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Making the “invisible” visible: Inclusive higher education policies for students with disabilities in Bangladesh

Shehreen Amin Bhuiyan¹
Md. Abu Sayem²

ABSTRACT

The right to education is reflected in the essential safeguards of 1966 International Covenant on economic, social, and cultural rights, 1989 convention on the rights of the child as well as emphasized as a tool for individual facilitation in the 2030 Agenda for Sustainable Development. Until now, achieving inclusive education seems to be a farfetched concept for many, especially in the developing country like Bangladesh. Access to higher education is vital for a safe and enhanced standard of living, yet in Bangladesh, it remains largely inaccessible to marginalized groups, predominantly students with disabilities, notably limiting their life prospects. This qualitative study, based on 20 interviews with higher education authorities, faculty members, and students with disabilities at the University of Dhaka adopts a holistic approach to evaluate the institution's policies and practices of inclusive education system. The findings revealed that heightened enrolment of disable students in Bangladesh's public universities is hindered by the absence of a national inclusive education policy and integrated strategies. Moreover, students with disabilities face uneven support, infrastructural and bureaucratic blockades, and limited supportive services, though peer and faculty member's sympathy help to ease their experience. Hence, this paper recommends the vitality of a well formulated inclusive education policy and its prompt implementation drawing upon the lived experiences of students with disabilities and analysis of existing policy architecture. Thus, students with disabilities must be made “visible” to bring about visible changes in the policy and practice in Bangladesh.

Keywords: Inclusive Education, Disabilities, Higher Education, Education Policy, Developing Country

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INTRODUCTION

Education is a fundamental right of every human being (Kioupi et al. 2023). The right to education is reflected in the essential safeguards of 1966 International Covenant on Economic, Social, and Cultural Rights, 1989 convention on the rights of the child as well as emphasized as a tool for individual facilitation in the 2030 Agenda for Sustainable Development (Agbedahin 2019). Achieving an inclusive education that is accessible to everyone and fostering equal opportunities for continuous learning are the central tenets of Sustainable Development Goal 4 (Giangrande et al. 2019). The vitality of providing equitable higher education opportunities is not simply confined to an individual's benefit and betterment, rather ensures broader social and national benefit through decreased unemployment rates, increased tax revenue collection, enhanced intergenerational mobility, lesser reliance on social service and profound civic participation (Salmi 2017).

In 2020, almost 90% of the global population had their primary education, 66% had secondary level education but only 40% had completed their tertiary education or some form of university education, which indicates there is still a considerably lower rate of access in tertiary level education (Statista 2022). Despite the overall positive picture of the average increase in enrolment levels worldwide, not all segments of society are equally able to benefit from university higher education (Tobbell et al. 2020). In the absence of deliberate inclusive policies to assist the marginalized students, disparities worsen (Kioupi et al. 2023). Unfortunately, access to education is a farfetched dream for student with disabilities. In this research, an all-encompassing view has been set on the access to tertiary education of students with disabilities. This research has attempted to draw a holistic picture using an ontological approach to understanding the practice of inclusion as a contributory aspect in the educational trajectory by combining the institutional policy approaches as well as the voice of students. The University of Dhaka has been selected as a case for the study, because it is the largest and oldest public university in Bangladesh. The country is a good case for the research as in the recent years, Bangladesh has achieved great strikes in education attainment and is dedicated to the provision of quality education at all levels. Compared to only a meagre 31,000 in 1972, an impressive 3.2 million students were enrolled in tertiary level education of the country in 2017 (Mannan 2017). Unfortunately, the number is not shockingly less in the case of differently abled students. In 2020, there were only 86 physically challenged students studying at Dhaka University, 110 at Chittagong University, 75 at Jahangirnagar University, 75 at Jagannath University, and 368 at Rajshahi University, according to statistics provided by Physically- disabled foundation (PDF) (Sakib 2020).

The article takes a two-pronged approach by exploring the institutional policies and practices of the University of Dhaka. The objective of this study is to explore the policy architecture and existing facilities offered to the students with disabilities at the University of Dhaka in order to ensure inclusive education. The study also attempts to identify and assess the discrepancies between policies and existing practices for differently abled students at the University of Dhaka. By exploring and evaluating the access to higher education of persons with disabilities (PWD) in Bangladesh will add to the exiting literature by identifying the unique yet generalizable barriers and aspect of inclusion in developing country context.

LITERATURE REVIEW

Inclusive Education Student with Disability

The concept of “inclusive education” was coined by human rights groups and international movements in an effort to separate segregated special education programmes from mainstream education reforms that would allow all students to thrive in the educational setting (Tomlinson 2019; Blanton et al. 2018; Imray & Colley 2017; Slee & Tomlinson 2018). Renowned International organizations such as the UNICEF, UNESCO, the council of Europe, the United Nations and the EU, all have some commonality in their conceptualization of inclusion in education, which directly emphasises, the right to education for all students (Haug 2017). Rather from being a static concept, inclusive education is a constantly evolving movement (UNESCO 2009). The United Nations (1998) defines inclusive education as an approach to education that welcomes and supports all students, regardless of their background, ability, or disability, and that prioritises the creation of welcoming and safe learning environments while maintaining a focus on student achievement and diversity (Kioupi et al. 2023).

The United Nations reports that one-third of people with disabilities face discrimination due to widespread misconceptions and preconceptions (The United Nations 2022). For centuries, schools have been built on the idea of “survival of the fittest,” which led to a prejudiced view of students with disabilities (Abosi 2007). In practically every nation on the globe, students who have disabilities (SWD) are guaranteed the right to receive equal treatment in accordance to constitutional safeguards. In its Salamanca Statement and Framework for Action on Special Needs Education (1994), the UNESCO emphasises the need for nations to include inclusive education within their policies. As stated by Byrne (2022), the above mandate demonstrates how educational policies, goals, and practices are evolving, with an emphasis on inclusive education for the differently abled. In

order to provide an illustration, Rodríguez Herrero et al. (2020) uses the Equality Act (2010) of the United Kingdom, the Disability Standards for Education (2005) of Australia, and the Higher Education Opportunity Act (2008) of the United States as examples of laws that seek at cultivating inclusive education. In higher education institutions (HEIs), the concept of disability encompasses the complex relationship between disabilities, societal attitudes, and environmental limitations. The harrowing combinations of these hurdles substantially affects the capacity of differently abled students to participate in every other aspect of society (Ntombela 2022).

In developed countries like the United States of America, higher education system has made remarkable progress in ensuring a competency- based learning environment for differently abled students which have consequently added to creation of more employable human resources in the country (Rodríguez Herrero et al. 2020). However, the same cannot be said in the case of developing and least developed countries. A holistic approach for inclusive education, Universal Design for Learning (UDL) is still missing in the higher education institution of many developing countries (Carballo et al. 2021; Lopez-Gavira et al. 2021; Ntombela 2022).

Higher Education Scenario for students with disability in Bangladesh

The Constitution of Bangladesh specifies unequivocally that all of its citizens, shall have equal access to adequate educational opportunities. This premise is a constitutional obligation, as mentioned in Articles 17 and 28, which declare that an equal opportunity to receive a public education must be provided to all citizens without any kind of discrimination. Article 28 (3) of the constitution of the country prohibits discrimination on the basis of race, religion, gender, and place of birth. On the other hand, Article 17 (a) seeks to create a uniform, inclusive, and extensive system of education, guaranteeing that all children receive free and mandatory education up to a level that is authorised by law (The Constitution of the people's Republic of Bangladesh, n.d.). In addition to being a signatory to all applicable international treaties, Bangladesh is a signatory to international treaties that promise to include inclusive education in its existing educational architecture and supports international education frameworks and declarations such as Education for All (UNESCO 1990), Salamanca Statement and Framework for Action on Special Needs Education (UNESCO 1994), Dakar Framework for Action (UNESCO 2000), and the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD).

The country adopted National Education Policy (NEP) in 2010 which also complies with the mandate for an inclusive education system where children from all walks of life have access to quality education, including differently abled students (Ministry of Education 2010). The differently abled students are specifically guaranteed equal access to all basic facilities in accordance with the Disability Rights Act (2013), amidst which education is a pivotal one (Nuri et al. 2022). The Bangladesh Bureau of Statistics (BBS) conducted a survey in 2021 called the National Survey on Persons with Disabilities, which revealed that there are around 4.5 million people in Bangladesh who are physically or mentally disabled. According to Kamruzzaman et al. (2023), this substantial population continues to be largely excluded from having access to different educational opportunities. Based on the census completed in 2011, it was found that disabled individuals, both male and female, did not have sufficient access to educational opportunities. The findings of a study conducted by Hasan et al. (2017) indicated that existing policies, attitudes and physical constraints combinedly work against the participation of individuals with disabilities both in educational and vocational training programs. Zulfiqar et al. (2018) in his study found out that female impaired students in higher education have more challenges to being successful in their academic pursuits compared to male SWDs. These studies hint towards the necessity of a holistic policy measure to be taken by the state. According to Ahsan and Mullick (2013), the government has taken policy steps to encourage inclusive education. Nuri et al 2021 in their study conducted a thorough policy analysis of the Persons with Disabilities Act of 2013. This act establishes the basic fundamental rights of all persons with disability. However, literature focusing solely on SWDs is sparse. In 2020, Haque et al (2020) explored the conditions of the physically challenged students of Rajshahi University in Bangladesh with a special focus on library use only. Soon after, in 2021, Mahfuz, Sakib and Husain (2021) conducted a study on the visually impaired students in Bangladesh during the COVID-19 pandemic. In 2022, another study by Nishat and Das 2022 looked into the residential experiences of the SWDs in Higher Education Institutions: Case of University of Dhaka While the previous studies were confined to a certain issue or aspect of higher education experience, the study by Rahman and Akhter (2021) used a holistic lens to understand the condition of inclusivity of Jahangirnagar University. This article takes a similar approach of assessing the provision of inclusive education policy for SWDs in the University of Dhaka. However, what sets this research apart is the selection of the case of Dhaka University and is considered a trendsetter for the rest of the public and

private universities of the country. Moreover, this research has used a globally recognized best practice framework to evaluate the existing policies and the lack thereof to explore the current scenario of inclusion in higher education for the SWDs.

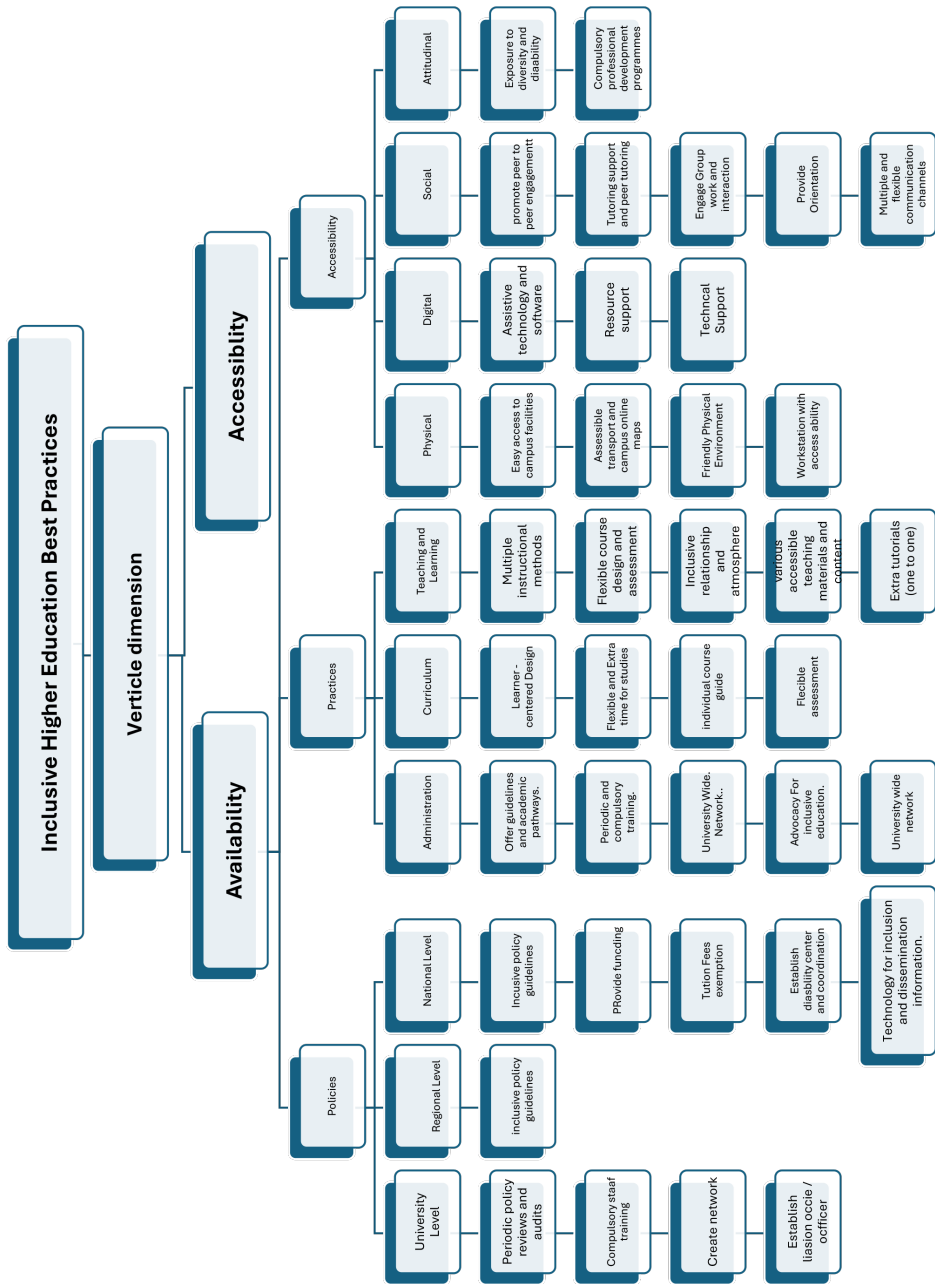
Theoretical framework

In the process of conceptualising “inclusive education,” two models, namely the individual-medical model and the social model, have garnered a significant amount of attention (Collins et al. 2018). The social model takes a broader approach and asserts that people are affected by the restrictions that are present in society (Collins et al. 2018). This is in contrast to the medical model, which has a very antiquated and limited perspective on disability, considering it as a “individualised problem.” Stanovich and Jordan (1998) asserts that, educators who are inspired by the “social model” are more likely to create inclusive classrooms and successful students, compared to those who believe in the “medical model”. The “social model” of inclusive education aims to fully integrate liberal perspective while embracing a more comprehensive approach. this is the appropriate model to employ in a study which not only focuses on the case of disability but also the case of invisibility.

In higher education, the disparity that “disables” students, whether consciously or accidentally, causing exclusion and contributing to further marginalisation can be understood from two dimensions: vertical inequalities and horizontal inequalities (Salmi & D’Addio 2020). The vertical dimension focuses on the entirety of the higher education commencing with the transition from secondary to tertiary education (admission and enrolment), continuing with the progression of students during their studies, and culminating with the conclusion of their studies at graduation. In the vertical dimension, both individuals who enrol in higher education and those who graduate from postsecondary institutions are taken into consideration. According to Salmi and D’Addio’s research from 2020, vertical dimensions investigate the “who” in relation to the process of entering and graduating from higher education (Salmi & D’Addio 2020). On the other hand, Horizontal dimensions broaden the scope of the “who does what” component, which, according to Salmi and D’Addio (2020), incorporates the potential outcomes and opportunities that may be available to individuals after they have completed their higher education. Most research on inclusive education focuses on vertical dimension, especially the admission to higher education gets more attention in research.

According to Mc Cowan (2015), there are three dimensions that can be used to evaluate the degree to which university policies support equal access to higher education namely- availability, accessibility, and horizontality (McCowan, 2015). McCowan (2015) makes it abundantly clear that in the context of tertiary level education, the term “availability” refers to the provision of sufficient spaces to ensure that all members of society who have the desire to engage in higher education and who have a minimal level of preparation are able to do so.

This study focuses on the vertical dimension of inclusion from the model given by Salmi & D’Addio (2020) and highlights only two dimensions - availability and accessibility from McCowan (2015). This is because, this study takes the case of one educational institution, namely the University of Since, the university is a public educational institution therefore, there is no aspect of horizontality which would require comparison between institutions of different educational qualities. Lastly, in order to chalk out the best practices in inclusive higher education, this study takes inspiration from a model co funded by the Erasmus and the program of the European Union which was developed in compilation of all the best practices for inclusive higher education. Since this study is based in a developing country context, a similar model has been adapted in this study to project possible and potential inclusive practices in higher education institutions in Bangladesh. The figure below has been adapted drawing upon the work of Salmi & D’Addio (2020), Lambrechts (2020) and McCowan (2015).



Source: Adapted by author from EU, 2020

METHODOLOGY

The study applied a qualitative research design. A phenomenological research approach was used in conducting this study. This method determines the nature of the problem, contributes to a deeper understanding of the issue at hand, and investigates the research subject in varying degrees of depth. The location for this research University of Dhaka through purposive sampling. Both primary and secondary sources were used to collect the data. The primary data was collected using In-depth Interviews (IDI) and Key Informant Interviews (KII). An interview is a very organized way for someone to deeply explore the lives of even a stranger and get the data and information they need for their research. All the interviews were taken at the respondent’s own university campus premises or hall accommodation at their convenient time. Trained and experienced data collectors, who are students of the same university had built rapport with the respondents before starting to the main questions. This ensured a certain comfort and ease for the IDI respondents. These IDIs were taken within two months from January-February, 2024. Participants were chosen using purposive sampling techniques.

A total of 10 KIIs from different administrative officials of the university admin building, current student advisors and hall tutors were conducted in order to gain a holistic idea of the existing policies for differently abled students at the university of Dhaka. The researcher used a mix of purposive and convenient sampling to select KII respondents. Administrative officers of relevant sections and faculties who are actively involved in out of class student-teacher roles were only approach. The reason behind choosing them was they had possessed a clear idea of the general student’s medication practice as well as they knew the general physician’s perspective on prescribing antibiotics. Both IDIs and KIIs were conducted using a semi-structured questionnaire. Semi structured questionnaire enables the researcher to obtain open-ended data, dive deeply into personal and often sensitive themes, and explore participant thoughts, feelings, and opinions about a specific topic. Interview questions were designed after conducting extensive literature review on this topic. Face and content validity tests were conducted before finalizing the questionnaire for the interview. The IDI questionnaire was basically focused on the experience and expectations of differently abled students whereas KII questionnaire focused on the existing policy architecture in practice for the differently abled students at the university of Dhaka. Before starting the interview, the questionnaire was displayed to the interviewee and their responses were noted accordingly by a professional data transcriber. Each interview lasted between 30 to 40 minutes.

Table 1: List of Respondents

List of Respondents – Provider End	List of Respondents – Receiver End
Deputy Registrar	Visually Impaired Student, Male
Deputy Librarian	Physically Impaired Student, Male
Provost, Hall Accommodation	Physically Impaired Student, Male
Deputy Registrar, Academic 5	Physically Impaired Student, Female
Deputy Registrar, Academic 3	Physically Impaired Student, Female
House Tutor	Visually Impaired Student, Male
Student Advisor	Physically Impaired Student, Male
PDF Secretary	Visually Impaired Student, Male
Ex- PDF Secretary	Physically Impaired Student, male
Student Advisor	Physically Impaired Student, Female

Books, journal papers, and material from websites were used to compile secondary data obtained from the available sources. After the data were collected, they were processed according to how relevant they were to the study topic. Following this, the data were organized and coded in accordance with the concepts and themes that were being investigated. The responses in the data set and the material that was gathered are related to the research issue, and these themes offer some degree of responses. A conclusive interpretation of the most important findings was arrived at by the application of this inductive thematic analysis, which involved the transformation of textual material into emergent themes. The research was reviewed and granted ethical review and approval in order to guarantee its quality. All of the participants were given a thorough explanation of the purpose and scope of the research project, and after receiving their written/verbal consent, interviews were conducted with them for the purpose of the study.

FINDINGS

In almost all public university of Bangladesh, differently abled students are admitted each year as per separate university enrolment policies. While in the past the numbers were meagre, in current times, the numbers are encouraging. This further necessitates a well-defined and well formulated inclusive education policy nationwide.

POLICIES

National and Regional Level

As the sole governing body of all public private and international universities of Bangladesh, the University Grants Commission (UGC) works to ensure that all tertiary education institution in the country uphold the highest standards of academic integrity in their pursuit of knowledge-based economic growth, social and sustainable development, and institutional excellence in administration and policymaking. However, as of now, there is no policy adopted by the UGC for all public and private universities, neither are there any guidelines or instructions. Therefore, there is no obligation for the universities to formulate policies of their own or implement inclusive education practices. Most public and private universities have their separate scattered initiatives and facilities to aid the differently abled students, but a coherent national policy is still missing.

University Level

The University of Dhaka sets the standard for most other public universities; therefore, it is imperative to investigate and evaluate its policy framework with respect to the inclusion for differently abled students. This research found out that the university of Dhaka has taken multifarious measures and aids to assist the differently abled students which are separately initiated by different sections of the administrative branch. However, there is no unified and consolidated policy that is centrally circulated to different sections of the registrar office, or faculties, institutes and departments.

Periodic policy reviews and audits

According to the Dhaka University General Admission Committee Guidelines (05/12/2023), in regard to admission in the 2023-2024 session undergraduate program in different disability quota, such as (visual impairment, deaf, mute, physical and neuro – developmental disorders) quota, 1% seat of the total number of seats is allocated. For Students applying under the disability (visual impairment, deaf, mute, physical and neuro – developmental disorders) quota, the lowest pass marks is 40%, which means 40 marks out of a 100 marks examination. The students availing this quota will have to fulfil the requirements as per the department policies which he/she is willing to study in order to enrol in the subject. This policy is strictly followed by all faculties of the university, during their admission examination.

From its own fund, the university fund provides an amount of BDT13,500 each year at the undergraduate level and BDT 18,000 each year at the graduate

level to all applicants. In addition, there are few government stipends which are provided to 10-25 differently abled students based on applications dropped every year. From the Social Welfare Ministry, on the basis of selection criteria, BDT12,000 is provided per annum based on application.

PRACTICES

Administration

The university encourages differently abled students to pursue their desired subjects and therefore, their opinions are taken into consideration during the subject choice process during the admission phase.

In the words of a differently abled female student:

Our passing mark is 40 in our admission test. But the physically challenged student quota is one percent. I was the only student who got admission in B unit from quota. If more than one percent passes from among the handicapped, then the person with the higher number is admitted.

In most universities globally, there is practice of trainings which exclusively imbue empathy, good practice, inclusive norm amongst faculties and administrative staffs of the university. This makes the faculties and administrative staff aware about the different struggles and vulnerabilities of differently abled students and prepares the faculties and staff to handle such students with more care, concern and cooperation. So far, there is no such training provided by the University authorities to spread awareness and empathy amongst the faculties and staff.

In the words of a female student of 4th semester who uses a wheelchair

During the admission times, I noticed that, there were differently abled students like me who couldn't easily understand the paperwork and the admission staff were not being cooperative and was also rude.

There is a widespread awareness and empathy visible towards the differently abled students and both students and faculties are found to advocate for the rights of the differently abled students. In the absence of defined policies, it is difficult to take concrete measures, but faculties and students are found to be aware, empathetic and active in advocacy for inclusion in higher education.

In the words of a visually impaired male student:

During my admission paperwork, I had to face a lot of troubles. I am a 20-year-old boy now, who had submitted all the medical documents from 17 years of my life during the admission time, along with the disability certificate from

Ministry of Social Welfare, yet I was told to take medical documents from the medical camp in front of Shaheed Minar. I had to face many obstacles to come to Dhaka University. Administrative procedures badly discourage me, hurt me mentally, and make me reluctant to study. That’s why I couldn’t prepare well for the entrance exam.

CURRICULUM

The paperwork during the admission examination is a cumbersome and lengthy one and often they face difficulties in the paperwork processing. During the admission examination, if a differently abled student with visual impairment wants to avail the service of a stenographer, he/she has to take permission from the faculty office first. This requires a lot of paperwork and a whole lot of convincing the officials in order to get the permission.

In the words of a student who used the help of a stenographer during his admission examination

In my class 5 (Junior School Certificate), class 10 (Secondary school certificate examination) a class 12 (higher secondary school certificate examination) national examinations, I had taken the assistance of a stenographer. I was required to show a certificate issued by the Ministry of Social Welfare. During my admission examination at the University, I wanted to apply similarly. Despite submitting my disability certificate, staffs from a unit were uncooperative and told me that I did not look blind! They also told me that, if any other faculty office gives me the permission for a stenographer, then only, they will too. I then took permission from another unit. And used that permission to receive clearance from the other. I felt that, in case of disability, there is a politics of “visibility of disability”.

The paperwork and administrative formalities while taking admission at the university is also a lengthy procedure which requires several days. There are several steps in the entire admission process, which involves following a number of strictly followed instructions. It is a frenetic and physically taxing task for any student who has to rush from one office to another.

In the words of a female student of who uses a wheelchair:

When I was taking admission, my father was with me so, I did not have to do any of the paperwork alone. However, I noticed that there were differently abled students who couldn’t easily understand the paperwork.

Though there is provision for extra timing for visually impaired students, in practice, this is not generally implemented unless absolutely obvious impairment

is noticed. There are students who have partial vision who do not generally get this support, unless they ask for it. Most importantly, the lack of any policy for students with physical limitations in their upper body especially hands require some form of assistive support which is missing both in policy and practices.

In the words of a student with mobility issues in his hands,

Since I have some problem with my hand limbs, it is a struggle for me to write continuously at a stretch. After every 20 minutes of writing, I have to take a pause to relax my arms and my fingers. But since there is no assistive policy for my kind of disability, therefore, I do not receive any extra time during examinations, though, getting a few minutes extra would have helped me tremendously.

Teaching and Learning

In the current practice of pedagogy at the university of Dhaka, different types of instructional methods are being employed to give students a multidimensional learning experience. Previously classes were taken in a top-down, extempore approach. At present, the university encourages interactive classroom, where student centred approach is taken through assignment based, project based, thesis-based learning is in practice. Audio visual teaching, use of presentations, use of cases, activity enriched methods are used as instructional methods at present by different department as deemed necessary. In the words of a female student who uses wheelchair:

TSC (Teachers Students centre) is an active and vibrant place for all students where all the clubs hold their sessions. I also wanted to be a part of these clubs. I decided to join the Quiz Society and all the senior students encouraged me a lot. But the club room was on 3rd floor and every time I went there, two or more students would come down and carry me all the way to the 3rd floor and also bring me down once the sessions were over. I went their couple of days but later decided to discontinue as I felt awkward and uncomfortable to put them through so much trouble.

ACCESSIBILITY

Physical

The university is situated at the heart of the capital and is therefore easily communicable from different corners of the city. The university is within convenient walking distance of public highway and pathways and is within the comfortable distance of public transport. Recently, the Metro Rail station has made communication to and from the university even easier for differently abled

students. The roads adjacent to the academic buildings and the overall campus area is spacious with enough space for car/ transport parking and manoeuvring. Therefore, students with mobility problems face troubles in accessing the services at the registrar building. In this case too, these students have to depend on someone else to do their work.

The registrar building rooms are over stuffed with furniture and the entrance is blocked, which makes it inaccessible for me with my wheelchair.

Old buildings either don't have elevators or don't have generator. Hence, in the case of a load shedding students with mobility problem who have classes in the higher floors of the building remain trapped as long as the electricity does not come back or comes down with the help of friends.

In my academic building, there is no generator. Once it happened that, there was load shedding and therefore, I got stuck on 4th floor. On that day, some of my friends waited for me until the electricity came back. Another day, there was no electricity, so the lifts were not working, but we had exams, so my friend carried me all the way to the fourth-floor examination hall.

