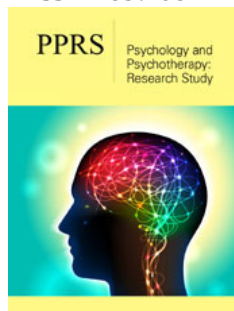# Tree Planting Program Celebrating 18th Birthday: Can Psychology & Psychotherapy Driven Environmental Policy-approach Reduce Air Pollution Levels Country-wise Such as Bangladesh?

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Abstract

In 21st century business-driven world, air pollution level has been significantly growing country-wise such as Bangladesh. Most countries have enacted a range of legislative measures where Bangladesh is no exception. However, like many other countries, Bangladesh still grapples with the challenges due to rapid industrialization, urbanization, and increased vehicular traffic etc. Dhaka is the capital city of Bangladesh faces air pollution problem severely. Besides current relevant command & control policies in place, Bangladesh requires adaptation of policies for encouraging people in society for environmentally responsible behaviours in daily lifestyle and for planting more trees. So that the expected policies can become psychology & psychotherapy driven environmental policy-approach reducing today's air pollution levels in Bangladesh. Tree planning for celebration of 18th birthday can serve as psychology & psychotherapy driven environmental policy-approach meeting today's air pollution crisis in Bangladesh. This proposal is known as Akim's model-2024 in literature. The Ministry of Environment, Forest and Climate Change, Bangladesh can facilitate a tree to the individual who is ready to celebrate. Obviously, officials' engagements are not daily but will be once a month where all can be joined who turned 18th during that month. In the gathering, other environmental efforts such as solid waste management can also be discussed, which can be inspirational to the audiences of tree-planting programs.

Keywords: Air pollution; Health hazards; Tree planting program celebrating 18th birthday; Psychology & psychotherapy driven environmental policy-approach

Introduction

Economic growth-trends in countries globally have significantly increased over the last three decades and have heightened energy demand in multi-faucets, resulting in rising greenhouse gas emissions and severe air pollution from diverse sources. This situation is significantly seen in capital cities country-wise [1] in the globe. Tackling the issues, fuel switching, deployment of renewables and human's efforts in daily lifestyle are needed for undermining today's environmental problem. More specifically national strategies and policy actions are needed where reforestation efforts can be achieved in multi-faucet government policies on planting trees & policies on motivational efforts inspiring citizens of Bangladesh. Motivational policy can be: i) inspiring celebration individual's "Birthday, having first child in family and Event of marriage by planting trees, ii) forcing to utilize green tech in brick kilns and iii) conducting academic research where financial supports are in need [2,3].

