required number of teachers and administrative staff, an approved organogram, and transparent and accountable governing bodies. With these changes, the existing complexities arising out of the administrative affairs will no longer hamper the teaching-learning environment of the higher education colleges.

Goal, Objectives and Strategies

Goal: The overall goal is improved management structure endowed with adequate administrative and support staffs along with good governance practices across the colleges by the year 2031. The goal is broken down into several sub-goals or objectives, and to realize the objectives, some strategies and corresponding activities are drafted. Full description of the objectives, strategies, and activities are presented below.

Objective 1. Strengthened coordination between NU and DSHE

Strategy 1.1: Develop policy for systematic coordination between NU and DSHE

This strategy aims at overcoming weak coordination between DSHE and NU. Under this strategy, the required activities are -

- Holding seminars and workshops to build awareness among the stakeholders about the necessity of coordinated activities;
- Constituting a coordination body taking members from NU and DSHE; and
- Holding coordination meetings on a regular basis.

These activities will lead to increased coordination among the agencies responsible for the management of colleges.

Objective 2. Organizational chart (organogram) developed and operationalized for colleges

This objective is very desirable to overcome the existing weak management of colleges in discharging its administrative and financial responsibilities.

Strategy 2.1: Develop organizational structure

To accomplish this strategy, the required activities are -

- Preparing an organizational structure (organogram) for the colleges.
- Issuing official order for adoption and operationalization of the organizational chart.

Strategy 2.2: Develop policy

To accomplish this strategy, the required activities are -

- Conducting research and sharing findings;
- Holding dialogue with stakeholders related to the preparation of necessary legal framework

The activities will endow the colleges with adequate manpower, relieve college Principals from multiple roles in college management, and contribute to improving the management of the colleges.

Objective 3. Functional Board of Directors and Board of Studies[10] at National University

Strategy 3.1: Engage the Board of Directors and the Board of Studies as per provision of the NU Act

This strategy will address the lack of administrative initiative of NU in this regard. The strategy involves activities like-

- Constituting Board of Directors and Board of Studies as per NU Act;
- Assigning the Boards with specific duties and responsibilities including scope of work; and
- Establishing a monitoring mechanism to monitor the activities of both the Boards.

The active roles of these two bodies will create opportunity for teachers of the colleges to be engaged in the decision-making processes of NU.

Objective 4. Improved legal instrument to support affiliation of colleges

***Strategy 4.1:* Formulate and execute a national policy for affiliation of colleges**

To accomplish this strategy, the activities include -

[10] BoD (Board of Directors) is responsible for the management of administrative and financial matters of the colleges of NU; and BoS (Board of Studies) is responsible for preparation of syllabus, curriculum, and lists of examiners, management of admission into various courses etc.

- Holding dialogues with the government to influence the preparation of necessary legal framework;
- Developing a single legal framework like the Private University Act 2010;
- Developing and approving a national policy for affiliation of colleges; and
- Revising the NU regulations in line with the formulated national policy for college affiliation.

This will support the establishment and management of a college as an institution of higher education under a single Act like the Private University Act, 2010 and ensure that the colleges do not operate both the higher secondary education stream and the higher education stream simultaneously.

Objective 5. Transparency and accountability of the governing body institutionalized

Strategy 5.1: Develop rules and regulations clarifying the roles of the GB members

This strategy is expected to bring activities of a GB in non-government colleges under the supervision of NU and DSHE. To accomplish this strategy, the proposed activities are -

- Preparing detailed terms of references and/or scope of works of the members of GB; and
- Assigning responsibilities strictly following rules and regulations pertinent to financial management.

These initiatives will increase the transparency and accountability of the activities of the GB.

Strategy 5.2: Revised NU regulations for GB for reconstitution of GB to include members with adequate academic qualifications

- Reducing the size of the governing body from 15 to 10;
- Appointing an academician as the Chair of the GB; and
- Selecting members based on academic qualifications.

Risks and Assumptions

A sustaining education policy driven by evidence and supported by a strong political will is crucial to successfully reform the ongoing management practices in the

colleges. Any multifaceted and perplexing policy initiative and its implementation may impede the achievement of desired outcomes and results.

5.2.4. Financing and Financial Management of Colleges

In Bangladesh the government and households play significant roles in financing higher education. In FY 2020-21, the government allocated BDT 568,000 Crore (5,680 billion) for the education and technology sector. Out of the total allocated funds, the government allocated BDT 33,117 Crore (331.17 billion) to SHED, BDT 24,940 Crore (249.4 billion) to the Ministry of Primary and Mass Education (MoPME) and BDT 8,344 Crore (83.44 Billion) to the Technical and Vocational Educational Division (TVED)[11] accounting for a total of BDT 664.01 Billion. The share of education sector (excluding science and technology) was 11.69 percent of the national budget. In terms of individual share, allocation to SHED, MoPME and TVED were 5.83 percent, 4.39 percent, and 1.47 percent respectively. The following section describes current financing and financial management situations of colleges.

Current Situations

Financing higher education is not enrollment-based. In Bangladesh the government finances three types of higher education providers: public universities, government colleges and non-government colleges. In FY 2019-2020, the government allocated 0.37 percent, 0.14 percent, and 0.27 percent of the GDP (in constant price) to public universities, government colleges, and non-government colleges respectively (Table 5.4). In FY 2020-2021, the allocation to public universities increased by 0.02 percent (of the GDP in constant price), however, the allocation to the colleges remained unchanged.

In 2018, total enrollment in higher education was 24.41 percent of the eligible population (ages between 18 and 22 years), where the share of the National University was 17.48 percent (i.e., 29.4 lakh students), and the share of public universities was 1.77 percent (i.e., 2.97 lakh students) (Table 5.5). Having 17.48 percent contribution to the higher education, in FY 2019-2020, NU-affiliated colleges received only 0.41 (0.14 + 0.27) percent of the GDP, whereas public universities received 0.37 percent of the GDP. Despite

[11] Ministry of Finance, 2020

huge enrollment in colleges, the government allocation to the colleges was disproportionally low.

Table 5.4: Government budget allocation to higher education providers

	Total Allocation (Tk.)		Share of GDP (percent)	
Year	2019-2020	2020-2021	2019-2020	2020-2021
GDP (BDT)	11446,000,000,000	12072,500,000,000	-	-
Allocation to govt. colleges	15,526,705,000	16,773,439,000	0.14	0.14
Grants to non-govt. colleges	30,770,292,000	32,313,350,000	0.27	0.27
Allocation to public universities	42,900,000,000	47,012,700,000	0.37	0.39
Total			0.78	0.80

Source: Authors' calculation based on GoB's Mid-Term Budgetary Framework (MTBF), 2019-2020 and Bangladesh Economic Review, 2021

Table 5.5: Distribution of gross enrollment in higher education, 2018 by type of institutions

Higher Education Provider	Number of Students						Total population aged 18-22 years (2018)	Percent of population eligible for higher education (18-22 years)	Enrollment ratio (percent)
	Bachelor Pass	Bachelor (Honors)	Master's	M.Phil. & PhD	Others	Total			
Public University (43)	-	234,248	50,859	5,290	7,562	297,957	16,824,000	10.32	1.77
National University affiliated college	1,273,429	14,39,470	227,852	-	-	2,940,751	16,824,000	10.32	17.48
Open University	330,402	2,844	10,120	27	176,227	519,613	16,824,000	10.32	3.09
Private university (105)	7,408	291,940	47,503	-	2,309	349,160	16,824,000	10.32	2.07
Grand total						4,107,490			24.41

Data source: UGC (2020). *46th Annual Progress Report, 2018* (Islamic Arabic University and madrasahs are excluded); BBS (2015), Population project of Bangladesh. Total estimated population stands at 163,046,100.

Per student government allocation is insufficient. Per student government budget allocation varies significantly across government colleges, non-government colleges and public universities (CEDP, 2020a). In FY 2018-2019, government allocated a total of BDT 15.53 billion and BDT 30.77 billion to government and non-government colleges respectively (CEDP, 2020a, p. 18) against the total number of students (including intermediate students) of 2,194,430 and 2,084,011 (BANBEIS, 2019, pp. 194). The per student government allocation stands at BDT 7,075 and BDT 14,765 in the government and non-government colleges respectively.[12] This implies that the government allocated two times more resources per-student to the non-government colleges compared to the allocations to the government colleges.

Since the government's decisions regarding budget allocations are not made based on enrollment pattern, hence with an increasing number of students, the estimated government allocations per student declines. The amount of government budgetary allocations causes an unsatisfactory state of teaching-learning environment in the colleges.

Share of tuition fee is negligible in a government college. In a government college, monthly spending on tuition fee is BDT 25 only (i.e., BDT 300 per year) and yearly spending on other fees are BDT 2,700. Other fees include union fee, sports fee, seminar fees etc. In total, a household spends around BDT 3,000 per year, where the share of tuition fee is 1.81 percent of the total college education spending[13].

Households bear a large portion of college education expenditure. Although the tuition fee of government colleges is low, a household must make a significant amount of out-of-pocket expenditure for registration fee, admission fee, private tutoring fee, transportation cost, clothing cost, and campus accommodation (BBS, 2015). According to the BBS's survey, a household's yearly spending is in-between BDT 24,122 to 26,388 per student per year. That means a household's yearly spending is on average BDT 25,299 per student per year.[14] A household's yearly spending is BDT 18,000 per student, if private tutoring/coaching fee is excluded. By the heads of expenditure, the share of tutoring/coaching is 29 percent, the share of tuition fee is 10 percent, and the share of admission, registration and admission is 17 percent (BBS, 2015, pp.57). The estimated

[12] The figures are calculated by dividing the total government allocations by the total number of students.
[13] The share of tuition fee in the total expenditure instead of total college income is calculated, because like public universities. government colleges could not withhold income.
[14] The calculation carried out is as follows: {(Tk. 24,122.00 + Tk.26,388.00) ÷2}. According to the Household Income and Expenditure Survey, 2016, household spending on tertiary education per student was Tk. 28,491.

cost-sharing between a household and the government is approximately 62 percent and 38 percent[15] respectively.

Because of the high share of out-of-pocket expenditure, students from low-income households face financial constraints to continue education up to the (under)graduate level. This cost-situation sometimes causes parents to adopt a selective approach between son and daughter for providing higher education to their children.

Government colleges have limited authority to mobilize resources. A government college is unable to mobilize resources from external sources, and withhold operating revenues[16] from internal sources, such as tuition fee, admission fee, registration fee and the income from sales of college assets or services.

Upon collection of operating revenues, including the fees, a government college is supposed to deposit the collections in the designated account of the government immediately. However, by law, a government college can keep non-operating revenues (or welfare funds) paid by students against specific activities such as student union activity, sports activity, magazine publication, study tour, religious activities etc. A government college cannot spend non-operating revenues for any purpose other than student welfare related activities without approval by the concerned authority. As a result, the government colleges remain dependent on the government for financial support.

The MPO system has inherent weaknesses. Monthly Payment Order (MPO) has been financially supporting the non-government college teachers who teach at the intermediate and degree (pass) levels. MPO system provides partial job security and financial solvency to college teachers. However, not all teachers at the non-government colleges receive financial support under the MPO. To be listed as a beneficiary under the MPO, a teacher requires strong political and administrative lobby. Apart from that, other weaknesses of the system are: (i) weak institutional autonomy; (ii) poor inter-college competitiveness regarding good quality teaching and learning services; and (iii) lack of teacher's motivation to improve knowledge and teaching skills.

Weak policy support to make student loan program successful in Bangladesh. As a household's out-of-pocket spending on higher education is high, many households find the spending a burden, and consequently, look for student loan as a coping strategy. In the

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[15] Total spending on college education was (TK. 18,000.00 + Tk. 10,920.00) = Tk. 28,920.00, where the share of a household was 62 percent, and the share of the government was 38 percent.

[16] 'Operating revenue' means revenue generated from operational activities of a college. This includes revenue in exchange of service delivery and sales of assets.

past, some private commercial banks used to sell student loan as consumer loan product following the guidelines of Bangladesh Bank (BB). However, the loan product did not get popularity because of lack of borrowers' interest. The underlying reason for the unacceptance was that student loan was classified as consumer loan instead of being categorized as an investment loan as per the guidelines of BB. As a matter of fact, potential borrowers felt that the terms and conditions were not suitable for them, so they preferred borrowing from their relatives rather than from commercial banks.

Core Problems

Financing higher education colleges, particularly government colleges, by the government is disproportionately low. Moreover, resource mobilization from internal and external sources is extremely limited. Household spending on higher education as out-of-pocket expenditures is high. Finally, the access to institutional credit facilities is unavailable to meet financial need.

Theory of Change

If the government colleges receive a greater share of government's budgetary allocation and have legal mandate to mobilize resources from internal and external sources, the colleges can overcome the problems related to fund shortage. Access to institutional credit facilities and endowment fund are two innovative approaches that could contribute to an improved financial situation of the colleges and enrollment of more students from financially weak background.

Goal, Objectives, and Strategies

Goal: The overall goal is increased funding for colleges, thorough more allocation from the government side, increased opportunity for resource mobilization by the colleges, and finally, access to institutional resources by needy students or their parents by the year 2031.

The goal is broken down into several sub-goals or objectives. To realize the objectives, corresponding strategies and activities are described here.

Objective 1. Increased amount of government allocation for government colleges

Strategy 1.1: Policy advocacy for increased share of government education budget

This strategy aims at overcoming the problem of insufficient and disproportionate government funding among the two types of higher education providers: colleges and universities. This strategy includes activities-

- Engaging media, academic community, and civil society to build awareness for increased allocation; and
- Conducting studies to create knowledge and disseminating knowledge among the decision-makers for shared learning about the short-fall of resources in colleges.

The activities will create favorable government policy for higher education colleges in terms of allocation of government resource.

