AIR POLLUTION BY BRICK KILNS IN DHAKA: A LEGAL ANALYSIS

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Abstract

Right to clean air is a constitutional right without which life cannot be properly enjoyed. But the mushrooming of brick kilns around Dhaka contaminating the air resulting injury to human health, nature and properties infringing the laws and the Constitution. The Brick Making and Kiln Establishment (Control) Act 2013 was passed to facilitate reduction of air pollution by replacing less polluting and energy efficient brick kilns of modern technology with traditional brick kilns. However, unavailability of cleaner fuel, use of biomass and kilns of banned technology turned the previous laws inefficient. Even the Brick Making and Kiln Establishment (Control) Act 2013 is not being observed properly. Brick kilns operating in the prohibited zones especially in agricultural land and without license are found very often because of corruption and lack of proper monitoring by the concerned authorities. The Brick Making and Kiln Establishment (Control) Act 2013 has made provisions for inquiry, inspection and trial for violation of it along with robust punishment. Public Interest Litigations have been also filed to stop air pollution from burning of bricks. Noxious gases released from polluting kilns and clearing of trees to burn bricks are accelerating the adverse effects of climate change beyond the norms of international environmental laws. Present study argues whether the Brick Making and Kiln Establishment (Control) Act 2013 will be fruitful where there is a persistent culture of violation and lack of enforcement of laws.

I. Introduction

Air is an essential element of environment without which no life can sustain. Air pollution is the existence of one or more contaminants in the atmosphere in qualities and durations injurious to humans, animals, plants, properties or to impair the enjoyment of life and property. This widespread definition encloses a collection of contaminants including dust, smoke, odors, fumes, mists and gasses.¹ Air Pollution is said to subsist if the level of detrimental gasses, solids or liquids present in the atmosphere are high enough to impinge on humans, other organisms, buildings and monuments.² Dhaka is ranked as the second largest polluted capital city in the world as per the 2018 World Air Quality

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¹ JR Barker and DT Tingly, 'The Effects of Air Pollution on Bio Diversity: A Synopsis', in JR Barker and DT Tingly (eds.), *Air Pollution Effects On Biodiversity*, (1st ed, New Delhi, CBS Publishers and Distributors, 1996), p 3.

² R Rajagopalan, *Environmental Studies* (1st ed., Oxford University Press, New Delhi, 2005), p 172.

Report.³ Conventional brick kilns in and around Dhaka are highly responsible for the pollution of air. Moreover, road dust, emission of black smoke from vehicles and burning of biomass fuel are also polluting air.⁴ The pollution of air in Dhaka and other major cities usually increases during winter as brick kilns are operated from October to April. Furthermore, digging of roads and works for construction producing dust leads to intolerable condition of air. Brick kiln is responsible for 58 percent air pollution in the winter.⁵In Bangladesh outdoor air pollution has killed 3.7 million people in 2012 and the World Health Organization says it is now the world's sole largest environmental health risk.⁶ Air of Dhaka is continuing to be polluted due to Particulate Matter (PM), Oxides of Sulfur (SOx), Oxides of Nitrogen (NOx), Carbon monoxide (CO) and Carbon dioxide (CO₂) emitted from the brick kilns. The Greater Dhaka region, spread over an area of 1,500 square kilometer, comprises the districts of Dhaka, Gazipur, Savar, Dhamrai, Rupganj, Manikganj, Kaliganj, and Narayanganj where brick kilns are mushrooming.⁷ Environmentalists claim that half of the total brick kilns of the country are situated around the capital. According to an estimate by United Nations Development Programme, Bangladesh produces a quantity of 8.66 billion bricks a year at a value of \$450 million about 1.0 per cent of the country's gross domestic product.8

The *Burning of Bricks (Control) Act* 1989 is the first law in Bangladesh imposing restrictions in brick manufacturing sector. In pursuance to this Act, without license none can burn bricks.⁹It also banned firewood for burning bricks.¹⁰ Before passing this Act, brick burning was unregulated. This Act was amended twice, in 1992 and in 2001. The *Brick Kiln (Control) (Amendment) Act* 1992, authorizes District Commissioner as licensing authority instead of *Upazila* Chairman¹¹ and determines fine, if firewood used, BDT 50,000 instead of BDT

³ 2018 World Air Quality Report: Region & City PM 2.5 Ranking; available at: https://www.airvisual.com; accessed on 22 April 2019.

⁴ RF Nigar, 'Air Pollution in Dhaka City', *The Daily Observer*, 16 May 2017; available at: https://observerbd.com/details.php?id=73734, accessed on18 May 2017.

⁵ AMU Zaman, 'Air Pollution Takes Alarming Turn', *The Daily Star*, 10 March 2017; available at: http://daily-sun. com/printversion/ details/211180/ Air-pollution-takes-alarming-turn; accessed on18 May 2017.

⁶ AB Siddique, 'Brick Kilns, Transports Key Air Polluters', *The Dhaka Tribune*, 10 May 2014; available at: http:// www. dhakatribune. com/ environment/ 2014/may/10/brick-kilns-transportskey-air-polluters; accessed on 11 May 2014.

⁷ SK Guttikunda, *et. al.*, 'Particulate Pollution From Brick Kiln Clusters in the Greater Dhaka Region,

Bangladesh', p 1; available at: http://www.cobenefit.info/ cop18/ pdf/DRI/ 2012-10-AQAH-Brick-Kilns-in Dhaka.pdf; accessed on 11 May 2014.

⁸ W Ahmed, 'How Far will the Brick making Law Go?', *The Financial Express* (9 April 2014); available at:

http://www.thefinancialexpress-bd.com/2014/04/09/2779; accessed on 11 May 2014.

⁹ Burning of Bricks (Control) Act 1989, section 4.

¹⁰ Burning of Bricks (Control) Act 1989, section 5.

¹¹ Brick Kiln (Control) (Amendment) Act 1992, section 3.

10,000.¹² In 1999 a Circular regarding postponement of license for brick kiln due to huge sulfur deposition from coal burning in brick kilns was notified by the Government. Again the *Brick Kiln (Control) (Amendment) Act* 2001 restricted establishment of brick kilns within 3.00 km range from the periphery of *Upazila* main town, forest, city town, municipality and residential area.¹³ In 2002 a circular was notified for mandatory requirement of 37 meter (120 feet) high chimney in brick fields and in 2004 a circular banned the operation of Bull's Trench Kilns and Moveable Chimney Kilns. In 2006 the Government further notified a Circular that after 31 December 2010 renewal of clearance of existing Fixed Chimney Kilns will be stopped and that's why owners are requested to switch over other clean technologies.¹⁴ Lastly, the *Brick Making and Kiln Establishment (Control) Act* 2013 (*Act of 2013*) has been passed in the parliament on November 2013¹⁵and comes into force on July 2014 as a replacement for the *Brick Burning (Control) Act* 1989.

