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ENVIRONMENTAL EXTERNALITIES AND REALITY OF CSR PRACTICES (ENVIRONMENTAL) IN BANGLADESH

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ABSTRACT: *Owing to the on-going exhaustion of the natural environment and its consequences on the society, the present environmental state of Bangladesh, a populated country with inadequate resources, has become enormously alarming. The human health, ecosystems and economic growth are threatened by severe environmental pollutions and encroachments. Bangladesh is facing several natural catastrophes such as floods, cyclones, and tidal-bores every year because of the environmental externalities which cause severe socio-economic and ecological damage. Thus, this study aims to highlight various ecological difficulties that Bangladesh is currently facing and that pose obstacles to implementing environmental CSR for sustainable development. The review of the literature reveals that several environmental pollutions, climate change and the loss of biodiversity are continuously degrading the natural environment of Bangladesh and its resources. Consequently, these detrimental impacts are threatening the socio-economic growth of Bangladesh and its environment. Hence corporate social responsibility (particularly environmental) can play a significant role to control the current environmental degradation of Bangladesh. The government should, at the same time, undertake several initiatives to protect environmental degradation, foster the environmental CSR activities within all the business sectors and increase environmental awareness which is mandatory to attain sustainable development.*

KEYWORDS: Corporate social responsibility, Environmental CSR, Environmental Pollution, Climate Change, Biodiversity.

INTRODUCTION

At present, Corporate Social Responsibility (CSR) is swiftly becoming a subject matter of significant concern among the experts from both academia and industry. In today's business world, CSR is playing a noteworthy role of building a long-lasting relationship between internal and external stakeholders of the business entity (Rashid, Rahman, & Khalid, 2014). Earlier, the CSR activities of the business organisations are limited within the society. The business organisations only concern about social benefits. However, after publishing the Brundtland Report, the corporate leaders from developed and developing countries start considering all environmental concerns into their strategic decision-making as a positive role of protecting the environment, not as an environmental problem. Business organisations are now committed for not creating any negative impacts on the environment or not doing any damage to the environment. Simultaneously, these companies have approached their environmental responsibility as the sense of duty to cover the environmental accountability of the company's productions, operations, supply chain and facilities. At the same time, they are expected to minimise waste and emissions, to diminish all kinds of pollution including air, water and soil, to capitalise on the efficiency and productivity of its resources, and to reduce

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practices that might undesirably affect the gratification of the nation's wealth for future generations (Babiak & Trendafilova, 2011).

However, the traditional response of businesses towards environmental matters still appears to be hostile with little attention about the overheads of business activities to the environment (Utting, 2000). Indeed, for the most part, the environmental protectionism was pondered as a nuisance to companies. They are likely to deny or avoid their environmental responsibilities and opposite of those changes intended to control environmental performance. Therefore, business enterprises mostly remain in denial of its environmental responsibility, despite the continuous development of law regulating and controlling pollution in many parts of developed and developing countries (Kasim & Dzakiria, 2009). In lower middle and less developed countries, the state of environmental degradation is more susceptible in comparison with developed and developing country. Country like Bangladesh is also not an exception in terms of environmental degradation. For being a populated country with inadequate resources, the present condition of Bangladesh is even more dangerous. The alarming conditions of the natural environment and its consequences on the society is now apparent all over the country. In Bangladesh, the human health, ecosystems and economic growth are threatened by severe environmental pollution like air, water, soil and noise pollution. Massive population, inadequate resources, proper implementation of rules and regulation and its monitoring, lack of skilled workforce, dearth of dedicated regulatory agencies, scarcity of environmental awareness are some of the reasons for the environmental degradation in Bangladesh. In addition, due to these environmental degradation, Bangladesh is facing several natural catastrophes such as floods, cyclones, and tidal-bores every year which causes severe socio-economic and ecological damage. However, for the last two decades, the government has been continuously striving to improve the environmental degradation and control pollutions, but still the overall state of the environment is not favourably balanced. All these environmental concerns have appeared like an immense challenge to the sustainable development of the country. Hence, this study aims at highlighting different ecological difficulties that are currently facing Bangladesh and creates obstacles in implementing environmental CSR for Sustainable Development.