However, as countries continue to advance, it leads to more pollution because of increased energy consumption. In recent years, the biggest concern for Asia is its air pollution issues in
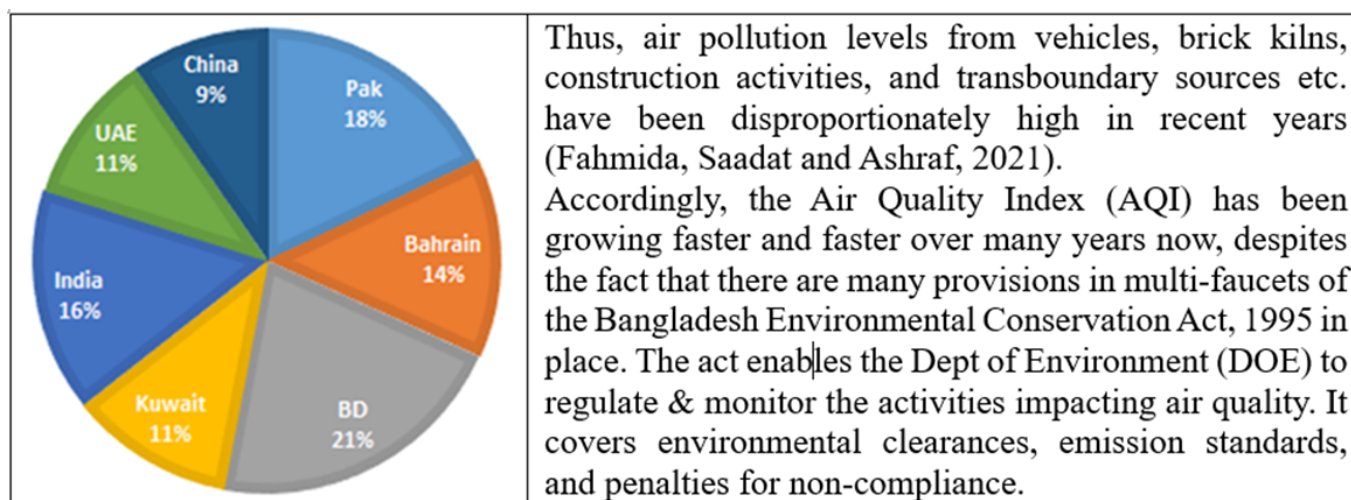
multi-faucets. Major Chinese cities such as Beijing have received the worst air quality rankings [1]. Seoul, the capital of South Korea, also suffers from air pollution [4]. Currently, Indian cities particularly Delhi are overtaking Chinese cities in the ranking of worst air quality. Dhaka city, the capital of Bangladesh, is among the world's top five cities with the most polluted air [5]. It is well recognized that air pollution is a major issue in today's cities worldwide, which poses significant threat to health, climate, environment, economic growth-trends, and wellbeing of citizens etc. It is also recognized that most countries have enacted a range of legislative measures to tackle air pollution and advance sustainable development where Bangladesh is no exception. Like many other countries, Bangladesh here grapples with these challenges due to rapid industrialization, urbanization, and increased vehicular traffic.

However, within Bangladesh it is not just an individual industry or sector that is responsible for these air pollution issues. So, on the aspects "how it can be addressed" in Bangladesh, people here all need to work together so that the level of air pollution can be marginalized. Besides current relevant command & control policies or laws in practice in multi-faucets here, it requires adaptation of policies for encouraging general people for environmentally responsible behaviours in their daily lifestyle and for planting more trees. So that the expected policies can become psychology & psychotherapy driven environmental policy-approaches reducing today's air pollution levels in Bangladesh. By so doing, the expected policy-design, obviously psychology & psychotherapy driven environmental-policy can be an example to other countries when it comes addressing air pollution levels. That raises question: what is it and how it should work in practice once it becomes a law in Bangladesh? Accordingly, this study advances introducing psychology & psychotherapy driven environmental policy entitled: "Tree planting program celebrating 18th birthday". Besides having the current environmental policies & laws in place, the enactment of the proposed policy can ensure lower pollution level in Cities particularly in Dhaka City and beyond in Bangladesh. It will also play significant roles in advancing sustainable development in Bangladesh.

Why Bangladesh Particularly Dhaka City?

It is well recognized that Bangladesh is facing an increase level of air pollution compared to that of other neighbouring countries in recent years. Data Statistics in Figure 1 clearly shows that over five-year period, Bangladesh has 21% AQI, which is the highest and China has 9%, which is the lowest among seven neighbouring countries. Saying another way, over five-year (2018-2022) the AQI of Bangladesh was 164 and AQI of China was 102. This comparison suggests that air pollution of Bangladesh is getting worse. Because of high rise increasing of urbanization, industrialization, and energy consumption in major cities, Bangladesh has been facing this air pollution dilemma. Besides this, the level of motorization in Bangladesh has been growing over the years [6].


Thus, air pollution levels from vehicles, brick kilns, construction activities, and transboundary sources etc. have been disproportionately high in recent years (Fahmida, Saadat and Ashraf, 2021).

Accordingly, the Air Quality Index (AQI) has been growing faster and faster over many years now, despites the fact that there are many provisions in multi-faucets of the Bangladesh Environmental Conservation Act, 1995 in place. The act enables the Dept of Environment (DOE) to regulate & monitor the activities impacting air quality. It covers environmental clearances, emission standards, and penalties for non-compliance.

Figure 1: AQI in percentage among neighboring seven countries over 5 years period (2018-2022). Data Source: https://www.iqair.com/world-most-polluted-countries.

Why Dhaka city?