I have divided this article into seven sections. Firstly, I have introduced air pollution by reason of emissions from brick kilns and historical background of laws in relation to establishment of brick kilns in Bangladesh. In the second section, I have discussed various kiln technologies along with fuel used responsible for air pollution analyzing the legal provisions. In the third section attempts have been taken to depict the adverse impact of pollutants from brick kilns on human health, nature, properties and agriculture and crop yields. The fourth section has endeavored to investigate the licensing procedure. In the fifth section, I have examined the contribution of green house gases emitted from brick kilns to climate change and international laws and national efforts in this regard. The sixth section has conferred inquiry, investigation and trial procedure for violating the provisions of *Act of* 2013 along with the attempt for stopping air pollution through Public Interest Environmental Litigation. Finally, I have concluded this article with some recommendations.

II. Various Types of Kiln Technologies and Fuel Used Associated with Air Pollution

There are generally six types of kiln technologies in Bangladesh: Bull's Trench Kiln (BTK), Fixed Chimney Kiln (FCK), Zigzag Kiln, Hybrid Hoffman Kiln

¹² Brick Kiln (Control) (Amendment) Act 1992, section 6.

¹³ Brick Kiln (Control) (Amendment) Act 2001, section 3(f).

¹⁴ Improving Kiln Efficiency in the Brick Making Industry in Bangladesh [Hybrid Hoffman Kiln (HHK) Project] Environmental Management Framework (EMF), Industrial and Infrastructure Development Finance Company Limited, April 2009, p 4.

¹⁵ M Rahman, 'For Effective Conversion of Polluting Brick Kilns', *The Financial Express* (26 April 2014); available at: http://www.thefinancial express-bd. com/2014/04/26/30779/print.; accessed on 24 September 2014.

(HHK), Vertical Shaft Brick Kiln (VSBK) and Tunnel Kiln.¹⁶ The Act of 2013 has recognized the HHK, Zigzag Kiln, VSBK and Tunnel Kiln as brick kilns of modern technology. It has also acknowledged these kilns as energy efficient and of improved technology.¹⁷ But Zigzag Kiln may be as polluting as a FCK if initial design, construction and operational practices are not proper.¹⁸ In fact the designs of Zigzag Kilns have been found defective. The smoke that comes out of chimneys in those Zigzag Kilns contains fine dust particles with polluting gases such as CO₂ and SO₂.¹⁹ As the Zigzag Kilns are cheaper in comparison to the rest of the energy efficient kilns the government is trying to modify the design of Zigzag Kilns for controlling pollution.²⁰ Since modern kilns require large investment, the Asian Development Bank and State-run Infrastructure Development Company Ltd (IDCL) are providing loans for the establishment of environment-friendly automatic tunnel kilns. The Secretary General of Bangladesh Brick Manufacturing Owners Association says that Banks are unwilling to lend to traditional small brick kiln owners and consequently large investors are involving themselves in this sector.²¹

Earlier than 2004, about 95% kilns were based on the 150 years old Bull's Trench Kiln (BTK) technology. The FCK is in actual fact the identical of BTK with a chimney of 120 ft.²² BTK contributed 16% of total production of bricks before 2012 instead of being banned.²³ The chimneys used in traditional brick kilns are called as 'Drum Chimneys'. It is alleged that up to the year of 2016, about 1,500 brick kilns operated with the prohibited drum chimneys across the country.²⁴

Coal and firewood are the main fuel for burning bricks. For want of accessibility of coal, brick fields used firewood though burning of wood, except bamboo was illegal under the *Act of* 1989.²⁵ Use of firewood as fuel has been also prohibited

¹⁶ MMR Bhuiyan, 'Assessment of Environmental Laws in Bangladesh: A GIS Based Case Study on Brickfields of Savar' (Dhaka: Institute of Governance Studies, BRAC University, 02 March 2013), p 24.

¹⁷ Brick Making and Kiln Establishment (Control) Act 2013, section 2(d).

⁸ AH Khan, Study Report on Evaluating Energy Conservation Potential of Brick Production in SAARC Countries: Bangladesh Country Report (Islamabad: SAARC Energy Centre, 2013), p 33.

¹⁹ 'Speed up Adaptation of Law on Brick Kilns', *The Daily New Nation* (20 April 2014); available at:http://thedailynewnation.com/news/10031/speed-up-adaptation-of-law-on-brick-kilns.html; accessed on 21 September 2014.

²⁰ M Nasiruddin, (2014, Personal Communication), Project Director, CASE Project, Department of Environment, Poribesh Bhaban, E/16, Agargaon, Sher-E-Bangla Nagar, Dhaka.

²¹ S Parvez, 'Eco-friendly Brick Kilns Growing in Numbers', *The Daily Star* (31 March 2017), available at: http://www.thedailystar.net/business/eco-friendly-brick-kilns-growing-numbers-1383931; accessed on 2 May 2017.

²² AH Khan, Ibid, pp 12-13.

²³ M Hossain and AM Abdulla, 'Securing the Environment: Potentiality of Green Brick in Bangladesh', *BUP Journal*, Vol.1, Issue 1, September 2012, p 82.

²⁴ 'Demand for Closure of Illegal Brick Kilns Grows Louder' *The Independent* (19 November 2016); available at: http://www.theindependentbd. com/post/ 69090; accessed on 2 May 2017.

²⁵ M Hossain and AM Abdulla, Ibid, p 81; see also KM Darain, et.al., 'Brick Manufacturing

under section 6 of the Act of 2013 as well as under section 2(1) of the Act of 2013 'fuel wood' includes any kind of wood including bamboo roots and date trees. Furthermore, the Act of 2013 has determined tougher punishments for use of fuel wood in brick fields violating section 6 which is imprisonment for not more than three years or fine not more than three lakh taka or both.²⁶ Other biomass fuels such as old tires, tainted sawdust, discarded motor oil, plastic and household garbage, dung cakes and agricultural residue are being used in various types of polluting kilns resulting air pollution severely.²⁷ Notwithstanding brick burning Act of 1989 along with its amendments prohibiting the use of biomass in brickfield, the total condition of the brickfields had lingered mostly unchanged. The heavy fuel oil was used as a replacement fuel during the occasional rainy days to avoid using wet coal. No specific pollution control measures had been implemented at the kilns, either to control SO₂ emissions or to resolve the total suspended particulates.²⁸ At present, it is also alleged that brick fields in Savar are using wood and coal concurrently as fuel defying Government ban and the local administration being corrupted does not take any action against those brick kilns. On the contrary, Upazila Nirbahi Officer of Savar says that he is unaware of using wood in brick kilns in that vicinity.²⁹ In the Taj Mahal's case of India, the Supreme Court issued directions that coal and coke based industries in Taj Trapezium Zone (TTZ) which were damaging Taj should either change over to natural gas or to be relocated outside TTZ. Again the Supreme Court directed to protect the plants planted around Taj by the Forest Department.³⁰Bangladesh Environmental Lawyers Association (BELA) filed several Writ Petitions where the Court directed to take effective and appropriate measures to prevent the operation of the illegal brick manufacturing kilns and to remove those from the prohibited zones in order to protect the fundamental rights of the people.³¹ In Dhaka, air pollution problem due to brick kilns, may also be minimized by relocating them in other places or choosing clean fuel.

Practice in Bangladesh: A Review of Energy Efficacy and Air Pollution Scenarios', p 60; available at: http://jher.org/wp-content/uploads/2013/10/Darain-et-al.pdf; accessed on 21 September 2014.