Profile of Bangladesh and its Environmental State:

Bangladesh is a low laying deltaic country with an area of 147,470 sq. Km in South Asia whose population is about 160 million with a density 1265 per square kilometre. Country's GDP growth is over 6% from the previous five consecutive years including 7.24% in the last year (BBS, 2017). The total population of Bangladesh is nearly equal to 2.18% of the world population which makes Bangladesh the 9th most populous country in the world. It is now ranked the 10th in population density rate per sq. km. As per the recent statistical survey, about 35.7% of the population inhabits in the urban area and over 50 million people still live in poverty. Among the total population of Bangladesh, 98% are ethnic Bengalis, and the remaining 2% are Biharis and other ethnic tribes (www.worldpopulationreview.com; www.dhakatribune.com). As one of the largest delta in the world, Bangladesh has around 700 rivers, canals, and streams with a length of 22,155 km approximately, and occupies a riverine area of roughly 9,384 sq. km (BBS 2007). Bangladesh is also richly gifted with several seasonal and perennial water bodies locally famous as haors, beels, baors, khals, pukurs, and dighies. Rivers, canals, beels, lakes, and haors are open wetlands, while baors, dighis, ponds, and ditches constitute closed ones. Bangladesh usually observes sub-tropical monsoon climate which is characterized by high temperatures, excessive humidity, and seasonal rainfall. Out of

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six seasons, winter, and summer are prominent. Summer and winter winds mostly controlled the country's climate while pre-monsoon and post-monsoon wind circulation controlled partially. The average annual temperature is between 5°C to 35°C. March-April is normally the warmest months whereas the coolest months are January-February. Bangladesh is also a country of natural beauty whose parts are covered by small and medium mountains, and some other parts are covered by the rivers. It has the world's longest beach (Cox's Bazar), the world's largest mangrove forest (Sundarban). There are also many archaeological sites which can certainly attract domestic and foreign tourists (BBS, 2007, 2014). Besides, Bangladesh has a reasonably inadequate natural resource with the ratio of its high growing population. Majority people depend on the country's natural resources for their livelihood. Due to overexploit or sub-optimal use, many of the natural resources are now under serious threat. At the same time, owing to several pressures including overpopulation (around 160 million), vast poverty, interventions to development, gap to policy and legislation and conflict to institutional guidelines, 95% of natural forests and 50% of freshwater wetlands of Bangladesh are already lost or degraded. Now Bangladesh has 1.4% protected and intact forest in comparing with its landmass. Over the last 50 years, many native wildlife species have already been lost (Aminuzzaman, 2010). Additionally, the overall environmental state of Bangladesh is not in static as mentioned earlier and day by day is degrading immensely because of the unsustainable development process, anthropogenic activities, and the climate change issue. Mainly, severe pollutions (air, water, soil, and noise) and the impacts of long term and short-term climate changes (floods, droughts, cyclone, etc.) are not only confining the country's economic growth but also destroying social and environmental structures.

Environmental Externalities in Bangladesh:

Bangladesh is facing severe environmental degradation in various area over the last two or three decades. Though population growth has been reduced significantly but still Bangladesh is highly populous country. Severe land pollution, water pollution, air population, degradation in natural resources, bio diversity and deforestation are common concerns for the environment of Bangladesh. Moreover, as high population density pollutes the urban environment, on the other hand, agrochemical fertilizers are polluting the environment of rural area. Additionally, day by day the landscape of Bangladesh is changing, some rivers are drying, some parts of the country are becoming desert, seasons are changing, areas of forest are reducing, and productivity of the nature is declining in Bangladesh. Therefore, all these environmental concerns have negative impact on the socio-economic development of Bangladesh and should be addressed effectively in the environmental policy. Next section will emphasis on the various environmental challenges, such as air pollution, water pollution, soil pollution, climate change, and biodiversity observed by Bangladesh.

Air Pollution:

Air pollution is presently taking place all around the world out of various human made environmental catastrophes. For all living organisms including human beings, air is indispensable for survival because no one survives without air no more than a couple of minutes. Among different environmental concerns, air pollution is receiving utmost priority in Bangladesh as like in the other parts of the world since it can be very harmful to public health and can even the cause of premature death. At present, air pollution is the main threat to human health in many cities in Bangladesh because air pollutants mainly affect human body lung and cause irritation and respiratory problems. According to the World Health Organization's (WHO) latest air pollution report, Bangladesh has ranked 4th out of 91 countries due to worst

