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### **Gender Mainstreaming and Gender Equality Approach in Developing Sustainable Infrastructure and Sustainable Development Goals in Bangladesh**

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#### **Abstract:**

*Sustainable Development Goal 5 concern gender equality and is fifth of the 17 Sustainable Development Goals established by United Nations in 2015. The 17 SDGs recognize that action in one area will affect outcomes in others, and that development must balance social, economic and environmental sustainability.*

*Providing women with equal access to education, health care, decent work, and representation in political and economic decision-making processes is fundamental for social cohesion and prosperity. The three "means of achieving" targets are: fostering equal rights to economic resources, property ownership and financial services for women; promoting empowerment of women through technology; and adopting, strengthening policies and enforcing legislation for gender equality. Bangladesh have committed to fast-track progress for those furthest behind, first. SDG 5 aims to grant women and girls equal rights, opportunities to live free without discrimination including workplace discrimination or any violence. This is to achieve gender equality and empower all women and girls. Bangladesh is promoting gender equality in science technology and innovations, which require gender responsive sustainable infrastructure.*

*High-quality infrastructure from digital, transport, energy and water underpin inclusive growth and supports sustainable development, in line with the 2030 Agenda. Infrastructure is essential to foster equal opportunities, ensuring easy access to public services and pledge to "Leave No One Behind", to improve life quality.*

*An effort has been made in this paper to relate Gender Action Plan, Gender mainstreaming with the need for developing sustainable and gender responsive urban infrastructure in Bangladesh.*

**Key words: SDG, GAP, Gender Equality, Sustainable, Infrastructure**

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**Introduction:** Women and girls experience numerous barriers when trying to access basic services – such as education and healthcare – or opportunities to improve their livelihoods. While gender equality implies equal rights, responsibilities and opportunities for women, men, boys and girls, women and girls are disproportionately affected by persistent gender inequalities when accessing infrastructure. (1)

Underdeveloped and gender-blind infrastructure is one of the leading causes for the inability of women and girls to access the basic services to support their upward social mobility and reduce the gender gap. Gender-blind infrastructure fails to consider the different roles, responsibilities and particular needs of women, men, girls and boys in a specific context and how this affects their ability to use or access infrastructure. In times of crisis, this can have life-threatening consequences for women and girls. They are at risk not only from poor health infrastructure, but from inadequate infrastructure across all sectors, which can limit access to essential services and prevent them from maintaining security and self-sufficiency during social and economic upheaval. These considerations must guide future infrastructure development. (2)

Approximately 2.1 billion people lack access to safe drinking water and 4.5 billion lack accesses to sanitation, while 975 million people do not have access to electricity and 1 billion lack accesses to all-weather roads globally. The burden of underdeveloped and non-inclusive infrastructure falls disproportionately on vulnerable and marginalized groups, especially women and girls. In this daunting context, inclusive infrastructure planning, delivery and management plays a key role in creating an enabling environment to empower women and girls to make effective choices and transform those choices into effective outcomes – including when it comes to their safety and wellbeing. (2)

Considering the long operational life of infrastructure, not mainstreaming gender in the infrastructure life cycle can reinforce gender inequalities for decades, wasting limited financial resources and putting lives at risk. It is a moral and financial imperative to ensure that this massive investment includes a gender mainstreaming approach to infrastructure planning, delivery and management to achieve sustainability, equality, and economic and social benefits for all. (3)

Bangladesh is the most densely populated country in the world with a population of approximately 160 million. Bangladesh acceded to Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 1984 and continues to maintain reservations to Articles 2 and 16(1c). CEDAW is a comprehensive treaty on the rights of women which establishes legally binding obligations upon State parties to follow the legal standards set by it to end discrimination against women by ensuring equality between men and women. The Constitution recognizes equal rights for women and men in the public sphere and there is a reasonably strong legal and policy framework guaranteeing women's rights. The National Women's Development Policy 2011 and its National Action Plan provide a base for government action to promote gender equality, and the 7th 5-year plan

integrates gender equality issues across a number of sectors with some new sectoral policies addressing gender issues effectively. Currently, gender responsive budgeting is institutionalized across 43 ministries. (3)