²⁶ Brick Making and Kiln Establishment (Control) Act 2013, section 16.

²⁷ KM Darain, et.al., Ibid, p 61; see also CCAC Secretariat, Climate and Clean Air Coalition Annual Report, September 2013- August 2014, p 19; available at: http://www.ccacoalition.org/docs/pdf/CCAC_Annual_Report_2013-2014.pdf, accessed on 2 May 2017.

²⁸ SK Guttikunda, et. al., Ibid, p 4.

²⁹ AR Akash, 'Savar Brick Kilns Flout Rules', *The Daily Star* (03 February 2017); available at: http://www.thedailystar.net/city/savar-brick-kilns-flout-rules-1355302; accessed on 04 May 2017.

³⁰ VK Agarwal, 'Environmental Laws in India: Challenges for Enforcement', pp 232-33; available at: http://dl4a.org/uploads/pdf/environmental%20law.pdf; accessed on 04 May 2017.

³¹ BELA v. Bangladesh, Writ Petition No. 4962/05 (Illegal Operation of a Brick Field in Naodaboga, Bogra); BELA v. Bangladesh, Writ Petition No. 8815/05 (Illegal Operation of Brick Fields in Lalpur, Natore); BELA v. Bangladesh, Writ Petition No. 2013 of 2007 (Brick Fields in Agricultural Lands in Barisal), BELA v. Bangladesh and others, Writ Petition No. 4746 of 2010 (Chakaria Brickfield).

FCKs release the highest grade of PM and SO₂, predominantly on account of the high ash and sulfur content of the coal. On the word of the *Act of* 2013, no person can use any coal as fuel containing Sulfur, Ash and Mercury (Hg) more than that of limits specified (*nirdharito*) for making bricks.³² Section 2(m) of the *Act of* 2013 states that *nirdharito* or specified means 'specified by any Rule or Order under this Act.' But in fact, no Rule has yet been made in order to fulfill the object of this law. In accordance with this Act, whoever violates this provision as to the quality of coal, will be sentenced with fine not more than fifty thousand taka.³³ But the standard limit of Sulfur, Ash and Mercury has not been specified under this Act. In actual fact a majority of the coal used at the kilns in Dhaka is imported from India, with an ash content of 20–25% and sulfur content of 1.0 % by weight.³⁴ The HHK, fired by natural gas, is significantly better than all coal-burning kilns. However, lamentably by reason of natural-gas supply limitation, the development of this technology clogged and existing kilns are facing closure.³⁵

Coal consumption per 100,000 bricks diverges to a great extent for different technologies. FCK devours the highest amount of coal (20-22 tons per 100,000 bricks) whereas VSBK necessitates the least amount of coal (10-12 tons per 100,000 bricks). So it is apparent that enormous energy may be saved in course of embracing energy efficient technologies for manufacturing bricks.³⁶ In comparison with FCK, VSBK is 30-50% and the HHK is 50% energy efficient.³⁷Properly designed Zigzag Kiln is 10-15% more fuel efficient than the FCK.³⁸ The 2011 UNEP Synthesis Report highlighted the high potential of replacing vertical shaft brick kilns with traditional brick kilns. Again, perforated and hollow bricks are of lower weight and volume and have a larger surface area, can be fired with 20% less energy while maintaining the compressive strength of solid bricks.³⁹ Making of at least fifty percent hollow bricks has been mandated in every brick kiln of modern technology⁴⁰ in Bangladesh which may save fuel along with clay used as raw materials. If any person does not make hollow Bricks as per the above rule, he will be sentenced with fine not more than one *lakh* taka.⁴¹

³² Brick Making and Kiln Establishment (Control) Act 2013, section 7.

³³ Brick Kiln (Control) (Amendment) Act 1992, section 17.

³⁴ SK Guttikunda, *et. al.*, Ibid.

³⁵ Introducing Energy-efficient Clean Technologies in the Brick Sector of Bangladesh, Environment, Climate Change, and Water Resources Unit South Asia Region (USA, WB and ESMAP, 2011), p 27; AH Khan, Ibid, p 33.

³⁶ AH Khan, 'Energy Conservation in Brick Manufacturing'; available at:

http://ep-bd.com/online/details.php?cid=32&id=17515, accessed on 04 May 2017.

³⁷ A Lopez, et.al., The Potential for Emissions Reduction and Investment in Efficiency Technologies for the Asian Brick Industry, Carbon War Room, 2012, p 15; Industrial Energy Efficiency Finance Program (RRP BAN 45916), p 3; available at: http://www.adb.org/sites/ default/files/ linked- documents/45916-01-ban-oth-01.pdf; accessed on 04 May 2017.

³⁸ AH Khan, Study Report on Evaluating Energy Conservation Potential of Brick Production in SAARC Countries: Bangladesh Country Report, Ibid, p 23.

³⁹ A Lopez, *et.al.*, Ibid, p 15.

⁴⁰ Brick Making and Kiln Establishment (Control) Act 2013, section 5(3).

⁴¹ Brick Kiln (Control) (Amendment) Act 1992, section 15(2).

Unofficially the total number of brick kilns across the country is 9,000-11,000.42 On the other hand, according to the Ministry of Environment and Forest (In 2018 the name of the ministry has been changed by the Govt. to 'Ministry of Environment, Forest and Climate Change'), around 6,637-6,646 traditional and modern brickfields are currently operating in the country of which 60-63 percent have shifted to modern technology meeting the regulation.⁴³According to the DoE, until February 2017 about 4,227 brick kilns have been shifted to modern technology. Some 4,108 kilns have been converted into Zigzag or Improved Zigzag Kilns and the rest into HHK and Tunnel Kilns. Again, 2,541 FCKs will be altered into modern kilns.⁴⁴ However, a report by the Bangladesh Centre for Advance Studies (BCAS) says that only 735 of these brick fields follow the new regulations. It has been observed after six months of the deadline set by the Government that 88.65 percent of the brick-makers have been continuing the traditional production process infringing new environmental regulations on the fuel, location and use of brick kilns. The brick kiln owners were given an ultimatum to convert to clean and modern technologies for brick production by June 30, 2016.45 Though the officials of DoE claims that most of the brickfields have converted to the modern method without burning fossil fuel but recent television footage shows kilns emitting white smoke which indicates burning of wood. Again, kilns beside the river of Buriganga were found emitting mostly black smoke indicating burning of cheap and sulphur-rich coal imported from India and Indonesia. Brick kilns in Ashulia operated with chimneys use coal and wood from felled trees available in a large quantity around the forests in Savar and Gazipur.⁴⁶ However, the DoE is implementing the Clean Air and Sustainable Environment (CASE) project. It has been working towards changing the institutional, legal and regulatory framework for brick manufacturing and to promote adoption of cleaner technologies and practices with a view to reducing energy consumption and emissions of polluting gases including greenhouse gases.47

⁴² W Ahmed, Ibid; PK Sarker, 'Making Brick Kilns Emission Efficient', *The Daily Star* (3 March 2012); available at: http://archive.thedailystar.net/ newDesign/news-details.php?nid=224693; accessed on 04 May 2017.