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urban air quality. Also, among 1600 cities of 91 countries, three cities from Bangladesh were present in the list of 25 cities with poorest air quality. By decreasing the level of air pollution around 20%-80% approximately 1200-3500 lives would be possible to save annually in Bangladesh as well as by dropping the level of air pollution to the mentioned level, 80 to 230 million cases of health problem would also decrease. On the word of WHO, every year around 7 million premature death is associated with air pollution (BanDuDeltAS, 2015). In Bangladesh, industrial emissions and vehicular emissions are the two significant sources of air pollution where industrial emissions are the stationary sources of air pollution while vehicular emissions are the non-stationary or mobile sources of air pollution. Smoke emitting various types of industries and factories such as brick kilns, pulp and paper mills, textile industries, steels re-rolling mills, power plant (natural gas, diesel and furnace oil based), fertilizer (urea, TSP), cement, plastic, chemical industries are the primary stationary sources of air pollution. Besides, few human-made activities such as open place burning, solid waste disposal in public area, brick and stone crushing, construction materials storage (sand, rock, cement, etc.) are also non-stationary sources of air pollution in Bangladesh (UNEP, 2001; BanDuDeltAS, 2015). Additionally, the findings of UNEP (2001) reveals that the leading reasons for continuous deterioration the quality of air in Bangladesh are unplanned urbanization, emissions from vehicles, un-planned industrial development, brick-making kilns, and waste dumping in public places, etc. Nowadays, instead of supporting life, polluted air is damaging human life, especially when the balance of air components is disturbed. Hence, the following table-1 represents different sources of pollution, pollutants, and their impacts.

Table 1: ***Different Sources of Air Pollution, Pollutants, and their Impacts***

Sources of Pollution	Air Pollutant	Collective Impacts
Rapid Urbanization	Increased vehicle Emission: CO, NO_x, SO_2,VOC	❖ Urban air quality deterioration ❖ Human Health Hazards: ✓ Lung infection ✓ Throat irritation ✓ Eye irritation ✓ Aggravated asthma ✓ Chest congestion ✓ Eye irritation & Headache ✓ Kidney failure ❖ Plant quality and growth affected ❖ Acute leaf failure ❖ Ecosystem disturbed spots
Industrial Pollution	SO_2, NO_x, PM	
Emissions from Vehicles	PM, CO, NO_x, SO_2, VOC	
Brick fields and kilns	PM, CO, NO_x, SO_2	
Wood/Biomass/Coal Consumption	PM, VOC, SO_x	
Open dumping of Wastes disposal	Gases, Vapour, Odors	
Building Construction	PM	
Fuel quality	VOC	

*Where, **VOCs**: Volatile organic compounds; **SO_x**: Sulphur oxides; **SO_2**: Sulphur dioxide; **CO**: Carbon monoxide; **NO_x**: Nitrogen Oxides; **PM**: Particulate Matter (dust, dirt, fumes, or smoke).*

Source: Adopted from UNEP (2001).

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Water pollution:

For the survival of all living organisms, water is the essential one among the diverse natural resources. The availability (seasonal and regional) and quality (of both ground and surface) of water influence country's economic, social and environmental growth (UNEP, 2001). Unplanned urbanisation and industrialisation are continually deteriorating the quality of water, especially in urban areas of Bangladesh. Haphazard and unprocessed waste dumping by municipality and hospitals and contaminated environmental discharge by industries are the key reasons of water pollution. More than 50% of the total generated solid waste (around 4000 to 4500 tons) used to dump into the rivers. Also, roughly 500 hospitals and clinics release their unprocessed medicinal and toxic waste into the rivers (Khan, 2016). In addition to these, as most of the industrial zones situated in Dhaka, Chittagong and Khulna districts, so the quality of water of those areas is getting worse increasingly owing to the discharge of industrial effluents of dying industries, tanneries, food industries, pulp and paper industries, fertilisers etc. And due to the release of untreated industrial effluents, more than 200 rivers of Bangladesh have polluted severely. Among the all polluted rivers, the River *Buriganga* is in the worst condition only because of the tannery effluents situated at Hazaribagh areas in Dhaka. On top of this, there are nearly 700 tanneries in Dhaka who are consistently discharging polluted wastes into the water bodies. And according to the statistics of the Department of Environment (DoE), there are 1,176 industries, are continuously polluting the water in the country through their toxic waste (BanDuDeltAS, 2015; Matin 2013; Khan, 2016). The total scenario of water pollution in major rivers i.e. the nature and sources of pollution, and respective pollutants and their impacts are given in table-2.