Restroom problems in the campus beggar's description for the differently abled students. Although there are restrooms in close proximity to the classroom in every department, the entrance doors to the restrooms are not wide enough for a person using wheelchair to get through. There are no sperate washroom for the physically vulnerable students, neither are there any handrails for them to support on. There was a time, when washroom only had only low pans, but currently, most washrooms have high commode. However, the sink is not low enough (74cm) for a person using a wheelchair or of short stature to reach. In the words of another disable student:

Washroom is a dire need. With my wheelchair I cannot access the washrooms in the girl's common room. There is a washroom for differently abled which remains locked. Since I cannot use the washroom, I would always consume little to no liquid during my class hours. As a consequence, I had urine infection and got severely sick.

Digital

Though the University of Dhaka is gradually shifting to a more technology based smart classroom and introducing several online facilities for the students, the university still has a lot to achieve in terms of assistive technology and software for the differently abled students.

In the words of a students with mobility difficulties:

I have not applied anywhere, and I don't get any scholarships because I have to face a lot of problems to get a scholarship from Dhaka University. From the administration, they only give to whomever they like. And most of the scholarships given by Dhaka University to the disabled are given only to the visually impaired. Because they think visually impaired students are the main group of physically challenged students. I applied for several scholarships in my first year but was not selected for any of them.

Social

Though there is no separate tutoring support for differently abled students, but every department has designated student advisors who provide one on one tutoring support to students who face difficulties. The student advisors have separate office hours during which students can approach them with any problem and get advised accordingly. In the current curriculum, all departments at the University of Dhaka engage students in group assignments and tasks, which improve their ability to work in team, as well as engage and interact with fellow classmates.

In the words of a differently abled female student:

I enjoy taking part in team assignments and group work. In almost all my courses, we have assignments, some of which are group works which I absolutely love working on. Engaging in group works and assignments have helped me to gain confidence and improved my communication and interaction skills.

There is a Student Guidance Unit established at the TSC where students are provided with counselling and guidance support to all students inclusive of differently abled students. Apart from that, every department at the University of Dhaka has faculties appointed as student advisors who provide guidance to the students. Students communicate with their respective department student advisors regarding any issue they face at the campus or any difficulty they experience.

In the words of a female student advisor,

Often differently abled students approach us with their campus experiences. We try to help them by listening to their plights and suggesting them how to overcome some of the challenges I for one have always tried to give especial effort to make my differently abled students feel welcomed and at ease while communicating with me.

Attitudinal

Students from different backgrounds, religions, ethnicity pursue their education under the same roof to pursue their education at the University of Dhaka. Since majority of the students come from outside the the capital, they avail the hall accommodation provided by the university authorities. Hence, they develop a bonding of brotherhood and belongingness amongst themselves, which naturally converts the surrounding into an inclusive one. Differently abled students have expressed their gratitude to their classmates and friends who constantly support them in their everyday lives making their academic and campus journey smoother. In the words of a male students with visual impairment:

I have to face many problems while moving around the campus. I think I am able to continue studying here only because I have friends. I have one when I get off the bus; I have one when I walk around campus; and I have one when I enter class. I never had to move alone.

DISCUSSION

Although inclusion and equity are at the centre of Agenda 2020 and Sustainable Development Goal 4 on Education, there remains a visible dominance of exclusion, as the Global Education Monitoring Report 2020 has demonstrated. This exclusion is most vividly visible for those who are almost “invisible” in our societies. Studies show that the marginalization and perpetual poverty experienced by individuals with disabilities may not be solely attributed to their impairments, but rather to the devaluation they face at every phase of their life, from childhood to adulthood (Karanja et al. 2021; Ntombela 2022).

Differently abled people are victims of exclusion in almost every aspect of their lives and this exclusion is added in layers of their socio-economic status gender ethnicity alongside their ability. The solution to battling this exclusion is only through inclusion, starting at the core of their fundamental rights, one of which is education. Higher education opens up opportunities to a better life for an individual. Therefore, it is imperative to ensure inclusion in its truest sense for the differently abled students. Such inclusion or inclusive policies should therefore not only be limited to a mere quota assuring their enrolment, rather, additional facilities, affirmative actions, assistive policies and an inclusive higher education atmosphere where they will thrive just like every other student around them. In order to make a higher education institution a safe haven for learning, knowledge sharing, developing new skills and exploring potentials, it is important to have a single cohesive policy, both at the national and regional

level. A coherent policy approach will only be possible if the state formulates a policy to ensure inclusive education for the differently abled and pass it down to all higher education institutions in the country to practice and preach. Dhaka University can play a pivotal role in this regard, as the university is the largest and oldest public university in the country. Whatever policies and practices that the University of Dhaka adopts acts as a guideline for the rest of the public and private universities of the country. Hence, in case of ensuring inclusive education, the University of Dhaka can play be a torchbearer. Byrne (2022) states that an inclusive higher education program ought to have the goal to help individuals enhance their mental health, creativity, personality, and talents, allowing them to have a more significant impact on society. The university already has some remarkable facilities and initiative adopted for the differently abled students but there is still scope for including more. The university lacks a compilation of all its existing policies which must get priority, as a unified compilation of existing policies makes it easy to monitor and evaluate the implementation. Like most other public offices, the administration of the University of Dhaka has its own bureaucracy. Being a magnanimous higher education institution, the complexity of its administrative functions is enormous. However, the university can play an assistive role in reducing the trouble and distress of the differently abled students by reducing the bureaucracy of paperwork, guidelines, prerequisites, documentations and red tapes which plagues the administrative practices at the registrar building. Lopez-Gavira et al. (2021) claims that higher education institutions are places where SWDs encounter the most stigma and unfavourable environment. Some of these challenges include students' and instructors' lack of empathy, which is particularly problematic when trying to provide sufficient resources for support programs in universities. Though Agbenyega (2006) found that many regular teachers experience anger, irritation, and unfavourable attitudes. In the case of the University of Dhaka, students and teachers seem to be mutually aware and faculties are empathetic and assistive. However, there is ample scope of improving the behaviour pattern of administrative staff of the universities who often lack awareness and empathy. The excessive adherence of by the book approach makes administrative staff inflexible and incompatible to the needs and ease of the SWDs. There is a dire need for the proper trainings of all staffs at the administrative building and also occasional trainings for educators to imbue empathy and leniency in day to day dealing with the SWDs. Despite having resource constraints, the University of Dhaka has lately made significant progress in terms of physical accessibility for the differently abled students. These

renovations have helped the students undoubtedly, yet, there is scope to undertake more renovation measures, especially for the old buildings which are dated more than 50 years ago. The policies that are currently practiced at the university are commendable, yet it is high time to reform these policies and explore the necessity of integrating new policies to ensure inclusive education. The university has to understand the depth of the disability being different for different groups and therefore, how a holistic policy approach which is customised for few but generalized enough for all should be the target of the university. The university should also overcome the tendency to judge by “seeing is believing”. There are disabilities which are subtle, and there is a certain sensitiveness in sharing disabilities, any of which does not necessarily negate the reality of the issue. Thus, the system has to be able to change and evolve with the needs of the educational community. Recognising and appreciating the unique identities, cultural origins, and personal protected features of each student is crucial. Most importantly, there is still no provision to create a competency- based learning environment for the SWDs in order to prepare them for the job market and consequently create more employable human resources in the country.

CONCLUSION

A nation that aims for sustainable social and economic development has to invest religiously in creating capable and qualified human resources, an endeavor which is only possible through equitable opportunities for access in higher. Lack of equitable opportunities in education restrict the options and possibilities of life itself. Thus, it might be stated that, while education can promote inclusion and social change, the lack of it thereof, can equally widen the social and economic divides (Patrinos, 2019). Thus, inclusive education policies are imperative to ensure equal access to all students irrespective of their socio-economic status, gender, ethnicity and ability. For student with disabilities the struggle is extensive, as their numbers are not truly representative in higher education institutions. Because of their “invisibility” in and around the campus, often authorities sideline their necessities. Being out of sight, there are often out of mind of the policy makers. In order to create a just society, SWDs should be provided with an inclusive environment in higher education institutions not just in terms of physical accessibility, but also from a holistic policy and practice approach.

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Challenges of Achieving SDGs in Bangladesh: An Assessment of Biodiversity under Sustainable Development Goal-15

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ABSTRACT

This paper explores the challenges of implementing Sustainable Development Goals (SDGs) focusing on biodiversity goal. Biodiversity loss is one of the critical environmental problems, and the stock of biodiversity is gradually decreasing due to increasing population and pressure on forests, land, and water. On the other hand, the value of biodiversity is significant for humanity and overall sustainable development. The findings of this research indicate that there are many challenges to restoring the loss of biodiversity and protecting the biodiversity from loss; that is, implementing the SDG. The challenges include inadequate financing, data gaps, lack of capacity, difficulties monitoring progress, insufficient interagency cooperation, and bad biodiversity management through EIA. This research also recommended overcoming these challenges to achieve the goal. The recommendations include filling the data gap, financing biodiversity protection, incorporating biodiversity issues into sectoral planning and policies, addressing biodiversity impacts through EIA, future budgeting for biodiversity protection, inclusive participation, and developing institutional mechanisms.

Keywords: Biodiversity, SDG, Challenges, Bangladesh

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INTRODUCTION AND BACKGROUND

Bangladesh achieved the Millennium Development Goals (MDGs) by 2015, as declared by the United Nations. Given this successful story, Bangladesh has taken the initiative to achieve Sustainable Development Goals (SDGs) by 2030 (Rahman, 2021). All countries worldwide are taking necessary initiatives, including implementing action plans to achieve the universally declared SDGs (Oosterhof, 2018; Momen & Ferdous, 2023). All nations have agreed to this agenda, which applies to all nations considering their various national realities, capacities, development stages, and policy priorities (Lucas, 2014). They balance sustainable development's social, economic, and environmental aspects and are interwoven and indivisible (Planning Commission, 2016).

While the country will be a lower middle-income country and economic growth has been around six since the 1990s, there is a long way to go to achieve the vision 2041. Significantly, this will largely depend on the achievement of SDGs by 2030. Among the seventeen SDGs, one of them is biodiversity protection. Bangladesh is a relatively small country with a of about 160 million (BBS, 2011). Due to unlawful population intervention and unplanned infrastructural development, such as the construction of roads and establishment of industries, biodiversity in Bangladesh is under threat. It is imperative to protect biodiversity in Bangladesh to get ecosystem services and the value of biodiversity from land and water.

While the Government of Bangladesh successfully implemented the MDGs, the SDGs are expected to be achieved by 2030. However, this is a daunting task, and many challenges are ahead. With this issue in mind, this paper focuses on the challenges of achieving the SDGs. In particular, the challenges of protecting biodiversity from loss, one of the seventeen SDGs, will be analysed.

As mentioned above, biodiversity is one of the and an integral part of the environment. In Bangladesh, biodiversity has been lost to a great extent due to a lack of enforcement of the law, a lack of understanding by people about biodiversity, industrial pollution, and many other reasons (Mukul et al., 2018). This suggests that we need to restore biodiversity loss on the one hand and protect the existing biodiversity on the other (Faroque and South, 2022). Importantly, this paper the challenges of achieving SDGs with a particular focus on biodiversity. The challenges are still unexplored. This paper will also recommend how to address challenges. Therefore, this timely study is expected to contribute to policymakers and academics finding ways to protect biodiversity from loss. The findings of the paper will be helpful to the government of Bangladesh. Importantly, this paper will provide insights into the biodiversity loss in Bangladesh and the challenges to protecting biodiversity.

The main aim of this paper is to find the challenges of achieving biodiversity with the following objectives. These include:

1. To analyse the situation of biodiversity loss in Bangladesh
2. To identify the challenges in achieving the goal of biodiversity
3. To recommend for achieving the goal for biodiversity



Figure 1: Sustainable Development Goals

LITERATURE REVIEW

The vast array of about 9 million distinct living species that inhabit the world and their interactions are generally called biodiversity. The idea encompasses all known species of bacteria, viruses, plants, fungi, and animals and the variety of genetic variations among them. It also includes the variety of habitats, the composition of species, and the continuous evolutionary processes that enable them to persist and adapt (UNEP, 2013).

These shifts in biodiversity alter ecological processes and affect how resilient ecosystems are to environmental change. This significantly impacts the services that ecosystems offer to people (Chapin et al., 2000). Without biodiversity, which encompasses creatures, ecosystems, and ecological processes, human society would not be able to exist. They give us clean air and water. They cycle carbon and fix nutrients. They control diseases and pests, help prevent flooding, allow plants to flourish, provide human food, and regulate the climate. We refer to these advantages as ecosystem services. Humans benefit from biodiversity because

it is a constant reminder that, even though we live primarily in cities, we are inextricably linked to the natural world. Since we are a part of the environment, we rely on it. Biodiversity is the “life insurance policy for life itself” (McNeill and Shei, 2002). Here are six reasons why we should all value the biodiversity of the earth:

1. **Moral considerations:** It is better to live in a culture that values protecting and caring for wildlife and natural areas over one that does not.
2. **For aesthetic purposes:** all animals and landscapes should be preserved because they are beautiful and improve human lives.
3. **Fulfilling significant natural roles:** Because they perform natural functions, ecosystems are beneficial to us. For instance, bacteria are critical in an ecosystem’s ability to recycle nutrients and break down dead plant and animal remains.
4. **People can profit materially and economically from the actual and potential sense of biodiversity.**
5. **The ongoing evolution of processes.**
6. **Protection:** Nobody can predict what future needs humanity may have. There is no way that people can gain from extinct species (Chapin et al., 2000). The Economic Commission (EC), Development Fund for International Development (DFID), and International Union for Conservation of Nature (IUCN) researched the subject. They identified the following seven principles as the guiding principles for biodiversity in development cooperation (Box 1). The fundamental idea is that biodiversity is vital to many people’s lives and not merely a metric of sustainable development or an issue for environmentalists.

Principle A: When designing development cooperation programmes, take an ecological and multi-sectoral approach (considering the effects on nearby and downstream areas).

Principle B: Encourage just and equal distribution of the costs and gains associated with protecting biodiversity and using resources sustainably at all levels—local, national, regional, and global.

Principle C: Promote complete stakeholder participation, including collaborations between the public and commercial sectors and civil society.

Principle D: Ensure the organisational structures are responsive, inclusive, transparent, responsible, and effective.

Principle E: Make sure that initiatives and programmes related to development cooperation align with the larger framework of policies or that laws and policies that support them are modified.

Principle F: Make use of or supply pertinent, accurate, multidisciplinary data that is understandable and accessible to all parties involved.

Principle G: Investments in development cooperation should recognise and support local and national capacities, procedures, and structures.

Box 1: Guiding Principles for Biodiversity in Development Cooperation
Source: DFID, IUCN, and EC, 2001

Globally, adverse changes to biodiversity, particularly species extinction, are occurring at an alarming rate; nevertheless, the fundamental and distinct environmental concern in emerging nations is biodiversity loss (Adenle et al., 2015). Concerns about the loss of artificial biodiversity have arisen worldwide as a result. Changes in the biodiversity around us impact all of us. Biodiversity is rapidly declining worldwide. Numerous species have been extinct due to the rapid increase in human population from 2 to 7 billion in just 100 years. Scientists agree that we live through the first global extinction event caused by human activity and climate change. They also concur that the rate at which this occurs is too quick for species to adjust. Given the increasing body of evidence linking biodiversity loss to declining ecosystem productivity and stability, this biodiversity loss is alarming. As a result, there may be detrimental compromises to the services on which we depend. One of the megatrends that could significantly influence Australia in the upcoming decades is the reduction in biodiversity, according to CSIRO's most recent report, *Our Future World 2012* (CSIRO, 2015).

According to the *Economics of Ecosystems and Biodiversity* study, the annual loss of ecosystem services from land-based ecosystems alone to global wellbeing would be roughly €50 billion in the case of business as usual. However, everyone depends on the advantages that biodiversity and ecosystem services offer. Benefits from biodiversity are substantial for vulnerable and impoverished populations and indigenous peoples. The poor and vulnerable, women, children, and Indigenous peoples, on the other hand, are more directly affected by biodiversity loss and degradation, and the consequences are more severe (UNEP, 2013).

Loss of Biodiversity in Bangladesh

In Bangladesh, as in many other parts of the world, relatively few ecosystems are unaffected by human activity (Department of Environment, 2004). Bangladesh is prone to natural disasters. Every year, the nation is devastated by natural catastrophes such as tropical cyclones, storm surges, floods, tornadoes, and droughts. Natural disaster frequency and intensity have grown as a result of climate change. Bangladesh is a nation in the lowlands. Less than five meters separate the majority of the country from sea level. Lowland coastal areas will suffer from saline water intrusion and rising sea levels (SLR) brought on by climate change (Uzzaman, 2014).

Biodiversity is impacted by climate change both directly and indirectly. Climate change has a complex effect on forests and biodiversity. The IPCC predicts that at least one-third of the world's forests will suffer from climate change, which will lower precipitation, soil fertility, and carbon sinks. According to the Intergovernmental Panel on Climate Change (IPCC), tropical forest ecosystems would suffer due to climate change (Government of Bangladesh, n.d).

The nation has seen various development initiatives. Our ecosystem is under extreme stress due to industrial development, the growth of agricultural settlements, fast urbanisation, and rural infrastructure development combined with population growth. These factors have exacerbated habitat degradation. These processes deplete our biological resources in both cultivated and wild stages and at species, ecosystems, and genetic levels.

According to studies, only 100 of Bangladesh's 6000 or so vascular plant species have been classified as threatened (Khan et al., 2001). Numerous additional species, particularly those of medicinal plants, are under extreme strain from habitat loss and overuse. The Red Data Books of Bangladesh have listed about 220 species of vertebrates, including fish, amphibians, reptiles, birds, and mammals because they are in danger of going extinct. According to a review of historical and contemporary trends in animal extinctions and population decreases, aquatic ecosystem-dependent species appear more vulnerable. On the other hand, flora found in terrestrial forests are the most threatened (Government of Bangladesh, 2004).

The nation is home to a diverse array of wildlife as well. Approximately 138 mammal species, over 566 bird species (passerine and non-passerine), 167 reptile species, and 49 amphibian species may be found in Bangladesh. According to the IUCN (2015) and Islam et al. (2003), there are also at least 253 species of freshwater inland fish, 305 species of butterflies, 305 species of prawn or prawn,

2,493 species of insects, 362 species of molluscs, 66 species of corals, 15 species of crabs, 19 species of mites, 164 species of algae, and four species of echinoderms thought to exist in the nation (Allendorf et al., 2024; IUCN: 2015, Islam et al., 2003).

Bangladesh's Red List by the IUCN The Red List of Bangladesh was updated recently by the International Union for Conservation of Nature and Natural Resources (IUCN), revealing 390 vulnerable animal species in Bangladesh. Of them, 181 are endangered, 153 are vulnerable, 56 are highly endangered, and 31 have been determined to be regionally extinct. Additionally, 278 species were designated as "Data Deficient" on the Red List of Bangladesh because there was not enough information available to do a direct or indirect evaluation. This creates the chance for more thorough study and beneficial conservation initiatives (Munira, 2017).

Initiatives to Protect Biodiversity in Bangladesh

In Bangladesh, biodiversity conservation has recently drawn more attention despite natural ecosystems' rapid loss and degradation (Mukul et al., 2018). As a signatory to numerous regional and international conventions and agreements about conservation, the Bangladeshi government is increasingly dedicated to protecting the nation's surviving biodiversity. The government has already ratified five major conventions about biodiversity: the Ramsar Convention, the Convention on Biological Diversity, the Convention on International Trade in Endangered Species, and the Convention on the Conservation of Migratory Species (Mukul, 2007).

In addition, the nation has implemented several in-situ and ex-situ conservation strategies to preserve its unique biological legacy. Among these are the declarations of ecologically essential and protected places. In situ conservation techniques are commonly employed in World Heritage and Ramsar Sites (Mukul et al., 2008). The Environmental Protection Act of 1995 states that if a region in Bangladesh becomes environmentally sensitive, the Department of Environment may designate it as an Environmentally Critical region or an Environmentally Protected Area. There are 38 protected areas in the nation, comprising 21 animal sanctuaries and 17 national parks. Bangladesh's protected areas include 1.8% of the nation's total land area and around 17.5% of its forest area (Mukul et al., 2018; Mukul et al., 2008). The country also boasts two safari parks, seven eco-parks, and botanical gardens, all of which significantly contribute to preserving the declining biodiversity of the nation.

Bangladesh is dedicated to protecting and conserving biological variety for current and future generations, following the convention principles as a signatory to international agreements on biodiversity. Following a protracted stakeholder consultation process, the government created the National Biodiversity Strategy and Action Plan (NBSAP) paper in 2004. Sixteen strategies have been devised to mould and guide the actions towards accomplishing the NBSAP's aims and objectives. To further safeguard biodiversity, the government created the Biodiversity Act of 2015. Any infraction of the law could result in a fine of up to Tk 10,000, five years in prison, or both.

Biodiversity as SDG

Despite the initiatives taken by the government to protect biodiversity loss, the loss of biodiversity is continuing in Bangladesh and worldwide due to the impacts of climate change and many other reasons. Thus, stopping the loss of biodiversity is a crucial component of Goal 15, which also includes the following objectives: (a) protecting, restoring, and promoting the sustainable use of terrestrial ecosystems; (b) managing forests sustainably; (c) preventing desertification; (d) stopping and reversing land degradation; and (e) halting the loss of biodiversity. Under this aim are 12 targets (Box-2), of which six are directly related to biodiversity loss.

- By 2030, conserve mountain ecosystems, particularly their biodiversity, to increase their ability to offer essential advantages for sustainable development.
- Take prompt, urgent action to reduce the loss of natural ecosystems, halt the loss of biodiversity, and, by 2020, prevent the extinction of endangered species.
- Encourage fair and equitable distribution of the advantages of harnessing genetic resources and adequate access to them, as agreed upon worldwide.
- By 2020, incorporate biodiversity and ecosystem values into national and local development protocols, accounts, and poverty reduction programmes.
- Rally support for the conservation and sustainable use of ecosystems and biodiversity and significantly increase financial resources from all directions.
- Increase international backing for programmes aimed at putting an end to the poaching and trafficking of animals under protection, mainly by providing more opportunities for local communities to pursue sustainable economic alternatives.

Box-2: Targets to be achieved under goal biodiversity (Goal 15)

Source: Developed by the authors

Furthermore, biodiversity is not only inextricably linked with other sub-goals under Goal 15, such as promoting territorial ecosystems, forest management, and combating desertification and land degradation, but it is also linked with other Goals. In several SDG areas, biodiversity plays a key role (World Bank, 2015). A recent study by the World Bank indicates a relationship between biodiversity and the other 14 SDGs (World Bank, 2015). Figure 2 shows a link between biodiversity and some of the other goals.

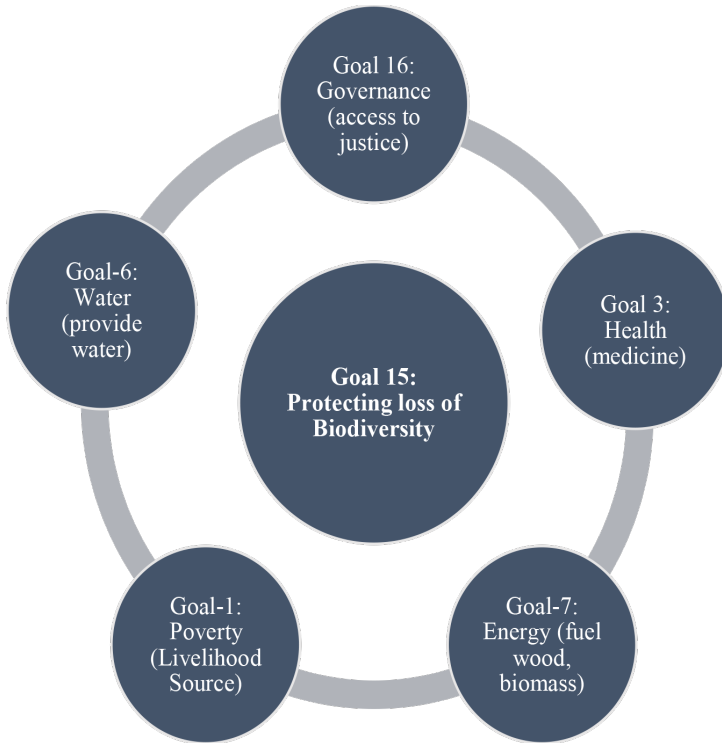


Figure 2: Relationship between biodiversity and other SDGs
Sources: (World Bank, 2015)

For instance, biodiversity offers resources and revenue, especially to the impoverished in rural areas who rely on ecosystems and biodiversity for their daily needs. Between 50% and 90% of the overall source of livelihood for disadvantaged rural and forest-dwelling households—the so-called “GDP of the poor”—comes from ecosystem services and other non-marketed items (World Bank, 2015). In Brazil, initiatives to enhance nutrition by bringing attention to the nutritional content of native species were undertaken by several ministries, including those dealing with social development, the battle against hunger, health, education, agriculture, and rural development. The National Plan for Agroecology

and Organic Production, the Food Acquisition Programme (PAA), the Minimum Price Guarantee Policy for Biodiversity Products (PGPM-Bio), the National Food and Nutrition Policy (PNAN), and the National School Meals Programme (PNAE) are just a few of the initiatives they created. By offering minimum price guarantees, they helped growers and tried to establish marketplaces. Social organisations and educational institutions receive products (World Bank, 2015).

METHODS AND MATERIALS

Methods of data collection

This is qualitative research; data were collected from primary and secondary sources as described below.

Secondary Data Collection: For secondary data, documents such as policy papers, government documents, journal articles and research reports made by various agencies were analysed. Moreover, this study is based on expert opinions on managing and conserving biodiversity in Bangladesh.

Primary Data Collection: A semi-structured questionnaire was used to gather primary data (Appendix 2). Speaking with experts in the field and seasoned professionals in biodiversity and the Sustainable Development Goals (SDGs) at different levels of national government, international organisations, and other agencies, the researcher conducted phone conversations or in-person meetings. A questionnaire was also used to elicit expert viewpoints on issues of biodiversity loss in Bangladesh and the challenges to achieving this SDG. Expert opinions provided insights on the issues of biodiversity loss in Bangladesh as one of the SDGs and challenges to achieve this goal. A total of 30 key informants or experts were contacted with questionnaires. Key informants included local officials and stakeholders, selected through purposive sampling based on their roles. However, 20 persons responded to this research. In addition, efforts were made to collect data on how the District Administration can support achieving the biodiversity goal during field visits. The researcher visited Barisal District for five days (from 5th to 9th March) and gathered some data. Barishal was chosen for its biodiversity significance and administrative relevance. Verbal consent was obtained; though ethical clearance was informal due to time constraints. Qualitative responses were thematically analyzed to identify key patterns and challenges.

Method of Data Analysis

Expert opinions were carefully noted and analysed, focusing on the challenges of implementing biodiversity goals in Bangladesh. Furthermore, collected data were analysed using a spreadsheet to produce figures and graphs.

FINDINGS

The SDGs have a more ambitious agenda than the MDGs. They include more demanding targets for gender equality, health, education, and inclusive growth, as well as a goal to eradicate poverty rather than reduce it. They are all-encompassing, encompassing all nations and individuals. In addition, the MDGs do not cover economic growth, innovation, sustainable production and consumption, or the significance of peace and justice for all.

Opinion on the Condition of Biodiversity in Bangladesh

Figure 3 indicates key informants' opinions about the condition of biodiversity in Bangladesh. This shows that according to 50% of key informants, the biodiversity condition of Bangladesh is worse, whereas 40% of crucial informants viewed the condition as moderate. Only 10% of informants said the biodiversity condition is better in Bangladesh. No opinion was found either in the worst or excellent category. The authors support the findings; for example, Munira (2017), Islam et al. (2003), Khan (2003), and Islam (2001) underscored that many flora and fauna are either extinct or endangered.