⁴³ S Ahmed, 'DoE Cracks Down on Errant Brickfields Polluting Air' *The Independent* (21 January 2017); available at: http://www.theindependentbd. com/post/77434, accessed on 15 May 2017; SMS Khaled, 'Brick Kilns Flout New Regulations', *The Independent* (08 February 2017), available at: http://www.theindependentbd.com/post/79843, accessed on15 May 2017; S. Parvez, 'Eco-Friendly Brick Kilns Growing in Numbers', *The Daily Star* (31 March 2017); available at: http://www.thedailystar.net/business/eco-friendly-brick-kilns-growing-numbers-1383931; accessed on 15 May 2017.

⁴⁴ S Parvez, Ibid.

⁴⁵ SMS Khaled, Ibid.

⁴⁶ S Ahmed, Ibid.

⁴⁷ CASE Project, Ministry of Environment and Forests, Government of the Peoples Republic of Bangladesh; available at: http://case.doe.gov.bd/index. php?option=com_content&view= article&id =3 &Itemid=18, accessed on 05 June 2017.

Though the Act of 2013 provides provisions for adopting brick kilns of modern technologies, inclusion of Zigzag Kilns as modern technology may create disparities in taking preventive action by the concerned authority especially in the absence of an expert for determining defect of such kilns. Disparities may also be created to prevent air pollution by the authority due to lack of Rule or Order under the Act of 2013 specifying the standard limit of content of Sulfur, Ash and Mercury in the coal and want of supply of cleaner fuel.

III. Air Pollutants Emitted from Brick Kilns and Their Impact

Impact on Human Health and Nature

Brick kilns around Dhaka emit various types of noxious air pollutants. Brick kilns are the main source of fine particulate pollution in the city of Dhaka for five months per year accounting for 38% of total fine particulate accretion. By reason of the inappropriate edifice of kilns large amount of fumes is released which may contain gases like CO, CO₂, NOx and SOx.⁴⁸ Brick kilns discharge Particulate Matter (PM) which includes dust, ash, soot, smoke and many other suspended materials. Particulate Matters are of two kinds: PM10 and PM2.5. PM2.5 is respirable particle smaller than 2.5 micrometers that is more dangerous because it can be drawn into the lungs and damage respiratory tissues.⁴⁹According to the Bangladesh Country Environmental Analysis Report by World Bank, poor air quality in Dhaka contributed to an estimated 3,500 premature deaths in 2002. As because of emissions of PM10 and PM 2.5 from the kiln situated in cluster north of Dhaka750 premature deaths are occurred annually.⁵⁰ Another toxin SO₂ is a colorless gas with sharp irritating odor and once in the atmosphere can be oxidized to Sulfur trioxide (SO₃) which may react with water vapor or dissolve in water droplets to form Sulfuric acid (H_2SO_4) and may create acid rain.⁵¹Again SO₂ reacts with moisture in the eyes, lungs and other mucous membranes to form strongly exasperating acid. Exposure can trigger allergic-type reactions and asthma in sensitive individuals and also aggravates pre-existing respiratory or heart diseases.⁵² Low SO₂ concentration, as with Ozone (O₃), can damage plants and trees.⁵³ The main component of NOx

⁴⁸ BM Skinder, et.al., 'Brick Kiln Emissions and its Environmental Impact: A Review', Journal of Ecology and the Natural Environment, Vol. 6(1), January 2014, pp 3-4; available at: http://www.academicjournals.org/article/article1386949397_Skinder%20et%20al.pdf; accessed

on 05 June 2017. 49 WP Cunningham and BW Saigo, Environmental Science: A Global Concern, (5th ed, McGraw-Hill Companies Inc., USA, 1999), p 390.

⁵⁰ Introducing Energy-efficient Clean Technologies in the Brick Sector of Bangladesh, Ibid, p 11.

⁵¹ WP Cunningham and BW Saigo, Ibid, p 387.

C Mc Daniel and J Gowdy, 'Air Pollution', in MK Hill (ed.), Understanding Environmental Pollution, (2nd ed, Cambridge University Press, UK, 2004), p 115.

⁵³ MK Hill, Understanding Environmental Pollution, (3rd ed, Cambridge University Press, UK, 2010), p 126.

emitted from brickfield to the atmosphere is NO and NO₂.⁵⁴ Direct exposure to NOx gases irritates lungs, aggravates asthma and lowers resistance to infection. NO₂ is also poisonous to plant life.⁵⁵ Incomplete combustion of fuel produces CO that affects central nervous system and causes high blood pressure and heart diseases.⁵⁶ Brick kilns also emanate CO₂ which is responsible for climate change. Though pollution free air is a Constitutional right in our country, it is continuingly being polluted by the operation of noxious brickfields. By interpreting the articles 31 and 32 of the Constitution clean air has been recognized as *right to life* in the cases of *Dr Mohiuddin Farooque v Bangladesh*⁵⁷ and *M Saleem Ullah v Bangladesh*⁵⁸ since healthy environment is a prerequisite for a healthy life.

Impact on Properties

The PM emitted from brick kilns consists of dust, smoke, fumes, and fly ash. PM can damage materials by soiling clothing and textiles, decaying metals, corroding building surfaces, and discoloring and destroying painted surfaces.⁵⁹ Acid rain due to the presence of SOx and NOx damage buildings and materials made of marble, lime-stone, mortar etc.⁶⁰ *MC Mehta v Union of India (Taj Trapezium* case)⁶¹ is the case of pollution of ambient air by brick-kilns, industries, residential fuel combustion, diesel trains and buses and back-up generators in Taj Trapezium Zone in Agra which threatened the Taj Mahal, Marble Tomb of Mumtaj Mahal. In this vicinity, clean rain comes into contact with pollutant SO₂ in the air and forms acid rain which has corroding effect on the luminous white marble. The white marble has yellowed and blackened in places because of presence of pollutants in the air. The petitioner sought appropriate directions to the concerned authorities to take immediate steps to stop air pollution in this area of international magnitude.

Impact on Agriculture and Crop Yields

One of the fundamental principles of state policy manifested in the Constitution of Bangladesh is that the State shall adopt effective measures to bring about a radical transformation in the rural area through the promotion of an agricultural revolution.⁶² However, the pollutants discharged from the brick kilns are impinging on agriculture by grabbing arable lands with the intention of establishing kilns and affecting the vicinity of lands under cultivation generating

⁵⁴ KM Darain, *et.al.*, Ibid, p 63.

⁵⁵ C Mc Daniel and J Gowdy, Ibid, pp 116-17.

⁵⁶ A Singh et. al., 'Air Pollution: Indian Scenario', The Pacific Journal of Science and Technology, Vol.10, No. 10, November 2009 (Fall), p 615.

⁵⁷ BLD 1997 AD 1.

⁵⁸ 55 DLR (2003) 01.

⁵⁹ M Darain, et.al., Ibid.

⁶⁰ R Gadi et.al. Environmental Studies (Delhi, SK Kataria & Sons, 2009-10), p 105.

⁶¹ AIR 1997 SC 734.