Strategy 1.2: Capacity development (colleges and DSHE) in budget preparation and management

This strategy is to address weak capacity of colleges and DSHE in budget preparation and budget management. To accomplish this strategy, required activities are-

- Holding training workshops for all concerned officials of DSHE and colleges responsible for preparation and management of budget;
- Preparing training manual for Foundation Training Program of the B. C. S. (General Education) Cadre officials; and
- Making adequate budget allocation for continuous training.

These activities are expected to enhance institutional capacity of organizations responsible for budget preparation and budget management.

Objective 2. Increased opportunity for colleges to be self-reliant financially

NEP- 2010 and PP2041 have recommended increased participation of households and private bodies in financing higher education. NEP- 2010 specifically suggests for determining "tuition and other fees as per the financial solvency of parents" (Pg.-24, NEP-2010). To achieve the objectives the following strategies are proposed-

Strategy 2.1: Supportive policy for income contingent fee

To accomplish this strategy, required activities are -

- Holding national seminars and workshops on income contingent fee policy;
- Undertaking research to create knowledge and to disseminate findings for shared learning; and
- Formulating law, if required, to implement income contingent fee policy.

The income contingent fee policy will ensure that financially advantaged students pay more, and disadvantaged students pay less, considering the principle of equity and justice.

Strategy 2.2: Supportive policy regarding resource mobilization from internal and external sources by the government colleges

This strategy, if implemented, would empower government colleges to retain tuition and other fees paid by students and mobilize resources from external sources. To accomplish this strategy, required activities are-

- Adopting new rules and regulations if there is none;
- Revising financial rules and regulations regarding the financial management of government colleges;
- Implementation of revised rules and regulations;
- Creating mandatory alumni list and regularly updating; and
- Encouraging creation of alumni fund at the college level.

The activities will place government colleges on legal foundation to become financially self-reliant, and thereafter will reduce dependency of colleges on government resources.

Objective 3. Reduced out-of-pocket expenditure of households to finance higher education of their children

Strategy 3.1: Financial support for disadvantaged students

This strategy addresses demand-side constraints pertaining to higher education of the students from poor households. To accomplish the strategy, required activities are -

- Scholarship for poor students who cannot bear the cost of higher education.

Strategy 3.2: Access to off-campus online model of teaching and learning

This strategy ensures access to the blended learning model and addresses the financial side related to this new model of teaching.

- Developing blended education facilities in colleges;
- Making blended learning accessible to all; and
- Creating blended learning resource hub with access for all.

Strategy 3.3: Reduced dependency on private coaching

According to the baseline survey conducted by BIDS (2019), 48 percent of the worktime of a teacher is devoted to teaching, and no time is devoted to student consultation. This strategy will address the issue of increasing dependency of students on private coaching. To accomplish the strategy, proposed activities are-

- Ensuring that classes are held regularly, and lessons are delivered properly; and
- Arrangement for special teaching assistance for academically low achievers.

Strategy 3.4: Access to low interest-bearing student loan

The strategy addresses demand-side constraint of higher education, pertaining to upfront payment of fees. This will create an opportunity for households' access to cash credit. Proposed activities are-

- Supportive policy by Bangladesh Bank (BB) regarding student loan; and

If these activities are implemented, households will have new and better opportunity to meet the need of immediate cash.

Objective 4. Improved system of funding for non-government higher education colleges

Strategy 4.1: Endowment fund for non-government higher education colleges

This is one of the policy options for non-government colleges in place of MPO to confirm that every non-government eligible teacher is on the lists of beneficiaries. Typically, endowment fund allows spending of income generated from the endowment. To comply with this strategy, required activities are-

- Formulating supportive public policy for improved funding policies;

This kind of funding mechanism will be useful to cover every teacher at the non-government colleges instead of a small segment of them. Thus, distributional justice will be achieved.

Strategy 4.2: Enrollment-based funding for higher education colleges

This strategy aims at developing a system to allocate government resources among the colleges based on basic principle of social justice and equity. Theoretically, two types of formula are used: enrolment-based funding and performance-based funding. Enrolment-based funding assures equitable distribution of resources per student across the beneficiary colleges, and performance-based funding assures inter-college competition for enhanced quality of education. Under this strategy, activities are-

- Carrying out research studies to know about the impact of MPO on students and teachers; and
- Arranging stakeholder meetings to work on funding based on student-teacher ratio.

This will ensure efficient use of public resources/funds in areas that need immediate attention.

Risks and Assumptions

Political commitment is a critical input in achieving desired results. It is unlikely that increased national income goes hand in hand with increased education spending. Furthermore, contesting sectors of the economy for government budgetary allocation and the government's changing priority are key external factors likely to influence the achievement of desired outcomes.

5.2.5. Science, Technology and ICT in Education

NEP- 2010 has recommended increased enrollment in science and technology education to meet the needs of the digital economy. Undoubtedly, the emerging 4th industrial revolution (4IR) will require increased number of graduates in science and technology-related disciplines. The following sub-section describes the current situations of the higher education colleges about science and technology education.

Current Situations

A meagre share of students is enrolled in B.Sc. (Honors) and B.Sc. (Pass) degree programs. In 2015, out of the total students enrolled in undergraduate (honors) degree programs, only 17.64 percent students were admitted in B.Sc. (honors) in the government colleges and 3.84 percent students were admitted in the non-government colleges (CEDP, 2021d). On the other hand, 19 percent students were admitted in B.Sc. (Pass) in the government colleges and 6 percent students enrolled in the non-government colleges. Thus, as a percent share of total students enrolled, enrolment in B.Sc.(honors) (21.48 percent), and B.Sc. (Pass) (25 percent) was relatively low.

The underlying reason can be explained by supply-side constraints and demand-side constraints. Supply-side constraints mainly include limited choice of subjects in science and technology disciplines. A few colleges offer undergraduate program in science and technology. On the other hand, demand-side constraints mainly include students' apathy toward studying science, that is correlated with laboratory work and extra household costs incurred for science education.

The enrollment trend in B.Sc. (honors) is rising in the government colleges and declining in the non-government colleges. Enrollment trend presented in Table 5.6 shows

that the share of students enrolled in B.Sc. (honors) rose marginally in the government colleges (from 17.64 percent in 2015 to 18.66 percent in 2019) but declined marginally in the non-government colleges (from 3.84 percent in 2015 to 2.70 percent in 2019). The underlying reason was that a few non-government colleges were offering undergraduate degree honors programs in science across the country.

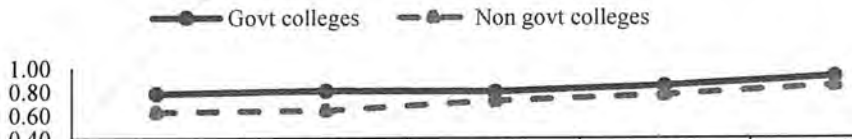
Table 5.6: Enrolment trends, 2015-2019

Year	Undergraduate (honors) program in government colleges (Percent of the total students admitted)		Undergraduate (honors) program in non-govt. colleges (Percent of the total students admitted)	
	Science	Others	Science	Others
2015	17.64	82.36	3.84	96.16
2016	18.12	81.88	3.94	96.06
2017	18.54	81.46	3.74	96.26
2018	18.66	81.34	2.77	97.23
2019	18.88	81.12	2.70	97.30

Source: National University ICT Division. Year 2021.

Gender parity in enrollment in science and technology related disciplines is getting better gradually. Gender parity index (i.e., male to female enrolment ratio) improved in both government and non-government colleges (CEDP, 2021d). In government colleges, the estimated parity index rose from 0.78 in 2015 to 0.92 in 2019. In non-government colleges, the estimated parity index rose from 0.62 in 2015 to 0.85 in 2019 (Figure 5.4).

Figure 5.4: Trend of parity indices, 2015-2019



	2015	2016	2017	2018	2019
Govt colleges	0.78	0.80	0.80	0.84	0.92
Non govt colleges	0.62	0.64	0.72	0.76	0.85

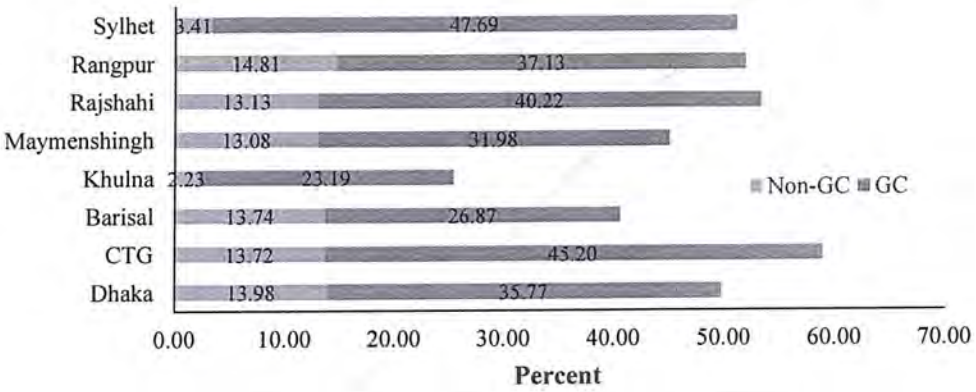
The trend lines in Figure 5.4 show that more and more female students are enrolling in science and technology-related degree programs in both government and non-government colleges.

Regional disparity in enrollment in science and technology related academic programs exists. Considering enrollment in science and technology related academic programs, Khulna Division lagged all other divisions. In 2019, the shares of students enrolled in the

undergraduate programs in science in the government and non-government colleges of Khulna Division were 23.19 percent and 2.23 percent respectively (Figure 5.5).

The government colleges in the Sylhet Division enrolled the highest number of students (47.69 percent), whereas the non-government colleges in Rangpur Division enrolled the highest number of students (14.81 percent). Khulna, and Barisal Division lag other divisions in terms of enrollment of students in science and technology related subjects, while Chattogram and Rajshahi led the list. This disparity might be attributed to availability of seats in colleges, shortage of teachers in science subjects, and quality of laboratory facilities in colleges. The situations of disparity in enrollment in science and technology subjects warrant special interventions for the higher education colleges in the regions lagging behind.

Figure 5.5: Share of students enrolled in science and technology by divisions



Data source: National University ICT division, 2021

The subject choices available for pursuing (under)graduate studies in science are limited to Botany, Chemistry, Physics, Mathematics, and Zoology. Students who enrolled in Bachelor's (honors) programs in science in the higher education colleges must choose one out of a handful of science subject choices, namely among Botany, Chemistry, Computer Science, Physics, Mathematics, Statistics, Soil Science, Zoology, and Statistics. Hardly any technology related subject is offered at the undergraduate and graduate levels.

Mathematics is the most popular discipline of study in the government colleges. In 2019, out of total number of students admitted in undergraduate (honors) programs in science, 25 percent were in Mathematics, 20 percent were in Botany, 20 percent in Zoology, 17 percent in Chemistry and 18 percent in Physics, implying that Mathematics is the most popular subject among science subjects. The situations might be attributed to the wider scope of job opportunities for mathematics graduates.

Zoology is the most popular discipline of study in the non-government colleges. In the non-government colleges, out of the total students admitted in undergraduate (honors) programs in science disciplines, 32 percent were in Zoology, 29 percent in Mathematics, and 24 percent in Botany, 8 percent in Chemistry and 7 percent in Physics, indicating that Zoology is relatively a popular field of study in non-government colleges.

Students' and teachers perceived levels of satisfaction about academic environment is low: Inadequate classrooms, laboratory and library facilities are the key problems of most of the colleges. Apart from inadequate classroom spaces, dilapidated laboratories plagued by a scarcity of equipment and poor library buildings with insufficient books are the next most common complaints made by teachers and students at the colleges.

Technology education is extremely limited to a handful of non-government colleges. Undergraduate (honors) programs in technological disciplines for example- Aviation Science and Engineering, Computer Science and Engineering, and Fashion Technology etc. are available only in a limited number of non-government institutions (CEDP, 2021d). The government colleges do not offer any undergraduate program in technology. Although a handful of non-government general and professional colleges are offering undergraduate programs in electrical and communication science, computer science, fashion technology, and aviation science and engineering, these colleges had acute shortage of teachers and well-developed facilities.

The use of ICT in education is unsatisfactory: The use of ICT in education in higher education colleges is multidimensional: the use of ICT by students and the use of ICT by the teachers. Overall, the use of ICT is unsatisfactory (CEDP, 2021d). In the colleges, campus network and dedicated internet connectivity for teachers and students are missing. Even where they are available, the quality of service is not satisfactory, and the bandwidth is also low. In all cases, the access to internet connectivity inside the campus is limited only to teachers and administrative staff, leaving the students community out of the coverage.

Bangladesh Research and Education Network (BdREN) is unavailable within campus: BdREN is a high-speed data-communications network that is independent of commercial internet and dedicated to meet the needs of academics and research communities of both public and private sectors. BdREN with its multi-gigabit capability aims at connecting all universities, research institutions, libraries, laboratories, healthcare and agricultural institutions across the country and support geographically dispersed academics, students,

scientists, and researchers with reliable access to high-end computing, simulation tools and datasets. With a view to getting connected through BdREN, recently UGC has entered into a contract with Power Grid Company of Bangladesh (PGCB) Ltd. for its country wide optical ground wire (OPGW) network. Being academic institutions, colleges are expected to reap the benefit of existing infrastructure facilities of BdREN stretched in many districts.

Core Problems

A limited number of colleges offer undergraduate programs in science and technology subjects. Wherever undergraduate programs are available, subject choice is limited. Insufficient physical facilities to support science and technology education, and shortage of qualified teachers are some of the problems of higher education colleges.