Table 2: ***Major polluted rivers, polluters, pollutants, and their impacts***

Name of River	Polluter	Pollutant	Impacts
Karnaphuli	441 industries & 40-50 oil tankers	Heavy metals, toxic compounds, oil, lubricants	▪ Skin allergy & inflammations, ▪ Waterborne diseases: Cholera, Diarrhoea, Typhoid & Dysentery ▪ Liver diseases like hepatitis, jaundice ▪ Upper respiratory infections ▪ Cancers ▪ Degradation of fish habitat ▪ Yield reduction (soil fertility loss)
Sangu	Fisherman	toxic chemicals	
Buriganga	Dhaka city, nearly 277 tanneries, ships & fishing boats.	Domestic & industrial waste, chemicals, oil, grease, lubricants	
Brahmaputra, Turag, Dhaleshwari	Over 250 different industries	Heavy metals & Effluents	
Meghna	Ashuganj Fertilizer Factory	NH_3, other chemicals	
Jamuna, Shitalakhya & Kushiyara	Sugar mills, Fertilizer factory, Cement factory	CO_2, NH_3, SO_2, $CaCl_2$, NaOH, H_2SO4, lubricants	
Mongla & Passur	Mechanical ships, oil tankers, marine vessels	Oil, grease & lubricants	
Rupsha	Mechanized vessels, Khulna city	Solid & liquid waste	
Padma	Paper Mills	NaOH, Cl, Hg, Ca, HCl	

Where, ***SO_2****: Sulphur dioxide;* ***CO_2****: Carbon dioxide;* ***NH_3****: Ammonia;* ***$CaCl_2$****: Calcium Chloride;* ***NaOH****: Sodium*

Hydroxide; ***H_2SO_4****: Hydrogen sulfate;* ***HCL****: Hydrogen chloride;* ***Cl****; Chlorine;* ***Hg****: Mercury;* ***Ca****: Calcium;*

Source: Adapted from Matin (2013), UNEP (2001), BanDuDeltAS (2015)

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Soil Pollution:

Soil pollution is another serious threat to human life and the environment among several environmental pollutions in Bangladesh. Soil pollution describes typically as the accumulations of different toxic substances, radioactive components, and chemicals in the soil which cause diseases and create adverse impacts on animal health and the growth of plants. And these pollutants deteriorate the quality and the content of mineral of the soil and disrupt the biological balance of organisms in the soil (UNEP, 2001). Because of prompt industrialisations and urbanisations, total arable lands in Bangladesh are regularly degrading or contaminating through heavy metals and persistent organic compounds which led substantial deterioration of the soil quality over the last two decades. Human-made activities such as mining, use of pesticides, increased intensity of chemical usages, filtration of contaminated surface water to subsurface strata, burning fossil fuels, discharge of industrial and household wastes directly into the soil are some of the common reasons of soil pollution in Bangladesh (UNEP, 2001; Alam, 2009; BanDuDeltAS, 2015). Petroleum hydrocarbons, insecticides, solvents, and other heavy metals (such as lead, cadmium, arsenic and mercury etc.) are the common chemical and heavy metal pollutants of soil (SCU, 2013).

In addition, soil pollution and water pollution are interrelated to each other. The soil pollution of the agricultural field in the adjacent areas of Dhaka city (Gazipur, Kaliakoir, Tongi, etc., for instance) is caused by the contaminations of the river and canal of those regions through direct discharge of industrial wastes from diverse industries. Simultaneously, port cities (Chittagong and Khulna) and their adjacent coast are polluting due to ocean-going ships, which is becoming a significant concern for port areas. Specifically, two main rivers of this country, named, Karnafuli river and Passur river are polluting by spillage of oil and chemical effluents from ships (BanDuDeltAS, 2015). According to the report of MoEF (2001), in consequence of ship breaking industries and port activities, the amount heavy metal concentrations are gradually increasing and threatening the ecosystem of those areas. Additionally, in rural areas, extensive use of fertiliser and insecticides to cultivation pollute the soil of the agricultural land, while soils nearby the solid waste disposal sites are contaminated as of the leaching from the waste (SCU, 2013; BanDuDeltAS, 2015).

Despite all the aforesaid reasons, ‘land degradation’ is another common root of soil pollution in Bangladesh, which refers to the damage of soil fertility caused by the dreadful conditions of soil quality. In Bangladesh, natural disaster (i.e. floods, cyclones, tornados, etc.) and human activities (i.e. indecorous cultivation, defective irrigation process, excessive use of fertilizer and pesticides, brickfields, unplanned industrial expansion, unplanned rural set-up etc.) mainly degrade the topsoil condition and deteriorate its functional capabilities (UNEP, 2001). Jhum cultivation and the traditional community-based agricultural techniques by the indigenous people is one of the leading causes of land degradation in the hilly Areas (i.e. in the Chittagong Hill Tracts) (UNEP, 2001; ADB, 2004). Most importantly, the pollutants of soil/land cause various health problems such as cancers (arsenic, asbestos, dioxins), kidney disease (lead, mercury, cadmium), neurological damage and lower IQ (lead, arsenic), and skeletal and bone diseases (lead, fluoride, cadmium) (SCU, 2013). Thus, soil pollution has presently become a national concern for its undesirable impacts on living organisms and environmental quality. The following table-3 presenting the probable drivers, pressures, states and impacts of soil/land Pollution.