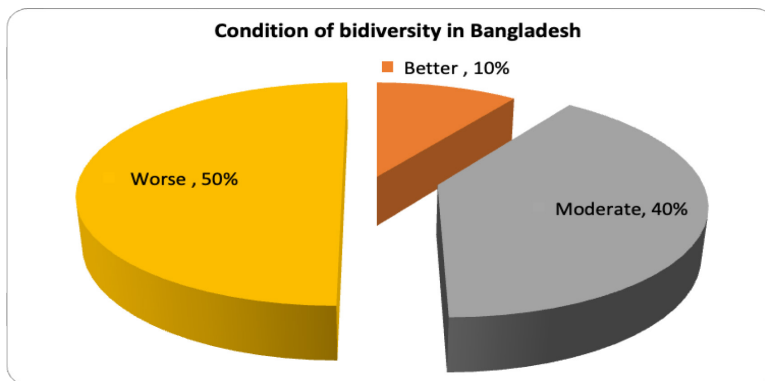


Figure 3: Condition of biodiversity in Bangladesh.
Sources: (Field Survey ,2024)

Implementing SDGs in Bangladesh

Opinion of Respondents about the Achievement of Biodiversity Goal

Figure 4 indicates the opinion of key informants about the government's achievement of Bangladesh's biodiversity goal. Here, 25% of key informants opined that most biodiversity indicators will be achieved by the set time, while 60% said many will be completed by 2030. Only 15% of key informants said some indicators will be conducted by 2030 (Figure 4). However, no one said that indicators would be fully achieved or not at all. This response may correspond to the initiative taken by the government as described in section 4.2.2.

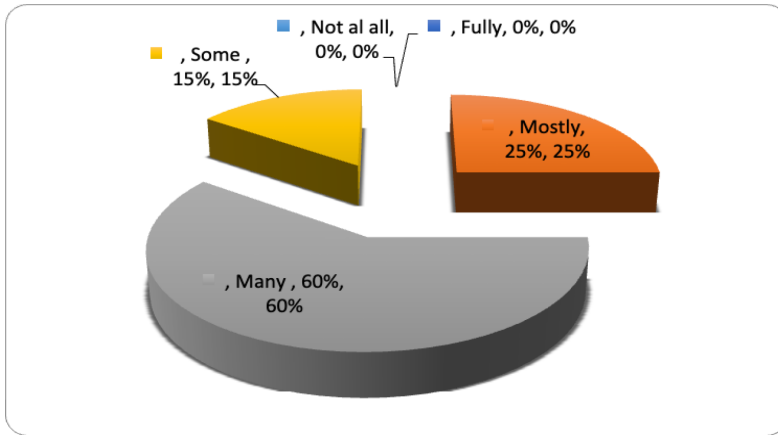


Figure 4: Possibility of achieving biodiversity indicators by 2030
Sources: (Field Survey ,2024)

Initiatives Taken by the Government in Achieving SDGs

Some documents by the Government of Bangladesh reflect the government's initiative to achieve the SDGs. The Prime Minister's Office and the Cabinet Division are two directly related Ministries/Divisions mapped out according to SDG targets (i.e., who is responsible for what). This mapping was completed by the General Economic Division (GED). The mapping operation has made it possible to examine Bangladesh's data situation using the SDGs indicators as a lens (Government of Bangladesh, 2016). This document clearly outlined the agencies responsible for implementing the biodiversity sub-goal and associated targets and indicators (Appendix 1).

The GED did another study. The Data Gap Analysis for each of the 230 indicators recommended for SDG monitoring has been completed in this study document. The Planning Commission's General Economics Division (GED) has been designated the Prime Minister's Office's SDG focal point and secretariat for the "SDGs Implementation and Monitoring Committee." To determine which ministry, division, or department will supply data for the SDG indicators, the data gap analysis underwent thorough consultation for each indicator. Furthermore, this research determined each indicator's current state of data availability, revealing that two indicators are irrelevant from Bangladesh's point of view (Government of Bangladesh, 2017).

With an emphasis on reaching goals, the government has included a few SDGs in the 7th Five-Year Plan (2016–2020). Regarding the SDGs' alignment with the 7th FYP, Goal 1, Goal 16, and Goal 17 are determined to be moderately

aligned with the plan document. At the same time, the remaining 14 objectives are deemed to be thematically matched. Out of 169 targets, 11 are irrelevant for Bangladesh, 37 are partially aligned, 65 are not aligned, and 56 are in line with the 7th FYP. 41 SDG indicators are fully aligned with the 7FYP, 27 are moderately aligned, and 138 are not.

Challenges of Achieving Targets Relating to Biodiversity in Bangladesh

While Bangladesh has taken some initiatives mentioned above to implement the SDGs, there is a long way to go to achieve the SDGs by 2030. Other countries, for example, Brazil, Pakistan, and Indonesia, have consulted with the UN and taken initiatives to implement strategies (UNDG, 2016); Bangladesh has yet to consult with the UN to find implementation strategies for SDGs (Khatun and Saadat, 2021). Apart from the simple fact that SDGs contain much larger goals covering broader issues than MDGs, the agenda is more challenging. The following challenges are identified based on secondary data.

Figure 5 indicates the opinions of key informants about the challenges of implementing biodiversity. About 90% of respondents opined that all the challenges are essential to achieving the targets relating to biodiversity goal. Only a few (about 10%) said that some challenges are moderately or less critical. Nobody said any challenge is not significant at all (Figure 5). The challenges are discussed in detail below.

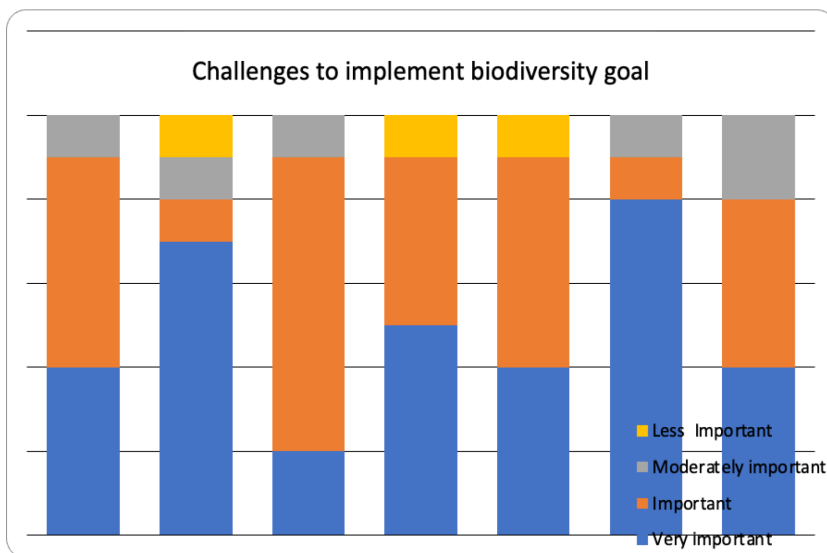


Figure 5: Challenges of biodiversity goal implementation
 Sources: (Field Survey, 2024)

Data Gap for Biodiversity Indicators

Data Gap Analysis revealed that just 70 indicators are included in Bangladesh's current data-generating system, while 108 indicators can be produced by changing the country's recent census and survey (for disaggregation). A further study or census will be needed for an extra 63 indicators to have data for assessing how well the SDGs are being achieved. The Bangladesh Bureau of Statistics (BBS) and the statistical community as a whole need to be aware of the demanding job that lies ahead for "data mining" and production (Government of Bangladesh: 2017). For the goal of biodiversity, there are 14 indicators, where only three indicators have available data, six indicators have partial data, and for five indicators, there are no data (Government of Bangladesh: 2017).

Indicators should include the particular demographic categories and any disaggregation components in the targets to guarantee that no one is left behind. National statistical agencies will need help in implementing this data disaggregation approach.

Inadequate Financing for the Protection of Biodiversity

Financial resource constraints can become a significant concern in implementing the SDGs (Planning Commission, 2016b). There will be a need for more excellent resources to conserve Bangladesh's biodiversity, even as attempts to boost domestic resource mobilisation and aid to Bangladesh must continue. Bangladesh must use over two per cent more foreign aid than it is now. Additionally, since Bangladesh's tax GDP is even smaller than Nepal's, domestic resources must be doubled to meet the SDGs by 2030 (Daily Star, 2010). A more diverse international aid will leverage additional public resources to implement Sustainable Development Goals. Foreign aid can only fully achieve its potential benefits if Bangladesh can develop the capacity to use and manage it effectively (UNDP, 2016).

Bangladesh's enormous investment demands cannot be satisfied by domestic resources and international aid alone because private investment is still low. This indicates that additional funding from the domestic and foreign commercial sectors needs to be found in creative ways. It is clear, however, that this will be challenging in Bangladesh, where some potential political risks and capacities need to be strengthened in addition to corruption.

Inadequate Incorporation of Biodiversity in Planning Development

Incorporating biodiversity into sectoral policy and planning is crucial for implementing the biodiversity goal. In addition to the lead ministry, the Ministry

of Environment and Forest, 12 ministries or divisions are responsible for implementing the biodiversity goal. However, experiences indicate little evidence of incorporating the protection of biodiversity issues into the policy and planning of these ministries. Thus, if the supporting ministries incorporate this issue, it will be easier for the Ministry of Environment and Forest to implement this goal.

Addressing Biodiversity Impacts through EIA

In Bangladesh, it is mandatory to undertake an Environmental Impact Assessment (EIA) of development projects according to the Environmental Conservation Rules of 1995 (amended in 2010). The project proponents will identify potential biodiversity impacts of the projects and take necessary action to protect biodiversity. However, research and experiences show that EIA in Bangladesh is often undertaken without quality information on environmental impacts, including biodiversity (Momtaz and Kabir, 2013). An investigation of the quality of EIA reports finds that biodiversity impacts are primarily absent (Momtaz and Kabir, 2013). When this is the case, the protection of biodiversity and restoration of the loss of biodiversity by 2030 will be a big challenge.

Lack of Implementation Capacity

Bangladesh has successfully achieved MDGs and associated targets. However, the number of SDGs is more than the MDGs, and so are the targets. However, national, sectoral, and local government capacity must be improved. To protect against environmental degradation, including biodiversity loss, the government needs to generate data for indicators and use more expertise and technology. At the same time, the primary responsibility of achieving the goal lies with the Department of Environment. Experience shows that the Ministry of Environment cannot generate data and protect biodiversity loss. This is due to the need for more adequate skilled staff in the ministry regarding biodiversity. Furthermore, other ministries will assist the Ministry of Environment and Forest in achieving biodiversity goals, for example, (Appendix 1). However, these ministries still need to establish environmental and biodiversity cells.

In addition, the local government will be responsible for collecting data on biodiversity and the protection of biodiversity. Still, local government needs to have more capacity to collect data. In addition, funding and support to improve local government capacity have yet to catch up. It requires the technical capability to plan and manage service delivery. Furthermore, there is no office of the Department of Environment at the Upa-Zilla level, whereas there are 22 offices of various departments at the Upa-Zilla (sub-district) level. If there were any office

of the Department of Environment, this could support local government to serve the purpose.

Given the SDGs' extensive data requirements, more institutional and human resource support—both technical and capacity building—is needed to store, manage, and track the enormous amounts of data required to achieve the goals. Knowledge management is essential to preserve institutional memory and competence for future development simultaneously (Government of Bangladesh, 2016b).

Lack of Monitoring the Progress

Reliable, timely, accessible, and high-quality disaggregated data will be required to monitor the implementation's success and track improvements. Making decisions involves the use of such data. When feasible, data from already existing systems should be utilised. Efforts to improve the Bangladesh Bureau of Statistics (BBS) statistical capabilities must be increased. Regarding data availability for monitoring the Sustainable Development Goals, a document indicates that, with its current data-providing mechanism, BBS could provide data for 24.81% of indicators and partial data (that can be used with only minor modification) for 9.30% of indicators. However, BBS currently needs a mechanism to provide data for 65.89% of indicators, a significant percentage to consider. Therefore, more focus should be placed on guaranteeing that pertinent data availability maximises the benefits of BBS initiatives to facilitate effective monitoring of the SDGs (GED, 2016).

Inadequate Environmental Governance

Governance refers to how societies make decisions and take action. Achieving SDGs relating to environmental areas will need strong environmental governance in Bangladesh. This will require the national government, the private sector, the nonprofit sector, civil society and local communities to make proper ecological decisions. In Bangladesh, environmental governance is absent mainly even though there is a Ministry and Act for Environmental Protection of 1995. Some examples of biodiversity loss are industrial pollution and the reduction of forests. There is a political will, and exceedingly honourable Prime Ministers often vouch for protecting the environment. However, the government must enforce the law to protect against biodiversity loss.

Furthermore, the government may ignore environmental issues by fixing priorities and considering SDG trade-offs. For example, it may focus more on reducing poverty than protecting biodiversity loss. In Bangladesh, 25.3% of

people live below the poverty line, and achieving this goal will require a lot of work. This is a general challenge to achieving goal 15 and protecting biodiversity loss.

RECOMMENDATIONS AND CONCLUSIONS

In addition to integrating the SDGs with the 7th FYP, attention should be paid to identifying and addressing obstacles to the SDGs’ implementation in Bangladesh (Alam, 2019). Policy coherence is essential to the success of SDG implementation because of the scope of the goals. Effective coordination amongst all parties, including civil society participation, is critical to implementing the SDGs. Capacity building for identifying appropriate initiatives, data collecting and dissemination, monitoring and evaluation, and South-South and triangular cooperation will be significantly more effective than the conventional rich-poor nexus (GED, 2016).

Recommendations

Figure 6 indicates the importance of the key recommendations as determined by the key informants. Around 90% of the respondents said the proposed recommendations are significant. Only a few respondents say the recommendations are either moderately essential or less critical. The recommendations are described in detail below.

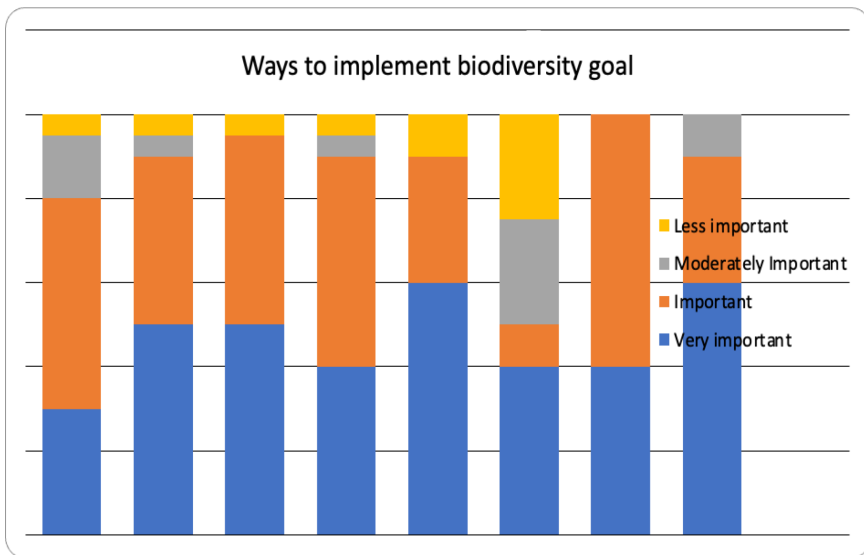


Figure 6: Recommendations for the implementation of biodiversity goals
 Sources: (Field Surve, 2024)

Inclusive Participation

Ensuring the involvement of pertinent government departments and agencies, as well as the private sector, in national consultations regarding the implementation of the SDGs (Ferdous, 2024; Ferdous & Uddin, 2021), including biodiversity, is vital. Ensuring stakeholder participation in implementation and monitoring at all levels is key to effective SDG 15 implementation. There is a task force at the Prime Minister's Office for implementing all SDGs. However, to implement Goal 15, including biodiversity protection, a sub-committee should be formed, and regular dialogues should be held between the government and civil society. Implementing the SDG agenda necessitates openness, inclusive decision-making, and harnessing the power and creativity of civil society, business, and local government.

Incorporating Biodiversity Issues

The loss of biodiversity in Bangladesh poses a severe risk to human health, food security, and the goal of sustainable development in general. In this regard, it is crucial to fully and successfully implement SDG 15 and the related aims of the Convention on Biodiversity (CBD) and mainstream biodiversity into sustainable development policies and planning processes. Policy initiatives should concentrate on mainstreaming socially, economically, and environmentally sound policies and mainstreaming biodiversity into more extensive sustainable development strategies. Mainstreaming should be a two-way process. Creating a common understanding of how well sectoral strategies and current national and local development plans fit into the overall framework of the 2030 Agenda and the SDGs—especially biodiversity protection—is crucial. Prioritising the aim of biodiversity, conducting quick assessments, and holding technical seminars can all help achieve this.

Interagency Coordination

The intrinsic connection and complexity of biodiversity in its economic, social, and environmental components are largely well acknowledged. However, interagency cooperation is necessary to preserve Bangladesh's biodiversity. While there is the National Biodiversity Strategy (2016) and the Environmental Protection Act of 1995 for biodiversity protection, there must be more coordination among the agencies. The activities done by one agency or Ministry in Bangladesh often need to pay more attention to the advice of the Ministry of Environment and Forest or fully comply with the relevant acts and policies. It is essential to establish an intergovernmental mechanism which includes the relevant ministries (as shown in Appendix 1) to implement the SDGs at the national and local levels

by enforcing legislation for the protection of biodiversity and its implementation. In addition, it is crucial to create SDG support structures at the municipal, sectoral, and federal government levels, raise public awareness through events, and hold consultations on how to implement the SDGs in different parts of the nation.

Financing for Implementation

With input from various stakeholders, governments can more effectively align and monitor fiscal resources with priority goals thanks to advancements in outcome-based and participatory budgeting techniques. The government needs to set aside and invest more funds to safeguard biodiversity in light of its current situation. The government has the following choices for action: (a) Look into financial mechanisms and talk about ways to reallocate current public spending and raise new funds for SDG 15 implementation. (b) determining how to incorporate SDG (15) into the budgeting process; and (d) allocating sufficient funds, accountable from the national to local levels.

Monitoring, Reporting and Accountability

Monitoring, reporting, and accountability—or “follow-up and review,” as it is called in intergovernmental talks—are essential components of the 2030 Agenda. This entails setting up data systems, capacities, techniques, and procedures to monitor the public, legislatures, and other relevant stakeholders’ implementation of biodiversity goals. A technical workshop to review the SDG (biodiversity) indicators and, if feasible, compare them with those of other nations is one possible course of action for biodiversity protection. Another is the evaluation of data gaps and national capacities to produce statistics to track and report progress on implementing biodiversity targets.

Adopt an Ecosystem-based Definition of Forests

Coherent policy requires adopting a clear definition of forests based on ecosystems. According to this concept, increasing the amount of forest cover can enhance biodiversity since it would substitute monoculture plantations, including those with invasive alien species, for biodiversity-rich ecosystems. Invasive species and ecosystem modification are the two main factors contributing to the loss of biodiversity and the deterioration of land. Initiatives for the restoration of forests are crucial. Still, they must be supported by the free, prior, and informed agreement of all relevant parties and the active involvement and cooperation of women, local communities, and Indigenous Peoples. To enable policy actions that address both deforestation and forest degradation, the Ministry of Environment and Forest is required to oversee the development of a definition of forests that

applies to the entire system and classifies forests as ecosystems dominated by trees (Bilderbeek et al., 2016)

Developing Institutional Mechanisms at Different Levels

A national coordinating agency is essential for successfully implementing the SDGs at the national level because of their broad scope and requirement for cross-sector collaboration. With their background in sectoral coordination, the planning agencies will assume the lead role in coordinating the SDGs (UNESCAP, 2015). Furthermore, sub-regional and regional coordination may be beneficial given their similar starting conditions, shared issues, and administrative and cultural frameworks. SAARC coordinates and cooperates across South Asia to carry out the 2030 Agenda. It would be advantageous for the nations in the sub-region to exchange development experiences in addressing certain SDGs, such as biodiversity protection, contextualising the SDGs at the sub-regional level and devising sub-regional efforts to supplement national strategies. Regional collaboration at the more significant Asia-Pacific level can facilitate cross-learning and the exchange of best practices. The cross-sectoral mandate of ESCAP and its universal membership with a regional emphasis are essential for reducing the implementation and oversight of the SDGs. The Asia-Pacific Forum for Sustainable Development, organised by ESCAP, has developed into a valuable forum for exchanging insights and supporting the area in creating a regional strategy for achieving the SDGs.

Adopting Rights-based Approach

A strong mandate for ensuring sustainable development policies, such as those for the preservation and restoration of biodiversity, and for fully respecting the rights of indigenous peoples, local communities, women, and other rightsholder groups, including those about land tenure and territorial rights, is provided by Agenda 2030's emphasis on rights-based approaches. The top-down management of protected areas is one example of a previously exclusive strategy that needs to give way. Instead, policies and tactics should be adopted from the bottom up, fully acknowledging and supporting endogenous community conservation initiatives and traditional knowledge. Studies have demonstrated the superiority of non-market-based strategies for guaranteeing sustainable livelihoods and effectively conserving biodiversity. Examples of these strategies include the appropriate designation of Indigenous and community-conserved territories and areas (ICCAs) (Bilderbeek et al., 2016).

Building Capacity

Increasing knowledge and ability is the most basic way to gather data for biodiversity in

- Preserve mountain ecosystems by 2030, especially their biodiversity, to boost their capacity and provide vital sustainable development benefits (Gratzer and Keeton, 2017).
- Take prompt, urgent action to reduce the loss of natural ecosystems, halt biodiversity loss, and prevent the extinction of endangered species by 2020.
- Promote equitable and just distribution, as agreed upon globally, of the benefits of using genetic resources and having sufficient access to them.
- By 2020, ecosystems and biodiversity values should be included in accounting, protocols, and local and national development programs that aim to reduce poverty.
- Encourage the preservation and sustainable use of biodiversity and ecosystems, and significantly expand the amount of money from all sources.
- Increase international backing for programmes to end the poaching and trafficking of protected animals, mainly by providing opportunities for local communities to achieve sustainable economic development, other SDGs, and wildlife preservation.

In this case, goals might be established to increase capacity for data gathering, monitoring, and performance evaluation of the execution of biodiversity goals. Government and NGO representatives must develop the capacity to carry out biodiversity goals. The GoB's main tactic will be to carry out an extensive range of initiatives to improve Ministries' and Divisions' ability to generate administrative data (Government of Bangladesh, 2017). The central data organisation in Bangladesh at the national level is the Bangladesh Bureau of Statistics (BBS). To produce timely, high-quality data, the government must step up its efforts to expand the capabilities and reach of BBS. Steps for improving BBS and other administrative agencies, including the Department of Environment, must be prioritised as time passes because one year of SDGs has already passed (Lucas et al., 2015).

Role of District Administration

The District Administration can play a vital role in the conservation of forests and biodiversity. For example, the District Administration must ban or not give licenses to brick kilns that use wood as fuel (The Business Standard,

2023). Furthermore, the District Administration can protect biodiversity and forest ecosystems with the support of the District Office of the Department of Environment. During the field visit to Barisal District, the researcher observed that the District Administration recovered an encroached canal, and they have targets to recover 29 already advanced canals. The canals are also part of both aquatic and territorial biodiversity.

Conclusions

This research aimed to identify the challenges of implementing or achieving biodiversity goals. The study indicates that the biodiversity situation in Bangladesh is worsening despite the government's various initiatives. The research identified some challenges to be faced for the implementation of biodiversity goals. The challenges include inadequate financing for the protection of biodiversity, ineffective environmental governance, environmental data gap, lack of progress monitoring, insufficient interagency cooperation, inefficient incorporation of biodiversity in development planning, lack of capacity, and insufficient implementation of biodiversity through EIA. The paper also recommends overcoming the challenges and effectively implementing the biodiversity goals. These include inclusive participation, incorporation of biodiversity issues into national and sectoral plans, interagency coordination, adequate financing for biodiversity protection, monitoring and accountability, capacity development, adoption of an ecosystem-based definition of forest, the institutional mechanism at various levels, adoption of the rights-based approach of biodiversity, proper application of EIA.

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APPENDIX-1
Title: Agencies Involved in the Implementation of Biodiversity

Goal and associated targets	Lead Agency	Associate Ministry /Division	Actions to achieve the SDG targets within 7thFYP (2016-2020)	Actions to achieve the targets beyond the 7thFYP Period (2021-2030)	List of Existing Policy Instruments (Acts/ Policies/ Strategies etc.)	Proposed Global Indicators for Performance Measurement
1	2	3	4	5	6	7
Goal 15: Preserve, restore, and promote the sustainable utilisation of terrestrial ecosystems; implement sustainable forest management practices; mitigate desertification; halt and reverse land degradation; and halt biodiversity decline.						
15.4 To boost mountain ecosystems' capacity to produce benefits essential for sustainable development, ensure that they—including their biodiversity—are preserved by 2030.	Lead: MoEF	MoA; MoCHTA; MoCAT; MoL; LGD				15.4.1 Protected areas' coverage of significant mountain biodiversity locations
15.5 Act quickly and decisively to stop biodiversity loss, stop the deterioration of natural habitats, and, by 2020, save threatened species from extinction.	Lead: MoEF	MoFLMoA; MoInf	A global commitment to update the NBSAP in accordance with the Aichi Biodiversity Targets and implement it will be made. (a) Make ensuring that nationally adequate mitigation actions (NAMA)			15.5.1 Red List Index

<p>15.6 Promote appropriate access to genetic resources and the internationally agreed-upon fair and equitable distribution of the benefits arising from their utilisation.</p>	<p>Lead: MoEF</p>	<p>MoA; MoFL MoST</p>	<p>and the National Adaptation Plan (NAP) incorporate biodiversity. (a) The Bangladesh Biological Biodiversity Act will be passed, ratifying the Nagoya Protocol on ABS, and mechanisms for benefits sharing will be developed. (c) The nation will have the capacity to handle genetic resource research and development. (c) Promote biodiversity education and awareness (c) Apply traditional and indigenous knowledge of biodiversity (e) Put an end to and reduce ecosystem contamination from all sources.</p>				<p>15.6.1 The count of nations that have put legal, administrative, and regulatory structures in place to support just and equitable benefit distribution.</p>
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15.7 Take prompt action to address the demand and supply for illicit wildlife products and to end the poaching and trafficking of endangered plant and animal species. Lead by example.	Lead: MoEF	LJD, MoF,MoHA	(a) Put specific precautions in place to lessen the impact of current threats; (b) Examine the IUCN Red List and other records of the status of vulnerable and endangered species; and (c) Use a variety of protective measures to preserve the biophysical features of the Sundarbans.		
15.8 By 2020, plans will be in place to manage or eradicate priority species, significantly reduce the detrimental effects of invasive alien species on terrestrial and aquatic ecosystems, and halt their spread.	Lead: MoEF	MoA, MoFL	No commercial plantation should be permitted in protected forest areas, where only native species are suitable for enrichment and restoration. (d) The necessary regulations and the Bangladesh Biological Diversity Act will be passed.		15.8.1 The proportion of countries that have enacted applicable national legislation and allocated adequate resources to prevent or control invasive alien species.
15.9 By 2020, integrate ecosystems' and biodiversity's values into local and national planning, development procedures, accounting, and strategies for reducing poverty.	Lead: MoEF	GED,LGD, SID	To integrate these values into the national accounting system, value environment and biodiversity goods and services. (a) Improve PES through appropriate poverty-reduction methods and policies.		15.9.1 Advancement toward national goals outlined in the Biodiversity Strategic Plan 2011-2020's Aichi Biodiversity Target 2.