Theory of Change

With an increased number of colleges offering (under)graduate programs in science and technology education with more subject choices, and financial incentive for students who desire to study in science and technology can together contribute to increased enrollments in science and technology. Moreover, increased use of ICT in education by teachers and students is achievable if both are trained in the use of ICT, and the campuses have dedicated internet connectivity provided by BdREN.

Goal, Objectives, and Strategies

Goal: The overall goal is increased number of graduates from science and technology disciplines along with increased use of ICT in teaching and learning by the year 2031. The goal is broken down into a few sub-goals or objectives. To realize the objectives, several strategies and corresponding activities are proposed which are as follows-

Objective 1. Increased enrollment in science and technology discipline

Strategy 1.1: Financial support for needy students enrolled in science- and technology disciplines

This strategy is to intervene in the demand side with a view to raising individual demand for undergraduate programs in science and technology. To accomplish this strategy, key activities include -

- Appropriate stipend/scholarship support programs; and
- Free tuition fee support for students enrolled in undergraduate science degree programs in non-government colleges.

The financial incentives will motivate students to choose undergraduate program in science disciplines.

Strategy 1.2: Development of college capacity in offering degree programs in science and technology subjects

This strategy is to overcome physical and non-physical constraints of the colleges in offering degree programs in science and technology. It includes activities such as-

- Developing physical facilities including laboratory, campus network and e-library, and obtaining BdREN connectivity;Creating academic and supporting staff positions and recruiting in these positions;Organizing subject teachers' training programs for teachers at colleges; and
- Motivational programs to attract students to study in science and technology related disciplines.

Better laboratory environment and capable teachers will make learning easier, and attractive to students and in turn more students will be interested in studying science and technology.

Strategy 1.3: Enhancement of scope to study science and technology related degree programs in higher education colleges

The scope of science and technology education may be expanded through horizontal and vertical expansions of seats in colleges. The former can be realized by granting permission to new colleges devoted to be to science and technology education only; and the latter can be realized by granting permission for undergraduate programs in science and technology where there is none. Under this strategy, the activities are-

- Affiliating undergraduate programs in science and technology on priority basis; and
- Building capacity of the colleges in delivering degree programs in science and technology;

These activities will create enhanced opportunity for science and technology education in both the government and non-government colleges.

Objective 2. Improved gender and regional equity in enrollment in science and technology related disciplines

Strategy 2.1: Targeted financial supports for disadvantaged students

To promote diversity and inclusion in science and technology education, financial support program is expected to be effective. Under this strategy, the key activity is -

- Launching sustainable stipend programs, up to graduate level, for students from underrepresented areas.

Financial support to disadvantaged students will reduce households' burden of increased costs for higher education in science and technology.

Strategy 2.2. Prioritizing affiliation of degree programs in colleges located in disadvantaged divisions

To eliminate regional disparity, colleges of lagged areas should be given priority to affiliate degree programs. This strategy includes activities like-

- Mapping out colleges where there is capacity to offer degree program in science and technology; and
- Allocating additional teaching and non-teaching resources to colleges where there is a shortage of resources.

If these activities are performed, more students from disadvantages locations will have opportunity to study in a subject of their choices.

Objective 3. Enhanced teaching and learning opportunities through blended learning

Strategy 3.1: Encouraging colleges to utilize their technology resources for blended teaching

This strategy is to increase the use of blended teaching option in teachers and for colleges to create scope for inclusion of blended mode.

- Providing ad hoc training on using technology to teachers when needed
- Incentivizing the use of blended learning tools for teaching

These activities will build confidence and interest in teachers to incorporate blended teaching.

Strategy 3.2: Opportunities for online and in-person learning for students

Through this students will be informed about the scope of online learning and the use of blended learning to improve the quality of education.

- Creating awareness in students on the availability of online resources and its ethical use.
- Accessibility to blended learning opportunity

- Providing access to online learning resources in colleges to supplement in-person learning

These activities will enable students to explore and correctly utilize online resources and benefit from blended learning opportunities.

Objective 4. Increased use of ICT in delivering education

Strategy 4.1: Enhancement of skills of the teachers in using ICT as a tool for teaching-learning

This strategy is to address skill shortage of the teachers in using ICT as a tool in teaching and learning. Key activities under this strategy include-

- Developing the existing training facilities and establishing new training centers regionally;
- Holding training workshops for the teachers regarding use of ICT as a tool in delivering lessons (for example, online teaching delivery, preparation and uploading of digital learning content, and using email as a mode communication).

These activities will enhance ability, knowledge, and opportunities of teachers in using ICT.

Strategy 4.2: Development of online resources

This strategy will address the crisis of online resources. Under this strategy, proposed activities are-

- Developing digital resources and making them available online; and
- Creating Content Bank and sharing it with teachers.

These activities will help students to get opportunity to learn from qualified teachers and enriched content and will have more study materials to learn at a pace suitable for individual need.

Strategy 4.3. Establishment of sustainable campus network and internet connectivity

This strategy is for ensuring that BdREN expands its operations to colleges across the country. This strategy includes-

- Signing memorandum of understanding (MoU) with education resource and content creators and service providers.

These activities will ensure availability of reliable internet connection inside the college campuses across the country that will create opportunity for increased use of ICT in education.

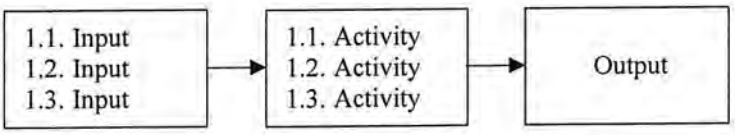
Risk and Assumptions

Infrastructure development pertaining to science and technology education is the prime need of the colleges. In the contexts of low government budgetary allocation, resource mobilization from the external sources like developing partners should play an alternative crucial role in this regard. However, under the given domestic constraint, mobilization of resources from the external sources is often constrained by global economic and non-economic crises.

6. IMPLEMENTATION, MONITORING AND EVALUATION

This chapter provides a comprehensive guideline about the implementation, monitoring and evaluation of the National Strategic Plan for Higher Education Colleges. Implementation is all about taking actions to achieve results. The implementation phase consists of inputs, activities, and outputs. The relationship among the three phases is shown in Figure 6.1. The work plan to implement strategies and activities is attached as Annex 1.

Figure 6.1: Implementation phase



6.1. Implementation Approach and Program Management

6.1.1. General Approach

Project approach and program approach are two types of approaches that are used to implement development plan globally, including Bangladesh. The United Nations

General Assembly introduced the concept of Program Approach in its resolution 44/211 of 22 December 1989 to tackle uncoordinated activities implemented under different projects for long. It is observed that activities of similar kinds are implemented under different projects that cause wastage of scarce resources. In Bangladesh, SHED has undertaken this approach to implement planned activities under the Secondary Education Development Program (SEDP) to bring about changes in the secondary education sector. Since the Program Approach entails several schemes or projects, project or scheme selection is extremely crucial for generating desired results.

In the contexts of resource constraint environment, projects or schemes should be adopted, considering those critical areas that need immediate intervention and are consistent with the strategic plan as well as national and international goals. However, along with adopting projects or schemes, efficient management of the projects or schemes should be given top priority.

According to the RBM approach, the principles to guide implementation are as follows:

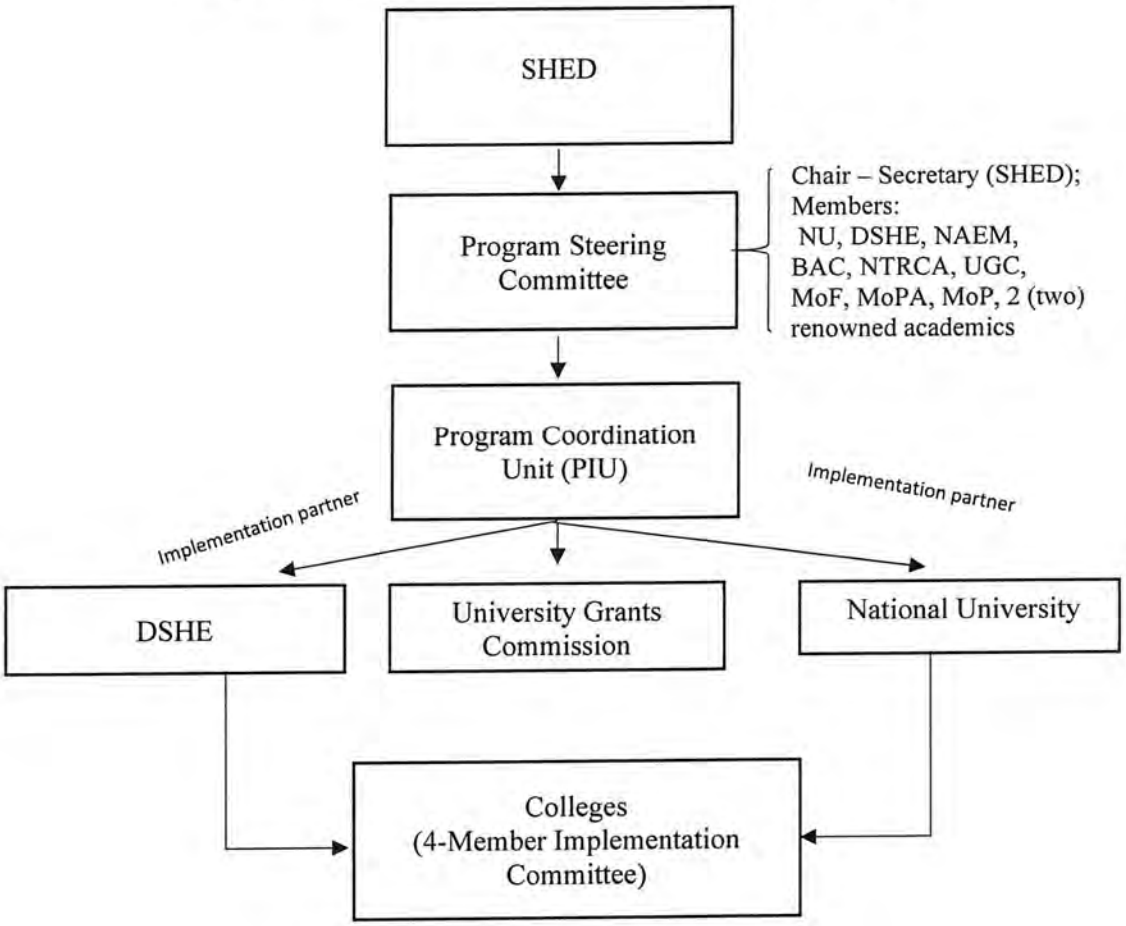
a) ***Stakeholder participation:*** Engaging stakeholders is a key element during implementing scheme and thereby building ownership of the program or project. Therefore, engaging colleges is the best option to attain the goal.
b) ***Iterative process:*** One of the notable advantages of results-based management is being flexible with strategies and activities. If any activity is not yielding desired result at the output and outcome levels, the activity can be modified based on the lessons learned from the failures.
c) ***Transparency:*** Transparency should be ensured at the outset while projects or scheme are selected and designed. In the processes and management of programs, projects or schemes will be undertaken transparently.
d) ***Efficiency and effectiveness:*** In the resource constraint environment, value for money is crucial and fundamental to ensuring both efficiency and effective use of resources.
e) ***Evidence-based:*** Evidence based on data or information, or experience should be used to choose implementation modalities such as project cost, project duration, and project ownership etc.

6.1.2. Implementation Modality

The strategic plan may be implemented by one or more government departments and non-government organizations. Under the program management approach, management structure pertaining to the implementation of programs and projects or schemes under the program is presented in Figure 6.2. SHED will sponsor and oversee the implementation of the strategic plan through its existing structure. DSHE, UGC, NU and the Colleges will be the implementation partners, and will take part in the project or scheme selection processes.

As identified in the background analysis, lack of coordination among the key agencies, particularly NU and DSHE is a critical issue that would pose challenges to the implementation of the plan, and, therefore, a Program Steering Committee (PSC) should be constituted with the Secretary of SHED in the Chair to oversee the implementation process.

Figure 6.2: Management and implementation modality



Understanding that involving beneficiaries is critical to the implementation of the plan, engagement of the colleges as implementing partner is an innovative idea. Since

colleges do not have any Planning and Development Wing like the public universities, in each college a four-member committee can be constituted with the Principal of the college as the Head of the committee.

The rationale for involving colleges as implementing agencies springs from the fact that a good number of colleges (120 colleges so far) have already been implementing sub-projects under the CEDP. CEDP has developed project implementation capacities of the selected colleges. It is anticipated that more colleges will have improved capacities too. In future, these colleges can leverage their expertise to implement big projects under an umbrella program. However, the colleges that have not gained expertise in project management may be trained in project management before assigning them with these responsibilities.

For effective implementation and delivery of desired results, a Program Coordination Unit (PCU) under the leadership of Chief Coordinator (CC) will be constituted. The PCU will work independently, directly under the supervision of SHED. The PCU will report progress regularly to the Chief Executive Officer (Secretary of SHED), who will work to mobilize resources for the program whenever it is required. The PCU will make action plans to carry out activities as it is agreed, monitor progress against the set targets, and communicate results with relevant agencies.

6.1.3. Funding Implementation Works

This sub-section highlights the funding modalities and operational procedures to be followed in implementing the strategic plan. The government may finance the plan by mobilizing resources from domestic and development partner sources. It is expected that the development partners will come up with assistance plans that are timely, transparent and comprehensive. Funds committed by the development partners for financing the implementation of strategic plan may follow sector wise budget support. In order to avoid overlapping of activities and conversing scarce resources, sector-wide approaches sound appropriate. Currently, the government has been implementing Secondary Education Sector Development Project (SESDP) with the framework of sector-wide approach to deliver results in the secondary education sector. In line with the ongoing practice, further initiative may yield results in the higher education college development.