Article 7 of the Constitution of People's Republic of Bangladesh establishes Constitutional Supremacy, which also refers that all powers shall be exercised in conformity of Constitution which is the solemn expression of People's will. Such Article has clearly established supremacy of Constitution over Sharia Law and personal laws as well. Constitution also states number of fundamental rights which also ensures equality for women and non-discrimination; and explicitly states that any law inconsistent with the fundamental rights shall be void. Article 19(3) obliges State to ensure equal opportunity for women in every sphere; Article 27 promotes equality before law; Article 28(1) prohibits discrimination on the ground of sex; Article 28(2) ensures equal rights of women in every sphere of public life and Article 28(4) make it legal to take special provisions in favor of women. (4)

Half of the population in Bangladesh is comprised of women. Bangladesh is speedily heading towards development, however no development may be achieved and sustained keeping half population i.e., women in inequality facing substantial discrimination. It's high time for Government to fulfill its commitment towards women of the country, ensuring substantive equality for women and eliminating discrimination. CEDAW is a comprehensive treaty on the rights of women which establishes legally binding obligations upon State parties to follow the legal standards set by it to end discrimination against women by ensuring equality between men and women. (5)

Bangladesh has made remarkable progress in the last 20 years in improving the lives of women and girls. Maternal mortality rates are falling, fertility rate is declining, and there is greater gender parity in school enrolment. At the same time Women's participation in the workforce remains constrained to limited, low-paying sectors. Three million Bangladeshi women are employed in the lucrative ready-made garment sector, which is Bangladesh's largest export industry. Increasing numbers of women are involved in small and medium enterprises, but there remain large finance gaps that women face despite several government initiatives. (6)

In order to broaden the participation of women, reduce gender-based discrimination and improve the status of women, Government of Bangladesh has recognized the importance of gender equity as essential to poverty reduction, improved living standards and sustainable economic growth. Thus it is continuing to promote and support gender equity by designing gender inclusive projects and paying careful attention to gender issues across the full range of its operations such as improved access for females to education and health services, clean water, better sanitation, and basic infrastructure. (5)

This paper reflecting women's rights and realities in the planning, delivery and management of infrastructure projects that impact their lives can help to narrow gender inequalities. Moving away from gender-blind infrastructure design to one that ensures

responsiveness to women's rights and needs is essential not only to eradicate poverty, but to reignite and accelerate progress for the achievement of the 2030 Agenda as a whole.

**Materials and Methods:** Effort has been made in this paper to establish a relationship of the improvement of urban infrastructure in Bangladesh, with gender action plan and its Implementation based on available published documents in the form of published research articles, government policies and strategies related to women empowerment and gender equality.

**Results:**

**Gender Action Plan (GAP) and gender actions:** The purpose of the GAP is to make the institutions' activities "gender responsive and transformative, and thus more effective, efficient and successful" by redressing existing gender inequalities and re-defining women's and men's gender roles and relations through guidance on gender mainstreaming (6). In an infrastructure, development projects in Bangladesh following basic principles are followed for mainstreaming the gender in project process and to achieve equity between women and men and to support sustainable development through improved governance (7)

1. Ensure that women are involved in selection, design, implementation, and monitoring and evaluation of the subproject activities including land acquisition and resettlement.
2. Carefully screen the subprojects to identify needs and expectations of, and potential adverse impacts on, women and document them.
3. Identify the impact details and the most appropriate mitigation measures through intensive consultation with the affected women and their communities, NGOs and civil society organizations, professionals, and the like.
4. Identify appropriate actions to ensure and maximize project benefits to women through the consultative process.

If women are involved in civil works construction, operation and maintenance of subproject infrastructure, ensure: (i) equal pay for equal work; (ii) gender friendly work environment; and (iii) work place safety for women and children.

**Gender mainstreaming:** Gender mainstreaming is the public policy concept of assessing the implications for people of different genders of a planned policy action, including legislation and programs. Mainstreaming offers a pluralistic approach that values the diversity among people of different genders and the creation of a more socially just and sustainable society. (6)

The five principles of gender mainstreaming considered in Bangladesh are (1) -

1. Gender-sensitive language.
2. Gender-specific data collection and analysis.
3. Equal access to and utilization of services.
4. Women and men are equally involved in decision-making.
5. Equal treatment is integrated into steering processes.