⁶² Constitution of Bangladesh, article16.

heat, caustic smoke and dust.⁶³ The particles together with CO, SO₂ and Florin directly spread in the air and fall on the vegetation and crops of the area. The layer of the particles close down the stomata, the pores on the leaves, by which plant inhales and exhales CO_2 and O_2 respectively to carry out its photosynthesis and respiration which is essential for the survival of the plants and if these pores are dormant for a long time, the plants may be leaded to death for want of food and respiration.⁶⁴ Loss of soil fertility also occurs due to brick kiln emissions.⁶⁵

According to the Department of Agriculture Extension, the pollutant brick fields have turned agriculture unfeasible in 2,000 acres of land in Savar area near Dhaka. Crop production has abridged from 70% to 80% in 3,000 acres affected by the release of the gases from the brick fields. Pollination and formation of rice process in paddy are disturbed. As a result total rice production in this vicinity has been decreased.⁶⁶ In addition to this, acid rain because of SO₂ emission is increasing the acidity of soil and causing injury to the plants, turning them yellow and reducing agricultural yields.⁶⁷ Use of topsoil for brick-making also leads to land degradation which reduces agricultural productivity. Topsoil full of organic matter and other nutrient is the foundation for sustainable agriculture. In India, for instance, the use of topsoil for brick-making has been constrained and progresses are taking place to produce Flyash-Lime-Gypsum (FALG) bricks (instead of burned clay bricks). However, the technology of making FALG bricks has not been introduced in Bangladesh.⁶⁸ In the case of MC Mehta v Union of India⁶⁹ the Supreme Court directed to shift to the new technology of manufacturing bricks by flyash-sand-lime technology. On the other hand, in Bangladesh the kilns are using top soil from the farmlands that are available after harvesting.70

It may be noted that the *Environment Conservation Act* prohibits production of articles injurious to the environment⁷¹ and acts injurious to ecosystems. If it appears to the Director General that any act or omission of a person is causing injury to the ecosystem or to human being, the Director General may determine the compensation and direct the person to pay it and in an appropriate case also

⁶³ W Ahmed, 'Brick Making and Green Technology, *The Financial Express* (4 December 2013); available at:

http://www.thefinancialexpress-bd.com/2013/12/04/7133; accessed on 11 May 2014.

⁶⁴ P Gain, (ed.) Bangladesh Environment Facing 21st Century, (2nd ed, Dhaka, Society for Environment and Human Development, 1998) p 310; see also Introducing Energy-efficient Clean Technologies in the Brick Sector of Bangladesh, Ibid, p 21.

⁶⁵ S Ahmed and I Hossain, 'Applicability of Air Pollution Modeling in a Cluster of Brickfields in Bangladesh' *Chemical Engineering Research Bulletin 12 (2008) 28-34*, p 28.

⁶⁶ P Gain, Ibid.

⁶⁷ P Gain, Ibid; see also Introducing Energy-efficient Clean Technologies in the Brick Sector of Bangladesh, Ibid, pp 27-8.

⁶⁸ Introducing Energy-efficient Clean Technologies in the Brick Sector of Bangladesh, Ibid, p 28.

⁶⁹ Writ Petition (Civil) No. 4677/1985.

⁷⁰ S Ahmed, Ibid.

⁷¹ Bangladesh Environment Conservation Act 1995, section 6.

direct him to take corrective measures, or may direct the person to take both the measures; and that person shall be bound to comply with the direction.⁷² So, activities of polluting kilns are also unlawful under the *Act of* 1995. Again in pursuance to article 18A of the Constitution, the State shall endeavor to protect and improve the environment and to preserve and safeguard the natural resources, bio-diversity, wetlands, forests and wild life for the present and future citizens.⁷³ Thus, it is the Constitutional duty of the State to protect the people as well as the environment free from air pollution owing to the toxic brick furnaces.

IV. License, Clearance or Permission for Establishing Brick Fields

According to the *Act of* 1989, brickfields cannot be installed within three kilometers of residential areas which are densely populated, reserved, commercial, part of city corporation, municipality and *upazila* towns, forest areas, water bodies, agricultural land and garden so that impact on air pollution can be alleviated. Peeved by rapidly growing brickfields across the country, the Ministry of Environment and Forests on 31 March 2003 issued a notification against the kiln owners providing a three-month notice to shift units outside the three-kilometer zone to avoid legal measures. The notification declared that licenses of faulty brick kilns would be cancelled. But the officials of the local district administration and the environment department did not exercise their power properly. Because of lack of proper monitoring, brickfields have full-fledged like mushrooms and the critical condition have created a peril to environment and biodiversity while the people in the adjoining regions experience health hazards.⁷⁴ In Ashulia brick kilns were found operated in and around agricultural lands, villages and wetlands after pumping water.⁷⁵

No person may manufacture bricks in any brick kiln without obtaining license from the District Commissioner of the district where the kiln is situated. But license is not required for the manufacturing of Concrete Compressed Block Bricks (bricks made of concrete, sand and cement).⁷⁶ If any person makes bricks in kilns without obtaining the license he will be sentenced with imprisonment of not more than one year or liable to fine not more than one *lakh* taka or with both⁷⁷ and any person may apply for license to the District Commissioner (DC).⁷⁸ However, before such application he will have to obtain Environment

⁷² Bangladesh Environment Conservation Act 1995, section 7.

⁷³ Constitution of Bangladesh, article 18A.

⁷⁴ PK Sarker, 'Brickfield Laws yet to be fully applied', *The Dhaka Tribune* (26 July 2013); available at: http://www.dhakatribune.com/environment/ 2013/may/30/brickfield-laws-yet-befully-applied, accessed on 11 May 2014.

⁷⁵ S Ahmed, Ibid.

⁷⁶ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 4.

⁷⁷ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 14.

⁷⁸ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 9(1).

Clearance Certificate under the *Act of 1995*.⁷⁹ The duration of license is three years from the date of issuance of it.⁸⁰ Efficacy of license for brick making may also be stopped by the order of DC for, not more than ninety days, if a person infringes any terms of license or commits any punishable offence under the *Act of* 2013.⁸¹ Moreover, the DC may award emergency order for stopping the activities of a brick kiln by adjourning effectiveness of the license immediately for severe environmental hazard created in the brick kiln or its adjacent area due to burning of bricks.⁸² In practice, no example as to the exercise of power of 'emergency order' by the DC has been found. On the contrary, there is allegation against the office of the DC of Narail of approving license to influential person to set up brick kiln on prohibited zone which is running since 2016 disregarding provisions of *Act of* 2013.⁸³

No industrial unit or project shall be established or undertaken without obtaining an Environmental Clearance Certificate from the Director General, in the manner prescribed by Rules.⁸⁴ Procedure for obtaining Environmental Clearance Certificate has been described in *Rules of* 1997. For the purpose of issuance of Environmental Clearance Certificate, the industrial units and projects shall, in consideration of their site and impact on the environment, be classified into (a) Green; (b) Orange A; (c) Orange B; and (d) Red.⁸⁵ Brick kilns fall under the category of Orange Bas per Schedule 1(C) of this Rule. In case of Orange B Category, on the basis of report on the Initial Environmental Examination of the industrial unit or project, design of pollution fighting device, no objection certificate from the local authority and other necessary information, Environmental Clearance Certificate is issued by the DoE.⁸⁶

In certain places establishment of brick kilns has been prohibited. No person can establish any brick kiln inside any residential, protected or commercial area; City Corporation, *Pouroshabha* or *Upazila Sadar*; any public or private forest, sanctuary, garden or wetland; arable land, Ecologically Critical Area and Degraded Air Shed.⁸⁷ If a person sets up any brick fields in these prohibited zones he will be sentenced with imprisonment of not more than five years or fine not more than five *lakh* taka or with both.⁸⁸ However, such provisions

⁷⁹ Bangladesh Environment Conservation Act 1995, section 12.