<p>15. Gather and greatly expand financial resources from all sources to preserve and use ecosystems and biodiversity sustainably.</p> <p>15.c Increase international support for programs to end the poaching and trafficking of animals under protection, including by providing local communities with the chance to explore sustainable forms of sustenance.</p>	<p>Lead: MoEF; Co- Lead: MoFA</p>	<p>LGD,MoHA, MoD</p>	<p>Examine the IUCN Red List (a) Implement global commitments made as a signatory to the United Nations Convention on Biological Diversity. (b) Increase forest coverage in new places through social forestry (c) Maintain and expand community-based resource management (d). Improve reforestation and forest protection through carbon credits and REDD+.</p>			<p>15.a.1 Official development aid and public investment for biodiversity protection and sustainable use of ecosystems</p>	<p>15.c.1 The percentage of traded wildlife that was either poached or transferred illegally</p>
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APPENDIX-2

Bangladesh Public Administration Training Centre (BPATC)

Savar, Dhaka

Research Title: A study on achieving SDGs with a focus on biodiversity goal in Bangladesh: challenges

(This is purely academic research. So please feel free to answer the questions)

QUESTIONNAIRE

Q1: To what extent is it possible to achieve the biodiversity goal by the Government by 2030?

Fully	Mostly	Many	Some	Not at all

Q2: How significant are the following challenges for achieving SDGs in Bangladesh by 2030? Please tick

	Key challenges	Very important	Important	Moderately Important	Less Important	Not important
1	Inadequate financing					
2	Lack of environmental governance					
3	Data gap					
4	Inadequate monitoring progress					
5	Interagency cooperation					
6	Lack of capacity					
7	Inadequate address of biodiversity through EIA					
8	Any other					

Q3: How important are the following recommendations to achieve the biodiversity goal? Please tick

	Recommendations	Very important	Important	Moderately Important	Less Important	Not Important
1	Inclusive participation					
2	Incorporation of biodiversity in sectoral plans					
3	Interagency coordination					

4	Budgeting for future					
5	Monitoring, reporting and accountability					
6	Adopting right based approach					
7	Developing capacity					
8	Any other					

Q4: How important are the following recommendations to achieve the biodiversity goal? Please tick

Excellent	Better	Moderate	Worse	Worst

Your name (optional)



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Does Digitalization Bring Efficiency in Public Procurement Management? An Evaluation of Bangladesh's Electronic Government Procurement System (e-GP)

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Anirban Das²

Md. Mizanur Rahman³

Dr. Mohammad Amjed Hossain⁴

Banik Gour Sundar⁵

ABSTRACT

Electronic Government Procurement (e-GP) is primarily a public procurement reform initiative undertaken by the Bangladesh government to streamline procurement activities efficiently and effectively by procuring agencies. The study investigated the Procuring Entities (PEs) and the Bidders nationwide. A structured questionnaire survey was conducted among bidders from 64 Districts, and Focus Group Discussions (FGDs) were held with different leading Procurement Entities (PEs) to determine the effectiveness of the e-GP System. It has been found that it helps to ensure efficiency in many dimensions of the procurement process. The e-GP System is faster, time-saving, user-friendly, and less procedural than the conventional procurement process. The study also found that the procurement lead time has reduced substantially and increased competition by many folds due to the adoption of the e-GP System. The System has brought efficiency by reducing corruption, costs, visits, procurement lead time and saving public funds. However, the competition in OTM (Works), language barriers and centralised training for e-GP remained as issues. A fully automated e-GP system could be a comprehensive solution to the conventional paper-based procurement process, overcoming these problems and ensuring ultimate success.

Keywords: Public Procurement, Efficiency, e-GP, Electronic Government Procurement, Bidders, Procurement Entity, Procurement Lead Time.

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INTRODUCTION

Across the world, “*governance*,” especially “*good governance*,” plays an indispensable role in economic development. A sine-qua-non fact is that the more developed the state’s governance system, the more developed the country is (Biswas and Rahman, 2018). Simultaneously, sound public financial management is the prerequisite for providing better public services and maintaining sustainable socio-economic conditions in a country (Duri, 202). However, making the governing System more functional, transparent, and efficient is always a significant challenge, particularly for developing countries with widespread malpractice, corruption, inefficiency, a lack of integrity, and commitment. The public procurement system of Bangladesh is not an exception.

Since the late 1980s, many developing countries have initiated reforms primarily aimed at reducing costs through downsizing, decentralisation, and outsourcing of their public services (Lee and Haque, 2006; Islam, 2018). Like other developing countries, the government of Bangladesh adopted various reform initiatives at different times to improve the quality of public service deliveries (Waheduzzaman, 2019). Reform in public procurement is also part of this reform agenda, formally initiated in 2001 with the establishment of the Country Procurement Assessment Report (CPAR) in collaboration with the World Bank. As per the report, *‘the process is far from satisfactory, and substantial delays occur in most of the procurements, and reasons for unsatisfactory features are poor advertisement and specification, corruption and outside influences, negotiation, irregularities’* (World Bank Group, 2021). After years of successive efforts, the government of Bangladesh was finally able to formulate the Public Procurement Act (PPA) 2006 and the Public Procurement Rules (PPR) 2008, with several subsequent amendments. Although the provision for electronic procurement was already embedded in PPA-2006 and PPR-2008, it took several years more. In 2011, the government was finally able to introduce the Electronic Government Procurement (e-GP) system, along with guidelines. Later, the use and popularity of electronic procurement increased manifold among bidders and Procuring Entities (PEs).

As third-generation reform initiatives, the advent of digital technologies has significantly transformed public procurement processes across the globe. Prominent among these transformations is the emergence of electronic government procurement systems (e-GP), which are increasingly being adopted in both developing and developed countries. The introduction of e-procurement is an excellent instance of powerful state discretion and dedication towards reforming

the public procurement system and solving public procurement problems (Nozadze, 2015). Digitalisation in public procurement is recognised for its potential to enhance efficiency and overall governance (Croom & Brandon-Jones, 2007). This transformation entails the transition from paper-based processes to electronic platforms that facilitate various stages of procurement, including requisition, tendering, evaluation, and contract management (Brammer & Walker, 2016). By integrating digital technologies, public procurement systems aim to streamline operations, reduce costs, enhance competition, and foster transparency (Rogers & Galy, 2010).

Electronic Government Procurement (e-GP) is an automated system designed to handle all or any steps of the public procurement process. It is defined as the usage of web-based functions that allow employees of an organisation to buy goods and services and allow the suppliers to manage and fulfil those purchase orders (Jeffrey F & Bernard J, 2003). It involves computerised methods in every stage of the public procurement process, from need assessment to making payments and credibly managing contracts (Tonkin, 2003). E-procurement utilises information and communication technologies to streamline the acquisition of goods, works and services, carrying out individual or all stages of the procurement process, from sourcing to post-procurement review (Nyagah, Kaimuri Hellen & Patrick Mwanga, 2015). The wide dissemination of tenders reduces corruption by increasing participation and ensuring value for money (Hui et al., 2011).

E-procurement is emerging worldwide, with the potential to improve market access and promote integrity in public procurement (Schapper, 2008). It can also prevent and reduce opportunities for corruption at various stages of public procurement. As per the e-GP Guidelines, "e-GP means procurement by Procurement Entity using the Electronic Government Procurement (e-GP) System developed, hosted and operated by the government of Bangladesh through CPTU (recently renamed as BBPA), Ministry of Planning (Ministry of Planning, 2011).

Efficiency in public procurement can be evaluated through various dimensions, including time savings, cost reductions, process improvements, and enhanced transparency (Mawdsley et al., 2016). Here in our study, we also find that the introduction of electronic Systems in Bangladesh has helped reduce procurement lead time, corruption, and costs, saving public funds, accelerating the procurement process, increasing competition, and creating value for money. With the advent of the e-GP system, the phrase "Tender Baji" (snatching the tender box) has disappeared from the country's daily newspapers. Besides, the e-GP System earned huge confidence of the PEs and bidders due to its user-friendly

nature and strong security system. Although *the competition in OTM (Works) remains an issue due to the bidder's inability to understand English, the lack of decentralised e-GP training for bidders and PEs, and relatively high document prices for low-value contracts, the popularity and use of the e-GP system are advancing triumphantly in Bangladesh.*

It appears that electronic government procurement is a vital issue in ensuring governance in public financial management, and it warrants more attention in Bangladesh, where little academic research has been conducted to date. As the use and volume of the e-Government Procurement(e-GP) system are growing, especially among different government agencies, in terms of capacity and monetary transactions, the government is more committed to bringing efficiency and creating value for money in this sector. This study has been designed to examine the existing situation of these three indicators and find ways to improve it.

METHODOLOGY

The primary objective of this research article is to gain an in-depth understanding of how the digitalisation of Bangladesh's public procurement process contributes to ensuring efficiency. The study primarily relies on numerical data collected through digital and manual methods. Primary data were gathered from key stakeholders—both Bidders and Procuring Entities (PEs) registered in the e-GP System and actively using the e-GP digital portal for various procurement activities. A structured questionnaire was used to collect data. Two hundred (200) bidders, mainly members of the Government Tenderers' Forum (GTF) across all 64 districts, were surveyed through an online questionnaire over an extended period (2019–2020) due to the COVID-19 pandemic.

In addition, Focus Group Discussions (FGDs) were organised with groups of six to ten participants. These were held during various seminars and conferences conducted by the research team in four of the country's older administrative divisions and at the Bangladesh Public Administration Training Centre (BPATC). The FGDs aimed to gather firsthand insights into the basic understanding of the e-GP System, including its advantages and drawbacks, from both contractors and Procuring Entities PEs. A semi-structured format was used in these discussions to extract more nuanced information about system usage and the challenges faced. The research team facilitated and conducted the interviews to maintain consistency in the questions.

Five FGDs were conducted to evaluate the pros and cons of the e-GP System. Four focus group discussions (FGDs) involved PEs and bidders in

BPATC, Habiganj, Rajshahi, and Magura. One focus group discussion (FGD) was conducted exclusively with bidders to facilitate face-to-face interaction and validate information obtained through the digital questionnaire. Among the other FGDs, three involved PEs from diverse departments to gather a broad perspective on their e-GP experiences, while one brought together e-GP experts from the Local Government Engineering Department (LGED) to enable detailed discussion without reservation.

Secondary data were sourced from the e-GP platform, previous studies, websites, and official government orders, gazettes, and circulars. Both qualitative and quantitative methods were used, and modern statistical tools were applied to represent the findings.

Structural System of e-GP and Conceptual Framework:

In the context of developing countries, such as Bangladesh, the introduction of e-GP has been pivotal. The Bangladesh government implemented an e-GP system in 2011, aiming to digitise the procurement process to combat corruption and inefficiencies (World Bank, 2017). It is a web-based system that encompasses the entire procurement lifecycle and records all procurement activities and information. It is must use for all government procurement entities to procure by spending public funds. The scope of this System is to maintain complete and up-to-date Public Procurement activities of all public agencies as well as provide tender opportunities to all potential bidders from home and abroad. The System encourages the participation of many bidders as it is feasible to take part from any corner of the globe. Public procurement plays a central role in the development and comprises a substantial share of the national economy in nearly every country.

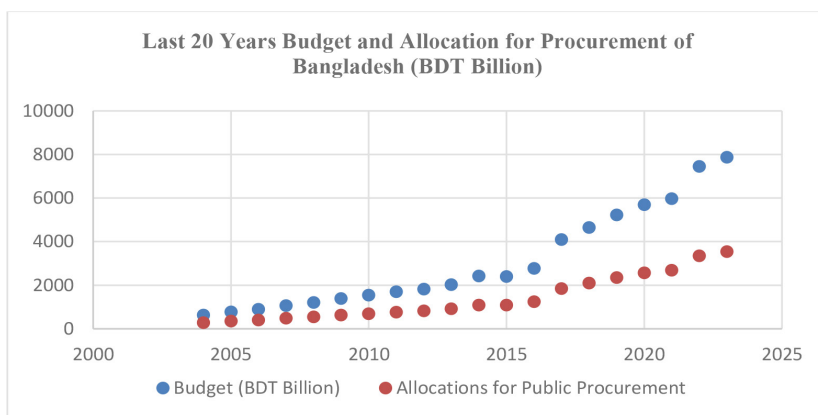


Figure 1: Yearly Budget and Approximate Allocation for Public Procurement;
 Source: Author's Compilation using Bangladesh Budget Reports Data

Table 1: Number of Tenders Invited by Using e-GP System Over the Periods of Last 10 Years; Source: Author's Compilation using CPTU's Data

FY	No. of Tender Invited	No. of bidders Registered	Value of Tender (in crore Tk.)
FY 12-13	295	14	24
FY 13-14	1067	498	496
FY 14-15	9238	8436	5704
FY 15-16	15559	26102	20352
FY 16-17	22186	57935	48412
FY 17-18	33792	102958	91071
FY 18-19	46144	190131	869
FY 19-20	55648	247779	23362
FY 20-21	74516	400106	410163
FY 21-22	99109	600892	608681

This article sketches Electronic Government Procurement (e-GP), explaining how it works within a complex network of stakeholders. The Procuring Entities must adhere to the requirements of the legal framework by complying with its procedures and provisions. The successive stages of public procurement include planning (choosing a procedure and measures to solicit offers from bidders), processing (examining and evaluating documents and proposals, awarding contracts, and managing contracts), and *implementation* contracts according to the conditions. Bangladesh's entire public procurement procedure is primarily guided by the Public Procurement Act (PPA) of 2006, the Public Procurement Rules (PPR) of 2008, and the Delegation of Financial Power, circulated by the Ministry of Finance. Besides the Right to Information Act-2009, The Anti-corruption Act2004, e-GP Guideline-2011, Information Security Policy Guideline- 2013 and General Financial Rules (GFR) are guiding public officials responsible for public procurement, auditors and other financial management specialists in their everyday business relating to public procurement and ensure compliance with the current legislation and application of international best practices.

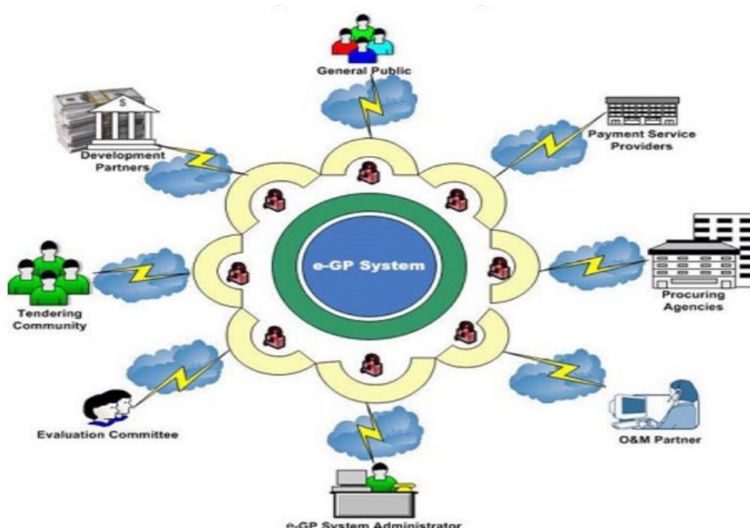


Figure 2: Structural system of e-GP in Bangladesh; Source: CPTU website

This conceptual framework outlines how digitalisation or e-procurement can enhance the efficiency of the public procurement system in Bangladesh. The framework identifies key independent variables that influence efficiency, with digitalisation acting as a mediating variable.

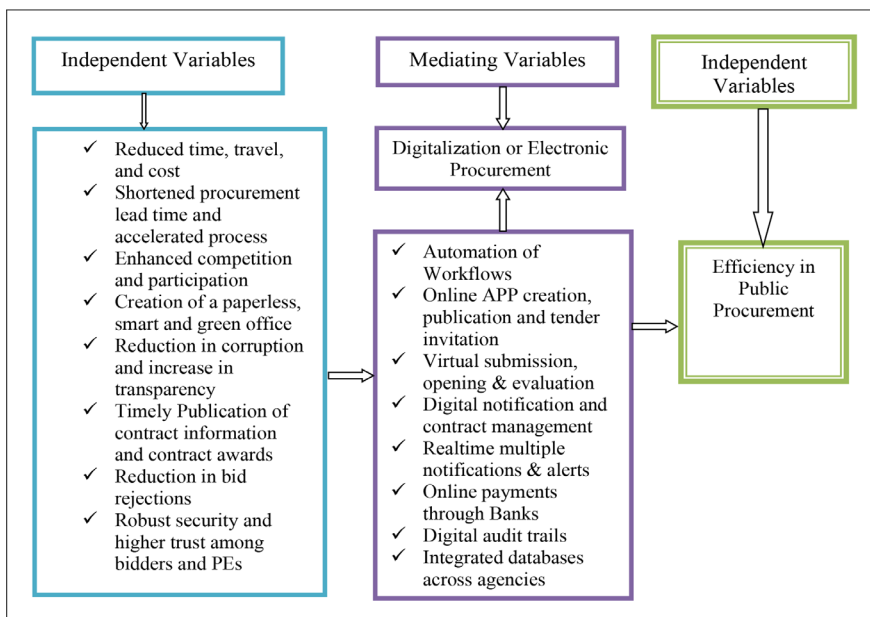


Figure 3: Conceptual Framework of Digitalization and Public Procurement Efficiency;
 Source: Author's Compilation using Study Data

The framework assumes that digitalisation or e-procurement acts as a mediating mechanism through which several independent variables contribute to improving efficiency in public procurement. These include operational and transactional improvements such as reducing time and cost, minimising bid rejections, and enhancing trust. The digital procurement environment supports these outcomes by standardising and accelerating processes, increasing transparency, and promoting wider participation. As a result, the procurement system becomes more efficient, reliable, and credible.

RESULT AND DISCUSSIONS

The electronic Government Procurement system has been developed in Bangladesh as one of the government's extensive reform efforts through the digitalisation process known as e-GP (It is a robust approach adopted by Bangladesh's Government intending to secure efficiency in public procurement by reducing corruption, time, cost, and visit. The e-GP system intends to replace the stages of the conventional paper-based procurement system. It has also been proven to be time-saving, productive, and cost-effective for governments. The paper focuses on measuring the effectiveness of the e-GP System in ensuring efficiency. It has an apparent relationship to performance measurement. It demonstrates legitimate relationships among goals, objectives, and measures, indicating the extent to which government offices effectively achieve their objectives. According to Berman and Wang (2000), efficiency evolves when decisions are made, and resources are allocated based on the community's long-term well-being. Therefore, this analysis focuses on efficiency.

Efficiency

The term 'efficiency' means the System by which organisations deliver results which meet society's needs by making the best use of available resources (What is Good Governance? 2000). Goods, works, or services provided by the government worldwide are generally affected by inefficiency problems, and the most common form of this inefficiency are phenomena like cost overruns and delays in the execution of contracts. Both phenomena negatively impact citizens' welfare and consequently increase public expenditure (Guccio, Pignataro, and Rizzo, 2012). In our study, the efficiency of the e-GP System has been measured in terms of reducing procurement lead time, plummeting time, visits, and costs while increasing competition and the rate of contract award within the stipulated time. Additionally, it aims to create a paperless office and ensure a robust security system. Besides the stakeholders' preference for e-GP over the manual System,

their perception, understanding, and confidence in the electronic System have been checked. Moreover, a comparison has been made between paper-based and electronic procurement systems based on the available information.

Public procurement should be carried out as cost-effectively as possible to ensure economic efficiency and make optimal use of public funds, meaning that when the government uses its resources to meet society's far-reaching welfare needs. The active use of the e-GP System by the bidders was checked, and more than 78% of the respondents reported vigorous use of the e-GP System. The liveliness of the bidders was checked purposively, as without vigorous participation in the process, they cannot provide feedback regarding the System's efficiency.

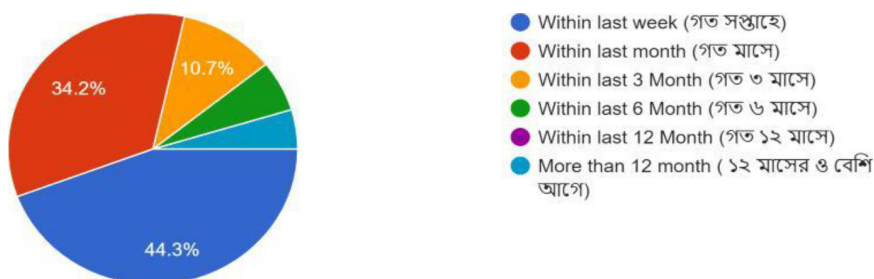


Figure 4: Period of Tenderer's last involvement in the e-GP System;
 Source: Author's Compilation using Survey Data

Besides, almost all the bidders put their trust in the electronic System over the paper-based manual tendering process. It was found that almost 99% of the tenderers preferred the e-GP System over the manual paper-based System.

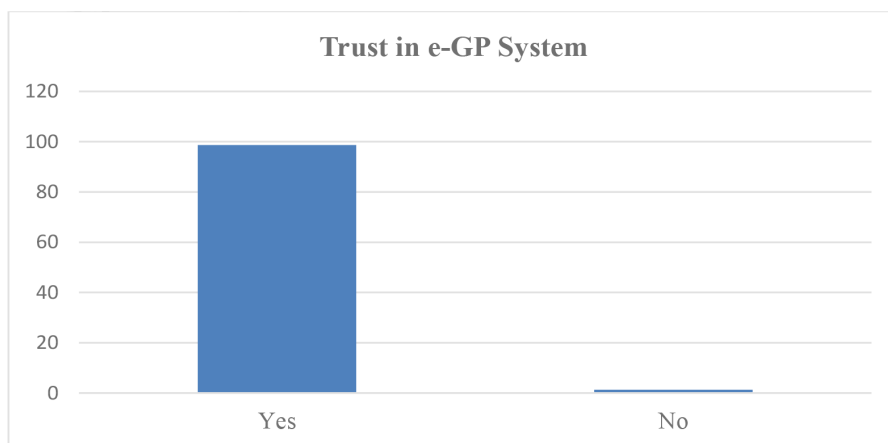


Figure 5: Preference of the bidders to the e-GP over the manual paper-based System;
 Source: Author's Compilation using Survey Data

There are several reasons why e-GP is chosen as the preferred destination for procuring entities and tenders. The country witnessed thousands of incidents, including accidents such as grabbing the tender box, threats for not submitting documents, and the loss of lives in fights between two groups while submitting tender documents, as well as the wasting of time and resources (Ruud, 2020). However, in the e-GP System, the contractor is just a click away from submitting a tender that can relieve all parties involved in the procedure from the anxieties mentioned above. Most surprisingly, during the COVID-19 pandemic, the use of the e-GP System remained extremely high, as it did not stop for a second. According to CPTU, from March to December 2020, the e-GP System was opened 24/7, and 71,437 tenders were processed. The PEs and bidders have put their trust in the e-GP System over a paper-based system, and almost 77% of the bidders find it easy to use and consider it corruption-free.

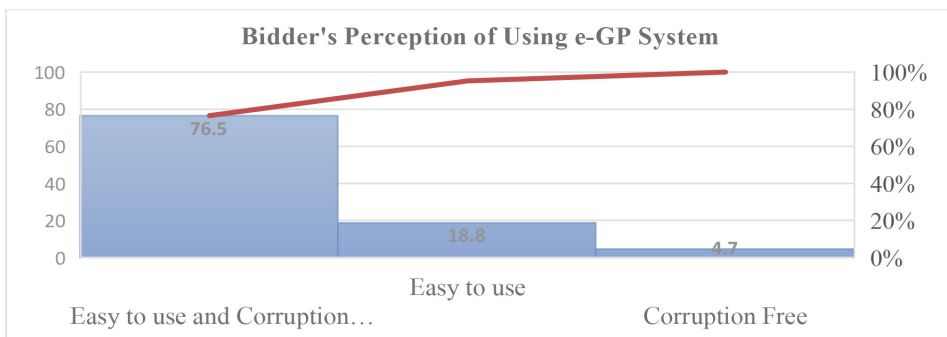


Figure 6: Preference of the tenderers for the e-GP System;
Source: Author's Compilation using Survey Data

Notably, 95.3% of the respondents found it easy to use, and 81.2% described it as corruption-free. The four major procurement hubs of the country —PWD, R&HD, BWDB, and LGED —have come forward to implement the government's noble agenda. The successful transition from a paper-based to an electronic system has brought about a revolutionary change in the country's public procurement process. Due to its simplicity and user-friendly nature, almost all government agencies (47 Ministries, 27 Divisions, 1483 Organisations, and almost 13,000 PEs) have already registered in the e-GP System. Every fiscal year, thousands of tenders and contracts are processed using this innovative System by these registered PEs, which involves millions of public funds.

Another vital factor that propelled the wheel of e-GP preferences among the PEs and Bidders is the time-bound nature. The speed through e-GP works is far more than a manual tendering process. The respondents are almost 100%

unanimous to the fact. From APP Creation to Contract Signing, the e-GP System is less procedural, and it is evident that the so-called Red Tape has come to an end for this electronic procurement process (The World Bank, 2008). The findings are highly consistent with those of the World Bank prior to the introduction of e-GP in 2011-12; the overall Procurement lead time was around 95 days, and by 2021-22, it had decreased to approximately 46 days.

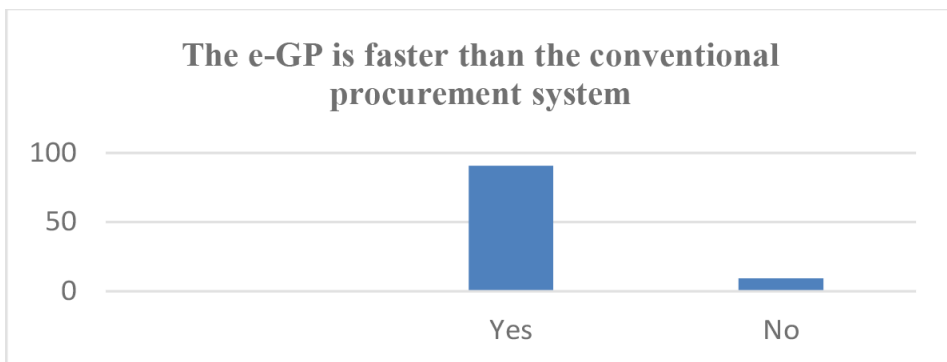


Figure 7: Bidders thinking the e-GP is faster than the conventional procurement system
 Source: Author's Compilation using Survey Data

More than 90% of the respondents also found that procurement lead time (from tender invitation to contract to sign) has drastically compacted due to the inception of the e-GP System. Undoubtedly, this is a significant achievement of the e-procurement system in Bangladesh in terms of efficiency.

Respondents were asked why they think the e-GP System is faster than the conventional paper-based System of public procurement. The e-GP System is *easy to use, providing a digital pathway and reducing procedural steps*, making it truly smart and quicker.

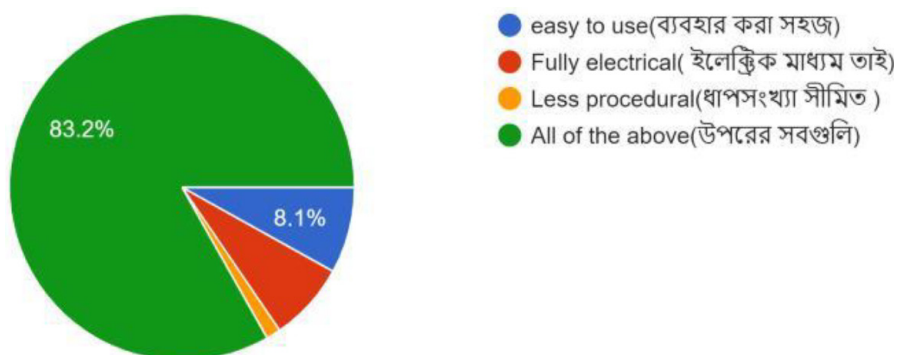


Figure 8: Reasons for e-GP being faster than manual procurement system;
 Source: Author's Compilation using Survey Data

Another crucial aspect in terms of efficiency is that the speed and rate of timely contract awarding gained momentum (Byron and Alamgior, 2021). More than 93% of respondents find that the rate of contract award stipulated time has increased due to the initiation of the e-GP. According to the World Bank, before the inception of the electronic procurement system in Bangladesh, only 10% of cases contracts were awarded in a timely manner; this has increased to 90% (World Bank, 2008).