**Disaster shelter infrastructure and gender specific impacts:** Infrastructure systems are resilient when they are able to withstand shocks and stresses from the environmental, economic and societal context. Infrastructure resilience is particularly critical for women because, when infrastructure systems fail, women and girls are usually disproportionately affected by the loss of infrastructure services. For instance, in the 2004 Indian Ocean tsunami, female deaths outnumbered male deaths by a huge margin in India, Indonesia and Sri Lanka. Because women were the primary household caregivers, they stayed behind to care for children and other family members in houses that were not designed to withstand the shocks of the tsunami, resulting in greater female casualties. In the 1991 cyclone and floods in Bangladesh, the death toll among women was five times higher than men. One of the leading causes of this disparity was that the design of the cyclone shelters was not gender-sensitive, discouraging women from seeking shelter during the cyclone. They lacked gender-sensitive sanitation facilities, ramps for heavily pregnant women and private spaces for lactating mothers. (8)

**Women in development trajectory in Bangladesh:** Right after its independence, Bangladesh understood that empowering women is crucial to ending poverty. From the top to the grassroots and from the public to the private sector, Bangladeshi women are prominent in shaping the country's development trajectory. Between 2003 to 2016, Bangladesh increased the female labor participation rate by 10 percent to 36 percent, in readymade garments (RMG) and livestock sectors. In fact, today over 70 percent of rural women are small-holder farmers and own poultry and other livestock. The Government's successive Five Year Plans emphasized gender equality and sought to promote women's entrepreneurship and participation in regional and international trade. As a result of this long walk towards equality, many women are benefiting from an environment that enables business startups and greater access to a digital economy. (9)

The Government's successive Five Year Plans emphasized gender equality and sought to promote women's entrepreneurship and participation in regional and international trade. As a result of this long walk towards equality, many women are benefiting from an environment that enables business startups and greater access to a digital economy. (10)

Government of Bangladesh has however taken initial measures to address this gap by giving priority to women entrepreneurs in the small and medium-sized enterprises (SMEs), as stated in the National Industrial Policy 2010: "Women Entrepreneurs will be given priority in the SME sector. At least 15% of the total sanction will be held in reserve in favor of the women entrepreneurs and the interest rate will be 10% only. (11) .

In line with this policy, the Bangladesh Bank has allocated 15% of refinance fund for women entrepreneurs and instructed banks and nonbank financial institutions to charge reduced interest rate of 10% (bank rate + 5%) to women entrepreneurs on refinance schemes. (12)

Through elections to reserved seats and open seats, more women serve on local government councils, municipalities, and city corporations. This has increased

opportunities for women to participate in decision-making and further legitimized a public role for women. (13)

Government of Bangladesh has taken some medium-term strategic objectives and activities for advancement of women in the country which has been summarized in table 1 (14)

Table 1: Strategic objectives and activities of the Ministry of Women and Children Affairs Government of Bangladesh in relation to Women's Advancement (14)

<b>Strategic Objectives</b>	<b>Activities</b>
Creation of equal opportunity for women in social and economic activities	<p>Providing women technical, vocational and income generating training, equipment for production and micro-credit to facilitate self-employment.</p> <p>Forming and registering voluntary social organizations, and providing assistance.</p> <p>Providing training and creating residential facilities to empower women entrepreneurs and enhance their efficiency and skill.</p> <p>Creating opportunities for women and children to facilitate access to modern information technology.</p>
Social protection and justice for vulnerable women and children	<p>To provide allowances to lactating mothers to remove poverty;</p> <p>To provide food assistance and training to vulnerable women under Vulnerable Group Development (VGD) Programme and provide onetime cash assistance and production inputs instead of food.</p> <p>To give maternity allowances for the ultra-poor and pregnant women;</p> <p>To provide medical services and financial assistance to abused/distressed women and children;</p> <p>To provide hostel facilities for working women and day care facilities for their children;</p> <p>To provide medical treatment, legal assistance, counselling, safe shelter and food assistance to abused women and children;</p> <p>To make available residential accommodation for women, girls and children during the trial period in Courts.</p>