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Table 3: ***Drivers, Pressures, State and Impacts of Soil/Land Contamination***

Drivers	Pressures	States	Impacts
Population Pressure & Poverty	1. Over-utilisation & unsustainable use of land 2. Cultivation stress	1. Reduced agricultural, forest and wetlands 2. Increase of degraded lands	**On Nature**: ▪ Degradation of ecosystem ▪ Top soil erosion ▪ Damage of soil structure ▪ Scarcity of arable land ▪ Crop yield reduction ▪ Arsenic contamination ▪ Heavy metal pollution ▪ Depletion ground water ▪ Leaching of soil nutrients **On Living Organism:** ▪ Various health problems such as cancers, kidney disease, neurological damage & lower IQ, skeletal & bone diseases due to soil pollution from heavy metal (e.g., As, cd, Pb, Cr, Zn, Hg, Ni, Cu)
Unsustainable Agricultural Practices	1. Over use of arable lands, chemical fertilisers & pesticides 2. Deforestation	1. Reduction of soil fertility 2. Decrease of ground water availability 3. Siltation in the water bodies & floodplain	
Unplanned Industrial Development	1. Industrial discharge 2. Ship breaking activities 3. Mining of sand, clay & pebbles	1. Loss of agricultural and forest land 2. Increase of Heavy Metal Contamination	
Rapid Urbanization	1. Increased unplanned land use	1. Loss of agricultural and forest land	
Unplanned Infrastructural Development	1. Development of road, bridge, culvert. 2. Unplanned housing 3. Industrial effluents and emissions	1. Loss of agrarian land 2. Decrease of wetland areas & aquatic resources 3. Fragmentation of habitat	

*Where **As**: Arsenic, **Cd**: Cadmium, **Cr**: Chromium, **Cu**: Copper, **Hg**: Mercury, **Ni**: Nickel, **Zn**: Zinc, and **Pb**: Lead.*

Source: Adapted from SCU (2013) and UNEP (2001)

Climate Change:

Climate change is considering as one of the most challenging problems among various environmental concerns that are facing the world in the 21st century due to increase of temperature, change of physical and biological systems, extinction of species, and negative impacts on the society as well as on the earth (O'Brien & Leichenko, 2000; Kolk & Pinkse, 2004, 2012; Khojastehpour & Johns, 2014). Climate change is receiving an increasing emphasis among different groups of stakeholders in the developed and developing countries of the world. Conversely, the awareness of the environmental challenges along with climate change is decidedly scarcer in the less developed countries including Bangladesh. Regarding natural and anthropogenic hazards, Bangladesh is one of the susceptible countries in the world. According to The World Risk Report 2015, among the 173 countries around the globe, Bangladesh is the 6th most natural disaster-prone country. As per the 2011 Global Assessment Report of the UNISDR, regarding the number of people exposed to flood, cyclone and other natural calamities, Bangladesh is ranked 1st out of 162 countries. Simultaneously, due to the

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hostile impacts of climate change, Bangladesh is already listed as one of the riskiest countries in the world (BBS, 2015).

Climate change is exacerbating numerous natural disasters such as floods, cyclones, droughts, tidal surges, tornados, river erosion, infrastructure collapse, water logging, water and soil salinity, and several forms of pollution, etc. These climate-induced catastrophes are also contributing adverse effects on the country's economic and social growths. For example, according to the report of World Bank (2010), the financial loss from the impact of cyclone called Sidr is assessed to be 2.6% of total GDP in 2007 and left long-lasting problems for the country (World Bank, 2010; cited from Khan, 2016). Right now, climate change is one the significant challenges for the development of Bangladesh and in future, the impacts of climate change will be more serious owing to increase of temperature, variations of rainfall pattern, erosion of land, droughts and many more frequent climate-oriented calamities and might have substantial impacts on human health, agrarian growth, and socio-economic settings (BBS, 2015; Khan, 2016). The government of Bangladesh is spending tremendous amount of money during the last three decades to make the country's climate resilient and less susceptible to the natural disaster. The government has also formulated several regulatory frameworks for disaster management such as Disaster Management Act 2012, National Plan for Disaster Management (2010-2015) and National Disaster Management Policy 2015 etc. Unfortunately, all these strategies and policies are not being executed effectually due to the lack of coordination between various Ministries (Khan, 2016). The following table-4 presents the impact of climate change.