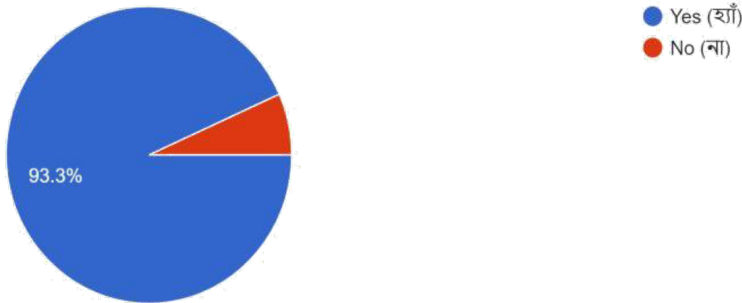


Figure 9: Increment of the rate of contract award in stipulated time;
Source: Author’s Compilation using Survey Data

One of the most vital facts in public procurement is ‘competition’, which is also included in the basic procurement principles to ensure efficiency. In the absence of competition, a monopoly will exist, and in a monopolistic competitive environment, it is the bidders who set the tender prices. On the other hand, in a competitive market, a tender’s price is set by the market mechanism (through the participation of multiple bidders). Therefore, in a competitive environment, a Procuring Entity has a lower chance of deprivation and a higher prospect of ensuring value for money.

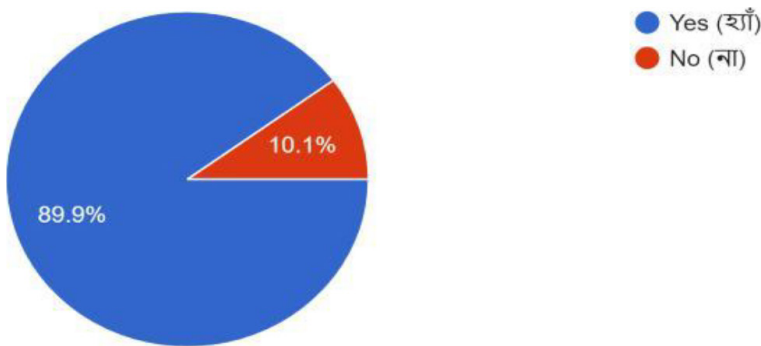


Figure 10: Average increment of competition in the e-GP System;
Source: Author’s Compilation using Survey Data

So, in line with this fact, the study found a favourable response from the tenderers. Almost 90% of them agree that the average competition in the e-GP System has increased. Before the electronic tendering process's commencement, the average number of bidders per tender was only four (4), and now it has reached sixteen (16). The e-GP System postulates a valid genre of shaping the country's public procurement practice to be more productive through expedited competition.

However, these competitions are mainly among the enlisted tenderers. The Open Tendering Method (OTM), broadly applicable for large procurements, allows only a few tenderers to participate (especially in large construction projects or works) as additional qualifying requirements are sought from the PEs' end. According to the respondents, PEs, and tenderers, the provision of $\pm 10\%$ rules means that most tenderers intend to drop their tender, keeping the price less than 10% of the Official Cost Estimated. In that case, additional requirements (some matrix) are sought that are easy for the large bidders to comply with, and eventually, the small bidders are kicked out of the bid. As such, OTM (works) is now a monopoly method in public procurement. The respondents also expressed that the instances of single-bidder participation have increased due to the regional dominance of large bidders in works. Although the competition in OTM (Works) is not satisfactory, the overall competition has increased, and the supplier's spontaneous participation in the electronic procurement system has enabled the authority to reach its desired objective of ensuring the optimal use of public funds.

Another feature of measuring efficiency is determining whether it saves time, visits, and costs. As per the study, approximately 86% of bidders fully agreed that the electronic procurement system reduces time, visits, and costs. The CPTU recorded 9,350 core Taka savings from government spending in 2018-19. The tender processing time has also been significantly reduced.



Figure 11: Reduction of time, travel, and cost in the e-GP System;
 Source: Author's Compilation using Survey Data

Table 2: Number of Visits Requires at Different Stages of Procurement by the Bidders to PE’s Offices/Banks

Procurement Systems	Purpose of Visits						Total Visits
	To Purchase Documents	To Issue Tender Security (Bank)	To Submit Documents or Attend Tender Opening	To Accept Notification of Award (NoA)	To Issue Performance Security (Bank)	To Sign Contract	
Manual	I	I	I /II	I	I	I	6-7
e-GP	All these stages can be performed electronically						0

Moreover, the implementation of e-GP will reduce 897 million km of distance transportation. It will save a huge amount of time for both the PEs and bidders that they used to spend by paying visits to PEs’ offices or attending bidders’ meetings.

The World Bank also found that the tender on e-GP has reduced the cost of paper usage by 6.9%, saving 10,287 million pages of paper, and the emission of carbon dioxide will also decrease to 559 tons. The study observed that 87.9% of the respondents believe that the e-GP process is entirely paperless. That means that without paper, it is possible to accomplish the tendering process. In contrast, earlier processes involved a vast amount of paper and ink at different stages of public procurement, exerting more pressure on the environment.

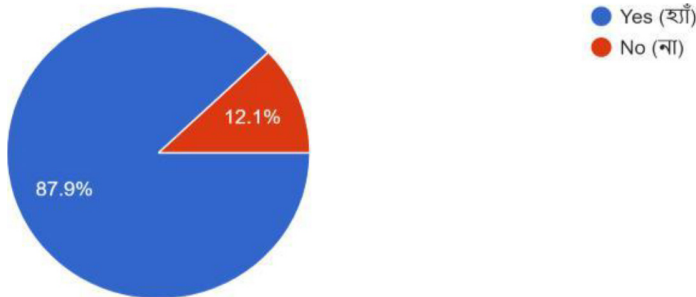


Figure 12: e-GP helps to create a paperless office;
Source: Author’s Compilation using Survey Data

The conventional approach to efficiency emphasises the importance of achieving both financial effectiveness and ecological sustainability. This research reveals a substantial response from the interviewer, highlighting how e-GP has emerged with a vision to improve efficiency by making offices paperless and paving the way forward for implementing SDG goal 12.7. The System is well-guarded and well-known, as evidenced by the fact that 95.3% of respondents treat

it as highly secure or secure. In this modern era of technology, security is regarded as the mate-wand to efficiency measurement. The research team also has observed that the e-GP System has a robust system of authentication via mobile and email before logging into the System from multiple sources.

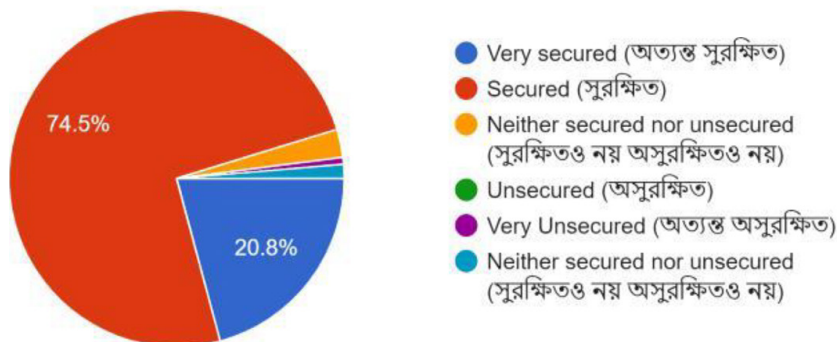
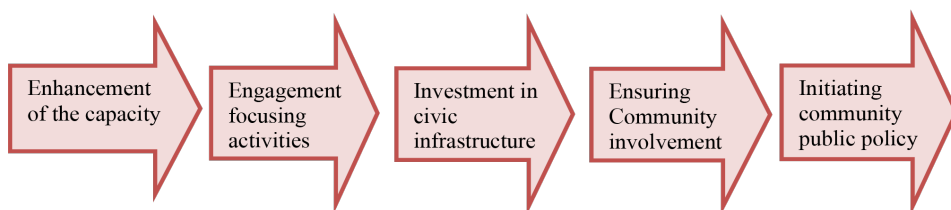
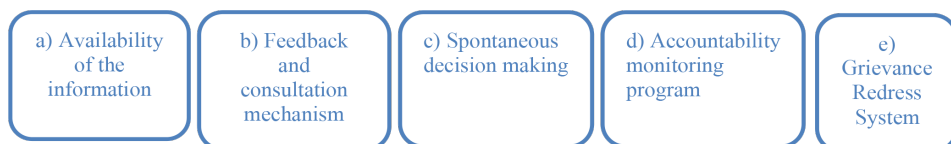


Figure 13: Respondents view regarding the security strength of the e-GP System;
 Source: Author's Compilation using Survey Data

The efficiency of a system cannot be bound to some of the objects only. The efficiency lies in the entire agent's involvement in implementing the procedure within the stipulated timeframe to achieve high-level security. The stakeholders (69.8%) also suggested that greater citizen engagement will improve efficiency. The researchers also agree with the findings because the higher the citizens' engagement in decision-making, the greater it will be possible for them to contribute to the public procurement process. A proactive implementation process involving compatriots in e-procurement may enhance community collaboration and good governance. Those entail the following steps:



The way citizens engage in sketching, accomplishing, and scrutinising a complete virtual procurement model can be categorised into five categories. They are:



The e-procurement system was implemented to enhance good governance by reducing or eliminating corruption and ensuring utmost transparency in the country's public procurement operations. The majority of the respondents (61.1%) find that the System overcomes corruption and increases transparency. In a more combined way, almost 90% of the respondents believe that the System brings transparency and diminishes corruption.

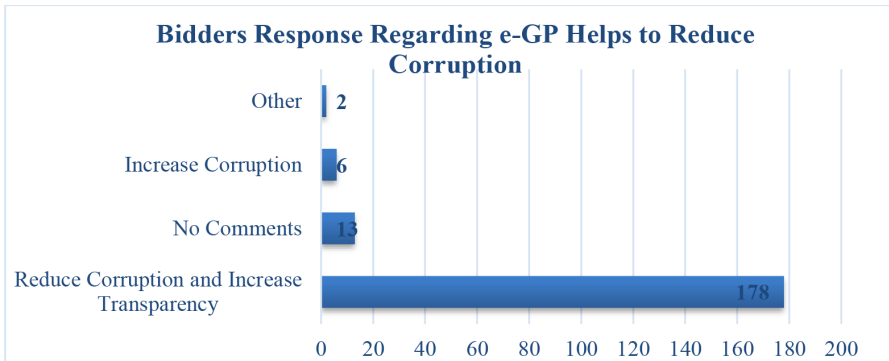


Figure 14: Causes of ensuring good governance in the e-GP System;
Source: Author's Compilation using Survey Data

A Comparison Between Paper-based and Electronic Procurement Systems

Table 3: Comparison between paper-based and electronic procurement systems; Source: Author's Compilation by using CPTU's data

Efficiency Related Issues	2011-12	2019-20
Publication of procurement notices	-	100 %
Publication of information on contract award	-	100 %
Procurement lead time	95 days	46
Timely Tender Awarded	10%	90%
The share of rejected bids decreased	8%	3%
Average number of Bidders	4	16

From the above table, it is quite apparent that the procurement lead time has been reduced by more than 51%. Almost 90% of contracts are being awarded in a timely manner, and the average number of competitions (average number of participants per bid) has increased by more than five times. Additionally, an estimated savings of US\$600 million between FY12 and FY18 were calculated,

resulting from improved market access and a bidding environment compared to manual bidding (The World Bank, 2020).

Limitations

Implementing e-procurement is not an easy task, and the route is very challenging and full of forks. Public agencies with varying sizes, functional responsibilities, and capacities find it challenging to implement e-procurement across the countries. While asking how the tenderers and the PEs are well acquainted with the e-GP System, a good number have held back to this, and 31.5% said they do not have a sheer understanding of it.

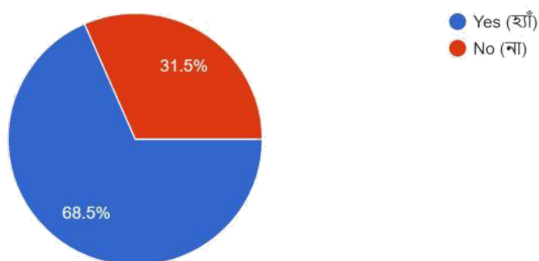


Figure 15: Do the bidders have a complete understanding of the e-GP System?
 Source: Author's Compilation using Survey Data

As most respondents are not well-educated and technologically lagging, they have to rely on technical experts or local vendors to complete the tendering process.

Such kinds of dependencies also make the execution of the e-government procurement process more challenging. On the other hand, many Procuring Entities (PEs) that have just registered with CPTU have not taken any actions to implement the process. One of the primary reasons for not implementing e-procurement is the lack of comprehensive knowledge and training among stakeholders regarding the System.

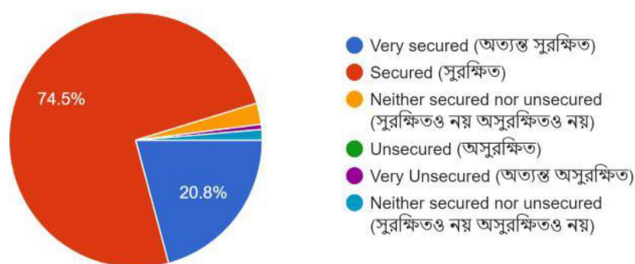


Figure 16: Necessity of expansion of training at the local level;
 Source: Author's Compilation using Survey Data

Currently, training on e-GP is provided by the CPTU through a third-party provider. This centralised training system negatively impacted the efficient and transparent implementation of the System. More than 97.0% of the respondents feel that the training facilities should be expanded locally. Even some tenders urge to arrange training at the local level by forming small groups. The smoother means of training transfer for e-procurement will have a profound impact on the execution process, ensuring higher transparency, efficiency, and accountability. They need training because:

- they need to learn e-GP to enhance their skill
- because they have blatant knowledge of the System
- To submit the document properly, especially the qualification criteria.

Training is required for both tenderers and PEs for the full implementation of the web-based electronic procurement system.

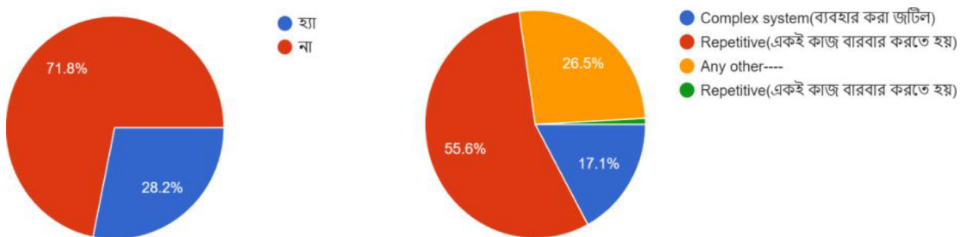


Figure 17: Complexity of the System and needs additional one to manage System;
Source: Author's Compilation using Survey Data

Due to a lack of training and a comprehensive understanding, tenderers often define the e-GP System as complex. Additionally, they are unable to manage their e-GP accounts independently. More than 87% of the bidders found the system intricate, and they needed to employ an additional person or seek help to maintain the account. The help-seeking from others does not come without cost. Sometimes, tenderers have to pay between Taka 1000 and 2000 or more per tender to complete a tender document and submit it. Therefore, the digital inclusion of citizens in e-procurement should be the next agenda item for the government, achieved through training and transfer.

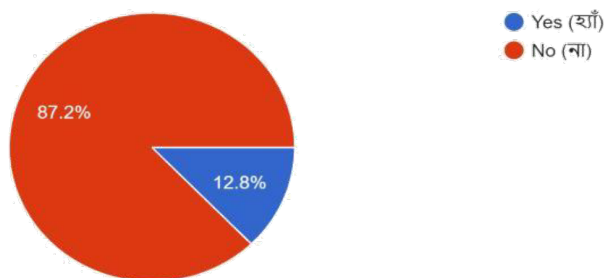


Figure 18: Obstacles faced by the Bidders in the e-GP system and reasons behind it;
Source: Author's Compilation using Survey Data

Among the other issues, the language of the e-procurement portal is another prime barrier for the bidders. They often find it challenging to run the System because the language is English, and there is no proper training.

From the FGDs, we also found that the procuring entities find it challenging to check the genuineness of the submitted documents. If a letter or mail is sent to the other PEs' end to ensure the authenticity of documents, such as experience certificates, trade licenses, and certificates of incorporation, it takes a considerable amount of time; sometimes, the other PEs do not respond. So, it is a time-consuming process. To resolve this, the PEs can issue or upload a bidder experience certificate and other relevant legal documents into the e-GP System, allowing PEs to easily check and verify them.

From the FGDs, both the PEs and Bidders suggested rethinking the existing rule of $\pm 10\%$ in the OTM works. In that case, if the Official Cost Estimate (OCE) is disclosed (though it is confidential), some of the participated tenderer's quoted prices become exactly 10% lower than the OCE. In that scenario, a lottery is not permitted in OTM, so the tenders with equal quoted prices are evaluated by using a matrix. The matrix typically favours bidders who have a proven track record of performance with the PE. Therefore, bidders with a history of successful performance benefit from these situations.

Another problem lies in the efficiency of using different estimating systems across various engineering departments. For example, the price schedule for the same types of equipment differs for LGED, R&HD, and PWD. The FGDs with different PEs yielded a suggestion for a uniform price schedule that can enhance efficiency in this System.

On the other hand, although almost 90% of respondents agreed that average competition in the e-GP System has increased (from four to twenty-one), the influential contractor eats away at the petty bidders. Because, through the e-GP

System, a tenderer can participate in any tender anywhere in the country. However, after winning a tender, a bidder must perform or execute the order, which creates problems, especially in OTM works. Because in OTM (Works), the bidder must take over the site and relocate their personnel, machines, and materials to the working location. Now, the winning bidder is from Rajshahi and receives a work order in Chattogram. In that case, the bidders find it challenging to execute the work there due to musclemen or local political leaders. Being frightened, the winning bidders often hand over the contract to a local and powerful individual with a limited profit margin, which ultimately leads to poor and delayed execution of the work.

Although everything in the e-GP System is performed on an electronic platform, the tender evaluation is still done manually, which is strenuous and troublesome. Procuring entities must manually verify the tenderers' legal documents by sending letters or through mail to various Public Entities (PEs).

CONCLUSION AND RECOMMENDATIONS

Conclusion

With the process of digitalisation, the concept of governance has become more crucial, especially in the context of public procurement management. Like many developing economies of the world, the government of Bangladesh initiated the electronic procurement system as part of its reform agenda with a view to bringing efficiency to public spending by reducing corruption, procurement lead time, wastage of funds, travel, and costs, ensuring robust security, trusts and accelerating the whole process. Every year, the government of Bangladesh allocates a huge amount of money through its budget, and almost 45% of its yearly budget is spent on public procurement-related activities. As the volume of budget allocation increases, it requires better management, as corruption has historically been rife in public spending in Bangladesh due to a lack of checks and balances. The e-GP System has been introduced to minimise wastage of public funds, create value for money and ensure efficiency in the process. Based on the collected data, observations, and opinions of the respondents in the FGD, the efficiency in public procurement has increased significantly with the adoption of e-GP.

Similarly, the e-GP System has increased public procurement efficiency by reducing time, visit, and cost. Increasing competition through nationwide participation, fostering trust among bidders, ensuring user-friendliness, and implementing corruption-free, highly secure, and fully automated systems are other dimensions of the e-GP system's efficiency. The acceleration in tender processing

time, facilitated by easy access and reduced procedural requirements, has also contributed to increasing efficiency in the entire electronic procurement system in Bangladesh.

Nevertheless, there are still many areas of improvement in terms of efficiency. The incorporation of automation in evaluation and certification will significantly increase efficiency. When tenderers from a distant location participate in a tendering process, it becomes challenging for the PE to verify the authenticity of the tenderer's submitted legal documents. To solve the problem, both stakeholders opined that there should be an option for mandatory upgradation of the tenderers' database with all necessary details (including documents, running works, and completed works) by uploading up-to-date legal documents. Additionally, a system is needed that will automatically verify all submitted records centrally.

Regarding competition among tenderers as a means of efficiency, both the PEs and Bidders suggested rethinking the $\pm 10\%$ rule in the procurement system by applying the OTM method, which favours large bidders who receive more facilities according to the existing evaluation matrix. The use of different estimating systems in different engineering departments. For example, the price schedule for the same types of equipment or goods differs for LGED, R&HD, and PWD. The government or CPTU can suggest a uniform price schedule that can enhance efficiency in this System.

Almost 90% of respondents agreed that the average level of competition in the e-GP System has increased. Before the electronic tendering process's commencement, the average number of bidders per tender was only four (4), and now it has reached twenty (21). It has been said that the influential contractor eats away at the petty bidders in the manual tendering system, but the e-GP System postulates a valid approach to shaping the country's public procurement practice more productively through expedited competition. Rashid (2018) also observed that, due to e-GP competition and responsiveness per tender, it almost tripled in 2017-18 compared to the past.

Although everything in the e-GP System is performed on an electronic platform, the tender evaluation is still done manually, which is strenuous and troublesome. Procuring entities must manually verify the tenderers' legal documents by sending letters or via email, and different procuring entities verify the same document at different times. The PEs proposed that implementing an automated evaluation matrix calculation system in the e-GP System would save a significant amount of time and effort, especially in calculating annual turnover and capacity.

Regarding payment, the respondents stated that all payments should be made through the IBAS++ system and that links have been established between the IBAS++ and e-GP systems. This will make it easier to have accurate and updated information on budget spending. Tenderers are not satisfied with the existing tender document and schedule price range; it can be divided into smaller ranges, especially the lower limits, which can be revisited.

One of the significant problems of e-GP from the tenderers' side is that most tenderers do not process their tender documents by themselves. Usually, more than one tenderer processes their documents with the same computer operator, which creates hassle among the tenderers. Therefore, the tenderers and the PEs demand more effective training at the local and regional levels of the country. Another problem is sub-contacting. Large bidders typically sell their contracts (works) to local subcontractors for a commission, resulting in substandard work. The engineering departments suggested revisiting the rules for authorising tenderers to prevent such irregular practices.

Currently, tendering can be completed up to the awarding of the NOA and uploading a signed contract agreement in the e-GP System. The implementation stage (Contract Management System) of the tendering process should be incorporated into the e-GP System. Everything will be automatic and hassle-free when 100% of the work is done using the e-GP System.

Finally, it can be concluded that despite some problems, the e-GP System is time, cost, and visit reducing procurement system in the country. Although it is not 100%, it significantly ensures efficiency in the public procurement sector in many ways. The study revealed that introducing a 100% electronic procurement system can significantly enhance efficiency.

Recommendations

- The necessary option should be integrated into the e-GP System to update the tenderer's database with all details mandatorily. There will be a unique number for every supplier, and PE will be able to search for every detail, such as necessary documents, ongoing works, completed works, yearly turnover, etc., by clicking on the supplier's profile. The tenderers will also have up-to-date legal documents (trade license, VAT certificate, Tax certificate, BIN number, and Bank Solvency) in their profiles, and there will be an option for auto-verification of the supplier's uploaded documents and records centrally.
- There should be a system-generated, uniform template for work completion and experience certificates in the System after successfully completing any contract, to prevent fraud and expedite the evaluation process.

- The rule of $\pm 10\%$ should be deactivated, or a mechanism should be adopted to ensure equal opportunity for participation and competition of the marginal tenderers in the process.
- CPTU should take the necessary steps to unify the rate schedules of different departments (PWD, R&HD, and LGED), although some adjustments may be necessary due to geographic locations or regional considerations. Although all government agencies collect and procure various items, usually from the local market, the prices mentioned in their respective rate schedules differ significantly from one another.
- The efficiency of the System will increase if the procurement of '*Service*' is included, ensuring the quick disposal of all steps from tender invitation to making all payments. The inclusion of a Contract Management System (CMS) will facilitate the provision of bill payment (partial or complete) and the issuance of a Contract *Completion Certificate* by the PE based on the work experience with suppliers.
- The language of the e-GP portal, especially the tender document, should be in Bengali so that bidders can easily understand the tender requirements without needing assistance from others. It will also benefit the PEs and increase competition in the process. For this purpose, training of e-GP should be expanded to the root level for all stakeholders, especially for the tenderers.

ACKNOWLEDGMENTS

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Women's Suffering from Collecting Clean Water in The Coastal Areas of Bangladesh: A Study on Selected Two Upazilas

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Muhammad Mahmudur Rahman²

ABSTRACT

The people in the coastal region of Bangladesh have been struggling to collect clean water for ages. There are various complications for getting clean water in the coastal areas of Bangladesh, like excessive salinity of water, drying up of clean water sources during the dry season, intrusion of saline water from rivers and canals, regular floods or cyclones, arsenic problems with tube well water and many other difficulties. Due to all these limitations on getting clean water, the people of this region have to struggle a lot to collect clean water. In the most families, the women have to collect water so the women are facing various challenges to collect clean water. This research aims to narrate the women's suffering from collecting clean drinking water in the coastal areas of Bangladesh, to state the present situation of clean water facilities and to identify the main challenges of getting clean water amenities for all in these coastal areas. The study adopts a quantitative technique to provide a comprehensive understanding. Both primary and secondary data sources were used in the research. The study was based on field investigation where 100 respondents were selected randomly from two coastal Upazilas of the Barguna district of Bangladesh. A structured questionnaire was administered to a representative sample of households across different areas of this district. Existing data from government reports, academic publications and relevant databanks were analyzed to supplement primary data and provide context for the study. This research exposes that, in the coastal areas, 60% of women are facing various complications to collect clean water. The women who are facing problems collecting clean water, 65% of respondents are facing

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problems throughout the year and 35% of respondents are facing problems at a certain period of the year. It is clear that, a number of people living in the coastal areas are deprived of clean drinking water comforts and mainly the women of these areas have to face various complications to collect clean water.

Keywords: Bangladesh; Challenge; Coastal women; Clean Water; Salinity

INTRODUCTION

To diminish poverty, save the planet, and ensure that by 2030 all people enjoy peace and prosperity the United Nations adopted The Sustainable Development Goals (SDGs), also known as the Global Goals in 2015 as a universal call to action. To achieve the SDGs or sustainable development goals The United Nations has set a global target. There are total 17 Goals and among them the goal number 6 is to ensure that everyone has access to clean water and sanitation (Programme) Bangladesh has made significant progress toward SDG 6. In Bangladesh 48% of the inhabitants use safely managed drinking water services. (Zubaer, 2023) Basically In the last few years Bangladesh has made some progress in its various socio-economic indicators but ensuring clean water facilities for all, especially in coastal areas, still remains a big challenges. In Bangladesh, ninety-seven percent of the population uses groundwater for drinking and other domestic purposes as the scarcity of clean surface water but the ground water of everywhere is not safe (Hossain, 2006). According to the report of Water.org, in Bangladesh, 60% of people have access to clean water (water.org, 2024). Another report of WaterAid shows that 40.9% of people in Bangladesh use contaminated water. (WaterAid, 2024). It is the scenario of the entire Bangladesh. The condition of the coastal areas of Bangladesh is a little dissimilar. There is also still a big challenge in clean water. It is a major problem, especially for the river and seashore residents (the Daily Star, 2022). There are various challenges for getting clean water, these include excessive salinity of water, regular cyclones, dangerous arsenic, etc. It is alarming that the surface water salinity is gradually rising over time in the coastal areas of Bangladesh. (Taylor, et al., 2024) Basically the women are the main users of water in these regions because they are restricted to work in domestic spaces. Their gendered relationships to water in these regions play a vital role in their empowerment and powerlessness. (Subah, 2021) However, this research aims to state the women's suffering from collecting clean drinking water in the coastal areas of Bangladesh and to identify the main challenges of getting clean water amenities for all in these coastal areas.