Dhaka is the largest city and capital of Bangladesh. It is well recognized that cities are more polluted than rural areas in Bangladesh [7]. Among the cities, Dhaka City faces the highest air pollution problem in Bangladesh. Its traffic problem is notorious for its severity & negative impacts it has on the environment and public health. Dhaka City air quality has been deteriorated due to a rapid change in the vehicular fleet and a substantial increase in industrial activity in and around the city (Figure 2) [8].
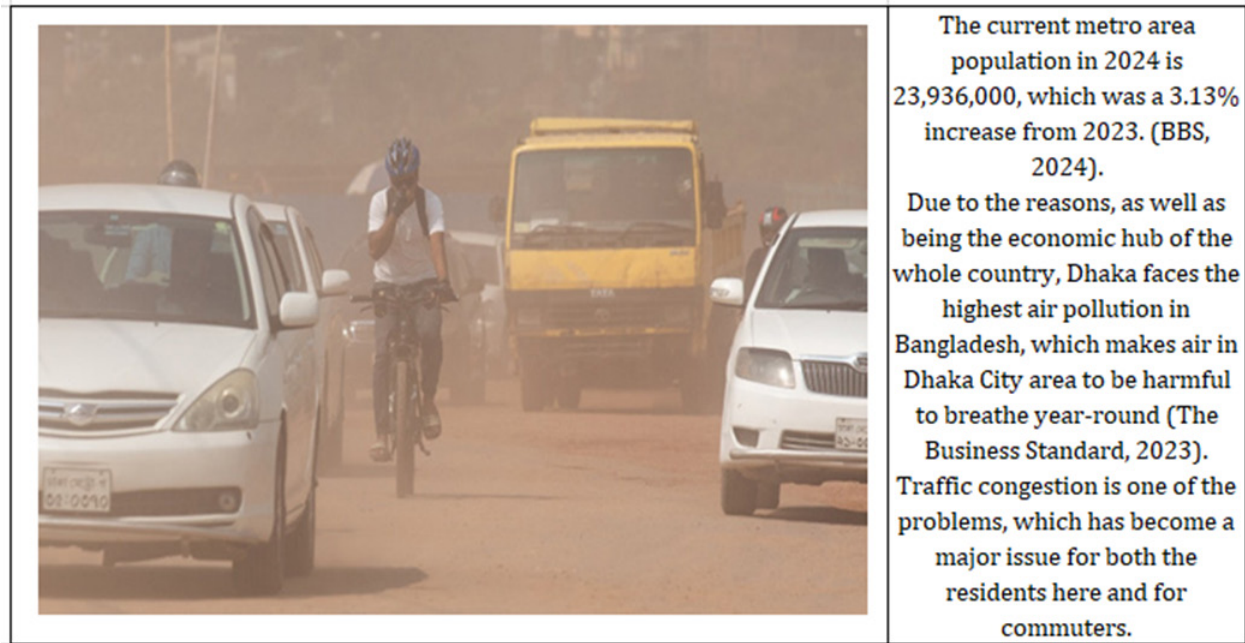
Figure 2: Vehicles ply on a dust-filled road in Dhaka City, Date: December 31 of 2023. (Source: The Business Standard, Newspaper).

Problem Statement: What Are the Sources of Pollution? What Are the Impacts of It?