Social and political empowerment of women	To arrange training for elected female representatives and organize awareness building programs to increase women's participation in the electoral process. To increase awareness through meetings in the courtyards to prevent women trafficking.
Development of children and adolescents	Operating Children Development Centres and the Sisimpur Program to provide early childhood education for children

Considering the gender equality, a constitutional commitment for Bangladesh, Ministry of Women and Children Affairs Government of Bangladesh committed to increase women's participation in ICT by 30% by 2030 and 50% by 2041. Government is also planning fostering gender responsive digital and science technology education in digital age and promoting meaningful participation and leadership as well as full employment of women in technology and innovation. (15)

**Need for gender friendly infrastructure:** It is often assumed that women will automatically benefit from new infrastructure projects in the same way as men do without acknowledging possible distinct impacts on women and men according to their needs and social roles. For example, urban design plays a major role in people's life but the risks of uncontrolled urbanization, urban sprawl and slums are often greater for women as they are more likely to be targets of assaults and harassment. Improved urban infrastructure with a gender perspective would demand public lighting, safe public spaces, and safe public transport to help mitigate safety-related risks that women have to face in their everyday life. (16)

The ongoing technological revolution and the associated digital infrastructure also require fostering equal access to digital services and ensuring opportunities to acquire technological skills. There is also a need to address risks that arise in a digital environment, such as girls' and women's exposure to cyberbullying, sexual harassment and other forms of violence against women facilitated by online services.

Women are often also more important users of and contributors to social infrastructure such as education, health, childcare centers, and other social services, as well as public spaces such as parks and recreation centers. This often arises from women's traditional role in children and elderly care and the employment patterns in these sectors. The location of these services, the design of public transport grids and the frequency of transport must therefore be thought with a gender lens in mind. Infrastructure its users and contributors are also among the biggest contributors to carbon emissions and environmental damage. Developing future infrastructure projects must therefore take into considerations the sustainability goals embedded in the 2030 Agenda. (17)

The 2030 Agenda frames these interrelated global social and sustainability objectives, including SDG 5 that aims to achieve gender equality and empower all women and girls; SDG 6 on water and sanitation, SDG 7 on sustainable energy, SDG 9 on industry, innovation and infrastructure; SDG 11 on sustainable cities and communities; SDG 13 on climate action, SDG 14 on life below water and SDG 15 on life on land. Within the spectrum of policy tools, infrastructure plays a central role since it supports coordinated action to deliver on many other goals, including those regarding education, health, social protection, jobs, and the environment. (17)

The negative gender-specific effects of infrastructure are worsened in some countries by discriminatory legislations and social norms. For instance, in low income countries, the gender challenges of infrastructure are compounded by inadequate access to basic services such as water, sanitation and energy, and the concomitant role of girls and women in collecting water and biofuel. Inadequate access to sanitation facilities also affects teenage girls school attendance because of stigmas associated to menstruation. (17)

Bangabandhu Sheikh Mujib Medical University reported that Covid -19 survivors particularly women and elderly carry a high burden of long term effects of Covid -19 infection, often described as post-Covid 19 syndrome (PCS) or long Covid. The report also states that the prevalence of post – Covid complications was found to be 1.5 to 4 times higher in females than in males. The researchers assessed that of the reason for the same are - the females have less immunity and access to healthcare than males. (18)

### **Discussion:**

**Sustainable and quality infrastructure critical for gender equality:** Women and men often use infrastructure differently, hence their different needs should be explicitly taken into account in infrastructure projects and urban and settlement design. Taking into account the needs of women or children in infrastructure planning not only determines distributional effects of infrastructure projects such as equality in accessibility, but is also a sound business case that can help avoid wrong planning decisions. (19)

**Sustainable gender friendly urban infrastructure:** The Beijing+20 national reports have identified urbanization as a key priority for action for women in the next 3–5 years. It states that unless rapid urbanization is managed strategically, it can cause reversals in the progress that has been made for women’s empowerment. Women are particularly affected in low cost settlements in accessing water, gas, electricity, sanitation, and transportation. They are also subject to frequent sexual harassment and violence that are specific to urban settlements having dense and flimsy housing, communal toilets and water points, and insufficient lighting. (20)