OBJECTIVES OF THE STUDY

This research aims to narrate the women's suffering from collecting clean drinking water in the coastal areas of Bangladesh and to identify the main challenges of getting clean water amenities for all in these areas. The specific objectives of this research are:

- a. To detect the real picture of the clean drinking water facilities in the coastal areas of Bangladesh
- b. To narrate the women's suffering from collecting clean drinking water in the coastal areas of Bangladesh
- c. To examine the current challenges of getting clean water facilities in the coastal areas of Bangladesh

METHODOLOGY

To provide a comprehensive understanding of the real picture of the clean drinking water and current challenges of the coastal women for getting clean water facilities the both quantitative and qualitative methods of research were used in this research. Interviews and surveys methods were used for the purpose. The research is conducted by questioning and interviewing the women of the coastal areas. Both open and close ended questions were placed for the respondents. To explore the real scenario, survey method was used to fold field data directly from the respondents. However, due to time and other different limitations and obstacles, four Unions from two coastal upazilas of Barguna district of Bangladesh have been purposively selected as the study area for this research. Kazirabad and Sarishamuri Unions of Betagi Upazila; and Kathaltali and Kalmegha Unions of Patharghata Upazila have been selected. The study was based on field investigation where 100 respondents were selected randomly from the two coastal Upazilas of the Barguna district of Bangladesh. The clean water crises and women's suffering from collecting clean water of the research area and the other coastal areas of Bangladesh are mostly matched. So, study area selection can be justified. Existing data from government reports, academic publications, and relevant databases is analyzed to supplement primary data and provide context for the study. The data have been analyzed by using simple mathematical tools like tabulation and percentage. In this research the data have been placed with chart/diagram and table.

RIVEW OF LITERATURE

Review of the literature is inevitable for a research work (Abedin, 2005). A number of studies have been conducted in the matter of clean water facilities in Bangladesh but none of them is directly concerned to this research. From them, some information, ideas and guidelines were taken for a conclusive completion of this research. Barua Roy and Munna (2019) broadly described the real picture of drinking water quality and sanitation facilities in the two selected Upazilas of the Noakhali district of Bangladesh. In their research article, they discussed the present situation of drinking water quality and sanitation facilities in the district. The real picture of the clean water facilities in the coastal areas of Bangladesh, the current challenges of getting clean water for all, the awareness level among the general people of the coastal areas about clean drinking water and specially the suffering of the women were not stated clearly. Haque and Ansari (2010) brilliantly stated water, sanitation, and health conditions of Aila affected coastal area of Bangladesh. In their research, they emphasize the Ayla-affected area but the coastal areas of Bangladesh were not specifically discussed. In their research, the present challenges for getting clean water facilities for all and the women's suffering in the coastal area were not stated clearly. Hoque, et al. (2021) broadly discussed the drinking water facilities in the coastal area of Bangladesh. They give emphasize on institutional framework, financing, and information systems. However, the real situation of clean water facilities in the coastal parts of Bangladesh and the present challenges of women for collecting clean water facilities in this area were not discussed particularly. Khan, et al. (2011) were trying to assess salt intake from drinking water sources and to clarify the impact on maternal health in the coastline area of Bangladesh. However, the clean drinking water facilities in the coastal areas of Bangladesh and the current challenges of it were not stated clearly.

JUSTIFICATION OF THE STUDY AREA

To collect data from all the coastal zones' citizens of Bangladesh is very time-consuming as well as expensive. Only two upazilas of the Barguna district was selected by the researchers. Barguna is one of them among the 19 coastal districts of Bangladesh (WARPO, 2003). There are various professionals including, government and non-government employees, businessmen, teachers, farmers, day laborers, households etc. in this study area. It can give an overall idea of clean drinking water facilities for the citizens living in the coastal areas of Bangladesh in the other parts of the country. Moreover, the researchers permanently live in Barguna so, this zone has been chosen for the time-consuming.

CONCEPTUAL CLARITY

Coastal area of Bangladesh: The coastal area of Bangladesh is situated in the south zone of the country. Between 21-23° N and 89-93° E, the coastal zone of Bangladesh lies. The coast of Bangladesh is about 700 km long and can be broadly separated into three areas (Banglapedia.(n.d.)). A total of 19 districts are in these coastal zone. The overall socio-economic picture of these coastal districts is not almost the same as the other zone of Bangladesh. The lifestyle of the people in this region is different compared to other regions of the country. Naturally, the lifestyle of the people is different here. Here nature controls many things related to the daily life of the people of these regions.

Upazila and Zila/ District: Basically two types of administration are exists in Bangladesh; Central and local administration. And local administration has three parts; division, District, and Upazila administration. At the local administration the district is the main administrative unit and the Upazila is an administrative unit that functions as a part of the district in the local area. A Deputy Commissioner (DC, district administrator) exercises his role as the executive head of the district and an Upazila Nirbahi Officer (UNO) exercises his role as the executive head of the upazila. 64 districts and 495 upazilas are in Bangladesh. Besides, 'Upazila Parishad' and 'Zila Parishad' ('Parishad' is a Bengali word that means council) are the regional unit of local self-government in Bangladesh. Basically, there are two types of local governments in Bangladesh; Rural or Regional local government and urban local government. Rural or regional local government has three tiers which are Zila (district) Parishad, Upazila Parishad, and Union Parishad (UP) (Banglapedia.(n.d.)).

DATA ANALYSIS

Identifying the women's suffering from collecting clean drinking water in the coastal areas of Bangladesh was the main focus of this research. The collected data have been analyzed by using simple mathematical tools like tabulation and percentage. The collected data have been placed through diagram/ chart and table.

RESULTS AND DISCUSSIONS

The Sources of Water that are used by the People of the Coastal Areas

The research reveal that, most of the people of the coastal region of Bangladesh don't use the same sources of water for their drinking and cooking purpose. In the Figure: 1 it is clear that, 18% people use the same source of water for drinking and

cooking and 82% people use different sources of water for drinking and cooking. Generally the main causes of using different sources of water is the shortage of clean drinking water. People use clean water only for drinking because there are a lot of scarcity of harmless water.

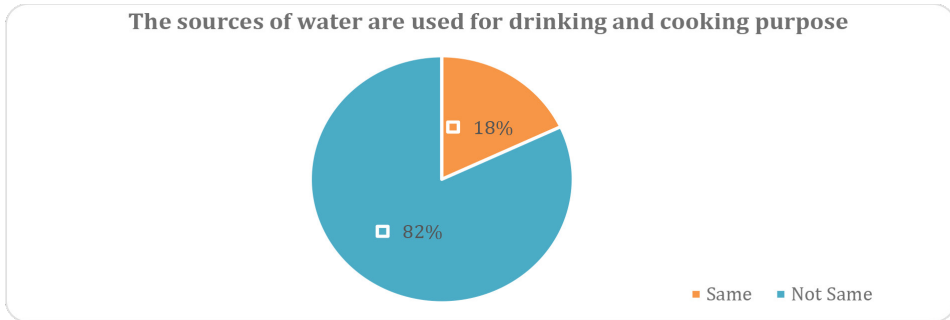


Figure 1: The sources of water are used for drinking and cooking purpose
Data source: Field data

The Drinking-Water Sources

Figure 1.1 reveals that, the people use various sources of water for drinking, 46% of respondent opine that they drink tube well water, 20% drink rainwater stored for a long period of time, 22% drink Pond, canal, or river water by purifying in various ways, 4% people drink Pond, canal or river water directly and 8% people drink supplied water by paying monthly. In this research work, it’s obvious that the people of the coastal zone use various sources of water for drinking. The water of different places has different problems, so everyone isn’t able to drink the water from the same sources.

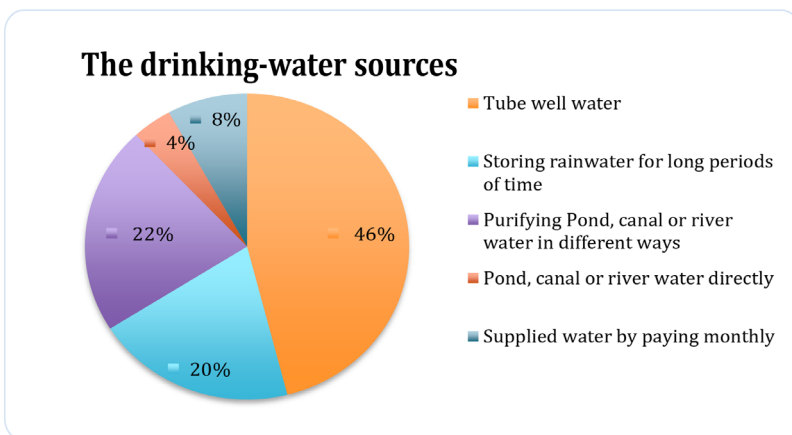


Figure 1.1: The Drinking-Water Sources
Data source: Field data

The Cooking-Water Sources

The Figure 1.2 shows that, 24% of the respondents use tube well water for cooking, 10% of the respondents use rainwater stored for a long period of time, 14% of the respondents use pond, canal, or river water by purifying in various ways, 42% of the respondents use pond, canal or river water directly and 10% of the respondents use supplied water by paying monthly. By this research work, it is clear that, as there is lack of clean water most of the people of this area use pond, canal, or river water directly for cooking.

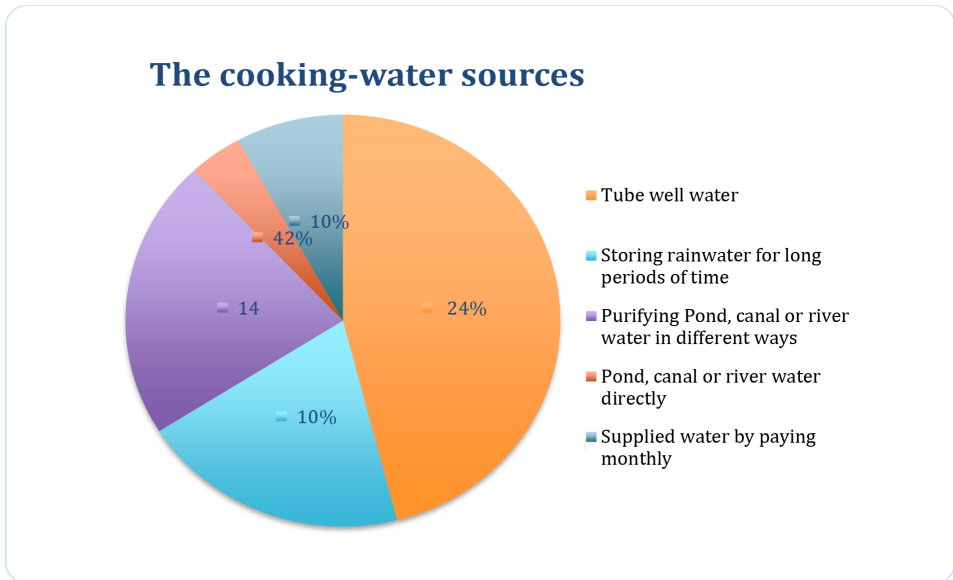


Figure 1.2: The Cooking-Water Sources
Data Source: Field Data

The Present Situation of Taking Clean Water

Figure 2 shows that, 54% of the people think that they use clean water for drinking and cooking, and 22% of the people think that they use unclean water for drinking and cooking. The rest of the respondents, 24% of the people are not sure that the water they use for drinking and cooking is clean or not. In this research, it's clear that a number of the people use unclean water and some of them are not sure that the water they use for drinking and cooking is clean or not. The people of the coastal zone have a lot of lack of awareness.

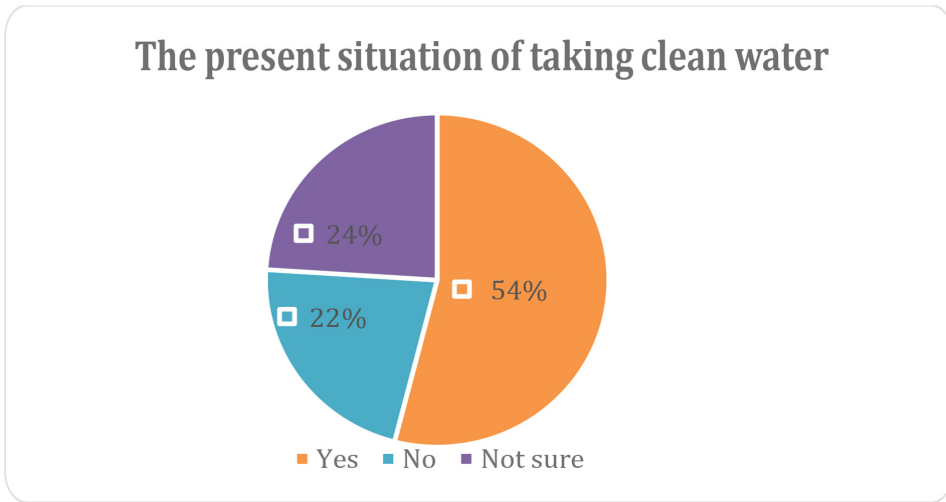


Figure 2: The Present Situation of taking Clean Water
Data Source: Field data

The Job of Collecting Water in the Family

The research reveal that, in most of the families the female member are mainly responsible for collecting water, in some families this crucial duty is performed by the male member of the family and in some families both male and female member performed this duty. In the Figure 3, we can see that in the 65% family the female member are collecting water, in the 20% family the male member are collecting water only in the 15% family both the male and female member performed the responsible of collecting water.

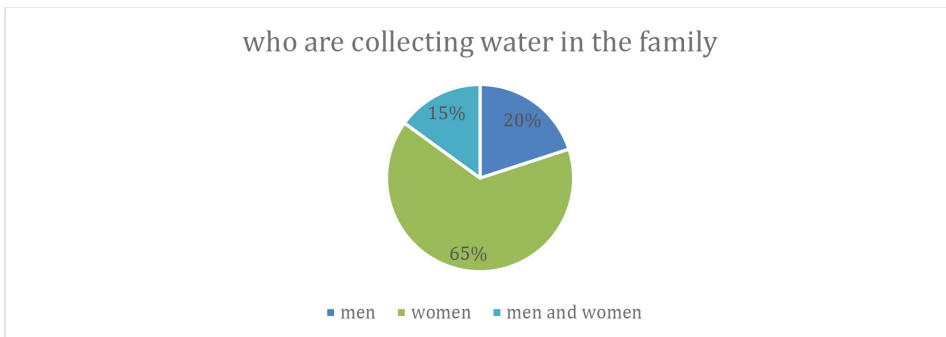


Figure 3: The Job of Collecting Water in the Family
Data source: Field data

Types of Water, the People have to collect

The research reveal that, in the most families water has to collect for daily activities. The Figure 4 shows, 60% respondents opine that they have to collect only drinking water, 5% say that, they have to collect only cooking water, 15% respondents say that, they have to collect both drinking and cooking water and only 20% opine that they have no need to collect water.

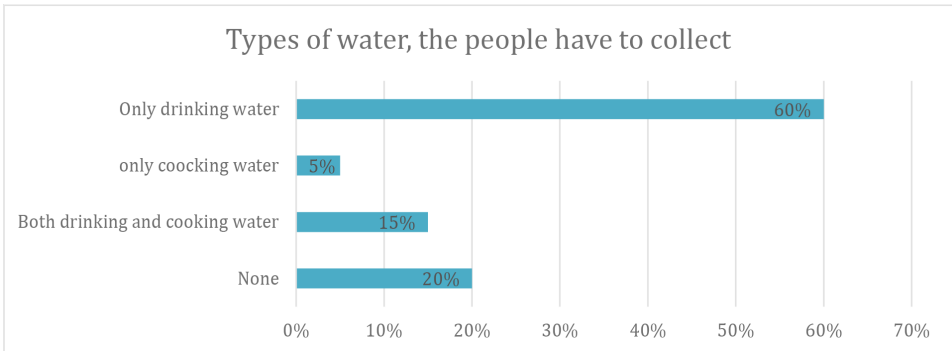


Figure 4: Types of water, the people have to collect
Data source: Field data

Period of collecting water

In the above figure we see that the most coastal people have to collect water for the need of their daily work. The Figure 5 shows that, the people who have to collect water among them 65% people opine that they have to collect water only the dry season and rest of 35% say that they have to collect water throughout the year.

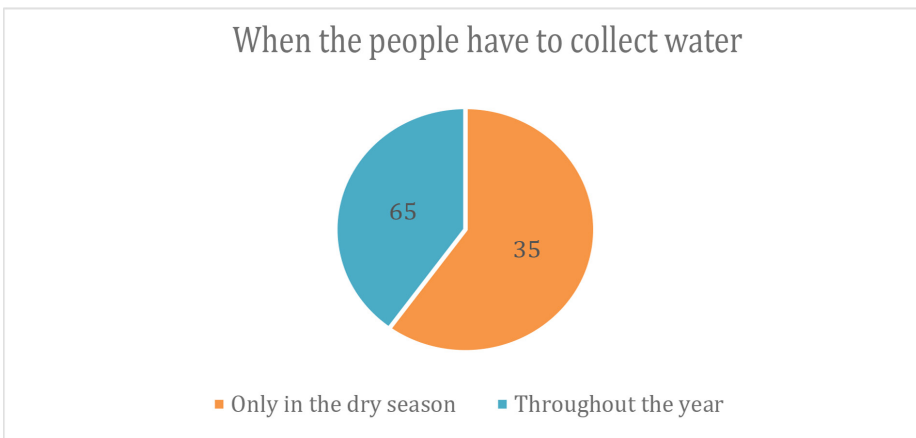


Figure 5: When the people have to collect water
Data source: Field data

Facing any problems when they are collecting water

The figure 6 shows that, the people who have to collect water among them 60% people opine that they have been facing various problems to collect and rest of 40% say that they have not been facing any problems to collect water in their areas.

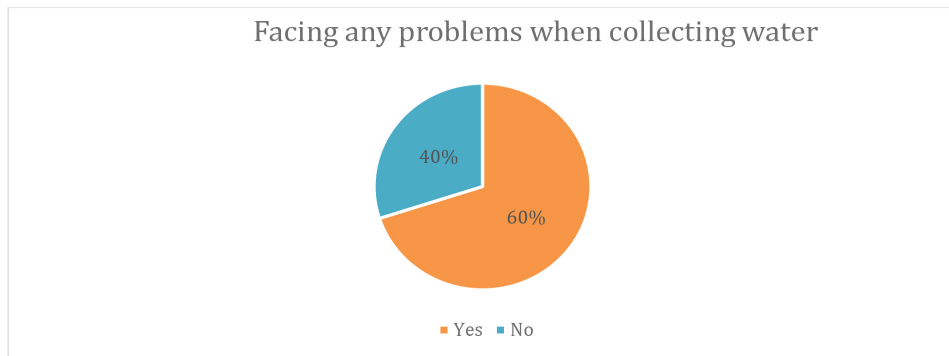


Figure 6: Facing any problems when collecting water
Data source: Field data

The Types of problems are facing by the women

Table 1 shows that, the women are facing different problems when they are collecting water. Especially in the dry season and in the saline area the women of these areas have to face various misery. 19% women opine that during the dry season water has to be fetched from far away,

13% respondents opine that in the saline area, for the sources of fresh water have to walk a long distance, 26% of the women said that, it was very difficult to fetch water after doing all the household work, 19% respondents say that, in the dry season fresh water sources gets crowded, for which we have to stand for a long time to collect water, 16% respondents opine that, collecting water in adverse weather conditions is very difficult and 7% of women share that, Sometime the women have to face various harassment while they are collecting water.

Table 1: The problems are facing by the women while they are collecting water

The problems are facing by the women while they are collecting water	Frequency	percentage
During the dry season water has to be fetched from far away	19	19
In the saline area, for the sources of fresh water have to walk a long distance	13	13

It is very difficult to fetch water after doing all the household work	26	26
In the dry season fresh water sources gets crowded, for which we have to stand for a long time to collect water	19	19
Collecting water in adverse weather conditions is very difficult	16	16
Sometime the women have to face various harassment while they are collecting water	7	7
Total	100	100

Data source: Field data

Main Challenges of Getting Clean Water Facilities in the Coastal Areas

Table 2 shows the various challenges of getting clean water facilities, 16% of the respondents say that the tube-wells water is excessively saline and unusable for drinking, 31% of the respondents opine that, The water in the pond dries up during summer so there is an extreme water scarcity, 26% of people say that, The water of rivers and canals becomes salty in a certain time of the year and therefore it become unusable, 8% of people opine, that there is no system to retain rainwater throughout the year, 10% of people opine that, It becomes very difficult to collect water because the government ponds are far away, 9% of people think, due to lack of regular maintenance the water purification filters in government or private enterprises are often useless.

Table 2: Main Challenges of Getting Clean Water Facilities in the Coastal Areas

Main Challenges of Getting Clean Water Facilities in the Coastal Areas	Frequency	percentage
The tube-wells water is excessively saline and unusable for drinking	16	16
The water in the pond dries up during summer so there is an extreme water scarcity	31	31
The water of rivers and canals becomes salty in a certain time of the year, and therefore it become unusable	26	26
There is no system to retain rainwater throughout the year	8	8

It becomes very difficult to collect water because the government ponds are far away	10	10
Due to lack of regular maintenance the water purification filters in government or private enterprises are often useless	9	9
Total	100	100

Data source: Field data

Thinking among the general people of the coastal zone about clean drinking water

The United Nations (UNO) has set a global target to attain the sustainable development goals (SDGs) by 2030. Among the 17 goals the goal number 6 is to ensure that everyone has entrance to clean water and sanitation (Nations, n.d.). The general people of the coastal zone of Bangladesh have a little idea about SDGs as well as their goals. Figure 7.1 shows that, only 18% of the people have plain concept about Sustainable Development Goals (SDGs) as well as its goal 6: like, clean water and sanitation, 26% of the people have a rough concept and the rest of 56% haven't any idea about SDGs or about its goals. Figure 7.2 shows that only 26% of the people have an obvious concept about the diseases that can be spread by using unclean water, 64% of the people have a rough idea and the rest of 10% don't have any idea about it. In this research, it is obvious that most of the people of this area haven't any idea or have a rough idea about the diseases that can be spread by using unclean water.

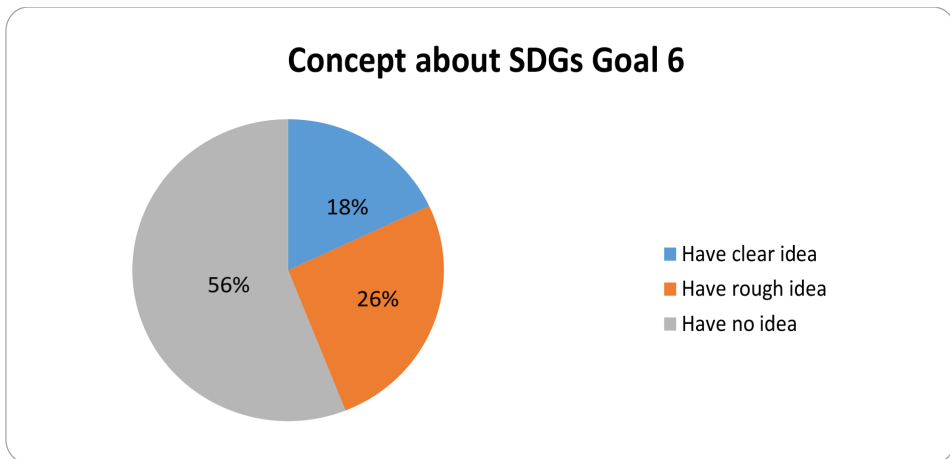


Figure 7.1: Concept about SDGs Goal 6

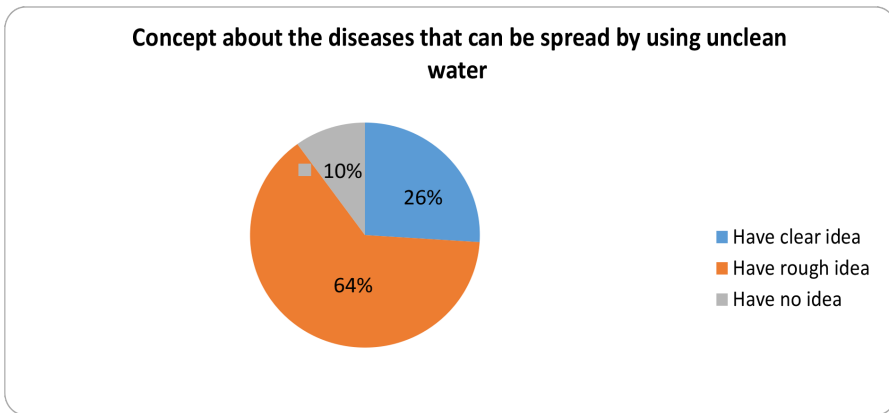


Figure 7.2: Concept about the diseases that can be spread by using unclean water
Data source: Field data

In this research it is obvious that, most of the people of the coastal zone don't use water from the same sources for drinking and cooking. The shortage of clean drinking water is the main cause of using different sources of water. They try only to drink clean water because they are not always able to use clean water for cooking. In the Figure: 1 it is clear that, 18% people use the same source of water for drinking and cooking and 82% people use different sources of water for drinking and cooking. In the research area most of the people drink tube well water and rainwater as the source of clean water. Some of the people drink Pond, canal, or river water directly. The research narrate that 46% of the people drink tube well water, 20% of the people drink rainwater by Storing it for long a period of time, 22% of the people drink Pond, canal or river water by purifying in different ways, 4% of the people drink Pond, canal or river water directly and 8% of the people drink supplied water by paying monthly. It's obvious that the people of these region use different sources of water for drinking. The water in different places has different problems so they drink the water from the different sources.

The research reveal that, in most of the families of the research area the female members are collecting water, in some families this crucial duty is performed by the male member of the family. In the Figure 3, we can see that in the 65% family the female members are collecting water.

The research prove that, in the most families the women members have to collect water for their daily activities. The Figure 4 shows, 60% of the people have to collect drinking water, 5% of the people have to collect only cooking water, 15% of the people have to collect both drinking and cooking water and only 20% opine that they have no need to collect water.

The research show that the most coastal people have to collect water for the need of their daily works. The Figure 5 shows that, 65% of the people have to collect water only in the dry season and rest of 35% have to collect water throughout the year.

In this research it is clear that the coastal women are facing various problems when they are collecting water from different sources. The Figure 6 shows that, 60% of the respondents are facing various problems when they are collecting water. Especially in the dry season and in the saline area the women of these areas have to face various misery. Table 1 shows that, 19% women opine that during the dry season water has to be fetched from far away, 13% respondents say that in the saline area, for the sources of fresh water have to walk a long distance, 26% of the women express that, it was very difficult to fetch water after doing all the household work, 19% respondents say that, in the dry season fresh water sources gets crowded, for which we have to stand for a long time to collect water, 16% respondents opine that, collecting water in adverse weather conditions is very difficult and 7% of women share that, Sometime the women have to face various harassment while they are collecting water.

In the coastal areas some specific challenges of getting clean water have been identified by this research. The table 2 shows the various challenges of getting clean water facilities, 16% of the respondents say that the tube-wells water is excessively saline and unusable for drinking, 31% of the respondents opine that, The water in the pond dries up during summer so there is an extreme water scarcity, 26% of people say that, The water of rivers and canals becomes salty in a certain time of the year, and therefore it become unusable, 8% of people opine, that there is no system to retain rainwater throughout the year, 10% of people opine that, it becomes very difficult to collect water because the government ponds are far away, 9% of people think, due to lack of regular maintenance the water purification filters in government or private enterprises are often useless.

The research prove that most of the people of these areas have no idea or have a rough idea about the diseases that can affected by unclean water. Figure 7.2 shows that only 26% of the people have an obvious concept about the diseases that can be spread by using unclean water, 64% of the people have a rough idea and the rest of 10% don't have any idea about it. In this research, it is obvious that most of the people of this area haven't any idea or have a rough idea about the diseases that can be spread by using unclean water.