The sector-wise budget supports are earmarked for education sector only, although the funds are channeled through the Ministry of Finance (MoF). The earmarking of the

funds in sector-wise budget support ensures that funds are spent rather than retained in the central bank as reserve currency (WHO, 2008). The size of sector-wise budget support depends upon general sector policy document, mid-term expenditure framework, and a coordination mechanism.

6.2. Monitoring and Evaluation

Monitoring is an important part of implementation of a program. The implementing agency will assess progress toward the planned results through monitoring, and also determine three major issues through data collection, assessment and reflection:

- Whether the activities are appropriately directed toward implementing a program as planned;
- Whether the implementing agencies are achieving planned results; and
- Whether adjustments need to be made in the program.

Monitoring is a compulsory, continuous and regular process that aims to track the different constitutive elements of the project, in order to achieve the project's objectives. The goal is to ensure delivery of a good quality service to the affected population. Broadly monitoring is carried out at two levels: implementation monitoring and result monitoring. The implementation monitoring, consists of inputs, activities, strategies and outputs.

In this plan, monitoring will generate data that would serve as sources of information. The data will be used to take information about the relevance, efficiency, impact and sustainability of activities pertaining to outputs and programs to inform actual and future policy options. The information will be used to correct actions, if required, to implement activities and programs. The process will be carried out at different levels from the program implementation unit to college levels. The key guiding principles of the monitoring and evaluation will be-

- Participatory approach;
- Producing quality data;
- Evidence-based decision making; and
- Capacity development.

Monitoring and evaluation process must be inclusive and participatory where stakeholders must take part in the conceptualization and implementation. The data would be generated at different levels of the system and in different forms. The focus should not be only on the collection of data, but it will be ensured that the collected data are analyzed, and decisions are made for further learning.

On the other hand, effective evaluation allows to gather, analyze, and use evidence to learn and improve programs. An evaluation is an assessment, as systematic and impartial as possible, of an activity, project, program, strategy, policy, topic, theme, sector, operational area, or institutional performance.

The evaluation should follow a theory driven by the theory of change, to be developed by the evaluation team, considering the Strategic Plan's theory of change but focusing on the assumptions identified by the evaluation and in alignment with the evaluation questions. The main criteria for program evaluation will be –

- Coherence, clarity, and relevance;
- Effectiveness;
- Efficiency; and
- Sustainability.

An evaluation team will assess the requirement of data, methods of data collection and data analysis.

Monitoring and evaluation framework should be designed in such a way that the outcomes are used to develop the capacity of those who are involved. It is believed that the monitoring and evaluation function will promote capacity building. As the monitoring and evaluation will involve a large array of stakeholders, the process will also promote collaboration in publication of research.

6.2.1. Monitoring & Evaluation Frameworks

The progress and performance of the national strategic plan implementation will be assessed against a comprehensive set of quantitative and qualitative indicators. The matrix contains output, activities, indicators corresponding to the outputs and source of information. Indicators are divided into base indicator and milestone indicator. The milestone indicator is set around two years, one is 2027 and another one is 2031. The sources of the base indicator are: (i) situation analysis; (ii) BIDS baseline satisfaction survey 2019; (iii) BANBEIS publications; and (iv) UGC publications.

The core instruments/events for reporting will be:

- Quarterly reports on budget and activities/program implementation;
- Country level reports and bi-annual reviews;
- Bi-annual joint sector review;
- Annual financial external audits; and
- Mid-term and end of term external evaluation.

A detailed framework for monitoring the implementation of the strategic plan is presented in Annex-2.

REFERENCES

Agarwal, P. (2016). *Higher education in India: The need for change*. Working Paper. Indian Council for Research on International Economic Relations.

Bangladesh Bureau of Education Information and Statistics (BANBEIS) (2019). *Bangladesh education statistics 2019*. Secondary and Higher Education Division, Ministry of Education.

Bangladesh Bureau of Education Information and Statistics (BANBEIS) (2018). *Bangladesh education statistics, 2018*. Ministry of Education, Government of Bangladesh.

Bangladesh Bureau of Statistics (BBS) (2015a). *Population projection of Bangladesh: Dynamics and trends 2011-2061*. Bangladesh Bureau of Statistics, Ministry of Planning, Government of Bangladesh

Bangladesh Bureau of Statistics (BBS) (2015b). *Report on Bangladesh education household survey, 2014*. Bangladesh Bureau of Statistics, Ministry of Planning, Government of Bangladesh

Bangladesh Institute of Development Studies (BIDS) (2019). *Baseline survey of College Education Development Project*. Unpublished report. Bangladesh Institute of Development Studies.

Bhuiyan, A. J. M. A. (2021). *The relevance of Bangabandhu's philosophy of education*. Retrieved from https://albd.org/articles/news/36323/The-relevance-of-BangabandhupercentE2percent80percent99s-philosophy-on-education

Chowdhury, R., & Kabir, A.H. (2014). Language wars: English education policy and practice in Bangladesh. *Multilingual Education, 4* (21). Retrieved from https://doi.org/10.1186/s13616-014-0021-2

College Education Development Project (2021a). *Quality and relevance of higher education in colleges affiliated with National University, Bangladesh*. Unpublished background study report. College Education Development Project.

College Education Development Project (2021b). *Vison, size, shape and scope of affiliated colleges of National University, Bangladesh*. Unpublished background study. College Education Development Project.

College Education Development Project (2021c). *Management of affiliated colleges of National University, Bangladesh*. Unpublished Report. College Education Development Project.

College Education Development Project (2021d). *Development of science, technology, and ICT in affiliated colleges of National University, Bangladesh*. Unpublished Report. College Education Development Project.

College Education Development Project (2020a). *Financing higher education in colleges affiliated with National University, Bangladesh*. Unpublished Report. College Education Development Project.

College Education Development Project (2020b). *Access and equity: Higher education in affiliated colleges of the National University, Bangladesh.* Unpublished background study report. College Education Development Project.

Deschacht, Nick & Vansteenkiste, Sarah. (2021). *The effect of unemployment duration on reservation wages: Evidence from Belgium.* Labour Economics. 71. 102010. 10.1016/j.labeco.2021.102010.

Eswar. S. Prasad (2003). *What Determines the Reservation Wages of Unemployed Worker: New evidence from German Micro Data*, IMF working Paper. Retrieved from https://www.imf.org/external/pubs/ft/wp/2003/wp0304.pdf

Faaland, J. & Parkinson, J. R. (1976). *Bangladesh: The test case for development.* Boulder: Westview Press.

Finance Division (2021). *Socioeconomic development and recent macroeconomic development in Bangladesh.* Ministry of Finance, Government of the People's Republic of Bangladesh.

The Financial Express (2022). *Per capita income in Bangladesh crosses $200.* Retrieved from https://thefinancialexpress.com.bd/economy/per-capita-income-in-bangladesh-crosses-2500-1636017729.

General Economic Division (2020a). *Making vision a reality: Perspective plan of Bangladesh 2021-2041.* Bangladesh Planning Commission, Government of the People's Republic of Bangladesh.

General Economic Division (2020b). *8th Five-year plan, July 2020-June 2021: Promoting prosperity and fostering inclusiveness.* Bangladesh Planning Commission, Government of the People's Republic of Bangladesh.

General Economic Division (2018). *Delta plan 2100: Volume 1- strategy.* Bangladesh Planning Commission. Government of the People's Republic of Bangladesh.

Government of Bangladesh (2020). *SDG tracker: Bangladesh's development mirror.* Retrieved from https://www.sdg.gov.bd/

Islam, S. (2003). Government budget. In Islam, S. (Eds.) *Banglapedia.* Asiatic Society of Bangladesh. Retrieved from https://en.banglapedia.org/index.php/Budget,_Government.

Kancharla, B. (2019). *Gross enrolment ratio (GER) of higher education improves, but challenges remain.* Retrieved from https://factly.in/gross-enrolment-ratio-ger-of-higher-education-improves-but-challenges-remain%ef%bb%bf/

Lewin, K. (2015). *Educational access, equity, and development: Planning to mark rights, realities.* Monogram. International Institute for Educational Planning, UNESCO.

Mahmud, S., & Amin, S. (2006). *Girls' Schooling and Marriage in Rural Bangladesh.* Research in the Sociology of Education, 15, 71–99. https://doi-org.proxy2.library.illinois.edu/10.1016/S1479-3539(06)15004-1

Ministry of Finance (2021). *Bangladesh economic review, 2020.* Ministry of Finance, Government of the People's Republic of Bangladesh.

Ministry of Finance (2019). *Bangladesh economic review, 2019*. Ministry of Finance, Government of the People's Republic of Bangladesh.

Ministry of Education (2010). *National education policy 2010*. Retrieved from https://moedu.gov.bd/site/page/318a22d2-b400-48a7-8222-303ab11cc205/-.

National University (2019). *21st Senate session 2019 (Annual report 2018-2019)*. National University Press.

Sarkar, S. I., Karim, A. H. M. Z., Suffium, S. M. A. (2017). *Parental education aspiration and gender inequality of rural children in Bangladesh: The role of parental attitude of traditional gender role, gender biased capability, and gender*. Journal of International Women's Studies, 18(2), 134-142. Retrieved from https://vc.bridgew.edu/jiws/vol18/iss2/9/

Sayeed, Y. (2016). *Effect of girls' secondary school stipend on completed schooling, age at marriage, and age at first birth: Evidence from Bangladesh*. IDER Working Paper 110/2016, UNU-WIDER. Retrieved from https://doi.org/10.35188/UNU-WIDER/2016/154-3

Stephen R. G. Jones (1988). *The Quarterly Journal of Economics*, Vol. 103, No. 4, pp. 741-765 (25 pages) Retrieved from https://doi.org/10.2307/1886073

UNESCO (2022). *Result-based programming, budgeting, management, monitoring, and reporting approach as applied at UNESCO*. Paris: Bureau of Strategic Planning.

UNESCO (2015). *Guidelines for education sector preparation*. International Institute for Educational Planning.

UNESCO (2010). *Strategic planning: Techniques and methods*. Working Paper. International Institute for Educational Planning.

UNESCO Institute for Statistics (2018). *Handbook on measuring equity in education*.

UNESCO Institute for Statistics (2021). *Tertiary gross enrolment ratio*. Retrieved from https://data.worldbank.org/indicator/SE.TER.ENRR

United Nations Development Groups (2011). *Result-based management handbook*. United Nations Sustainable Development Group.

University Grants Commission of Bangladesh (2020). *46th Annual progression report*. University Grants Commission of Bangladesh.

University Grants Commission of Bangladesh (2018). *Strategic plan for higher education in Bangladesh: 2018-2030*. University Grants Commission of Bangladesh.

World Bank (2019). *World development indicators*. Retrieved from https://data.worldbank.org/indicator/SP.POP.GROW?locations=BD.

World Education News Review (2019). *Education in Bangladesh*. Retrieved from https://wenr.wes.org/2019/08/education-in-bangladesh.

7. ANNEX -1 IMPLEMENTATION PLAN

Program area 1: Access and Equity				Time frame			Remarks
Objectives	Strategy	Activities	Implementing partners	Short-term	Mid-term	Long-term	
Increased enrollment and degree completion of academically eligible but socially disadvantaged students	Undertake financial support programs for female, physically challenged, and students of ethnic origins	1. Commissioning new stipend program or expanding ongoing stipend projects/programs for students of targeted groups	SHED, DSHE	X	X	X	
		2. Adopting and implementing free tuition policy for students of targeted groups	MoPA, SHED, NU, DSHE			X	
	Create favorable environment for female, physically challenged students and students of ethnic origins	3. Appointing increased number of female teachers and administrative staffs	SHED, NU, DSHE	X	X		
		4. Refurbishing/constructing campus facilities, including ladies corner, washroom facilities taking into account the need of adult females	SHED, NU, EED, DSHE, Colleges*	X	X		*Colleges suggested by DSHE.
		5. Constructing toilet with special facilities for physically challenged students	SHED, DSHE, Colleges, EED	X	X		
		6. Constructing ramp and lift for physically disabled students	SHED, DSHE, Colleges, EED		X	X	
		7. Constructing on-campus accommodation for female students	DSHE, NU, EED*		X	X	*EED suggested by NU and SHED.
Increased enrollment in science and	Undertake capacity development	8. Affiliating increased number of new academic programs in science and technology related disciplines	NU, Colleges	X	X	X	

Program area 1: Access and Equity				Time frame			Remarks
Objectives	Strategy	Activities	Implementing partners	Short-term	Mid-term	Long-term	
technology related degree programs	of colleges offering degree program in science and technology related disciplines	9. Increasing (physical and non-physical) capacities of colleges in delivering academic programs in science and technology disciplines	SHED, DSHE, NU, NAEM		X	X	
Increased enrollment of meritorious and eligible students from rural areas in undergraduate (honors) and graduate programs	Adopt motivational initiatives for students of rural origins	10. Arranging attractive financial assistances/scholarship programs to support students of rural origins	SHED, NU, DSHE	X	X		
		11. Introducing counselling and mentoring program to support students from rural areas.	SHED, NU, Colleges, DSHE	X	X	X	
Increased resource allocation to resource poor high-performing colleges	Develop capacity of DSHE and college officials in resource planning and management	12. Revising DSHE organogram, including one or more new department	SHED, MoPA, MoF, DSHE*		X	X	*DSHE suggested by DSHE.
	Develop budget preparation and management capacity of	13. Training for colleges and DSHE officials responsible for budget preparation and management	SHED, DSHE, NAEM	X	X	X	

Program area 1: Access and Equity				Time frame			Remarks
Objectives	Strategy	Activities	Implementing partners	Short-term	Mid-term	Long-term	
	personnel of DSHE and colleges						