⁸⁰ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 9(5).

⁸¹ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 11(1).

⁸² Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 11(2).

⁸³ SI Tuhin, 'Narail Authority Mum as Brick-kiln Owners Dig up Madhumati River, *The Dhaka Tribune* (27 January 2019), available at: https://www.dhakatribune.com/bangladesh/ nation/2019/01/27/narail-authority-mum-as-brick-kiln-owners-digging-up-madhumati-river, accessed on 22 April 2019.

⁸⁴ Bangladesh Environment Conservation Act 1995, section 12.

⁸⁵ Environment Conservation Rules 1997, Rule 7(1).

⁸⁶ Ibid, Rule 7(6) (c)).

⁸⁷ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 8(1).

⁸⁸ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 18(1).

relating to places have been criticized by the people as impossible. Permission, Clearance or License cannot be issued by the DoE or any other authority for the establishment of brick kiln in these prohibited zones.⁸⁹After obtaining clearance from the DoE none can set up a brick kiln within one kilometer radius of the prohibited zone and two kilometers radius of public forest without consent of the divisional forest officer⁹⁰; otherwise he will be sentenced with imprisonment of not more than one year or fine not more than one *lakh* taka or with both.⁹¹That is, within these prohibited zones the forest officer may allow setting up of brick kilns. However, such a provision may pave the way of corruption by the forest officer. In addition to these, in case of setting up a kiln on the top of a hill or in the slope of the hill or on the plain land adjacent to the hill, half-a-kilometer from the base of that hill no brick kiln may be launched.⁹² In case of starting a kiln in the Chittagong Hill Tracts (CHT), authorization by the committee for the development of environment in CHT is mandatory.⁹³ The green activists say that 53 percent brick kilns do not have licenses and DoE clearance certificates.⁹⁴

V. Emission of Green House Gas by Brick Kilns and Climate Change

Emission of CO_2 as because of use of coal in the brick kilns contributes to global warming and climate change. Besides, low-quality coal is energy intensive and produces further CO_2 emissions. Correspondingly additional coal is entailed for poor lagging and heat losses that leads to further CO_2 emissions.⁹⁵ Though the *Act of* 2013 prohibits use of any coal as fuel containing Sulfur, Ash and Mercury (Hg) more than that of limits specified for making bricks under section 7 but no Rule has yet been made for implementing this Act. Even the Act has not pointed out the tolerable limit for perilous gas emission including CO_2 and the means of measuring it or specified the authorities to keep an eye on the emission. And such limitations of the law itself are being considered as one of the reasons behind failure to accelerate the conversion of environmentally hazardous traditional kilns into environment friendly.⁹⁶In Bangladesh brickfields release over 9.8 million tons of greenhouse gases into the air annually as because of old technology, weak environmental legislation and

⁸⁹ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 8(2).

⁹⁰ *Manufacturing of Brick and Establishment of Kiln (Control) Act* 2013, section 8(3).

⁹¹ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 18(2).

⁹² Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 8(3) (c).

⁹³ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 8(3)(d).

⁹⁴ 'Demand for Closure of Illegal Brick Kilns Grows Louder', Ibid.

⁹⁵ AH Khan, Ibid, pp 12-3.

⁹⁶ 'Speed up Adaptation of Law on Brick Kilns', Ibid.

enforcement and lack of corporate responsibility.97

International efforts have been taken to combat climate change due to human activities. Bangladesh is one of the signatories of the United Nations Framework Convention on Climate Change (UNFCCC).⁹⁸The objective of this Convention under article 2 is to prevent dangerous anthropogenic interference with the climate system with a view to stabilizing the greenhouse gas concentrations in the atmosphere at a level so that the ecosystems may get sufficient time frame to adjust naturally to climate change and food production may not be threatened and economic development may go on in a sustainable manner.⁹⁹ In the way of achieving the objective of the Convention, the Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their common but differentiated responsibilities and respective capabilities.¹⁰⁰Principle of common but differentiated responsibility has been also recognized in the Rio Declaration.¹⁰¹ Common responsibility describes the shared obligations of two or more states towards the protection of a particular environmental resource'.¹⁰² Differentiated responsibility means responsibility of States according to their different levels of liability for causing the harm.¹⁰³In the case of Oposa v Factoran¹⁰⁴, Davide J. recognizes the right of Filipinos to a balanced and wholesome ecology associated with the twin concepts of "inter-generational responsibility" and "intergenerational justice". The case deals with the cause of action of the petitioners to "prevent the misappropriation or impairment" of Philippine rainforests and "arrest the unabated hemorrhage of the country's vital life-support systems and continued rape of Mother Earth." One of the causes of actions in this case was that the adverse effects, disastrous consequence, serious injury and irreparable damage of the continued trend of deforestation to the plaintiff minors' generation and to generations yet unborn are evident and incontrovertible. In fact, the environmental damages are already being felt, experienced and suffered by the generation of plaintiff adults.

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⁹⁷ 'Cleaning Dhaka and Bangladesh's Air (2014); available at: http://www.worldbank. org/en/news/feature/2014/07/24/cleaning-dhakas-air-bangladesh; accessed on 20 September 2014.

⁹⁸ Chapter 15, 'Environment and Development', p 230; available at: http://www.mof.gov. bd/en/ budget/ er/2008/c15.pdf; accessed on 22 May 2017.

⁹⁹ United Nations Framework Convention on Climate Change 1992, article 2 (Objective).

¹⁰⁰ Ibid, Principle 1.

¹⁰¹ Rio Declaration on Environment and Development, (Rio Declaration), 1992, Principle 7.

¹⁰² P Sands, Principles of International Environmental law (2nd ed, United Kingdom, Cambridge University

Press, 2003), p 286.

¹⁰³ I Porras, 'The Rio Declaration: A New Basis for International Cooperation', in Philippe Sands (ed.), *Greening International Law* (UK, Earthscan Publication Ltd, 1993), p 29.

¹⁰⁴ This case is also known as *Minors Oposa* case as it was filed by the minor children represented by their parents. See Compendium of Judicial Decisions in Matters Related to Environment, National Decisions, Volume I, December 1998, pp 25-6.