Figure 3 shows Air pollution is a major global environmental risk to our health and food security. It raises questions: what are the sources of air pollution in cities and what are the impacts? These questions are no different country-wise where Bangladesh particularly Dhaka City scenario is no different. Answering the questions posed, the sources of air pollution are summarized in four categories [2,3,9-11]. They are: i) Mobile sources-such as cars, buses, planes, trucks, and trains ii) Stationary sources-such as power plants, oil refineries, industrial facilities including brick industry that largely use inefficient dirty technology and burns woods-coal iii) Area sources-such as agricultural areas, cities, and wood burning fireplaces and iv) Natural sources-such as such as dust from wind-blown, wildfires, and volcanoes.
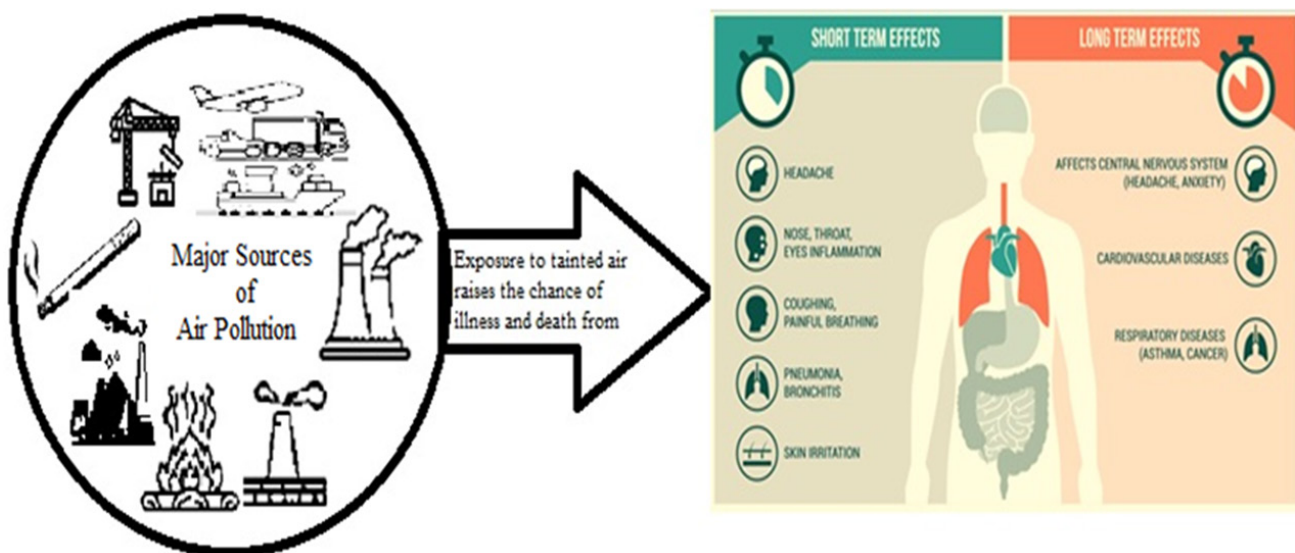
Figure 3: Primary sources of air pollution and its consequences to health.
Source: Authors' creation with supports of Lalpathlaps.com.

On impact aspects, it would not be overstated that clean air is a secret weapon for tackling today's climate crisis, saving lives, fostering inclusive societies, and improving childhood development no matter where we reside. From contaminating our environment to damaging our health, poor air quality is a major global challenge in today's business-driven world where no one is immune to the

negative effects of air pollution even many think this shared burden does not affect their lives. It is estimated to cause about 3.7 million premature deaths worldwide and destroys enough crops to feed millions of people every year [12]. Accordingly, the culmination of health and environmental effects, in terms of economic impact, can lead to increased healthcare costs, a loss in productivity and damage to crops and natural resources, contributing significantly to economic loss to individuals and companies alike. These scenarios, urgencies, and then medical care-services in Bangladesh, particularly in Dhaka City are becoming money-making machine in multi-faucets [2,3]. These are no different in today's Tech-driven world.

Pollution on the move in Bangladesh, particularly in city areas, humanly generated and natural sources of pollutants are often created in one place and then transported through the air. Sometimes chemical reactions in the atmosphere change pollutants before they are deposited. These all can haze and make it to be harder to see. These are daily environmental scenarios in Dhaka City. and pollutant deposition can have biological effects [6-8].

Objectives of the current study

The objectives of this study are threefold. They are:

A.   To introduce a policy proposal entitled Tree Planting Program Celebrating 18th Birthday, which can serve as psychology & psychotherapy driven environmental policy-approach reducing today's air pollution levels in cities country-wise such as Bangladesh.

B.   To communicate and facilitate for laying out reforestation techniques in place underpinning ethical responsibility by doing it so that the level of air pollution can be marginalized by cutting down individual's activities and by creation of higher sequestration approaches.