Program area 2: Quality and Relevance				Time Frame			Remarks
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**	
Separated management of higher education and higher secondary education	Prepare and enforce rules and regulations for higher secondary and higher education	1. Drafting an Act (Like the one of Private University Act 2010)	MoPA, SHED, DSHE, MoL*		X	X	*DHSE and MoL suggested by DHSE.
		2. Revising NU Regulation for Affiliation of Colleges	UGC, NU	X	X		
		3. Revising Education Board's Regulation for Affiliation of Secondary and Higher Secondary Schools and Colleges	SHED, DSHE, BISE		X		
Increased number of academics with doctorate and quality research publication	Allocate adequate funds for doctoral study and research studies	4. Undertaking fellowships/stipends projects/programs	DSHE, NU	X	X	X	
		5. Undertake initiatives for research grants to fund research projects	SHED, NU, DSHE	X	X	X	
		6. Circulating research grant opportunities among potential applicants widely	NU, Colleges, DSHE	X	X	X	
	Establish performance-based promotion policy	7. Revisiting government regulation for promotion of B.C.S. (General Education) Cadre officials, so that having PhD and track records of research publication are preconditions for promotion	SHED, NU, DSHE		X		
		8. Revisiting NU Regulation for Non-Government College teachers' Service Conditions in line with the promotion policy of government college teachers	NU, DSHE, SHED	X	X		
		9. Ensuring proactive role of NU in promoting research and research publications in colleges	NU, DSHE	X	X	X	
Increased number of colleges with improved	Prepare and execute effective monitoring and	10. Developing policy pertaining to monitoring activities by the NU	NU, DSHE	X			
		11. College visits by academics from NU and nearby colleges	NU, Colleges, DSHE	X	X	X	

Program area 2: Quality and Relevance				Time Frame			Remarks
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**	
teaching-learning environment	supervision plans	12. Preparing monitoring reports to generate knowledge and share findings	DSHE, NU		X		
		13. Sharing monitoring reports among the stakeholders such as BAC, NU, DSHE, and SHED	Colleges		X	X	
	Ensure policy support for adequate investment to make teaching-learning environment conducive to quality education	14. Renovating old classrooms and constructing new classrooms: minimum 4 (four) classrooms per department of study	MoF, SHED, DSHE	X	X	X	
		15. Constructing office rooms for teachers	SHED, DSHE		X	X	
		16. Appointing teachers at a ratio of 12 (twelve) teachers per department as per Enam commission report	SHED, NU, GB, DSHE	X	X		
		17. Appointing permanent support staffs in each department as per requirement	SHED, DSHE	X			
		18. Constructing examination halls in each upazilla	DSHE, EED			X	
		19. Constructing library buildings with all amenities	DSHE, EED			X	
		20. Providing dedicated internet connectivity	SHED, DSHE, BdREN			X	
		21. Allocating budget for consumables and maintenance works	MoPA, DSHE, GB, Colleges, MoF*	X	X	X	*Colleges suggested by DHSE and MoF suggested by SHED.
	Strict adherence to NU reference books	22. Strict adherence to NU's recommended books as textbook and reference book;	NU, Colleges	X			
		23. Undertaking initiative by the NU for publishing and marketing books/journals;	NU, Colleges	X			

Program area 2: Quality and Relevance				Time Frame			Remarks
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**	
	Develop functional relationships among BAC, NU, DSHE, and colleges	24. Forming a permanent body for quality assurance in each college	SHED, NU, DSHE, Colleges*		X	X	*Colleges suggested by DSHE.
		25. Revising NU Act to enable each college to initiate constitution of Internal Quality assurance Cell (IQC)	NU, SHED*	X			*SHED suggested by DSHE.
		26. Engaging IQC of NU with the IQAC of each college	SHED, NU, Colleges, DSHE	X	X		
		27. Adding a budget line by each college for the QACs of the colleges	DSHE, SHED*	X	X		*SHED suggested by DSHE.
Increased number of trained teachers	Continuous professional development (CPD) opportunity	28. Maintaining a budget line regarding teachers' training in each college	DSHE	X			
		29. Introducing CPD in training institutions like NAEM, BPATAC, NU, DU etc.	DSHE NU, NAEM	X	X	X	
		30. Encouraging teachers to take part in certificate programs in home and abroad	DSHE NU	X	X		
Improved and innovative performance evaluation system only	Develop and implement innovate mechanism for setting question papers	31. Preparing guidelines for question paper developers	NU	X	X	X	
		32. Preparing guidelines for answer script examiners;	NU	X	X	X	
		33. Introducing a combination of subjective and objective assessment of students' performance;	NU	X	X		
	Establish strict check and balance in evaluating and	34. Reintroducing two examiners system to assess students' written exam scripts	NU	X	X	X	
		35. Reducing examination time from 4 (four) hours to 3 (three) hours	NU	X	X	X	

Program area 2: Quality and Relevance				Time Frame			Remarks
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**	
	marking answer scripts	36. Replicating international good practices in formulation and implementation of student assessment	NU, Colleges	X	X	X	
Increased number of good quality graduates	Update curriculum and align the degree programs with market needs	37. Knowledge creation and sharing about skill demand in the job market	NU, DSHE		X		
		38. Introducing dual degree programs in combination of general degree program and soft skill development program	NU	X			
		39. Introducing college-specific non-credit skill development courses;	Colleges	X	X		
		40. Training teachers to develop soft skill of students	NU, Colleges, NAEM, DSHE	X	X		
	Education-industry collaboration for graduate internship	41. Setting up a dedicated center staffed with required workforce like Industry Liaison Officer in each college to support the internship program	DSHE, GB, Colleges, NU	X	X		
		42. Signing Memorandum of Understanding (MoU) between National University and industries regarding internship program	NU, Industry, DSHE, Colleges*	X	X	X	*DSHE suggested by DSHE and colleges suggested by SHED.
Launch "Dual study program" consisting of academic program and apprenticeship in selected disciplines of	Revised academic degree programs offered by NU	43. NU Academic Council develop dual degree programs	NU	X			
		44. Conduct study to get an insight of apprenticeship opportunity	NU, hired research firm, DSHE		X		
	Regulatory framework to support dual	45. NU sign MoU with industries/ trade organization for apprenticeship opportunity	NU, Business association		X		

Program area 2: Quality and Relevance				Time Frame			Remarks
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**	
Science, Technology, Commerce and Business disciplines.	academic degree program	46. UGC/Government enact law to support dual degree program	UGC, SHED		X		

Program area 3: Management				Time Frame		
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**
Strengthened coordination between NU and DSHE	Develop policy for systematic coordination between NU and DSHE	1. Holding seminars and workshops to build awareness among the stakeholders about the necessity of coordinated activities	SHED, DSHE, NU Colleges		X	X
		2. Constituting a coordination body taking members from NU and DSHE	SHED	X	X	X
		3. Holding coordination meetings on a regular basis	DSHE, NU		X	
Organizational chart (organogram) developed and operationalized for colleges	Develop organizational structure	4. Issue official order for preparation and operationalization of the organizational chart	SHED, DSHE	X		
	Develop policy	5. Conducting research and sharing findings	DSHE, NU, Colleges	X	X	
		6. Holding dialogue with stakeholders related to the preparation of necessary legal framework	SHED	X	X	

Program area 3: Management				Time Frame		
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**
Functional Board of Directors and Board of Studies at the NU	Engage BODs and BOSs as per provision of the NU Act	7. Constituting Board of Directors and Board of Studies as per the NU Act	NU	X		
		8. Assigning the Boards with specific duties and responsibilities including scope of work	NU	X	X	
		9. Establishing a monitoring mechanism to monitor the activities of both the Boards	NU	X	X	X
Improved legal instrument to support affiliation of colleges	A national policy for affiliating of colleges is formulated and executed	10. Holding dialogue with stakeholders for the preparation of necessary legal framework	SHED	X	X	
		11. Developing a single legal framework like Private University Act 2010	MOPA, DSHE, NU		X	X
		12. Developing and approving a national policy for affiliation of colleges	SHED, DSHE, NU	X	X	
		13. Revising the NU regulation(s) in line with the formulated national policy for college affiliation	NU	X	X	
Transparency and accountability of the governing body institutionalized	Develop rules and regulations clarifying the roles of the GB	14. Preparing detailed terms of references and/scope of works of the members of the governing body	NU, Non-govt colleges, DSHE	X		
		15. Assigning responsibilities strictly following rules and regulation pertinent to financial management of the non-government colleges	NU, Colleges, DSHE	X	X	
	Revised NU regulations for GB for reconstitution of GB	16. Reducing the size of members of the governing body from 15 to 10	NU, DSHE	X		

Program area 3: Management				Time Frame		
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**
	to include members with adequate academic qualification	17. Appointing an academician as Chair of the GB	NU, DSHE	X		
		18. Selecting members based on academic qualifications	NU, DSHE	X		

Program area 4: Financing and Financial Management				Time Frame			Remarks
Objective	Strategy	Activity	Implementing Agency	Short-term	Mid-term	Long-term	
Increased amount of government allocations for government colleges	Policy advocacy for increased share of government education budget	1. Engaging media, academic community, and civil society to build awareness for increased allocation	SHED, DSHE	X	X		
		2. Conducting studies to create knowledge and disseminating knowledge among decision-makers for shared learning about short-fall of resources in colleges	DSHE, NAEM	X	X	X	
	Capacity development (colleges and DSHE) in budget preparation and management	3. Holding training workshops for all concerned DSHE officials and colleges who are responsible for budget preparation and management	SHED, NU, DSHE		X	X	
		4. Preparing training manual for Foundation Training Program for B.C.S. (General Education) Cadre officials	DSHE, NAEM	X	X		
		5. Making adequate budget provision for continuous training	DSHE, NAEM	X	X	X	

Program area 4: Financing and Financial Management				Time Frame			Remarks
Objective	Strategy	Activity	Implementing Agency	Short-term	Mid-term	Long-term	
Increased opportunity for colleges to be self-reliant financially	Supportive policy for income contingent fee	6. Holding national seminar and workshop on income contingent fee program	DSHE, NU, SHED, MoE, Colleges	X	X	X	
		7. Undertaking research to create knowledge and disseminate findings for shared learning	NU, DSHE, Colleges*		X	X	*Colleges suggested by DSHE.
		8. Formulating law if required to implement income contingency fee policy	SHED, MoE, MoL		X	X	
	Supportive policy regarding resource mobilization from internal and external sources by the government colleges	9. Adopting new rules and regulations if there is none	SHED, NU, DSHE		X	X	
		10. Revising financial rules and regulations regarding financial management of government colleges	SHED, DSHE, MoF	X	X	X	
		11. Implementation of revised rules and regulations	DSHE, NU, Colleges	X	X	X	
		12. Creating mandatory Alumni list in each college and regularly updating them	NU, Colleges, DSHE	X	X	X	
		13. Encourage developing Alumni fund at the college level	SHED, DSHE, NU, College		X	X	
Reduced out-of-pocket expenditure of households to finance higher	Financial support for disadvantaged students	14. Scholarships for poor students who cannot bear the cost of higher education	SHED, DSHE, NU		X		
	Access to off-campus online model	15. Developing blended education facilities in colleges	NU, DSHE, Colleges*		X	X	*Colleges suggested by DSHE.
		16. Making blended learning accessible to all	NU, DSHE, Colleges*	X	X	X	*Colleges suggested by DSHE.

Program area 4: Financing and Financial Management				Time Frame			Remarks
Objective	Strategy	Activity	Implementing Agency	Short-term	Mid-term	Long-term	
education of their children	of teaching and learning	17. Creating blended learning resource hub with access for all	NU, DSHE, Colleges*	X	X	X	*Colleges suggested by DSHE.
	Reduced dependency on private coaching	18. Ensuring that classes are held regularly and lessons are delivered properly	Colleges, NU, DSHE	X	X		
		19. Arrangement for special teaching assistance for academically low achievers	Colleges	X	X		
	Access to low interest-bearing loan	20. Supportive policy by the Bangladesh Bank (BB) regarding Student Loan	BB, SHED		X	X	
Improved system of funding to support non-government colleges	Endowment fund for non-government colleges	21. Formulating supportive public policy for improved funding policies	SHED, MoF, UGC, MoE	X	X	X	
	Enrollment-based funding for colleges	22. Carrying out research studies to know about the impact of MPO on students and teachers	MoF, SHED, NU, DSHE		X		
		23. Arranging stakeholder meeting to work on funding based on student-to-teacher ratio	DSHE, Colleges	X	X	X	

Program area 5: Science, Technology and ICT in Education				**Time Frame**		
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**
Increased enrollment in	Financial support for needy students	1. Appropriate stipend/scholarship support program	DSHE, NU	X	X	X

Program area 5: Science, Technology and ICT in Education				Time Frame		
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**
science and technology disciplines	enrolled in science and technology subjects	2. Free tuition fee support for students enrolled in undergraduate science degree programs in the non-government colleges;	SHED, NU			X
	Development of college capacity in offering degree programs in science and technology subjects	3. Developing physical facilities, including laboratory, campus network, e-library, and obtaining BdREN connectivity;	DSHE, NU, UGC	X	X	X
		4. Creating academic and supporting staff positions and recruiting in these positions;	SHED, DSHE	X	X	
		5. Subject teachers' training programs for teachers at colleges	DSHE, NU, Colleges	X		
		6. Motivational program to attract student to study in science and technology related disciplines	DSHE, NU, Colleges	X		
	Enhancement of scope to study science and technology related degree programs in the higher education colleges	7. Affiliating undergraduate programs in science and technology on priority basis;	, NU, Colleges		X	X
		8. Building capacity of colleges in delivering degree programs in science and technology;	DSHE, NU, Colleges		X	X
Improved gender and regional equity in enrollment in science and technology related disciplines	Targeted financial support program	9. Launching sustainable stipend program, upto graduate level, for disadvantaged students of under-represented areas	DSHE, NU	X		
	Prioritizing affiliation of degree programs in colleges located in disadvantaged divisions such as Khulna	10. Mapping out colleges where there is capacity to offer degree program in science and technology	DSHE, NU	X	X	
		11. Allocating additional teaching and non-teaching resources to colleges where there is a shortage of resources	DSHE, GB		X	