In pursuance to the UNFCCC, the Parties should take precautionary measures to anticipate, prevent or minimize the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures.¹⁰⁵Again, the Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system should be integrated with national development programs.¹⁰⁶So, under international environmental law the government of Bangladesh is obliged to act for preventing causes of climate change. In 2007 the Bali Action Plan under UNFCCC recognized a set of actions crucial to achieve a safe climate future. As a step for implementation of the Bali Action Plan, government of Bangladesh has developed Bangladesh Climate Change Strategy and Action Plan 2009. In pursuance to this Plan, impacts of climate change in Bangladesh are frequent and severe tropical cyclones, flood, river bank erosion, increased sedimentation, melting of the Himalayan glaciers, draughts and saline water intrusion in coastal areas are occurring due to climate change.¹⁰⁷ Optimistic matter is that the government has taken various steps for combating the effects of climate change along with lowering carbon emission by ensuring clean coal and improved technologies. In October 2015 UN General Assembly adopted the 17 Sustainable Development Goals (SDGs) to be achieved by 2030. Responding the initiative the government of Bangladesh is also committed to ensure health, clean energy and combating climate change along with other fourteen goals.¹⁰⁸ Moreover, under UNFCCC Paris Agreement has been adopted in 2015 which has been ratified by Bangladesh to reduce carbon emission.¹⁰⁹

Together with coal, burning of wood¹¹⁰ and deforestation for the purpose of brick burning is also responsible for carbon emission. Although the trees play an imperative role for restoration of environment, this precious environmental ingredient is being cleared for burning of bricks. If the burning of wood in the brick fields may be stopped, 2.1 Peta Jules of energy will be saved.¹¹¹If the modern brick kilns can be subrogated in the place of polluting kilns, emission of green house gas will be minimized and thus can take part eliminating the adverse effects of climate change.

¹⁰⁵ Principle 3; Precautionary principle has been adopted in the famous cases, Vellore Citizens Welfare Forum v Union of India, AIR 1996 SC 2715; and Shehla Zia v Wapda, PLD 1994 SC 693.

¹⁰⁶ UNFCCC, Principle 4.

¹⁰⁷ Bangladesh Climate Change Strategy and Action Plan 2009 (Dhaka, Ministry of Environment and Forest, Government of the People's Republic of Bangladesh, 2009), p 2.

¹⁰⁸ S Bari, and R Naz, 'Key to Sustainable Development Goals', *The Daily Star* (15 November 2016); available at: http://www.thedailystar. net/ perspective/ key-sustainable-development-goals-sdg-1314700; accessed on 20 May 2017.

¹⁰⁹ 'Bangladesh Ratifies Paris Climate Deal', *Thebdnews24.com* (02 September 2016); available at:http://bdnews24.com/environment/2016/09/21/bangladesh-ratifies-paris-climate-deal; accessed on 20 May 2017.

¹¹⁰ R Gadi, *et.al*. Ibid, p 116.

¹¹¹ P Gain (ed.), Ibid, p 310; see also KM Darain, p 61.

VI. Inquiry, Inspection and Trial under the *Act of* 2013 and Public Interest Environmental Litigation

Inquiry

Inquiry Committee constituted under section 12 of the *Act of* 2013 may conduct inquiry and recommend to DC for any issuance of license or renewal of it.¹¹² This Committee may also conduct inquiry for determining the fact of violating any condition of license or committing any punishable offence.¹¹³ Collecting data and information regarding the condition of district as to setting up brick kilns and brick manufacturing is another function of the Committee.¹¹⁴ The Inquiry Committee or any member of it may enter into a brick field or ask any question to any person or may order to produce any document.¹¹⁵ As Inquiry Committee is mandated to work in the field, may play a pivotal role in case of enforcement of concerned laws, if performs the duties properly and fairly.

Inspection

With a view to supervising the observance or nonobservance of conditions of license or the causing of any punishable offence under this Act, the DC or an officer authorized by him or *Upazila Nirbahi* Officer or an officer of the DoE office in any district or a forest officer will be considered as Inspector.¹¹⁶An Inspector has been empowered by the *Act of* 2013 to cease materials involved in the causing of an offence in pursuance to the *Code of Criminal Procedure*1898 under section 13 (2)and if the Officer does so, he will have to submit a written report to the DC or an officer authorized by him.¹¹⁷After receiving the report the DC may examine the accuracy of it by himself or may direct the Inquiry Committee to send recommendation to him in this regard¹¹⁸ and in accordance with the direction, the Committee will submit a report with recommendations.¹¹⁹ If the DC is satisfied that prosecution is required on the basis of the report of the Inspector, may direct the Inspector to prosecute in a competent court.¹²⁰

Trial and Procedure

Courts, constituted under the *Mobile Courts Act* 2009 and the *Environment Courts Act* 2010, are empowered by the *Act of* 2013 to take cognizance of any

¹¹² Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 12(2) (a).

¹¹³ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 12(2) (b).

¹¹⁴ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 12(2) (c).

¹¹⁵ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 12(4).

¹¹⁶ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 13 (1).

¹¹⁷ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 13 (3).

¹¹⁸ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 13 (4).

¹¹⁹ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 13 (5).

¹²⁰ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 13 (6).

punishable offence under this and penalize in course of trial. Mobile Court may conduct trial and award punishment instantly. All punishable offences under the *Act of* 2013 will be non-cognizable and bail able.¹²¹ Through trial if accusation is proved, the Court may forfeit materials *e.g.*, bricks, earth, wood fuel, coal, machineries, instruments and goods.¹²² In case of complaint, cognizance, issue of summon or warrant, bail, investigation, trial, punishment, forfeiture and appeal of punishable offences under this Act, the provisions of *Mobile Courts Act*, the *Environment Courts Act* and the *Code of Criminal Procedure* will be applicable.¹²³

Recently drive at several illegal brick kilns in Savar has been conducted by the DoE. During the drive two brick kilns were fined Tk 2 *lakh* for using wood in the brickfields.¹²⁴ The DoE has also started its crackdown against faulty kilns operating without environmental clearance certificates. A team of DoE demolished two kilns at Ashulia. The kiln-owners were fined by the Magistrate Tk. 2 *lakh* for operating without license from the district administration and environmental clearance certificate from the DoE. Notices have been served to two others to appear before the Magistrate for hearing to explain why action should not be taken against them.¹²⁵ Again, Mobile Courts are working in Barisal and Patuakhali.¹²⁶ Executive Magistrate (Enforcement and Monitoring Wing of DoE) led a Mobile Court against the 13 illegal brick kilns in Mymensingh, Netrakona, Jamalpur and Tangail. He closed down the brick kilns and materialized Tk. 25 *lakh* as fine from the owners as indicated by the provision of the *Act of* 2013.¹²⁷

Public Interest Environmental Litigation

A case regarding unlawful operation of brick kilns may be also filed in the form of Public Interest Environmental Litigation (PIEL) to the Supreme Court of Bangladesh. PIEL is a method of addressing environmental issues through Public Interest Litigation (PIL).¹²⁸ At past there was a problem in applying the doctrine of public interest litigation under article 102 of the Constitution of Bangladesh because, only an aggrieved person who was personally affected, could apply for remedy to the High Court Division in order to enforce any

¹²¹ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 19.

¹²² Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 20.

¹²³ Manufacturing of Brick and Establishment of Kiln (Control) Act 2013, section 21.

¹²⁴ AR Akash, Ibid.

¹²⁵ S Ahmed, Ibid.

¹²⁶ SMS Khaled, Ibid.

¹²⁷ UNB, '13 Illegal Brick Kilns Shut Down' *The Independent*, 21 May2017; available at: http://www.theindependentbd.com/printversion/details/91679; accessed on 22 May 2017.