Table 4: ***Impact of Climate Change***

Climate Change Aspects	Vulnerable Areas	Impacts
Cyclone due to higher storm surges	Coastal areas & offshore island	▪ Damage of infrastructure and property ▪ Environmental degradation ▪ Loss of lives and agricultural production ▪ National economic loss
Floods, higher river flows, river bank erosion due to heavier and erratic rainfall in the monsoon.	Central Part of Bangladesh	▪ Changing cropping pattern, affecting crop calendar, & losing agricultural production ▪ Infrastructural damage ▪ Disruption of essential services (electricity, gas and water supply) ▪ Loss of human lives and biodiversity
Droughts, usable water scarcity due to lower and erratic rainfall in the dry season leading to	Northwest part of Bangladesh	▪ Scarcity of water for irrigation ▪ Reduction of agricultural production ▪ Reduction of fish cultivation ▪ Pressure on national economy
Sea level rise causes submergence of low lying areas, salinity intrusion, affecting forest ecosystem	Coastal Areas, Sundarban forest, Haor areas	▪ Increase of soil and water salinity ▪ Reduction of crops and fisheries yield ▪ Migration of people to urban areas
Increase of Temperature leads outbreaks of several diseases	All parts of Bangladesh	▪ Increase of human health diseases i.e., malaria, dengue fever etc. ▪ Increase of crop and livestock diseases ▪ Crop yield losses due to pest manifestation

Source: Adapted from DoE (2013) and UNEP (2001)

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Loss of Biodiversity:

According to UNEP (2001), the term 'Biodiversity' literally means the diversity of all the living organisms on earth including numerous species of all living microbes, plants and animals together with their genetic differences. Because of the geographical location, deltaic structure, and sub-tropical climate, Bangladesh is a country of rich biodiversity and is a home of about 4,200 plant species in its hills and plain lands; in mangroves; and in numerous rivers and wetlands. Country's natural and man-made ecosystems also give shelter to 133 species of mammal, 711 species of bird, 174 species of reptile, 64 species of amphibian, 270 species of freshwater fish, and 4,500 species of invertebrate, including 185 crustacean and 305 butterfly species (Ahmad & Irfanullah, 2017). Thus, like other natural resources, biodiversity is playing a central role in our economic development and achieving human wellbeing (DOE, 2013; Ahmad & Irfanullah, 2017). The agriculture, fisheries and livestock together with the few other sectors of livelihoods of this country are profoundly dependent on biological resources either directly or indirectly. For the persistence and progress of nature and humanity the biological diversity is crucial since it provides resources for food, construction, and raw materials for industry according to UNESCO (1994). The biodiversity of this country provides a strong foundation to enrich the domesticated species, maintains the functions of the ecosystems, stores and cycles the essential nutrients for the life, and absorbs and breaks down several pollutants such as organic waste, pesticides, and heavy metals. It also revives the layer of ground water and safeguards the life-threatening water situations. Moreover, biodiversity produces soil as well as protects it from excessive erosion (UNEP, 2001).

Unfortunately, from a long time ago, the degradation and the loss of natural resources have started in Bangladesh, which equally depleting the biodiversity of this country. Several human development interventions and activities, exclusively in the areas of agriculture, forestry, fisheries, urbanisation, industries, transport, tourism, and energy, mainly result the depletion of biodiversity (Islam & Gnauck, 2009; Dewan & Yamaguchi, 2009). Habitat destruction and overexploitation of biological resources are the most important causes of losing biodiversity in Bangladesh. Besides, pressure from massive population, extensive poverty, changes in land use, intensification of agriculture and aquaculture, severe pollution, and introduction of invasive species are some of the basic causes for the depletion of biodiversity (DoE, 2010, 2013). In Bangladesh, quite a lot of wildlife species have already become extinct, and many more are threatened. Most of the economically valuable local plants, medicinal plants, are also under equally under enormous pressure and are likely to be lost due to habitat destruction, and unsustainable harvesting. In addition to these, the impact of climate change is also exacerbating the country's state of biodiversity. Additionally, dearth of awareness among the country's people about the importance of biodiversity preservation, inadequate environmental laws, poor enforcement of environmental laws and its monitoring, poor inter-departmental coordination, poor institutional infrastructure and spatial information, shortage of skilled workforce act as catalysts for losing the biodiversity in Bangladesh (Ahmad & Irfanullah, 2017; DoE, 2013; UNEP, 2001). Some of the major threats to loss biodiversity and its impact on the natural system are provided in the table-5.