Program area 5: Science, Technology and ICT in Education				Time Frame		
Objective	**Strategy**	**Activity**	**Implementing Agency**	**Short-term**	**Mid-term**	**Long-term**
Enhanced teaching and learning opportunities through blended learning	Encouraging colleges to utilize their technology resources for blended teaching	12. Providing ad hoc training on using technology to teachers when needed	NAEM, NU, DSHE	X	X	
		13. Incentivizing the use of blended learning tools for teaching	NU, DSHE		X	
	Opportunities for online and in-person learning for students	14. Creating awareness in students on the availability of online resources and its ethical use.	NU, Colleges, DSHE	X	X	
		15. Accessibility to blended learning opportunity	NU, Colleges, DSHE	X	X	X
		16. Providing access to online learning resources in colleges to supplement in-person learning	NU, Colleges, DSHE	X	X	X
Increased use of ICT in delivering education	Enhanced skills of the teachers in using ICT as a tool for teaching-learning	17. Developing the existing training centers and establishing new training centers regionally	DSHE, NU, NAEM		X	X
		18. Holding training workshops for teachers on the use of ICT	DSHE, NU, Colleges		X	
	Development of online resources	19. Developing digital resources and making them available online	NU	X	X	
		20. Creating Content Bank and sharing it with teachers	Colleges, DSHE, NU		X	
	Sustainable campus network and internet connectivity	21. Signing memorandum of understanding (MoU) with education resource and content creators and service providers	NU, Colleges, Industry, DSHE		X	X

8. ANNEX- 2 MONITORING FRAMEWORK

A. Framework for monitoring results

Program Area 1: Access and Equity	**Result-based indicators**	**Base data**	**Milestone 2027**	**Milestone 2031**	**Means of verification**	**Frequency of data collection & responsible person/agency**
Goal: Achieved equity in students' access to higher education and allocation of government resources to colleges, particularly government colleges;						
Objective						
Increased enrolments and degree completion of academically eligible but socially disadvantaged students	Percentage of enrollment increases	Male-female ratio: 52:48 Data not available for other groups	Male-female ratio 50:50 Prioritize eligible students from all other under-represented groups	Male-female ratio 50:50 Prioritize eligible students from all other under-represented groups	College Survey; BANBEIS; NU	Annually
	Percentage of completion increases	80 percent on average	90 percent of all students who enrolled irrespective of groups	100 percent of all students who enrolled irrespective of groups		
Outputs						
Availability of stipend easing access to higher education by students from under-represented groups	Share of stipend recipient students	Nil	25 percent	50 percent	College survey, BANBEIS,NU	Annually

Program Area 1: Access and Equity	Result-based indicators	Base data	Milestone 2027	Milestone 2031	Means of verification	Frequency of data collection & responsible person/agency
Free tuition fee policy approved and implemented by the government and hence increased opportunity of access to higher study by students from under-represented groups	Number of students studying free of tuition and other fees	Nil	25 percent	50 percent	BANBEIS,NU	Annually
More female teachers and administrative staffs hired to ensure girls friendly-teaching learning environment	Percentage of female teacher and administrative staff increases	25 percent	30 percent	40 percent	College Survey, BANBEIS, NU	Annually
More classrooms constructed to ensure better teaching-learning environment	Per student classroom space in square feet	10 sq. on average	12 sq. on average	16 sq. ft. on average	College Student Survey	Annually
	Students' satisfaction level increases	Likert Scale measure of 2.04 out of 5 scale	Likert Scale measure of 3.5 out of 5 scale	Likert Scale measure of 5.0 out of 5 scale		Annually
More laboratories constructed to facilitate science teaching and learning	Students' level of satisfaction level increases	Likert Scale measure of 2.07 out of 5 scale	Likert Scale measure of 3.5 out of 5 scale	Likert Scale measure of 5.0 out of 5 scale	College Student Satisfaction Survey	Annually
Adequate number of washrooms constructed for female students to ensure girls friendly campus environment	Female student-latrine ratio decreases	N/A	Female student to latrine ratio: 50:1	Female student to latrine ratio: 30:1	College Student Survey	Annually Annually
Ramp facilities constructed inside college campus for physically challenged students	Share of colleges having at least one ramp	N/A	25 percent	50 percent	College Student Survey	Annually
Female hostel constructed inside the campus where there is none to create girls friendly college campus	Percentage of colleges having at least one female hostel	Nil	25 percent	50 percent	NU Report, College Survey	Annually

Program Area 1: Access and Equity	Result-based indicators	Base data	Milestone 2027	Milestone 2031	Means of verification	Frequency of data collection & responsible person/agency
Objective						
Increased enrollment in science and technology related degree programs	Percentage of students admitted in honors and master's in science degree increases	10 percent	25 percent	30 percent	UGC Report, BANBEIS Report	Annually
	Percentage of students admitted in honors and master's in technology degree increases	0.09 percent	Technology enrolment 15 percent	Technology enrolment 25 percent		
Output						
New degree programs in science and technology introduced (hence increased opportunity to study in science and technology)	Avg. number of science degree programs per college	7 types of programs in Physics, Chemistry, Math, Botany, Zoology, Statistics, & Social Sciences)	10 types of programs	12 types of programs	NU Report College Survey	Annually
	Percentage of colleges with degree programs in technology increases	0.00	10 percent	25 percent		
More teachers in science and technology hired (hence increased capacity to deliver degree program in science and technology)	Number of teachers in science subjects increases	N/A	12 teachers per science subject	12 teachers per science subject	NU Report College Survey	Annually
	Number of teachers in technology subjects increases	N/A	12 teachers per technology subject	12 teachers per technology subject		
Increased numbers of science laboratories built (hence increased capacity to deliver degree program in science and technology)	Students' satisfaction level increases regarding laboratory facilities	Likert Scale measure of 2.04 out of 5	Likert Scale measure of 3.5 out of 5.0	Likert Scale measure of 5.0 out of 5.0	NU Report College Student Survey	Annually

Program Area 1: Access and Equity	Result-based indicators	Base data	Milestone 2027	Milestone 2031	Means of verification	Frequency of data collection & responsible person/agency
Objective						
Increased enrollment of meritorious and eligible students from rural areas in undergraduate honors and master's degree programs	Share of students from rural areas increases (in percentage)	Undergraduate honors 24 percent; Masters 4 percent	Undergrad 40 percent; Masters 20 percent	Undergrad 50 percent; Masters 35 percent	NU Report DSHE Report	Annually
Outputs						
Stipend program introduced for students of rural origins (hence increased opportunity of access to higher study by students from under-represented groups)	Under the program share of students receiving stipend	N/A	25 percent of the students enrolled	50 percent of the students enrolled	DSHE Report	Annually
After class consultation program introduced for academically low achievers	Level of students' satisfaction of increase	NA	Likert Level Measure of Student Satisfaction Level of 2.5 out of scale 5.0	5.0	Students' Satisfaction Survey	Occasionally
Objective						
Increased resource allocation to resources-poor high performing colleges	By division coefficient of variation (CV) of teacher-student ratio (TSR) and per-student government recurring budget allocation	CV for TSR 0.14 to 0.53; CV for per-student govt. allocation 0.16 to 0.53	CV for TSR 0.50; CV for per-student govt. allocation 0.5	CV for TSR 0.80; CV for per-student govt. allocation 0.80	College Survey by divisions	Annually
Output						
Increased institutional capacity of DSHE in resource management (such as teacher appointment and transfer; budgeting and budget distribution)	Number of wings in DSHE organogram increases	4- wings as per DSHE organogram	5-wings (additional wing for posting, transfer and deployment of teachers)	5-wings	SHED Report	N/A

Program Area 2: Quality and Relevance	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	Frequency of data collection & responsible person/agency
Goals - Better (improved) performance of graduates in terms of knowledge, skills and employment in the economy and the society at large.						
Objective						
Separated management of higher education and higher secondary education	Share (in percent) of separated higher education colleges	N/A	50 percent	100 percent	NU Report; DSHE Report;	Not applicable
Outputs						
Act revised to facilitate the establishment of a college as higher education institution instead of intermediate college since the inception	Gazette notification of the Act	N/A	-	-	NU Annual Report	Not applicable
NU Regulation revised for affiliation of colleges so that it is not mandatory to run a higher education college as an intermediate college to achieve eligibility required to be affiliated as a higher education college	Availability of revised Regulation for Affiliation of higher education colleges	N/A	-	-	NU Annual Report	Not applicable
Education Board's revised Regulation for Affiliation of Secondary and Higher Secondary Schools	Gazette notification of the regulation	N/A	-	-	DSHE Annual Report	Not applicable
Objective						
Increased number of teachers with doctoral degree and research publications	Percentage of teachers holding doctoral degree increases	5 percent	20 percent	35 percent	UGC Annual Progress Report; NU	Annually

Program Area 2: Quality and Relevance	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	Frequency of data collection & responsible person/agency
					Annual Progress Report; BANBEIS Report;	
Outputs						
Increased opportunity of fellowship for study at doctoral level	Increase of teacher's level of satisfaction about opportunity for fellowship for study at doctoral level	N/A	Likert Scale Measure of Satisfaction Level of 2.5 out of 5.0	Likert Scale Measure of Satisfaction Level of 5.0 out of 5.0	Teachers' satisfaction survey	Annually
Increased opportunity for research fund/grants	Increase of teacher's level of satisfaction about opportunity for research fund/grants	N/A	Likert Scale Measure of Satisfaction Level of 2.5 out of 5.0	Likert Scale Measure of Satisfaction Level of 5.0 out of 5.0	Teachers' satisfaction survey	Annually
Revised government rules for promotion of government college teachers' to incentivize having doctoral degree	Gazette publication of revised promotion rule	N/A	-	-	DSHE Annual Report	Not applicable
Revised NU Regulation for Non-Government College Teachers' Service Conditions in line with government colleges	Availability of revised NU regulation	N/A	-	-	NU Annual Report	Not applicable
Objective						

Program Area 2: Quality and Relevance	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	Frequency of data collection & responsible person/agency
Increased number of colleges with improved teaching-learning environment [i.e. more classrooms, more laboratories, more equipment, high-speed internet connectivity, small teacher-student ratio]	Increase in teacher's and students' level of satisfaction (separately) about overall teaching-learning environment	N/A	Likert Scale Measure of Satisfaction Level of 2.5 out of 5.0	Likert Scale Measure of Satisfaction Level of 5.0 out of 5.0	Students and Teacher Satisfaction survey by DSHE	Annually
Outputs						
Colleges are visited and data are collected for monitoring and supervision purposes	Number of colleges visited by NU	N/A	25 percent college	50 percent colleges	NU Report	Annually
Monitoring reports prepared and shared with stakeholders for shared learning	Number of monitoring reports prepared after visits	N/A	App. 5 reports per year	App. 5 reports per year	NU Report	Yearly
	Number of workshops and seminars held; Number of copies circulated	N/A				
More classroom constructed	Number of classrooms by department increases	N/A	4 classrooms per department	-	NU Annual Report	Annually
Increased teacher-student ratio	Teacher-student ratio increases	GC # 1:89; NGC # 1:45	1: 40	1:30	NU Annual Report	Annually
Improved on-campus internet connectivity	Students' satisfaction level about on campus internet connectivity	Likert Scale Measure of Student Satisfaction Level 2.0 out of 5.0	Likert Scale Measure of Student Satisfaction Level 3.5 out of 5.00	Likert Scale Measure of Student Satisfaction Level 3.5 out of 5.00	NU Monitoring Report	Half-yearly

Program Area 2: Quality and Relevance	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	Frequency of data collection & responsible person/agency
Quality assurance mechanism is established in each college	Percentage of colleges with IQAC	N/A	50 percent (0.00)	100 percent	NU Report; College Survey	Annually
Objective						
Increased number of trained teachers	Percentage of teachers trained in pedagogy/subject/ others increases	N/A	45 percent	65 percent	NU Monitoring Report; DSHE Annual Progress Report	Half-yearly
Outputs						
Increased budget for professional development programs	Percentage of total budget allocated for teachers' professional development increases	N/A	10 percent	20 percent	NU Annual Report; College Survey	Annually
Increased number of continuous professional development (CPD) raining held at NAEM and NU	Number of CPD increases	N/A	50 percent	100 percent	NU Annual Report; College Survey	Annually
Increased participation of teachers in CPD	Number (or percentage) of teachers participating in CPD programs increases		50 percent of the untrained teachers (not available)	100 percent of the untrained teachers	NU Annual Report; College Survey	Annually
Objective						
Improved and innovative performance evaluation system	Teachers' level of satisfaction with the system increases	N/A/	Likert Scale Measure of teachers' satisfaction 3.0 out of 5.0	Likert Scale Measure of teachers' satisfaction 5.0 out of 5.0	Teachers' Satisfaction Survey	Annually
Outputs						
Improved practice of question paper setting	Teachers' level of satisfaction with the system increases	N/A	Likert Scale Measure of teachers'	Likert Scale Measure of	Teachers' Satisfaction Survey	Annually