¹²⁸ M Farooque, 'Integrity in Development Projects from an Environmental Viewpoint', in Selected Writings of Mohiuddin Farooque: Environmental Order the Security of Survival, Dhaka, BELA, 2004) p 135.

fundamental right. However, in the case of *Kazi Mukhlesur Rahman v Bangladesh* (*Berubari* case)¹²⁹ the appellant was granted standing though he was not a resident of the enclaves. In this case the meaning of 'person aggrieved' was extended: "If a fundamental right is involved, the impugned matter need not affect a purely personal right of the applicant touching him alone. It is enough if he shares that right in common with others."¹³⁰

In Bangladesh writ petitions related to environmental rights are very often filed in the nature of PIL. The question of *locus standi* or standing was raised in certain cases filed by or in representation of Bangladesh Environmental Lawyers Association (BELA). Writ Petition No. 998 of 1994 (FAP 20 Case) was initially rejected by the High Court Division (HCD) on the ground of *locus standi*. The Appellate Division set aside the order of rejection and held that the petitioner has *locus standi* to file and maintain the case.¹³¹In *Dr Mohiuddin Farooque v. Bangladesh (Importation of Contaminated Milk* case)¹³², Mustafa Kamal J analyzed the issue of *locus standi* in details and criticized the rejection of Writ Petition No. 998 of 1994 by HCD. Mustafa Kamal J while interpreting "person aggrieved" under article 102 of the Constitution further held:¹³³

In so far as it concerns public wrong or public injury or invasion of fundamental rights of an indeterminate number of people, any member of the public, being a citizen, suffering the common injury or common invasion in common with others or any citizen or an indigenous association, as distinguished from a local component of a foreign organisation, espousing that particular cause is a person aggrieved and has the right to invoke the jurisdiction under Article 102.

In *Dr Mohiuddin Farooque v Bangladesh* (*Industrial Pollution* case)¹³⁴the question of *locus standi* of petitioner BELA under article 102 of the Constitution was also raised and ABM Khairul Haque J held:

From the narration of the writ petition it appears that BELA is directly involved since its inception for the preservation of the environment from the ill effects of ecological imbalance created by the senseless as well as reckless creation of environment hazards in violation of different legal provisions enacted in this regard and since BELA is trying to uphold the right to life as a fundamental right to the millions of people of Bangladesh as enshrined in Article 32 of the Constitution, it comes within the expression person aggrieved appearing in article 102 of the Constitution and has *locus standi* to maintain the present petition.

Therefore, currently there is no bar in filing PIEL because of liberalized interpretation of 'person aggrieved'. BELA has filed several cases in order to stop

¹²⁹ 26 DLR (AD) (1974) 44.

¹³⁰ Dr Mohiuddin Farooque v Bangladesh, 49 DLR 1997 (AD) 1, para 32.

¹³¹ Dr Mohiuddin Farooque with Sekander Ali Mondol v Bangladesh, 50 DLR 1998 (HCD) 84, para 3.

¹³² 49 DLR 1997(AD) 1, paras 17-56.

¹³³ 49 DLR 1997(AD) 1, para 48.

¹³⁴ 55 DLR (2003) 69, para 14.

unregulated operation of brick fields. ¹³⁵In the case of *BELA v Bangladesh*¹³⁶ the High Court Division issued a *Rule Nisi* calling upon the respondents to show cause as to why the operation of the listed brick kilns should not be declared as illegal since the same violated the provisions of the *Local Government Ordinance* 1983, the *Act of* 1995 and the *Rules of* 1997, the *Act of* 1989, the *Smoke Nuisance Act* 1905 and the *Penal Code* 1860. And why the respondents should not be directed to take effective measures to prevent the operation of the brick kilns and to remove the same from the prohibited zone as the same is against public interest and in violation of the fundamental rights of the villagers guaranteed under articles 27, 31, 32, 40 and 42 of the Constitution of these petitions has not yet been achieved.

VII. Conclusion

Pollution free air is the assertion of this era which is essential for healthy life and tranquil environment. Realizing the adverse effects of emissions from brick kilns, Acts have been passed and amended in Bangladesh. The Act of 2013 is the updated law to regulate air pollution owing to brick burning. This law has imposed directives on the brick kiln owners to switch over energy efficient modern technology and use clean fuel. Though use of fire wood in the kilns has been prohibited since the Act of 1989, if truth to be told, it has not been stopped. Besides, low quality coal and other local biomass along with certain harmful substances are being used for firing of bricks which are accountable for severe air pollution in Dhaka affecting human health, properties and agriculture and crop yields. Although no brick kiln may be launched without obtaining license, but it is apparent that laws and regulations have failed to stop unauthorized brick kilns due to corruption and want of appropriate monitoring by the concerned authorities. Want of Rule under Act of 2013, incorporation of criticized Zigzag Kilns into modern technology, unavailability to clean fuel and absence of emission monitoring authority are certain other reasons behind the running of pollutant brick kilns. One more reason behind mushrooming of brick kilns is the influence of brick kiln owners in their localities. Again, brick kilns are responsible for climate change as they emit CO₂. The landmark international effort in the trail of protecting the world from hostile impact of climate change is the UNFCCC that anticipates a healthy atmosphere for not only present but also future generations and urges sustainable development. Bangladesh has taken various steps responding the convention. Besides, Mobile Courts has started to work under the Act of 2013 and penalizing offenders. Drives conducted by the

¹³⁵ Dr Mohiuddin Farooque v Bangladesh, Writ Petition No. 1252/1997; BELA v Bangladesh, Writ Petition No. 4962/05; BELA v Bangladesh, Writ Petition No. 8815/05; BELA v Bangladesh, Writ Petition No. 4746 of 2010.

¹³⁶ Writ Petition No. 2013 of 2007.

Department of Environment should be more frequent to punish owners of the large number of faulty brick kilns. However, provisions for 'imprisonment' of the offender have not been implemented yet.

The *Act of* 2013 has imposed tougher punishments. Though there are some limitations of this Act, but it is spirited. However, the matter of concern is that simply tougher or good laws have never been able to stop pollution in our country. Besides passing an Act, the atmosphere of embracing it should be created otherwise there is no achievement except adding an example in the realm of nonobservance of laws. In order to fight air pollution in Dhaka due to brick burning and make the laws fruitful following recommendations are given:

- a. Stringent enforcement is required for achieving the benefit of existing laws.
- b. The local administration should be free from corruption.
- c. Invention of nonpolluting and energy efficient technologies should be promoted considering socio economic status of our country.
- d. The government should ensure the availability of clean fuel.
- e. The Standard of emissions from brick kilns should be set as soon as possible under the *Act of* 2013.
- f. An authority comprising scientific experts should be composed to monitor emission standard.
- g. Production of perforated and hollow bricks should be ensured so that fuel may be saved.
- h. Zigzag Kilns should be approved with proper care and caution and examining its capacity to minimize pollution.
- i. The density or number of brick kilns in a specific area should be determined and the additional brick kilns should be relocated creating separate industrial zones along with green belts.
- j. To facilitate accessibility of expensive modern technology the Govt. may provide Bank loan to the small brick kiln owners.