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Table 5: ***Major threats to loss biodiversity and its impact on natural system***

▪ Destruction of habitat ▪ Overexploitation of flora and fauna ▪ Indiscriminate use of agro-chemicals ▪ Industrial waste disposal. ▪ Oil spills ▪ Encroachment into the natural forests ▪ Change in land use pattern and land use conflict	▪ Loss of species richness ▪ Loss of genetic diversity ▪ Degradation of forest ▪ Loss of ecosystem diversity ▪ Loss of diversity of flora and fauna ▪ Increased natural disaster ▪ Deteriorate water and soil quality

Source: Adopted from UNEP (2001), DoE (2013)

To provide safeguards to the country's natural resources and its biodiversity, Bangladesh has already signed five significant conventions and agreements related to the biodiversity conservation in accordance with DoE (2013). And by giving the utmost priority of preserving the biodiversity, the government has taken various initiatives to protect biodiversity at both the ecosystem and the species level. However, a separate policy on biodiversity is yet to formulate, and until then multiple departments of the government are responsible for conservation of biodiversity. Thus, to protect the depletion of these biological resources, an all-out effort from the respective agency or department, and also from the different level of relevant stakeholders are essential and simultaneously, sustainable management plans need to formulate and implement.

Notion of CSR in Bangladesh:

In today's contemporary business atmosphere, business organisations are under tremendous pressure to involve in responsible business practices as well as to take the proactive role to meet social and environmental needs for sustainable development. Corporations have to focus more and more on their social and environmental contributions and concerns of business practices under the notion of CSR. According to European Commission (2003, pp. 5-7), these responsible business practices are known as 'responsible entrepreneurship'. Under responsible business practices, a firm must hold a holistic view of itself with regard to its stakeholders (both internal and external) and measures its performances on the basis of triple bottom line i.e. economic, social and environmental (Torugsa, O'Donohue, & Hecker, 2013). CSR is now a recognised agenda in the globe, however, in Bangladesh it is an emerging concept and defined as a set of ethical business practices towards sustainable development and mostly depends on stakeholder's interest or willingness (Werner, 2009). In Bangladesh, CSR refers to philanthropic activities of the organisation such as the donations, city beautification, providing scholarships for needy students, allocate money to the government's emergency funds etc. However, regarding the social and environmental contributions, the responsible business practices or CSR practices are still voluntary for companies form most of the sectors of Bangladesh except banking sector. According to the circulation of Bangladesh Bank regarding CSR practice in 2008, both the public and private banks start practicing CSR activities. For other industries, there are no specific regulations or guidelines apart from few rules relating to negative impacts on the environment for chemical and textile industries to establish ETP (effluent treatment plant) and STP (sewerage treatment plant) for their operations. But till now there is no execution of those regulations due to various legislative obstacles, the lack of monitoring from government and other regulatory officials. That's why insofar CSR is concerned, majority organisations from Bangladesh are either unwilling or reluctant to engage

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themselves in CSR practices (Hossain & Rowe, 2011; Moyeen & West, 2014). Against these backdrops, over the last few years the essentials of CSR have been gaining gradually in Bangladesh, and presently CSR is being considered as an integrated part of their daily operations of doing business globally and to sustain in this competitive business realm. Because of government initiatives, pressure from international buyers as well as various national and international social and environmental organisations, the involvement CSR practising by local and multinational companies is progressively increasing. Now CSR is not only confines in doing philanthropic or charity activities in Bangladesh. It also targets to eradicate poverty, to reduce deprivation of women from the society, to establish labour rights, to protect the environment and above all to achieve sustainable development.

Reality of Environmental CSR Practices in Bangladesh:

As per the extensive literature of CSR, environmental CSR concentrates typically on environmental invention, ecological effectiveness, pollution deterrence, environmental management systems (EMS) and environmental leadership to minimise the adverse environmental activities of businesses (Buysse & Verbeke, 2003; Aragon-Correa et al., 2008; Torugsa, O'Donohue, & Hecker, 2013). Various nations, corporations and environmental organisations define environmental CSR as the obligation to adopt the environmental implications into business's operations, introducing 3 R concept (reduce, recycle and reuse), capitalise the productivity of resources, maintaining energy conservation, and minimising the excessive use of natural resources (Mazurkiewicz, 2004; Kasim & Dzakiria, 2009). In the same vein, Thompson, (2002) defines environmental CSR as environmentally responsible behaviour such as donating money for going green activities, financing on environmental technology, reducing environmentally harmful industrial emissions, preventing other environmental pollutions (such as air, water and soil pollution) etc.