It can be stated that implementation of SDGs like Goal 6 (Ensure availability and sustainable management of water and sanitation for all) and Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable). Target 11.1 addresses access to safe and affordable housing; target 11.2 safe, affordable, accessible, and sustainable transport systems; target 11.3 inclusive and sustainable urbanization and capacity for



participatory planning; target 11.6 reducing the adverse environmental impact of cities; and target 11.7 universal access to safe, inclusive, and accessible green and public spaces, particularly for women and children, older persons, and persons with disabilities will motivate Government of Bangladesh for gender friendly infrastructure . As these are issues that have been identified in the gender analysis of urban development as important, the provisions in the Sustainable Development Goals (SDGs) will help focus attention and resources on them in Bangladesh in the coming years. (21)

**Sustainable gender friendly transportation infrastructure:** To address the gender related issues and create transport systems that cater to the mobility needs of all users, some countries are adopting measures to increase the safety and security of women on access routes, at waiting points and while on board public transportation. Some of these gender-responsive measures include: the use of inclusive, mixed land use planning; ensuring clear lines of sight in public spaces; improving lighting on streets and walkways, while also making them wide enough to accommodate strollers and families; ensuring waiting areas are well-lit, comfortable and safe for women; the installation of CCTV surveillance systems; the designation of women-only buses and subway/train cars; and the creation and dissemination of digital mobility safety apps (19)

The Seventh Five Year Plan of Bangladesh mentions the importance of transportation as part of gender-responsive working environment. Examples of good practices in promoting gender equity in transportation include the “avoid–shift–improve” approach applied to the Greater Dhaka Sustainable Urban Transport Project, which allows greater gender responsiveness. Community policing has been used to promote road safety awareness and practices. “SafetiPin”, a mobile phone app, is being tested to increase road safety for women. (21)

It has been assessed some of the Sustainable Development Goals (SDGs) and targets also address transportation, specifically the negative impact of road traffic accidents on healthy lives and well-being (Goal 3, Target 3.6). Goal 9, Target 9.1 seeks to “develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human wellbeing, with a focus on affordable and equitable access for all.” Also under Goal 11, which is about making “cities and human settlements inclusive, safe, resilient and sustainable,” Target 11.2 is aimed to “by 2030, provide access to safe, affordable, accessible and sustainable transport system for all, improving road safety, to the needs of those in vulnerable situations, women & children. Implementation of the SDGs will help Bangladesh to develop sustainable & Gender friendly transportation infrastructure.

To implement socially inclusive growth, it is essential to track the extent to which they benefit a large segment of the society, including poor women and marginalized groups, and contribute to increasing gender equity.

**Women and the digital transformation:** Enhancing women’s access to communications infrastructure, from mobile to broadband networks, is crucial to ensure that they can

harness the benefits of the digital transformation. However, connectivity is not yet ubiquitous or evenly distributed by gender nor geographic location. Surveys show that women still access the Internet less than men do, with a proportion of 45%, as compared to about 51% for men – which corresponds to having 250 million fewer women than men online International Telecommunication Unit. Women are on average 26% less likely than men to have a smartphone. In South Asia and Africa these proportions stand at 70% and 34%, respectively (2). Today, worldwide, some 327 million fewer women than men have a smartphone and can access the mobile Internet. To ensure an inclusive digital transformation, it is essential to enhance access and reduce digital divides, including by age, education, gender, income, and geography, that persist across and within countries. (22)

A gender-responsive approach to innovation, technology and digital education can increase the awareness of women and girls regarding their rights and civic engagement. Advancements in digital technology offer immense opportunities to address development and humanitarian challenges, and to achieve the 2030 Agenda's Sustainable Development Goals. Unfortunately, the opportunities of the digital revolution also present a risk of perpetuating existing patterns of gender inequality. Growing inequalities are becoming increasingly evident in the context of digital skills and access to technologies, with women being left behind as the result of this digital gender divide. The need for inclusive and transformative technology and digital education is therefore crucial for a sustainable future (23)