CONCLUSION AND RECOMMENDATIONS

In various socio-economic indicators Bangladesh has made some remarkable advancement and has made special progress in ensuring clean drinking water facilities for its citizens but at the marginal areas, especially in coastal zone, it still remains a big problems. Because of the shortage of clean drinking water most of the people of these areas don't use the same source of water for drinking and cooking. In the most of the families of these regions the women members have to collect water throughout the year. Especially in the dry season and in the saline areas the women have been suffered more. When the women are collecting water from the various sources they have been facing various negative experiences. The people of these areas are facing various challenges of getting clean water like, excessive salinity of tube wells water, during the summer season extreme water scarcity, at a certain period of the year water of the rivers and the canals becomes salty and many other limitations. A number of the people of these areas have no access to clean water facilities because of the various limitations. However to ensure clean drinking water for the all citizens Bangladesh government should take urgent and sustainable initiatives. Some specific recommendations are given below which will be helpful for the concerned authority to take certain and fruitful initiatives.

- I. Alternative freshwater sources should be ensured in which coastal areas the salinity of water is too high.
- II. In the coastal areas most of the ponds dry up during the dry season so these ponds need to be dug regularly as ponds are one of the sources of fresh water.
- III. To clean the ponds-water from contamination of garbage, animal excrement or harmful pesticides effective measures should be taken.
- IV. By government or private initiatives, pond water purification filters should be installed. Due to lack of regular maintenance the water purification filters are often useless so it should be regularly maintained.
- V. The coastal people should be encouraged not to use pond, canal, or river water directly and awareness should be made among the general people regarding the use of clean water. The People should be made aware of the diseases that can be caused by using unsafe water
- VI. Sustainable arrangements should be made to store rainwater throughout the year where rainwater is the main source of fresh water.

- VII. It is important to take certain program for those who are living below the poverty line so that they can get better from that situation soon.
- VIII. To be a partner of the government's initiatives, foreign donor organizations and domestic NGOs should be more encouraged.

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Examining the Impact of Business Loan Accessibility on Empowering Student Entrepreneurs: A Study on University Students' Perceptions

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Sharjil Hasan²

ABSTRACT

This study the impact of loan accessibility on student entrepreneurs at Jatiya Kabi Kazi Nazrul Islam University (JKKNIU). A questionnaire survey was conducted with 350 students, employing primary sources to perform the quantitative analysis. The data was collected using a stratified random sampling technique in the area of JKKNIU. The survey revealed that students possess clothes and online enterprises. Most (38%) have operated their companies for 1-2 years. While 92% have sought loans to enhance their company operations, the majority have taken personal (32%), NGO (30%), and bank (26%) loans. They borrowed primarily to develop their business (30%) and acquire essential items (28%). Student entrepreneurs in their neighborhood encountered difficulties while seeking for financing (86%). Approximately 62% of student entrepreneurs report that securing loans is challenging. Moreover, the absence of secured finance impeded corporate expansion (28%), resulted in lost investment opportunities (24%), and postponed the commencement of the firm (16%). Elevated interest rates (32%), challenging application processes, and collateral limitations (22%) impede the accessibility of loans for student entrepreneurs. Furthermore, they had challenges in meeting Equated Monthly Installment (EMI obligations due to a 32% capital shortfall, fulfilling other tax liabilities, and expanding the firm by 18% while repaying a loan. Seventy-two percent of respondents believe the government should intervene, while forty-six percent want a twelve-month grace period. This study advocates for government, policymakers, private sector entities, lending institutions, and pertinent authorities to promote financial literacy,

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facilitate access to funds and grace periods, and foster collaboration between educational institutions and private sector lending agencies, thereby enabling student entrepreneurs to enhance the nation's economic growth.

Keywords: Student Entrepreneur, Business Loan, Empowerment, JKKNIU.

INTRODUCTION

Business relies on entrepreneurship throughout its entire cycle. A business's vitality and adaptability are shown by entrepreneurial talents and adaptive management techniques, which promote development and learning (Diandra & Azmy, 2020). Young entrepreneurs are often college students. Student entrepreneurship entails innovative resource use and integration to identify and exploit possibilities through profit-driven businesses (Gupta & Gupta, 2017). Student entrepreneurs are creative architects who launch new firms rather than expand or safeguard current ones (Marchand, Hermens, & Sood, 2015). Additionally, university students who started their own enterprises to cover their basic demands. Many budding businesses seek loans to ease their financial concerns. Loans are credit arrangements in which a party receives a quantity of money with the expectation that the principal and interest will be returned later (Kagan, 2023). Financial resources, particularly loans, promote equality and reduce inequities among entrepreneurs and businesses (Akhtaruzzaman, 2019). Young entrepreneurs in Bangladesh are coming up with new company concepts (Palak, 2021). In recent decades, Bangladesh has seen a boom in new businesses in financial technology, educational technology, healthcare, logistics, and internet commerce. Over 2,500 startups operate in the nation, with 200 new ones each year. (Uzzaman, 2023).

Student entrepreneurs encounter numerous challenges when seeking loans for their business start-ups. These challenges include inadequate networking, poor credit history, fear of debt, age-related stereotypes, documentation issues, lengthy loan acquisition processes, security concerns, high interest rates, ineffective business plans, and social rejection (Donovan, 2021). In our country, student entrepreneurs face numerous challenges, such as limited access to institutional funding, restricted entry to lucrative markets, inadequate marketing and branding efforts, insufficient strategic planning, limited availability of suitable workspaces, gaps in business management skills, inaccurate financial records, lack of new product development initiatives, and insufficient ongoing business support. (Ahmed, et al., 2012). Student entrepreneurs faced challenges that hindered the growth of their small businesses. In that case, students seek loan accessibility

to enhance their businesses accordingly. This study significantly contributes by offering insights into the effects of loan accessibility on student entrepreneurs, enabling relevant authorities to implement effective measures to address concerns and support the growth of young entrepreneurs, such as students.

AIM AND OBJECTIVES OF THE STUDY

The primary objective of this study was to investigate the effects of loan accessibility on student entrepreneurs at JKKNIU.

Specific objectives of this study were

- a. To assess the impact of loan accessibility on the business of student entrepreneurs at JKKNIU.
- b. To examine the challenges faced by the student's entrepreneurs who are unable to get a loan.
- c. To suggest way forwards of enhancing loan accessibility for student entrepreneurs

REVIEW OF THE RELATED LITERATURE

This study covers several previous publications on loan accessibility for JKKNIU student entrepreneurs covers several angles. The study explores how loan accessibility affects JKKNIU student entrepreneurs. Previous studies have analyzed loan accessibility, company experience, partnerships, and business structure to identify concerns and assess loan accessibility. The review examines JKKNIU student entrepreneurs' loan procurement and application issues. This section examined loan accessibility hurdles, business consequences, and outcomes. The literature review proposed clear remedies to the challenges. These insights help perform the current study.

Impact of loan Accessibility on The Business of Student Entrepreneurs at JKKNIU

Biney (2019) examined Accra's Ghana youthful street vendors' business potential and problems. The researcher lacks of jobs is driving street selling. The research found that congested roadways, pursuing moving automobiles, and extreme weather harmed these people. Young entrepreneurs struggled to grow their businesses due to excessive financing prices and insufficient collateral. The research recommends that government-affiliated and non-banking financial organizations provide financial resources, mentoring, and technical help to

young Ghanaians starting businesses (Biney, 2019). Ng'ang'a and Sakwa (2015) evaluated Kenyan young entrepreneurs' loan availability and socioeconomic variables. Social factors including entrepreneurial motivation and education affected young entrepreneurs, according to the study. The research suggests that government, finance, and policymakers should include social factors when creating loan regulations for young entrepreneurs (Ng'ang'a & Sakwa, 2015).

For minority entrepreneurs, Bewaji et al. (2015) assessed funding accessibility. The researcher used quantitative survey methods to study how minority entrepreneurs can get public bank funding for their new firms. Theories and perspectives impacted the researcher's inquiry. The empirical study found that ethnic minority entrepreneurs got less financial institution loans than non-minority enterprises. Educational background helps ethnic minority entrepreneurs acquire bank finance. The research also offers various methods minority entrepreneurs may improve their reputation and finances. Financial institution loan managers use the study to evaluate minority entrepreneur applications (Bewaji, Yang, & Han, 2015).

Sansa (2019) examined how loan criteria affect Tanzanian small companies' credit availability. This study evaluated how loan covenants and bank processes affect loan accessibility following mixed-method study through surveys, interviews, and document reviews with 89 respondents. The study found that bank-imposed covenants affected small firms' capacity to get loans from financial institutions, with consumers' opinions of their compliance difficulties changing. The study shows that banks have strict loan extension processes to reduce defaults and maximize loan use. To help small businesses get financing, the researcher suggests improving business environment, boosting SMEs, increasing the banking sector, and developing company relationships (Sansa, 2019).

Chandrayanti et al. (2020) explored how entrepreneurial attributes impact western Indonesian small company loan availability. The study used quantitative methods to determine if small-business entrepreneurial attributes impact loan eligibility. Purposive sample polled 221 small-business owners regarding loan accessibility. The study indicated that small-scale enterprises' entrepreneurial qualities affect performance and financing availability. The study found that small-scale entrepreneurship mediates loan refusal. The study also proposes techniques to boost entrepreneurial performance to receive a loan (Chandrayanti, et al. 2020).

The Challenges Faced by the Student's Entrepreneurs

Nkun (2020) examined young entrepreneurs' financial issues using mixed methodologies and a Ghanaian case study. Recent grads need minimal incentive to start a small business, according to the survey. The researcher investigated startup and credit issues. At least 20 small firms and 40 University of Ghana students running start-ups or five years of business experience were studied. The poll indicated that most youths consider personal, demographic, and environmental variables when starting a business and want a strong government policy. The study also recognized young entrepreneurs' capital, credit, and loan issues (Nkun, 2020). Further, Rembiasz (2017) investigated student entrepreneurship from a development perspective. Along with higher education, the expert argues entrepreneurial endeavors are crucial. Using polls, the study indicated that most students are involved in business. They encountered various challenges to become entrepreneurs. Entrepreneurship and businesses are complex nowadays, as the poll showed. In that case, the researcher suggests emphasizing business starting and finance in higher education entrepreneurship. Early entrepreneurial training is particularly important for a knowledge-based economy (Rembiasz, 2017).

Additionally, Shabnaz and Islam (2021) analyzed Bangladeshi university students' business objectives. According to the data, most university students desire to start a business. Lack of jobs in our country lets youngsters be entrepreneurs. The quantitative analysis found BD students' entrepreneurship challenges. Lack of government support, funding, and commercial competence are challenges. Researchers hope the study's findings will help policymakers, authorities, and the government support students' small-scale entrepreneurship (Shabnaz & Islam, 2021). Alongside, Saari (2020) revealed that SMEs drive economic growth and job creation. Nigerian SMEs struggle to secure bank loans, which might lead to collapse. The study examined Lagos State SMEs' issues. The poll indicated that many SMEs had bank loan applications rejected, short loan maturity conditions, and trouble acquiring business plan financing. Thus, the study recommends improving corporate accounting and exploring venture capitalists, angel investors, and crowdsourcing. Report advises banks and government provide financial aid (Saari, 2020).

Ackah and Vuvor (2011) analyzed Ghanaian SME credit access. The poll explored Ghanaian SMEs' greatest financial institution lending difficulties. The researcher quantitatively examined 80 Accra and Tema SMEs. The study indicated

that SMEs had problems meeting institutional lending requirements such collateral and equity. High loan rates and short repayment times hinder credit growth. Loan defaults also impact cash flow. Research suggests financial institutions should offer factoring, credit reporting enforcement, and SME tax incentives (Ackah & Vuvor, 2011).

Loan Accessibility for Student Entrepreneurs

Szkuta et al. (2017) examined ways to finance creative, growth-oriented startups. Mixed methods helped the researcher uncover critical issues. The study indicated that public equity funding boosts high-growth company employment and turnover. Profitability falls for 3–4 years before rising. It typically impacts top-supported firms. Country and regional equity schemes encourage private investment without congestion. Growth with equity doesn't ensure innovation. Network and VC investment aid commercialization. Results depend on regional innovation, business size, and quality (Szkuta, Stamenov, & Ianshyna, 2017). Additionally, Rusu and Roman (2020) revealed how business environment and financial resources impact Romanian university students' entrepreneurial tendencies. The study explores how new entrepreneurs see startup money and whether it affects their company choice. The paper also examines how policymakers may fund young entrepreneurs. Students desire to be entrepreneurs, but money is a problem. Young entrepreneurs lack market experience and guarantees. Information and business reforms affect youthful entrepreneurship (Rusu & Roman, 2020).

Kabonga and Zvokuomba (2021) evaluated student entrepreneurs' motives, outcomes, issues, and coping methods. Human agency theory, which views entrepreneurship as students pursuing various objectives, guided the study. To understand student entrepreneurs' perspectives, the research used qualitative methods including in-depth interviews and FGDs. Employment opportunities, family background, poverty, curricular influence, and conspicuous consumption affect student entrepreneurship. Student entrepreneurs faced funding, bureaucracy, and balancing education and business. Kaboga & Zvokuomba (2021) suggest university support for student enterprises and decreasing bureaucracy to promote campus entrepreneurship. Desai et al. (2020) examined student debt and entrepreneurship. The report claims student loan debt and entrepreneurship integrate labor markets, higher education, business vigor, innovations, and capital markets. Research examined 800 debt-related business owners. The survey showed student entrepreneurs severely leveraged. The study provides coping mechanisms (Desai, Looze, & Pechenina, 2020).

Staff (2019) adds that 90% of Arab enterprises are SMEs and produce most jobs. Arabian countries recognize this and have developed SME development initiatives. Promoting competitive, job-creating SMEs takes greater work. Money, a business-friendly environment, human resources, and infrastructure are needed to encourage entrepreneurship. Strategic efforts include financial access, SME capabilities, business-friendliness, and efficient and sustainable SME support schemes through finance, administration, communication, and assessment (Staff, 2019).

RESEARCH GAP

The study identified a gap in the existing literature following a comprehensive review. This study investigates the accessibility of loans for student entrepreneurs, a topic not previously addressed in the literature. The study noted that previous studies predominantly employed qualitative and mixed methodologies, whereas this study utilized quantitative methods. The previous study employed significantly smaller samples than expected for the present investigation. The study utilizes structured survey questions for data collection, in contrast to previous investigations. Notwithstanding these discrepancies, the study identified and evaluated several pertinent challenges associated with the research. These findings establish a foundational basis for this investigation.

METHODS AND MATERIALS

The research employed a quantitative methodology grounded on positivist philosophy and utilized an exploratory research strategy. The quantitative method has been utilized to gather survey data. It utilized a number of data collecting methods and procedures. Both primary and secondary sources were utilized to gather the necessary data and information for the study's objectives. Primary data was obtained from the field using a questionnaire to gather survey information. The data gathering survey was executed utilizing several technologies and approaches, including social media platforms, email, and Google Forms. Books, journals, research papers, opinions, news, reports, websites, etc., served as secondary sources of vital literature. A total of 350 participants from JKKNIU in Bangladesh participated in the survey. It is crucial to note that the respondents were students from the designated study region, chosen stratified random sampling by the researchers. Consequently, to achieve the primary aim of the study, the quantitative technique has been utilized in an exploratory approach. Survey data has been obtained from the JKKNIU in Bangladesh. The JKKNIU was chosen as the field for this investigation for a variety of significant reasons.

First and foremost, the university's remote location presents students from economically disadvantaged backgrounds with specific challenges in their pursuit of entrepreneurship. Secondly, the institution has a considerable population of students aspiring to become entrepreneurs, for whom securing credit presents a fundamental challenge. Third, this university is pertinent for research as a potential location for assessing the impact and collaboration of financial institutions and banks at the local level. Data has been specifically evaluated utilizing MS Excel and SPSS software. The study adhered to social science research ethics, ensuring a balance between potential research dangers and benefits, with all ethical considerations scrupulously upheld.

FINDING OF THE STUDY

Demographic Information of The Respondents

Gender	Frequency	Percentages (%)	Cumulative Percentage (%)
Male	266	76%	76
Female	84	24%	100
Age Category			
17-20	21	6%	6
21-25	308	88%	94
25-30	21	6%	100
Educational Status			
1 st Year	7	2%	2
2 nd Year	35	10%	12
3 rd Year	56	16%	28
4 th Year	105	30%	58
Post-graduation	147	42%	100

Sources: [Field Survey at JKKNIU, 2024]

The study examined how business loan accessibility empowers student entrepreneurs and found different demographics and student perspectives. 76% of responders were men and 24% female. This suggests a large sample gender gap. Most participants (88%) were between 21 and 25 years old, reflecting the population concentrated in university's golden years. The 17-20 and 25-30 age groups, each 6%, had lesser representations. 42% of responders were postgraduates, indicating that many had advanced academic experience. Student composition

was as follows: 30% were fourth-year students, 16% third-year, and 10% second-year. Since just 2% of students were first-years, entrepreneurial interest varied by academic stage. Senior students were more involved with business financing, maybe due to their greater understanding and preparation for entrepreneurial options. The low presence of first-year and younger students may imply a lack of entrepreneurial resources or a reluctance to seek business financing early in their academic careers. The gender disparity highlighted the need for focused efforts to encourage female students to become entrepreneurs. The results showed that age, gender, and academic diversity are crucial to equal financial resources and a more inclusive student entrepreneur environment.

IMPACT OF LOAN ACCESSIBILITY AMONG THE BUSINESS OF STUDENT ENTREPRENEURS AT JKKNIU

Types of Business Student Entrepreneurs Operating

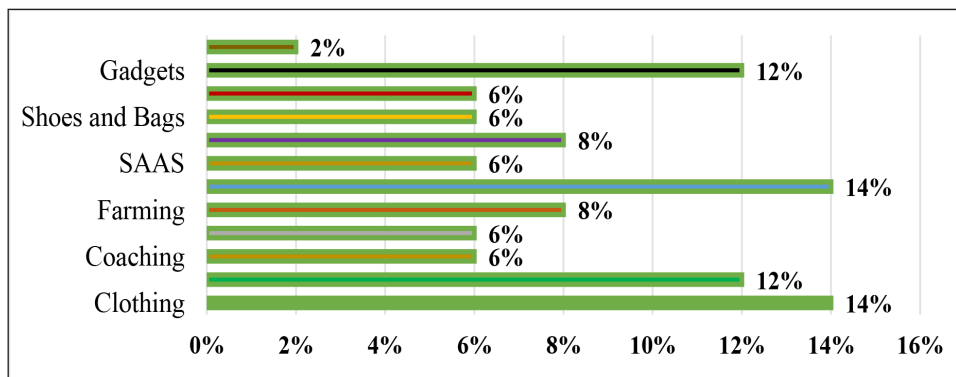


Figure 1: Types of Business Student Entrepreneurs Operating
Sources: [Field Survey at JKKNIU, 2024]

The bar chart 1 shows types of JKKNIU business student entrepreneurs. Most student entrepreneurs (14%) worked in clothes and internet business (plants/foods/apparels/cosmetics). Additionally, 12% of respondents run restaurants and gadgets. For 6% of respondents, coaching, cloud cooking, SAAS, shoes and bags, and bakery were their functioning enterprises. 8% respondents run farming, book, and stationary businesses. Other 2% were in pharmacy-related businesses. This shows the sum of JKKNIU student entrepreneurs' firms.

Duration of Respondents Business Operation

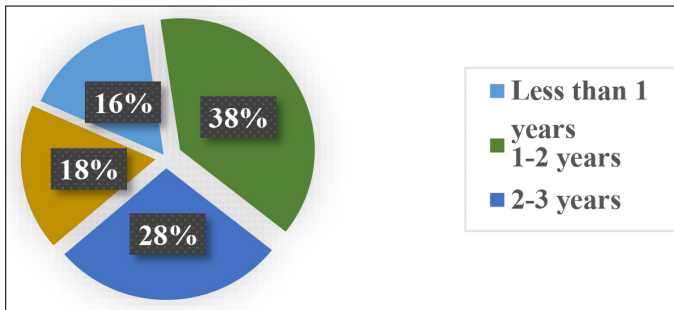


Figure 2: Duration of Respondents Business Operation
Sources: [Field Survey at JKKNIU, 2024]

The pie chart 2 illustrates the duration of respondents’ business operations. The survey results indicated that the majority of students are involved in entrepreneurial activities or managing their businesses for an expected duration of 1-2 years, comprising 38% of the total respondents. Additionally, a small percentage of respondents said that they had been operating their firm for 2-3 years, accounting for 28%. A minimum of 18% of the total respondents indicated that they have been operating their firm for over three years. Conversely, the remaining respondents are novices in the business sector, having operated for less than one year, constituting around 16% of the total respondents.

Partnership Regarding Business

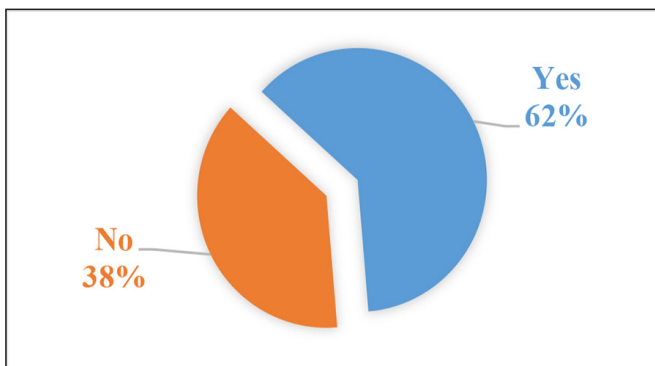


Figure 3: Partnership Regarding Business
Sources: [Field Survey at JKKNIU, 2024]

As the above figure 3 shows whether the respondents do have partner for their business or not. It’s clearly identifiable that most of the respondents positive about it and identified as they do have partner, accounting for 62% of the total respondents. While, the rest of them 38% of the total respondents operating

business by their own and do not have any partner regarding their business. This clearly indicates that student entrepreneurs mostly rely on having partners for their business.

Applied for Loan to Support Entrepreneurial Venture

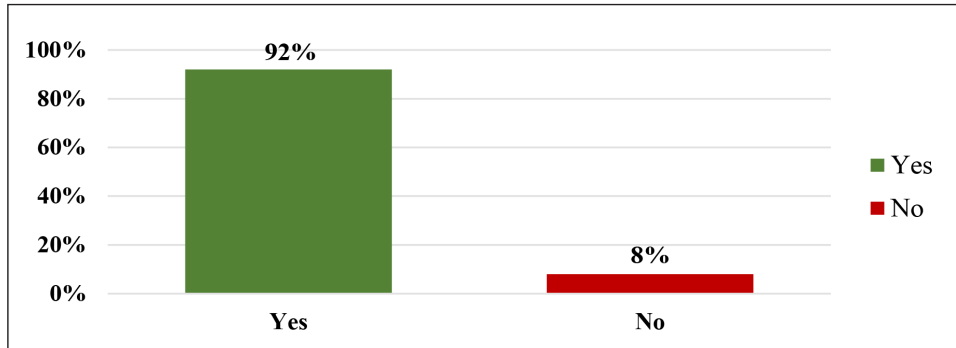


Figure 4: Applied for Loan to Support Entrepreneurial Venture
Sources: [Field Survey at JKKNIU, 2024]

The individual inquired with participants about their applications for loans to aid their business endeavors. Survey findings shows that most of the respondents answered positively as they do apply and got a loan to support their entrepreneurial activities, accounting for 92% of the total respondents. Although, a slight portion of the respondents 8% rejected the question and answered no as they didn't apply for the loan to support their entrepreneurial activities.

Institutions of Loan Applied by Student Entrepreneurs

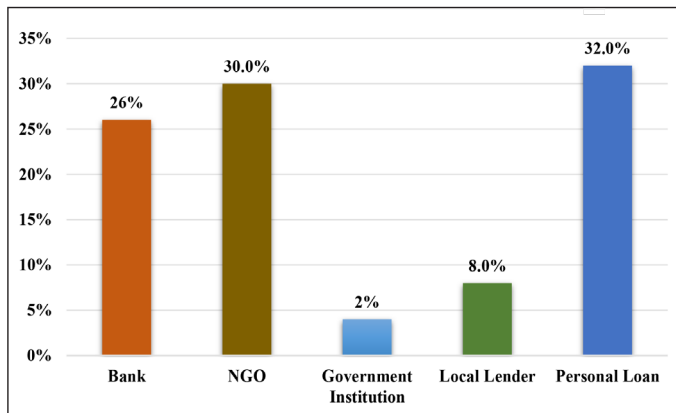


Figure 5: Institutions of Loan Applied by Student Entrepreneurs
Sources: [Field Survey at JKKNIU, 2024]

The above figure 5 column chart shows institutions of loan applied by the student entrepreneurs. The survey findings show that most of the students get loan from personal loan which estimates 32% of the total respondents. Alongside, a maximum number of 30% of the total respondents applied for loan in the institutions like NGO. Whether, there is a minimum number of respondents apply loan at bank accounting for 26% of the total respondents. While, the rest 8% seeks loan from local lender and 4% taken loan from government institution. The findings regarding their loan applied in the institutions are thoroughly discussed.

Purpose of Taking Loans

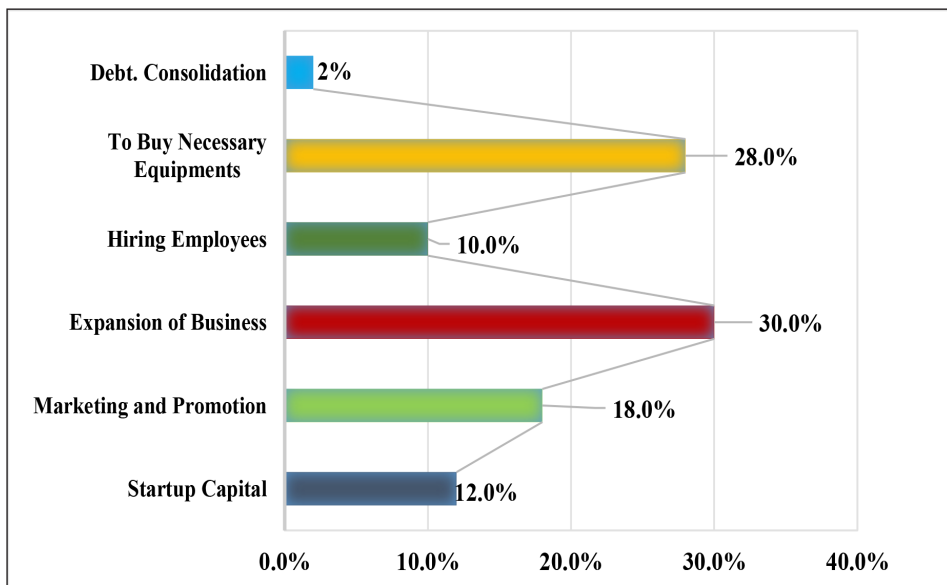


Figure 6: Purpose of Taking Loans
Sources: [Field Survey at JKKNIU, 2024]

The findings of the survey revealed that most of the student entrepreneurs seek and takes a loan for the expansion of business, accounted for 30% of the total respondents. The second largest purpose of the student entrepreneurs of taking loans are to buy necessary equipment's, estimated 28% of the total respondents. Additionally, 18% of the total respondents do take loans for the purpose of marketing and promotion of their businesses. While, 10% of the overall respondents takes loan to hire employees for the organization. While, 12% of the total respondents take loans as a startup capital. A shortage number of respondents only 2% take loans for their debt consolidation.