In developing and the least developing countries, the awareness of environmental activities under CSR has still not grown. For example, in Bangladesh as far as CSR is concerned, most of the companies have insufficient knowledge about environmental CSR initiatives. Majority of them take part in philanthropic contributions and doing charitable activities for social welfare accomplishments. Donation to education sector, health campaign for rural people, urban development, support for the orphans and disabled people, and aid during natural calamities are some of the typical examples of such activities (Jamali & Mirshak, 2007; Chahoud et al., 2007; Visser, 2008; Moyeen & West, 2014). Sometimes, religious values of top-management/managers significantly influence their decision to engage themselves in philanthropy-based social activities (Quazi & O'Brien, 2000). Regrettably, there is petite consideration to integrate environmental activities as an essential element of corporate responsibilities. Most of the business sectors of Bangladesh such as manufacturing, ready-made garments, pharmaceuticals, telecom and multinationals are not the exception of such a lack of awareness and attention towards environmental CSR initiatives. The findings from the prior research are also supporting the assertion mentioned above. For instance, Baughn et al. (2007) conducted a comparative study in 15 Asian countries including Bangladesh regarding social and environmental CSR practices. They found that in both types of CSR practices, the level of Bangladeshi companies' participation is very unsatisfactory and lower than the average in relating to other countries from Europe, American and Africa. One more study conducted by Naeem and Welford (2009) found that in most of the large businesses including multinational companies in Bangladesh the priority of environmental problems was not addressed appropriately after having written policies in all four areas (human rights, labour

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standards anti-corruption and the environment as per Global Compact Principles). Moreover, all those policies are hardly ever converted into practice (Naeem & Welford, 2009). Another recent study by Moyeen and West (2014) revealed that the environmental responsibility was observed as the least essential aspect among various aspects considered under CSR from 26 managers interview perception out of 32 managers. In the same way, many other studies (e.g. Imam, 2000; Belal, 2001; Belal & Owen, 2007; Islam & Deegan, 2008; Azim et al., 2009; Khan et al., 2011; Momin & Parker, 2013) also found the lower level of engagement of Bangladeshi listed companies into environmental CSR practices. Thus, businesses in Bangladesh considered philanthropic responsibility as the essential part of CSR whereas the environmental responsibility regarded as relatively less important in Bangladesh.

On the other hand, in developed countries, through CSR many organisations have achieved positive impacts on corporate profits including cost minimising, revenue maximisation and other business benefits. Among all the activities of CSR, the environmental movements have produced the most significant positive impacts on organisations financial returns (Mazurkiewicz, 2004). Simultaneously, the International Financial Corporation determines in its report "Developing Value" that more than 170 companies who were engaged in the social or environmental improvement activities, have achieved the several business benefits such as market access, revenue growth, cost savings and productivity, risk management, licence to operate, and enhanced brand value and market reputation (IFC 2002 cited in Mazurkiewicz, 2004). Besides, by adopting environmental CSR, corporate sectors can cooperate to reduce or eradicate their antagonistic impacts on the environment, such as air and water pollution, land degradation, loss of soil fertility, ingestion of natural resources, and generation and emission of toxic waste. Thus, corporate leaders across all industries or sectors should come forward and pave the way to others in protecting the environment from the impact of operations and consider it as their central responsibility because environmental issues are inter-linked with many facets of CSR as well as sustainable development.

CONCLUSION

This study has mainly attempted to focus the continuing environmental problems in Bangladesh such as various environmental pollution (like air, water and soil pollution), climate change, loss of biodiversity etc. All these environmental problems are, day by day, deteriorating the environmental state of Bangladesh. Besides, this study also put stress on the fundamentals of environmental CSR to lessen the continuing environmental damages and to uphold sustainable development. Against these environmental barriers, the government has already undertaken several initiatives to protect environmental degradation and to foster the environmental CSR activities within all the business sectors and increase environmental awareness which is mandatory to attain sustainable development. These may include, e.g., offering programmes to protect the environment from degradation and to minimise their existing adverse impacts on the environment, promoting the use of more efficient and cleaner technologies, building the capacity of local communities, empowering the disadvantageous people, improving the working conditions and promoting 3 'R's (i.e., Reduce, Recycle & Re-use). On the top of these, in a country like Bangladesh, arranging awareness building programs and activities by the government and the other agencies can enhance the knowledge of environmental education and consciousness to bring under control the anthropogenic environmental pollution, also, to improve the existing environmental scenario.

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