Considering the gender equality, and theme of the International Women's Day 2023 ("DigitALL: Innovation and technology for gender equality") and constitutional commitment for Bangladesh, Ministry of Women and Children Affairs Government of Bangladesh committed to increase women's participation in ICT by 30% by 2030 and 50% by 2041. Government is also planning fostering gender responsive digital and science technology education in digital age and promoting meaningful participation and leadership as well as full employment of women in technology and innovation. (15)

**Gender mainstreaming and energy infrastructure:** Energy infrastructure projects that incorporate a gender perspective will help to achieve the goals of universal energy access, environmental sustainability and gender equality, leading to positive developmental outcomes for all. The lack of access to electricity affects 1.1 billion people globally, while over 3 billion people still rely on combustible fuels for household energy needs such as cooking and lighting. This affects women and girls disproportionately because nonexistent or irregular electricity supply can considerably increase their time poverty, reducing the number of productive hours in a day and increasing the unpaid domestic work burden.

The responsibility for collecting biomass fuels for cooking – such as wood, dung and crop residues – falls on women and girls in low-income rural households. On average, they spend 18 hours per week on these activities due to the need to travel long distances in search of fuel.<sup>3</sup> Furthermore, women and girls disproportionately suffer from adverse health outcomes due to indoor air pollution caused by the use of unclean, combustible

fuels for household energy, accounting for 6 out of 10 of the 4.3 million premature deaths globally in 2012.

Recognizing the role of women as primary energy users and managers in the household, energy access programs can engage women in training and awareness-building activities to improve the adoption and use of clean energy technologies, such as energy-efficient cook stoves. The provision of clean and efficient energy for cooking can not only alleviate women's time poverty, but also improve their health and quality of life. (24)

Energy and women can be interrelated in many ways. The nature of the energy resource base, the features of the household, the effectiveness of energy policy and the position of women in the households can affect the relationship between energy and women. Women are usually deprived in Bangladesh regarding ownership and access to land, natural resources, credit, information and decision-making, at all levels. The energy industry is one of the most gender imbalanced sectors across the world. This hinders the development process of the developing and transition countries. Since the goal of Bangladesh government is to ensure everyone has access to sustainable energy, it is important for policymakers to understand the crucial and vital connection between gender and sustainable energy. To bridge the gender knowledge gap of macro energy projects, an initiative needs to be taken to unite mitigation practitioners to share optimum practices and insights into mainstreaming gender in the renewable energy sector. Incorporating gender perspectives into energy projects, policy and planning are essential to ensuring their effectiveness. (25)

**Mainstreaming gender for water and sanitation infrastructure:** Mainstreaming gender-related actions for water and sanitation infrastructure identifies and responds to the needs of women and girls and increases education attainment rates and employment rates for all. Improving access to water and sanitation is critical to alleviate the time poverty of women and girls. Promoting the role of women in water governance and management, capacity building with women's involvement and increasing women's participation in local institutions such as water users' organizations can also advance women's leadership and decision-making opportunities. Gender-responsive toilets that are safe, clean, well located, well-lit and include private facilities for menstrual hygiene management with running water, soap, and disposal bins for used menstrual materials, are key to achieving improved health, education and employment outcomes for women and girls. To ensure the appropriate location and design of household and community toilets, consultation with the local community, including women and girls, helps to ensure their long-term use. Culturally appropriate design solutions for public buildings, such as schools, hospitals and offices, should include sex-segregated toilet facilities to offer privacy and personal safety.<sup>67, 68</sup> Improving access to water infrastructure in the form of irrigation systems, together with increased land tenure's security for women, could increase their agricultural yields by 20–30 per cent. (26)

**Gender mainstreaming and solid waste management:** Gender mainstreaming in the

solid waste management sector can considerably improve women's well-being because of the associated impacts on health and time poverty. A focus on gender mainstreaming in solid waste management infrastructure and programmes can improve working conditions for the large number of women working in the informal waste picking and recycling sector, and protect them from increased exposure to health risks. For example, in cities across India, 80 per cent of waste pickers are women. Within this informal sector, women suffer different forms of discrimination, ranging from denied access to the recyclables with the highest value, to exclusion from positions of authority within working groups. They work in precarious conditions and are more exposed to the risks of gender-based violence, occupational health hazards, illnesses and accidents. A lack of protective equipment also puts these women's health at risk through exposure to hazardous waste, for instance, when handling healthcare waste during the COVID-19 pandemic.