Program Area 2: Quality and Relevance	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	Frequency of data collection & responsible person/agency
			satisfaction 3.0 out of 5.0	Teachers' Satisfaction 3.0 out of 5.0		
Improved practice of examiner selection, exam paper marking, tabulation	Teachers' level of satisfaction with the system increases	N/A	Likert Scale Measure of Teachers' Satisfaction 3.0 out of 5.0	Likert Scale Measure of Teachers' Satisfaction 5.0 out of 5.0	Teachers' Satisfaction Survey	Annually
Objective						
Increased number of good quality graduates	Employers' satisfaction level increases	Likert Scale Measure of employers' satisfaction 3.78 out of 5.0	Employers' satisfaction level 5.0 out of 5.0	-	Employers' Satisfaction Survey	Occasionally
Outputs						
Improved skills of graduates in computer and English language	Percentage of employers satisfied with graduates' level of computer and communication increases	17 percent	50 percent	85 percent	Employers' Survey	Every 2-3 years
Increased opportunity for getting dual degree program at undergraduate level in colleges	Share of students enrolled in dual undergraduate programs	N/A	15 percent	25 percent	College Survey; NU Annual Report.	Annually
Increased opportunity for studying non-credit courses in colleges	Share of students enrolled in non-credit course	N/A	15 percent	25 percent	College Survey; NU Annual Report	Annually

Program Area 2: Quality and Relevance	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	Frequency of data collection & responsible person/agency
Increased collaboration between colleges and industries in the areas taking classes, funding poor students and other needed areas.	Share of college (in percentage) signing MOU with industry	N/A	25 percent	50 percent	NU Annual Report	Annually
Increased opportunity for internship in industry	Percentage of student placed in internship programs in industry	N/A	25 percent	50 percent	NU Annual Report	Annually
Establishment of linkages with other public universities for better quality	Share of college (in percentage) signing MOU with public universities	N/A	25 percent	50 percent	NU Annual Report	

Program Area 3: Management	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
Goal- Improved management structure endowed with adequate administrative and support staffs along with good governance practices across the colleges.						
Objective						
Strengthened coordination among NU, and DSHE	Number of coordination meetings held per year	N/A	At least 1 meeting every 6 month	At least 1 meeting every 6 month	NU Survey; DSHE Survey	Annually
Output						
Increased opportunity of coordinated decisions regarding management of colleges	Gazette notification published regarding the formation of one or more coordination committees headed by SHED	N/A	Gazette notification published	-	-	Annually
Objective						
Organizational chart (organogram) developed and operationalized	Approved college organogram with required numbers of administrative positions	N/A	Gazette notification published	-	DSHE Annual Report	Annually
Outputs						
Increased managerial capacity of colleges	Gazette notification published regarding organogram of colleges	N/A	Gazette notification published	-	DSHE Annual Report	Annually
Increased number of administrative positions in colleges	Number of administrative positions created in revised organogram: HoD; Proctor; Finance and Budget Officer; Controller of Examination.	N/A	03 posts per department, including HoD; Other -03 (1-Finance and Budget; 1-Section Off; 1-Office of Exam Control)	-		Annually

Program Area 3: Management	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
Objective						
Functional BoD and BoS at the NU	Number of resolutions taken in meetings by BoD and BoS members	N/A	6 per year	12 per year	NU Annual Report	Annually
Output						
Administrative initiatives of NU regarding involvement of BoD and BoS	No. of meeting notice served		6 per year	12 per year	NU Annual Report	Annually
Objective						
Improved legal instrument to support college	Number of new colleges affiliated under the revised regulations	N/A	100 percent	-	NU Annual Report	Annually
Output						
Revised regulation is finalized	Availability of revised regulation for use		-	-	Stakeholders' survey	-
Objective						
Transparent and accountability of the governing body institutionalized	Level of satisfaction of the teachers and students about the activities of the government body increases	N/A	Likert Scale Measure of Satisfaction level 5.0 out of 5.0	-	Nongovernment College level survey	Periodically
Outputs						
A governing body (GB) consisting of reduced numbers of members is reconstituted	Percentage of non-government colleges run by the new GB structure	N/A	25 percent of the colleges	100 percent	NU Annual Progress Report	Annually
Graduation is minimum academic qualifications of the members of the governing body	Percentage of members of the GB having graduation degree	N/A	100 percent	-	NU Annual Report	Annually

Program Area 3: Management	Result based indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
An academician run the NGC as a Chairperson of the GB	Percentage of GB headed by an academician	N/A	100 percent	-	NU Annual Report	Annually
Activities carried out by the GB members are transparent	Share of audit objection in percentage of the total number of audits carried out in the non-government colleges decreases	N/A	25 percent	100 percent	Directorate of Audit and Inspection Report	Occasionally
	Level of satisfaction of the teachers about the activities of the government body increases	N/A	3.00 (N/A)	5.00		

Area 4: Financing Colleges and Financial Management	Indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
Goal - The overall goal is increased allocation of government resources to colleges, alongside increased opportunity for resource mobilization by the colleges. Finally, access to institutional resources by the needy students or their parents by the year 2031.						
Objective						
Increased allocation of government fund to the government colleges that need more resources	Percentage of education budget distributed to SHED increases	5 percent of SHED budget	8 percent of SHED budget	10-12 percent	DSHE/ MoF Budgetary Allocation	Annually
Output						
Enhanced capacity of DSHE and colleges in budget preparation and budget management	Share of colleges (in percentage) with better knowledge and manpower increases	N/A	25 percent	50 percent	DSHE/ College Annual Report	Annually
Objective						
Increased opportunity for government colleges to be financially self-reliant	Share of total revenue (in percentage) generated from internal and external sources increases	N/A	10 percent of total revenue	20 percent of total revenue	College Survey Report	Annually
Output						
Availability of revised rules and regulations to be used by colleges	Gazette notification	N/A	-	-	-	-
Objective						
Reduced burden of total education expenditure in disadvantaged families	Disadvantaged families spend less on education as out of pocket expenditure	approx. 65 percent	50 percent	50 percent	Household Survey	Occasionally

Area 4: Financing Colleges and Financial Management	Indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
Outputs						
Opportunity for scholarship/grants for students who are academically eligible for higher education but financially poor	Percentage of students receiving grants/stipends to meet out of pocket expenditure	N/A	25 percent	50 percent	DSHE; Household Survey	As and when required
Increased opportunity for online teaching and learning	Share of students enrolled for distance learning	N/A	100 percent	100 percent	NU; College Survey	Annually
Increased opportunity for face-to-face consultation with teachers about academic matters	Percentage of worktime devoted to student consultation	N/A	10 percent of the worktime	20 percent of the worktime	Students' satisfaction survey	Occasionally
Opportunity for student loan	Share of students received student loan from commercial banks	N/A	50 percent student who applied for loan	80 percent	Students' satisfaction survey	Occasionally
Objective						
Improved system of funding to support the non-government colleges	Percentage of non-government colleges receive endowment fund	0.00	10 percent	25 percent	DSHE, BABEIS Survey	Occasionally
Outputs						
Supportive public policy for endowment fund formulated	Gazette notification published	N/A	-	-	Relevant Govt. Gazette	Not applicable
Board of Trustees to support operation of endowment fund is constituted	Gazette notification published	N/A	-	-	Relevant Govt. Gazette	Not applicable
Endowment fund mobilized	Gazette notification published	N/A	-	-	Relevant Govt. Gazette	Not applicable

Area 5: Science, Technology and ICT in Education	Indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
Goal – More graduates in science and technology disciplines alongside increased use of ICT in teaching and learning process.						
Objective						
Increased enrolment of graduates in science and technology disciplines	Percentage of students enrolled in science increases; Percentage of students enrolled in technology increases	9 percent of total students enrolled 0.4 percent of total students enrolled	15 percent 5 percent	25 percent 10 percent	BANBEIS, Survey, NU Annual Progress Report	Annually
Increased knowledge on ICT through the NU skill based short courses	Percentage of students enrolling in ICT short courses	N/A	40%	100%	NU Annual Progress Report	Annually
Outputs						
Increased financial opportunity for students who desire to study science and technology disciplines	Share of students who enroll in science and technology and receive stipend increase	N/A	25 percent	50 percent	DSHE, NU Annual Report	Annually
Colleges have full capacity to offer degree programs in science and technology	Students' level of satisfaction about infrastructure and laboratories facilities in colleges	Likert Scale Satisfaction Survey of 2.39 out of 5.0	Likert Scale Satisfaction Survey of 5.0 out of 5.0	-	Students' satisfaction survey	Annually
	Teacher to student ratio in science and technology related departments increases	N/A	1:40	1:20	NU Annual Report	Annually

Area 5: Science, Technology and ICT in Education	Indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
	Non-teaching staff to student ratio in science and technology related departments increases	N/A	1:60	1: 40	DSHE, Annual Report	Annually
Increased choice of subject options for science and technology disciplines undergraduate level	Number of affiliated undergraduate program in science increases	7 (seven) subjects: physics, chemistry, math, zoology, botany, statistics, and social science	10 (ten) subjects (including 3 new subjects- data science; computer science; apparel science)	12 subjects	NU Annual Report	, Annually
	Number of affiliated undergraduate program in technology	Nil	03 subject (Software technology; Footwear technology; Health technology)	06 subjects (Fashion technology; Automobile technology; ICT)	NU Annual Report	Annually
Objective						
Increased use of ICT by academics in teaching and learning	Students' level of satisfaction about use of ICT in teaching and learning increases	Likert Scale Satisfaction Survey of 1.97 out of 5.0	Likert Scale Satisfaction Survey of 2.5 out of 5	Likert Scale Satisfaction Survey of 2.5 out of 5	Students' Satisfaction Survey	Occasionally
Output						
Teachers are empowered in use of ICT in science and technology	Share of teachers (in percent) trained in the use of ICT increases	N/A	50 percent of science teachers	100 percent	NU Annual Progress Report	Annually

Area 5: Science, Technology and ICT in Education	Indicators	Base data	Milestone 2027	Milestone 2031	Means of Verification	How often will data be collected and by whom
	Frequency of use of availability of online digital teaching and learning materials by students and teachers	N/A	At least 50 percent of all classes	At least 80 percent of all classes	NU Annual Report	Occasionally

ড. আ.ক.ম. খলিলুর রহমান (৮০০৮)
অধ্যাপক, সমাজবিজ্ঞান
বিশেষ ভারপ্রাপ্ত কর্মকর্তা, মাউশি
সিনিয়র প্রোগ্রাম অফিসার, প্ল্যানিং (ইনসিটু)
কলেজ এডুকেশন ডেভেলপমেন্ট প্রজেক্ট (সিইডিপি)
মাধ্যমিক ও উচ্চ শিক্ষা বিভাগ, শিক্ষা মন্ত্রণালয়

মোহাম্মদ খালেদ রহীম
প্রকল্প পরিচালক (অতিরিক্ত সচিব)
কলেজ এডুকেশন ডেভেলপমেন্ট প্রজেক্ট (সিইডিপি)
মাধ্যমিক ও উচ্চ শিক্ষা বিভাগ, শিক্ষা মন্ত্রণালয়

আম্বিয়া সুলতানা
সিনিয়র সহকারী সচিব (উন্নয়ন-৩ শাখা)
মাধ্যমিক ও উচ্চ শিক্ষা বিভাগ
শিক্ষা মন্ত্রণালয়

9. ANNEX -3 NATIONAL STRATEGIC PLANNING COMMITTEE

SL. No.	Name and Designation	Status
1.	Chairman, Bangladesh University Grants Commission	Convener
2.	Vice-Chancellor, National University	Member
3.	Vice-Chancellor, Bangladesh Open University	Member
4.	Vice-Chancellor, Bangabandhu Sheikh Mujibur Rahman Digital University, Dhaka	Member
5.	Vice-Chancellor, Jagannath University	Member
6.	Professor Dr. Jamilur Reza Chowdhury, Vice-Chancellor, University of Asia Pacific	Member
7.	Dr. Mohammed Farashuddin, Ex-Governor of Bangladesh Bank and Chairperson of the Board of Trustees, East West University	Member
8.	Professor Dr. A. K. Azad Chowdhury, Professor Emeritus, Department of Clinical Pharmacy and Pharmacology, University of Dhaka	Member
9.	Ms. Rasheda K Chowdhury, Member, CPD Board of Trustees and Executive Director, Campaign for Popular Education	Member
10.	Professor Dr Shirin Akter, Vice-Chancellor, Chattagram University	Member
11.	Professor Dr. Sadeka Halim, Dean, Faculty of Social Science, University of Dhaka	Member
12.	Dr Atiur Rahman, Professor, Department of Development Studies, University of Dhaka and Ex-Governor, Bangladesh Bank	Member
13.	President, Federation of Bangladesh Chambers of Commerce and Industries (FBCCI)	Member
14.	Additional Secretary (University), Secondary and Higher Education Division, Ministry of Education	Member
15.	Professor Dr. Muhammad Zafar Iqbal, Shahjalal University of Science & Technology Ex-faculty, Department of CSE	Member
16.	Additional Secretary (Secondary-2), Secondary and Higher Education Division, Ministry of Education	Member
17.	Division Chief, Socio Economic Infrastructure Division, Planning Commission	Member
18.	Division Chief, General Economic Division, Planning Commission	Member
19.	Director General, Directorate of Secondary and Higher Education	Member
20.	Director General, National Academy for Educational Management	Member
21.	Director General, Implementation Monitoring & Evaluation Division	Member

22.	Mr. Nazmul Haque Khan, Additional Secretary, Secondary and Higher Education Division, Ministry of Education	Member
23.	Joint Chief, Secondary and Higher Education Division, Ministry of Education	Member
24.	Professor Dr. Mohammad Mizanur Rahman, Professor, Dept. of Applied Chemistry and Chemical Engineering, DU; Principal, National Institute of Textile Engineering and Research (NITER).	Member
25.	Professor Salma Akhter, Director (Retired), IER, University of Dhaka	Member
26.	Project Director, College Education Development Project	Member Secretary

CONSULTANTS		
1.	Professor Dr. M. A. Mannan	Strategic Plan Specialist (Lead)
2.	Professor Dr. Md. Shamsul Arifeen Khan Mamun	National Strategic Plan Specialist
3.	Siban Shahana	Associate Strategic Plan Specialist-1
4.	Dr. Tabassum Amina, Ph.D.	Associate Strategic Plan Specialist-2