Faced Obstacles During the Application Process of a Loan

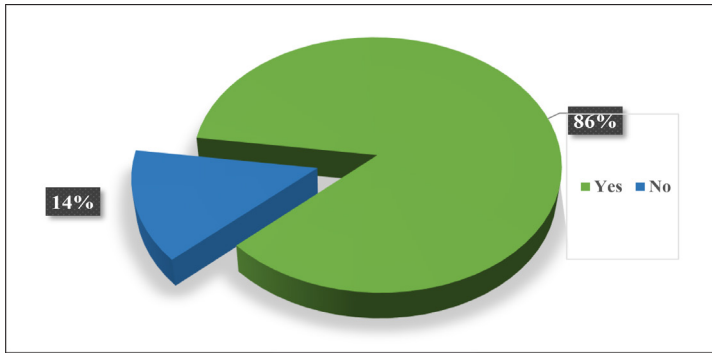


Figure 7: Faced Obstacles during the Application Process of a Loan
Sources: [Field Survey at JKKNIU, 2024]

The pie chart illustrates that the respondents were inquired about any challenges they encountered during the loan application process for their business venture. The survey findings clearly show that most of the respondents replied yes regarding the question, estimating around 86% of the total respondents. While, rest of the 14% among total respondents doesn't face any obstacles during the application of a loan. This clearly indicates that there has been a drawback regarding the loan application process for student entrepreneurs in the area of JKKNIU. In that case, the relevant authorities should initiate proper action to resolve this matter.

Rating the Ease of Access to Loan for Student Entrepreneurs

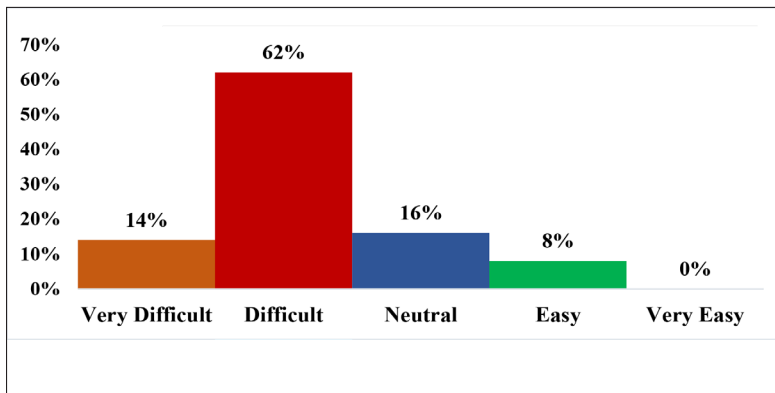


Figure 8: Rating the Ease of Access to Loan for Student Entrepreneurs
Sources: [Field Survey at JKKNIU, 2024]

The above column chart shows that most of the student entrepreneurs believes that it is very difficult (14% and difficult (62%) of the total respondents to get a loan for running the business venture. Alongside, 16% of the total respondents didn't respond to the matter whether there is ease of access to loan for student entrepreneurs or not. While, a minimum 8% of the total respondents agree that there is little bit ease of access to loan as a student entrepreneur.

The Challenges Faced By The Student's Entrepreneurs

Most of the times young entrepreneurs have to face barriers for their entrepreneurial venture. In this section, the second objective of the study which aims to identify the challenges faced by the student entrepreneurs who are unable to get a loan. the overall findings regarding this objective have been shown in the below one by one.

Due To Not Getting the Loan, Challenges Faced by Student Entrepreneurs

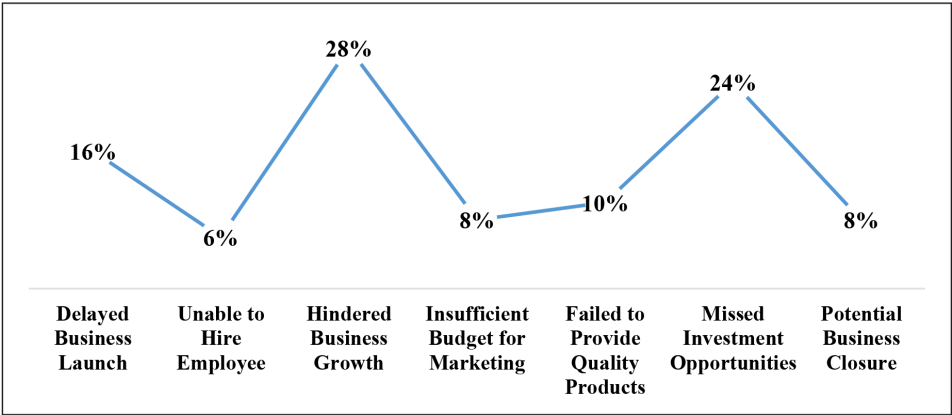


Figure 9: Due to not Getting the Loan, Challenges Faced by Student Entrepreneurs
Sources: [Field Survey at JKKNIU, 2024]

The above line chart shows that due to not getting the expected loan, student entrepreneurs have to face numerous challenges regarding their entrepreneurial activities. The survey findings show that student entrepreneurs have to deal with the problem like hindered business growth, accounting for 28% of the total respondents. Secondly, they have to face missed investment opportunities due to not getting the loans, estimate 24% of the total respondents. Additionally, 16% faced the obstacles of delaying their business launch due to not able to grab the loan. Furthermore, 10% of the total respondents failed to provide good quality

products and service regarding the matter. While, a number of 8% dialed with the obstacles like insufficient budget for marketing. But it is a matter of great concern that, the study able to identify there has been more issues have to face by student entrepreneurs via not getting the loan which includes, unable to hire employee 8% and potential business closures 6% of the total respondents.

Main Obstacles of Access to Loans as a Student Entrepreneur

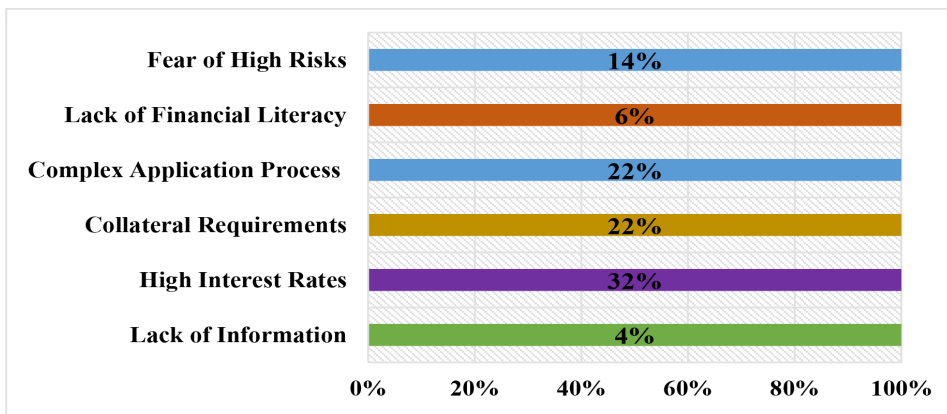


Figure 10: Main Obstacles of Access to Loans as a Student Entrepreneur
Sources: [Field Survey at JKKNIU, 2024]

The above figure shows the main obstacles of access to loans as a student entrepreneur in the area of JKKNIU. The study indicates that a majority of student entrepreneurs encounter challenges such as elevated interest rates, which represent 32% of the total respondents. Besides, both the complex application process and collateral requirements have been identified by 22% of the total respondents regarding the issue. While, the obstacles like fear of high risks accounted 14% lack of financial literacy accounted 6% and lack of information about the access to loan is accounted 4% of the total respondents. These findings clearly show the gross picture of the obstacles faced by the student entrepreneurs to access loans in the respective area of the study.

Challenges During Returning a Loan

Student entrepreneurs are the thinktanks and emerging talents of the country. They have a bright future to contribute to the economy of the Government. But it is a matter of fact that most of student entrepreneurs had to face significant number of challenges while returning a loan which was taken for the business ventures by the student entrepreneurs. Below a figure has been demonstrated to show the actual condition.

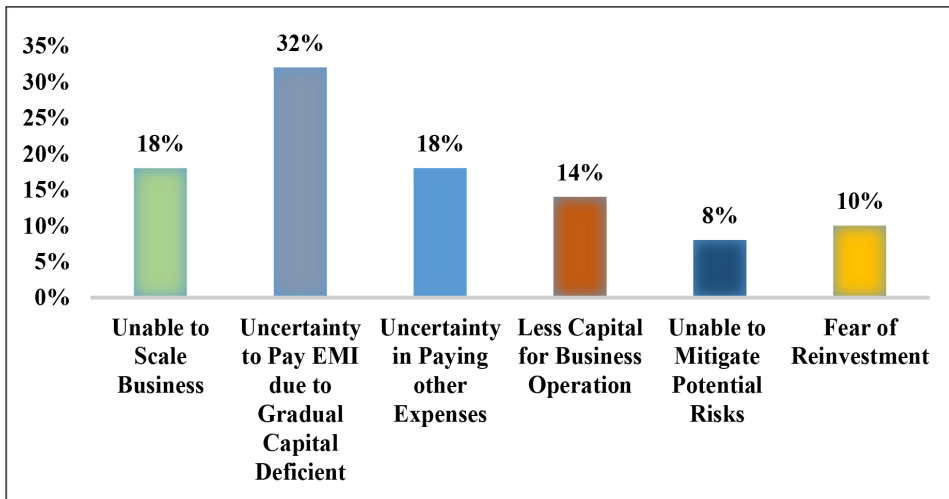


Figure 11: Challenges during Returning a Loan
Sources: [Field Survey at JKKNIU, 2024]

In the above column chart, challenges faced by the student entrepreneurs while returning a loan has been illustrated. The survey findings as shown in the figure 17 clearly encapsulates that most of the respondents faces challenges like uncertainty to pay EMI due to gradual capital deficient, accounting for 32% of the total respondents. Additionally, student entrepreneurs have to deal challenges like 18% both unable to scale business and uncertainty in paying other expenses. While, 14% of the respondents answered that they face less capital for business operation challenges while returning a loan which was taken before. Moreover, 10% of the total respondents fear of reinvestment due to returning a loan. Finally, some of the student entrepreneurs believes that they unable to mitigate potential risks in terms returning a loan.

Way Forwards of Enhancing Loan Accessibility For Student Entrepreneurs

In this last section and final objectives, the study suggests some wy forwards regarding the matter of concern which aims to identify the impact of loan accessibility on the business of student entrepreneurs in the area of JKKNIU. The research findings have been gathered and analyzed properly with statistical methods.

Should Government Take Initiatives?

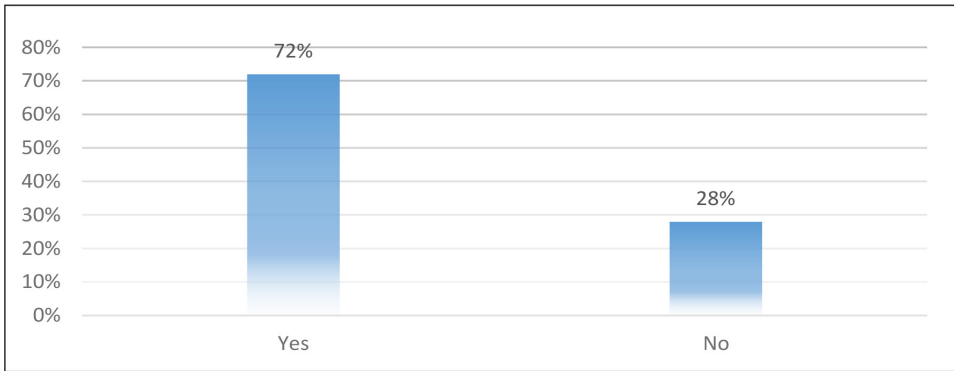


Figure 12: Should Government take Initiatives?
Sources: [Field Survey at JKKNIU, 2024]

The above figure 12 shows that 72% of the total respondents believes that government should take proper steps to reduce the challenges and obstacles regarding the impact of loan accessibility on the business of student entrepreneurs in the area of JKKNIU. While, a remaining 28% delineates that government shouldn't take proper initiatives regarding the issue. Therefore, it is contemplated that most of the respondents indicated a desire for the government to take appropriate actions.

What Should Be the Government Initiatives?

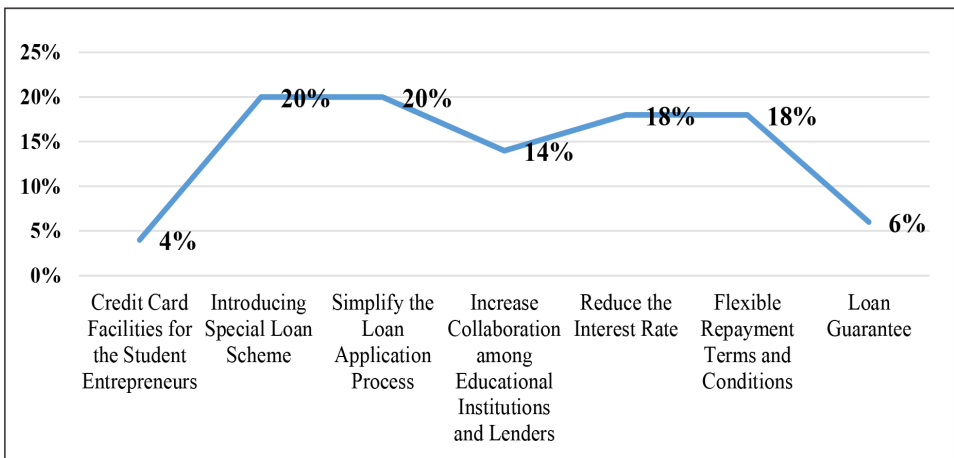


Figure 13: What should be the Government Initiatives?
Sources: [Field Survey at JKKNIU, 2024]

In the above figure 13 what should be the government initiatives are illustrated. Respondents were inquired about their concerns regarding potential government initiatives. Most of the respondents identified as both introducing special loan scheme and simplification of the loan application process as the first and foremost solution for the student entrepreneurs regarding the loan accessibility, accounting for 20%. Secondly, respondents were suggested that government should initiate action to reduce the interest rate and introduce flexible repayment terms and conditions, estimating response 18%, of the total respondents. Furthermore, increasing the collaboration among educational institutions and loan guarantee and credit card facilities for the student entrepreneurs accounting for 14%, 6% and 4% of the total respondents.

Preferable Types of Business Loan

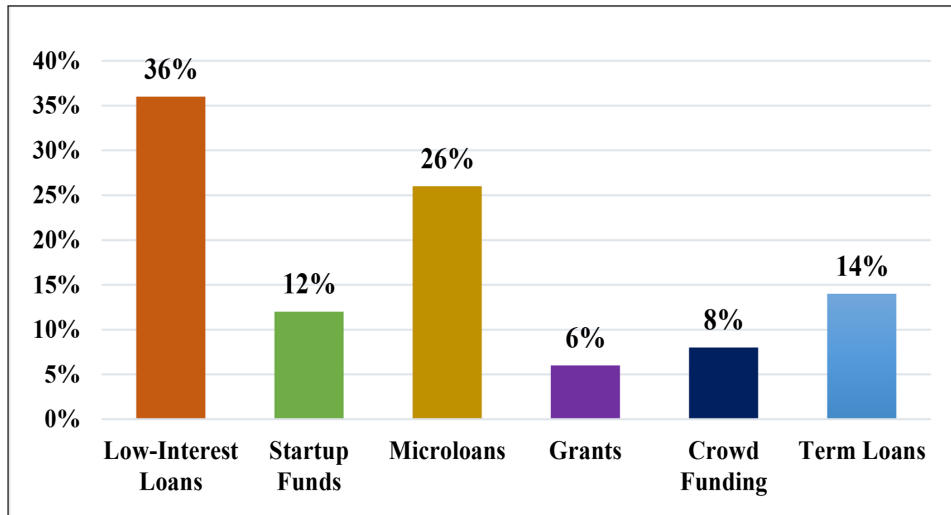


Figure 14: Preferable Types of Business Loan
Sources: [Field Survey at JKKNIU, 2024]

The above figure 14 illustrates the preferable types of loan by student entrepreneurs for their business venture. The survey findings show that most of the respondents believe that low interest funds will be very helpful for them to start their dream business and enlarge it, accounting for 36%. As well as, 26% of the total respondents thinks that microloans would be better for them. While, 14% believes term loans and 12% thinks that startup funds would be better for them as a business loan. The rest 8% prefers crowd funding and 6% prefer grants as a

business loan for their entrepreneurial activities.

Preferable Grace Periods for Returning a Loan

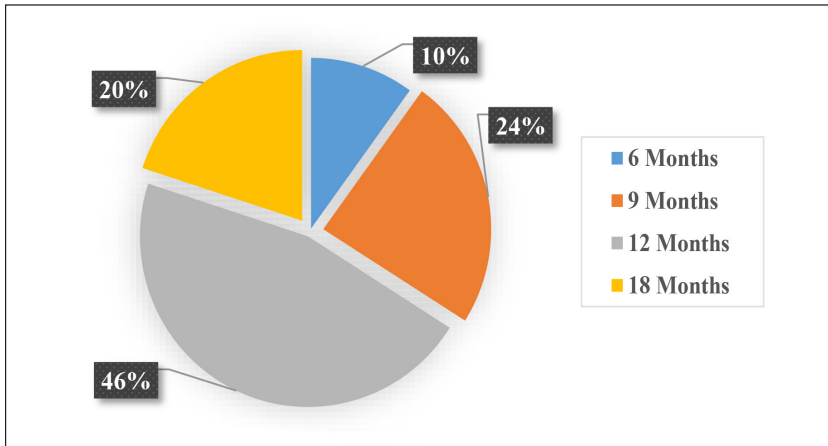


Figure 15: Preferable Grace Periods for Returning a Loan
Sources: [Field Survey at JKKNIU, 2024]

The above figure 15 shows student entrepreneurs preferable grace periods for returning a loan. This clearly indicates that most of the student entrepreneurs prefer 12 months as a grace period for returning a loan, accounting for 46% of the total respondents. Alongside, some of the respondents prefer 9 months as a grace period for returning the loan, estimated 24% of the total respondents. Furthermore, 20% of the total respondents prefer 18 months as a returning loan grace period while only a slight portion of the student’s entrepreneur 10% prefer 6 months as a grace period to return the loan that was being taken before.

Criteria of Being Eligible for Getting a Loans

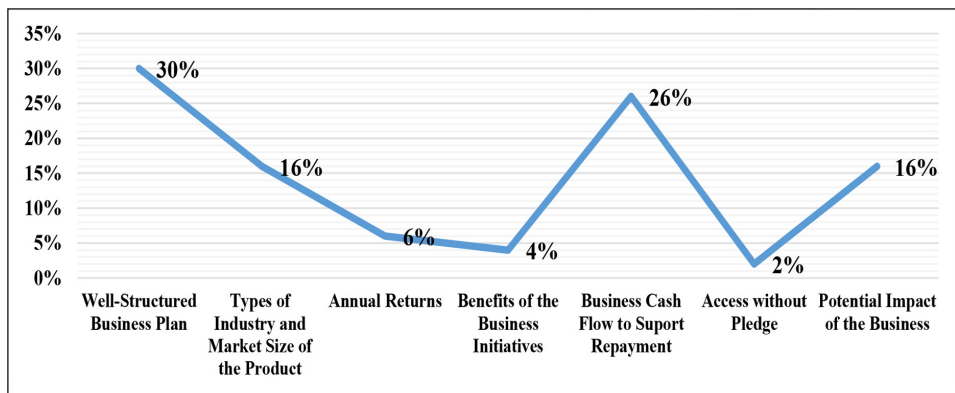


Figure 16: Criteria of being Eligible for Getting a Loans

Sources: [Field Survey at JKKNIU, 2024]

The above line chart demonstrates criteria of being eligible for getting a loan in the area of JKKNIU. The survey findings show that most of the respondents identified well-structured business plan as a criterion for being eligible of seeking loans, accounting for 30%. While, 26% respondents prefer business cash flow to support repayment as a criterion. Additionally, both types of industry and market size of the product and potential impact of the business should be the criteria for providing loans as supported by 16% of the total respondents. Furthermore, 6% prefers annual returns, 4% prefers benefits of the business initiatives and 2% of the total respondents prefer access without pledge as a criterion for being eligible to get a loan from the lender. The government and respective authorities should these take into account and initiate actions as much as possible.

Collaboration Among Educational Institutions (university) And Private Sectors (lenders)

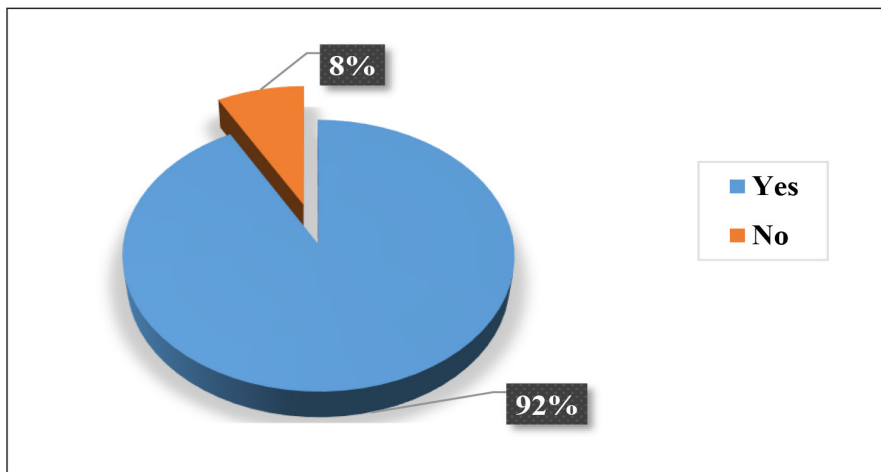


Figure 17: Collaboration among Educational Institutions (University) and Private Sectors (Lenders)
Sources: [Field Survey at JKKNIU, 2024]

Figure 17 presents a pie chart illustrating respondents' perceptions of collaboration between educational institutions, particularly universities, and private sector lending agencies. Most of the respondents positive about the collaboration and they think it will be benefited them in a greater scope, accounting 92% of the total respondents. While, rest 8% beliefs that there is no need to collaborate those two core institutions.

DISCUSSION OF THE STUDY

The study involved student entrepreneurs from the JKKNIU area, and correlates their responses with the existing literature on the subject. The study examined the objectives related to the impact of loan accessibility on the businesses of student entrepreneurs at JKKNIU. The study also identified several critical factors that significantly influence the loan accessibility of student entrepreneurs at JKKNIU. The survey revealed that 14% of student entrepreneurs are engaged in clothing and online businesses. Both restaurant and gadget sales account for 24%. Coaching, cloud kitchens, SAAS, shoe and bag sales, and bakery businesses each represent 30%. Farming comprises 8%, while pharmacy businesses are operated by 2% of student entrepreneurs. The duration of business operation among respondents was as follows: 1-2 years, 38%; 2-3 years, 28%; more than 3 years, 18%; and less than 1 year, 16%. A significant proportion of respondents, 92%, applied for the loan, while the remaining 8% did not apply for any loan to support their entrepreneurial activities. Among the respondents, 32% reported obtaining personal loans from lending institutions. Additionally, 30% received loans from NGOs, 26% from banks, 8% from local lenders, and the remaining 4% sourced loans from government institutions. Most student entrepreneurs report encountering obstacles during the loan application process, with 86% indicating challenges, while the remaining 14% did not face any obstacles. In this instance, student entrepreneurs assessed the accessibility of loans available to them. A substantial proportion of respondents, estimated at 62%, indicates that accessing loans is challenging for them. A minimum of 8% of student entrepreneurs perceive loan access as easy. The remaining 16% holds a neutral stance regarding the concerns presented. This study examines the challenges encountered by student entrepreneurs who are unable to secure loans. The study examined the challenges faced by student entrepreneurs in relation to the inability to secure loans. Many student entrepreneurs reported that the lack of expected loans significantly hinders their business growth. 28% experienced missed investment opportunities; 24% faced delays in business launch; 16% failed to provide quality products; 10% reported insufficient marketing and promotion budgets; 8% were unable to hire necessary employees; and 6% estimated potential business closure among student entrepreneurs in the JKKNIU area. The investigation identified the main barriers to loan access for student entrepreneurs. The respondents of this study indicated that they encounter several obstacles: high interest rates at an estimated 32%; complex application processes and collateral requirements, each at 22%; fear of high risks at 14%; lack of financial literacy at 6%; and lack of information regarding loan access at 4%.

This study proposes strategies to improve loan accessibility for student entrepreneurs. This study examines potential pathways identified by respondents who are student entrepreneurs. Consequently, they identified their preferred potential initiatives, which include introducing a special loan scheme and simplifying the loan application process, both at 20%; reducing the interest rate and offering flexible repayment terms and conditions, estimated at 18%; increasing collaboration among educational institutions and lenders at 14%; providing loan guarantees at 6%; and offering credit card facilities for student entrepreneurs at 4%. Furthermore, student entrepreneurs identified the following preferred types of business loans: low interest loans (36%), microloans (26%), term loans (14%), startup funds (12%), crowdfunding (8%), and grants (6%). The authorities indicated that if they offer such types of loans, they should also establish appropriate grace periods for repayment. In this instance, the majority prefer a duration of 12 months (46%) followed by 9 months (24%) 18 months (20%) and 6 months (10%) The criteria for loan eligibility among student entrepreneurs are multifaceted. Key factors include a well-structured business plan (30%) business cash flow to support loan repayment (26%), potential impact of the business and industry type and market size (both 16%) annual returns (6%), benefits of business initiatives (4%) and access without pledge (2%). Student entrepreneurs provided their perspectives on whether educational institutions should collaborate with private sectors, particularly lenders. A significant 92% expressed a positive view regarding such collaboration, while the remaining 8% were not in favor of it.

Consequently, the thorough analysis of the study indicates a significant influence of loan accessibility on the enterprises of student entrepreneurs in the JKKNIU region. The impact of loan accessibility is influenced by various critical factors and components. Student entrepreneurs at JKKNIU encounter challenges related to loan accessibility and face distinct barriers due to insufficient support. The study presents several recommendations regarding the impact of loan accessibility on the businesses of student entrepreneurs at JKKNIU. The study recommended promoting financial literacy programs, collaborating with financial institutions, simplifying loan application processes, implementing loan guarantees and schemes for student entrepreneurs, providing credit card facilities, and reducing interest rates. The study concludes that if the proposed initiatives are implemented by the government and relevant authorities, it would facilitate student entrepreneurs at the university level, particularly at JKKNIU. This support would encourage student entrepreneurs to engage in their entrepreneurial activities and contribute to the country's economic growth.

CONCLUSION

Entrepreneurship is growing in our country, and most individuals choose it over other careers. This study examined how loan accessibility affects JKKNIU student entrepreneurs' businesses. The researcher used quantitative research and a survey to evaluate how loan accessibility may affect student entrepreneurs.

After examining the first aim, the researcher found that most students work in apparel, restaurant coaching, cloud cooking, farming, books and stationery, internet company, and more. Most have run their businesses for more than 1-2 years. Most respondents were favorable about the loan; therefore, they applied for it to help an entrepreneurial enterprise. They took loans from banks, NGOs, government organizations, local lenders, and personal loans, according to the report. Most student entrepreneurs use personal, NGO, and bank loans.

The second aim, which was to determine the obstacles student entrepreneurs encounter in getting loans from lending institutions, was surveyed. Student entrepreneurs said that not getting the expected loan delayed business launch, prevented hiring, hindered growth, insufficient marketing budget, failed to provide quality products, missed investment opportunities, and potential business closure. Most student entrepreneurs say they face difficulties including slow business development, lost financing possibilities, and delayed business launch.

In the third goal, the findings suggest how to resolve probable issues. All respondents believe the government should act. They also mentioned credit cards for student entrepreneurs, a special loan scheme, simplifying the loan application process, increasing collaboration between educational institutions and lenders, lowering interest rates, flexible payment terms, and loan guarantees for student entrepreneurs.

The study suggests that government, educational institutions, private sectors, and lending agencies support young entrepreneurial ventures and provide loans to student entrepreneurs.

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