The planning and implementation of an efficient and sustainable waste management system, including collection and recycling facilities, can benefit the whole community, especially women who are involved in managing household and community waste. This is a particularly useful approach, as women often play the role of educators within their households and communities, and can effectively contribute to ongoing environmental sustainability efforts by teaching children how to minimize, recycle and reuse waste. (27)

Resilient infrastructure is itself an SDG (Goal 9) interlinked with industrialization and innovation. Industry and innovation drive infrastructure development and consequently, economic growth. Resilient infrastructure is an essential foundation for achieving the socio-economic Sustainable Development Goals, including inclusive growth (Goal 8), addressing poverty (Goal 1), reducing hunger (Goal 2), good health and well-being (Goal 3), providing quality education (Goal 4), supplying clean water and sanitation (Goal 6).

**Conclusion:** It has been found from the above discussions that out of 17 SDGs, 10 SDGs (Goal 1, Goal 2, Goal 3, Goal 4, Goal 5, Goal 8, Goal 10, Goal 11, Goal 13 and Goal 16) are directly interlinked with the gender mainstreaming and women empowerment measures. Implementing the same will measure the SDGs achievement

From above discussion it may also be concluded that the 2030 Agenda framed interrelated global social and sustainability objectives, including SDG 5 that aims to achieve gender equality and empower all women and girls; SDG 6 on water and sanitation, SDG 7 on sustainable energy, SDG 9 on industry, innovation and infrastructure; SDG 11 on sustainable cities and communities; SDG 13 on climate action, SDG 14 on life below water and SDG 15 on life on land. Within the spectrum of policy tools, infrastructure plays a central role since it supports coordinated action to deliver on many other goals, including those regarding education, health, social protection, jobs, and the environment

While there is increasing awareness of the differential gender impact of infrastructure projects, few countries carry out effective mainstreaming in a sector that is essential for the well-being of women and families and for sustainable development. In fact, infrastructure projects still most often are made to cater for the average working person,

and take little account of the different use and access needs and preferences by gender.

It may be concluded that for gender mainstreaming and women empowerment Bangladesh need to develop gender friendly infrastructure with a concept of sustainable urban infrastructure. This concept need to be developed form the planning of the project, during construction Gender Action Plan (GAP) need to be implemented and achievement should be monitored considering the indicators as suggested in of this paper. More indicators should be developed for other SDGs.

Inclusive and gender-responsive infrastructure is central to achieving international commitments on gender equality and the empowerment of women and girls. These international commitments include the Convention on the Elimination of all Forms of Discrimination against Women, Beijing Declaration and Platform for Action, the Commission on the Status of Women, the New Urban Agenda<sup>16</sup> and the Sendai Framework for Disaster Risk Reduction 2015–2030.<sup>17</sup>

To make infrastructure work for everyone, we need to fundamentally change the way it is planned, delivered and managed. That change begins with inclusive design that ensures our infrastructure works for everyone, including women, girls and other disadvantaged groups. The sheer volume of existing infrastructure that has been designed in a manner that fails to consider the specific needs of this group is alarming. This must stop, and it must stop now to make certain that women and girls are not left behind as the world develops.

Moreover, specific gender mainstreaming actions should be included within the planning, delivery and management stages of the infrastructure life cycle. This will ensure that the infrastructure built is able to guarantee equal quality services to both women and men, and ensure accessibility and safety. Inclusive infrastructure systems will have considerable effects on the development of human capital, economic opportunities and, ultimately, the safety, equality and empowerment of women and girls, supporting sustainable development for all.

Gender-responsive infrastructure design has the power to address gender inequalities and empower women by responding to diverse needs in society. It can maximize the benefits of infrastructure investments for all and accelerate the socio-economic mobility of women, girls and other underserved or disadvantaged groups. It is in the design stage that the global community must focus its attention. As infrastructure and development professionals, we must work together to ensure that all designs are context-specific, gender-responsive and leave no one behind. Times of crisis, such as the COVID-19 pandemic, present an opportunity to reevaluate current infrastructure and make informed future decisions that will protect and empower women, men, girls and boys alike.

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