PROJECT OFFICIALS (STRATEGIC PLAN UNIT)		
1.	Dr. A. K. M. Khalilur Rahman	Senior Program Officer, CEDP Associate Professor (Sociology)
2.	Mohammad Mahmudul Hasan	Program Officer, CEDP Associate Professor (Soil Science)
3.	Md. Abdullah Al Hafiz	Program Officer, CEDP Assistant Professor (Zoology)

10. ANNEX-4 EXPERT COMMITTEES

Group-A: Expert Committee for Vision, Size, Shape and Scope		
Sl. No.	Name and Designation	Status
1.	Professor Dr. Harun-or-Rashid, Vice-Chancellor, National University, Bangladesh	Convener
2	Professor Dr. Munaz Ahmed Noor, Vice-Chancellor , Bangabandhu Sheikh Mujibur Rahman Digital University , Dhaka	Member
3.	Professor Mahfuza Khanam, President, Asiatic Society of Bangladesh	Member
4.	Professor Dr. Nazma Begum, Department of Economics, Dhaka University	Member
5.	Professor Dr. Masihur Rahman, Pro-Vice Chancellor, NU, Gazipur	Member
6.	Professor Dr. Syed Shahadat Hossain ISRT, The University of Dhaka	Member
7.	Mr. Md. Belayat Hossain Talukdar, Additional Secretary (Dev), SHED, MoE	Member Member
8.	Mr. Md. Abdullah Al Hasan Chowdhury Additional Secretary (College), SHED, MoE	Member
9.	Professor Mostafa Azad Kamal, Dean, School of Business, Bangladesh Open University	Member
10.	Dr. Ferdous Zaman, Director (Planning & Development), UGC	Member
11.	Mr. Md. Salimuzzaman, Director (Planning & Development), NAEM	Member
12.	MR. A. B. M Abdul Halim, Deputy Project Director (D S), CEDP	Member Secretary

Group-B: Expert Committee for Access and Equity		
Sl. No.	Name and Designation	Status
1.	Dr. Qazi Kholiquzzaman Ahmad Chairman, Palli Karma-Sahayak Foundation (PKSF), Dhaka	Convener
2	Professor Dr. Farzana Islam Vice-Chancellor, Jahangirnagar University, Savar	Member
3.	Dr. Atiur Rahman Professor, Department of Development Studies University of Dhaka Ex-Governor, Bangladesh Bank	Member
4.	Dr. M. Sekander Hayat Khan Supernumerary Professor Institute of Statistical Research and Training University of Dhaka	Member

5.	Mr. Md. Abdullah Al Hasan Chowdhury, Additional Secretary (University), Secondary and Higher Education Division Ministry of Education	Member
6.	Dr. Shafiqque Uz Zaman Professor and Chairman Department of Economics, University of Dhaka	Member
7.	Dr. Monirul Islam Khan Professor, Department of Sociology University of Dhaka	Member
8.	Syeda Tahmina Akter Director, IER, University of Dhaka	Member
9.	Professor Prabir Kumar Bhattacharjee Director (Plan. And Dev.) Directorate of Secondary and Higher Education	Member
10.	Professor Shameem Ahsan Khan Senior Program Officer (Planning), CEDP	Member Secretary

Group-C: Expert Committee for Quality and Relevance		
Sl. No.	Name and Designation	Status
1.	Professor Mesbahuddin Ahmed, Chairman, Bangladesh Accreditation Council (BAC)	Convener
2	Professor Dr. Mijanur Rahman, Vice-Chancellor, Jagannath University	Member
3.	Professor Dr. Syed Manzoorul Islam, Former Faculty, Department of English, University of Dhaka.	Member
4.	Professor Dr. Asha Islam Nayeem, Department of History, University of Dhaka	Member
5.	Professor Dr. Zarina Rahman Khan, Former Faculty, Department of Public Administration, University of Dhaka	Member
6.	Professor Md. Habibur Rahman, Principal, Rajshahi Government College	Member
7.	Mr. Mohammad Zahurul Islam Deputy Secretary, Secondary and Higher Division, Ministry of Education	Member
8.	Mr. Suman Chackrabartty Director of Planning and Development, National University of Bangladesh	Member
9.	Mr. Mohammad Mahmudul Hasan Program Officer (Strategic Planning-1) College Education Development Project, CEDP	Member Secretary

Group-D: Expert Committee for Management of Colleges		
Sl. No.	Name and Designation	Status
1.	Professor Dr. Dil Afroza Begum Member, Public University Management Division, University Grants Commission Agargaon, Dhaka	Convener
2	Professor Dr. M A Mannan Vice-Chancellor Bangladesh Open University, Gazipur	Member
3.	Professor Dr. Manzoor Ahmed Professor Emeritus at BRAC University, Dhaka	Member
4.	Dr. Khondoker Bazlul Hoque Supernumerary Professor Department of International Business University of Dhaka	Member
5.	Professor Fahima Khatun Director General (Retired) Directorate of Secondary and Higher Education Bangladesh, Dhaka	Member
6.	Mr. Mukesh Chandra Biswas Joint Secretary (College) Secondary and Higher Education Division, Ministry of Education	Member
7.	Professor Md. Shahedul Khabir Chowdhury Director (College and Administration) Directorate of Secondary and Higher Education Bangladesh, Dhaka	Member
8.	Professor Dr. Md. Anwar Hossain Dean, Centre for Post Graduate Studies (Training & Research) National University Bangladesh, Gazipur	Member
9.	Dr. Md. Moniruzzaman Inspector of College (In Charge) National University Bangladesh, Gazipur	Member
10.	Mr. A.B.M Abdul Halim Deputy Project Director (Deputy Secretary) College Education Development Project	Member Secretary

Group-E: Expert Committee for Development of Science, Technology and ICT		
Sl. No.	Name and Designation	Status
1.	Professor Dr. Mohammad Alamgir Member, University of Grants Commission of Bangladesh	Convener
2	Professor Dr. Munaz Ahmed Noor Vice-Chancellor Bangabandhu Sheikh Mujibur Rahman Digital University, Dhaka	Member
3.	Mr. A. K. M. Mukhlesur Rahman Project Director (Additional Secretary) College Education Development Project (CEDP)	Member
4.	Professor Dr. Subrata K. Adittya Department of Electrical and Electronic Engineering, University of Dhaka	Member
5.	Professor Dr. Mahbubul Alam Joarder Institute of Information Technology University of Dhaka	Member
6.	Dr. M. Kaykobad Department of CSE, BUET, Dhaka	Member
7.	Professor Dr. Mohammad Eunus Ali Department of CSE, BUET, Dhaka	Member
8.	Professor Dr. Haseena Khan Department of Biochemistry and Molecular Biology, University of Dhaka	Member
9.	Professor Dr. Lafifa Jamal Department of Robotics and Mechatronics Engineering, University of Dhaka	Member
10.	Professor Dr. Celia Shahnaz Department of Electrical and Electronic Engineering, BUET	Member
11.	Professor Dr. Md. Hanif Seddiqui Computer Science and Engineering Chattogram University	Member
12.	Professor Shameem Ahsan Khan Senior Program Officer (Planning) College Education Development Project, (CEDP)	Member Secretary

Group-F: Expert Committee for Financing of Colleges		
Sl. No.	Name and Designation	Status
1.	Professor Dr. Md. Sazzad Hossain Member, University Grant Commission, Bangladesh	Convener
2	Professor Farid Uddin Ahmed Vice-Chancellor, Shahjalal University of Science and Technology, Sylhet	Member
3.	(Late) Professor Jahangir Alam Department of Finance, University of Chattagram	Member

4.	Professor S.M. Mahfuzur Rahman Department of International Business University of Dhaka	Member
5.	Professor Shibli Rubayat Ul Islam Dean, faculty of Business Studies University of Dhaka	Member
6.	Mr. Md. Habibur Rahman Additional Secretary (Budget) Finance Division, Ministry of Finace	Member
7.	Mr. Md. Fazlur Rahman Additional Secretary (Dev-2) Secondary and Higher Education Division, Ministry of Education	Member
8.	Mr. Molla Mahfuz Al-Hossain Registrar, National University of Bangladesh	Member
9.	Principal, Chattagram Government Commerce College, Chattagram a) Professor Ferdous Ara Begum b) Professor Sagarkanti Dey	Member
10.	Mr. Md. Masba Uddin Program Officer (Monitoring) & Current Charge Programme Officer (Strategic Plan-2), CEDP	Member secretary

11. ANNEX-5 LIST OF EXPERTS CONSULTED

Sl. No	Date	Venue/ Time	Participants
1	23.08.2021 Monday	NAEM 11.00 AM	• Prof. Dr. Muhammed Alamgir Member, University Grants Commission • Vice-Chancellor, National University • Vice-Chancellor, Bangladesh Open University • Vice-Chancellor, Bangabandhu Sheikh Mujibur Rahman Digital University, Dhaka • Additional Secretary (University), SHED • Additional Secretary (Secondary-2), SHED • Director General, DSHE • Director General, NAEM • Professor Dr. Md. Anwar Hossain Dean, National University
2	27.09.2021 Monday	Virtually 11.00 AM	• Dr. Qazi Kholikuzzaman Ahmad, Chairman, PKSF • Dr. Farzana Islam, VC, Jahangirnagar University • Dr. Atiar Rahman, Ex-governor, Bangladesh Bank • Dr. Sikander Hayat Khan, Supernumerary Professor, ISRT, DU • Mr. Md. Abdullah Al Hasan Chowdhury, • Additional Secretary, Road Transport and Highways Division, Ministry of Road, Transport and Bridges. • Prof. Dr. Shafiquzzaman, Chairman, Dept. of Economics, DU • Prof. Dr. Monirul Islam Khan, Sociology, University of Dhaka • Prof. Syeda Tahmina Akhter, Director, IER, DU • Dr. Prabir Kumar Bhattcharjee, Director (Training), DSHE
3	06.09.2021 Monday	Bangladesh Accreditation Council (BAC) 11.00 AM	• Prof. Mesbahuddin Ahmed, Chairman, Bangladesh Accreditation Council (BAC) • Prof. Dr. Mijanur Rahman, Department of Marketing, Dhaka University • Prof. Dr. Syed Manzoorul Islam, Former Faculty, Department of English, University of Dhaka. • Prof. Dr. Asha Islam Nayeem, Department of History, University of Dhaka • Prof. Dr. Zarina Rahman Khan, Former Faculty, Department of Public Administration, University of Dhaka • Dr. A. K. M. Muklesur Rahman, Project Director, College Education Development Project (CEDP) • Prof. Md. Habibur Rahman, Principal, Rajshahi Government College • Mr. Mohammad Zahurul Islam Deputy Secretary, Secondary and Higher Division, Ministry of Education • Mr. Suman Chackrabartty Director of Planning and Development, National University of Bangladesh
4	11.09.2021 Saturday		• Professor Dr. Dil Afroza Begum Member, University Grants Commission of Bangladesh • Professor Dr. Abdul Mannan, Ex-Vice Chancellor Bangladesh Open University, Gazipur

Sl. No	Date	Venue/ Time	Participants
		University Grants Commission Auditorium 11.00 AM	• Professor Fahima Khatun, Director General (Retired) Directorate of Secondary and Higher Education • Professor Dr. Manzoor Ahmed, Professor Emeritus at BRAC University, Dhaka • Dr. Khondoker Bazlul Hoque, Supernumerary Professor Department of International Business University of Dhaka • Mr. Mukesh Chandra Biswas, Joint Secretary (College) Secondary and Higher Education Division, Ministry of Education • Professor Md. Shahedul Khabir Chowdhury, Director (College and Administration) Directorate of Secondary and Higher Education • Professor Dr. Md. Anwar Hossain, Dean , Centre for Post Graduate Studies (Training & Research) National University Bangladesh, Gazipur • Dr. Md. Moniruzzaman, Bangabandhu Liberation War Bangladesh Research Institute, National University Bangladesh
5	22.09.2021 Wednesday	University Grants Commission Auditorium 11.00 AM	• Professor Dr. Muhammed Alamgir Member, Strategic Planning and Quality Assurance Division, UGC • Professor Dr. Munaz Ahmed Noor, Vice Chancellor, BSMRGU, Dhaka • Professor Dr. Subrata K. Aditya ECE, Dhaka University • Professor Dr. Md. Mahbubul Alam Joarder, IIT, Dhaka University • Professor Dr. M. Kaykobad, Dept of CSE, BUET • Professor Dr. Haseena Khan, Dept. of Biochemistry and Molecular Biology, Dhaka University • Professor Dr. Lafifa Jamal, Dept. of Robotics and Mechatronics Engineering, Dhaka University • Professor Dr. Celia Shahnaz, EEE, BUET • Professor Dr. Md. Hanif Siddiqui, Chairman, CSE, Chattogram University • Dr. A. K. M. Muklesur Rahman, Additional Secretary, College Education Development Project (CEDP)
6	13.09.2021 Monday	Security and Exchange Commission, Agargaon 11.00 AM	• Professor Dr. Md. Sazzad Hossain Member, University Grant Commission, Bangladesh • Mr. Md. Habibur Rahman Secretary, Power Division Ministry of Power, Energy & Mineral Resources • Professor Farid Uddin Ahmed Vice-Chancellor, Shahjalal University of Science and Technology, Sylhet • Professor S.M. Mahfuzur Rahman Department of International Business University of Dhaka • Professor Shibli Rubayat Ul Islam Chairman, Bangladesh Securities and Exchange Commission, Agargaon, Dhaka • Mr. Md. Fazlur Rahman Additional Secretary (College) Secondary and Higher Education Division, Ministry of Education