Methodology of the study

The basic methodology used in this study is to elaborate & examine the proposal underpinning psychological theories and theories of psychotherapies in aim to motivate people for ensuring environmentally responsible behaviours in lifestyle.

Tree planting program celebrating 18th birthday: What is it? how should it work?

An 18th birthday is a significant milestone in a young person's life. This is because it marks the end of childhood and the start of adulthood in human society country-wise where Bangladesh is no exception. An individual of 18 years old is officially an adult in the eyes of the law and can start making their own choices or decisions and taking on new responsibilities. In Bangladesh, an individual is entitled to receive National Identification Card (NID) once the individual turns eighteen-year-old. In many cultures country-wise such as Bangladesh, this is also a time to throw a lavish party or party with family and friends. Celebrating this occasion is a wonderful opportunity to create lasting memories and enjoy time with friends and family. In Bangladesh, besides other facilitates, individual who is eighteen is entitled the rights or eligible to cast a vote in general elections.

Accordingly, the18th Birthday celebration can be utilized plating trees in city areas as well as in other suitable areas in Bangladesh where the Ministry of Environment, Forest and Climate Change, Bangladesh can facilitate a tree to the individual who is ready to celebrate. This tree facilitation program will be inspirational to the individual who is ready to celebrate their 18th Birthday. It will serve as psychology & psychotherapy driven environmental policy, which will inspire the individual as well as surroundings for ensuring environmentally responsible behaviours. In other words, local corresponding officials' efforts can be instrumental for an effective outcome. Obviously, these officials' engagements are not on daily basis but once in a month where all can be joined who turned 18th during that month. Obviously, this decision depends on making the psychology and psychotherapy driven-environment policy cost-effective to the government. In the gathering for 18th birthday celebration, other environmental efforts such as solid waste management can also be discussed, which can be inspirational to the audiences of tree-planting programs. This proposal can be known as Akim's model-2024 in literature.

What do trees do for human-society besides monetary benefits?: It is well recognized in human society that trees can clean the air and absorb harmful airborne particles and gaseous pollutants. Through the process of photosynthesis, trees can absorb CO_2 from the atmosphere and reduce air pollution i.e., toxins such as N_2O, NH_3 and SO_2 go through its leaves, bark, and roots. Trees can improve the air quality in the microclimate around it and contribute to a healthier and cleaner environment overall. Trees also soak up the harmful CO_2 in our atmosphere, which contributes significantly to reducing the level of GHGs effects, which can undermine today's global warming dilemma, ensuring a more sustainable world for our future generations [10,11,13].

Besides cleaning the air for us, trees supply us with fresh oxygen (O_2) to breathe. So, in addition to reducing, reusing, and recycling, differences can be made by planting trees in countries such as Bangladesh. This journey can begin in two stages - first in city areas and then in rural areas. The reason is that most rural-areas already have more trees than that in city-areas country-wise such as Bangladesh.

Motivation for environmentally responsible behaviours: Psychology & psychotherapy driven policies such as Tree planting for celebration of 18th birthday.

In today's business-driven world, the ability to influence and persuade others is a crucial skill where individuals, companies or government authorities etc. take advantage for their greater interests. Whether you are seeking to win over clients, motivate your team, or negotiate a deal, understanding persuasive-psychology can give you significant advantages (Rahman 2021).

Accordingly, addressing today's environmental dilemmas particularly the air pollution aspects, greenhouses emissions and then global warming issue etc. requires policies that facilitate introducing government's motivational different programs. Obviously, these programs should be under the theme of psychology and psychotherapy driven environmental policies such as the

proposed policy: Tree planting to celebrate 18th birthday, which can be designed underpinning the theme of Akim's Model-2024.

For better understanding psychology and psychotherapy terminologies: Psychology theories explain the long-term consequences of human behaviour and provide robust evidence-based clarifications as to why people believe, behave, and react how they do. The five major theories of psychology are behavioural, psychodynamic, humanistic, cognitive, and biological [14]. On the same token, a theory of psychotherapy acts as a roadmap for psychologists: It guides them through the process of understanding clients and their problems and developing solutions. Approaches to psychotherapy fall into five broad categories: Psychoanalysis and psychodynamic therapies [15].
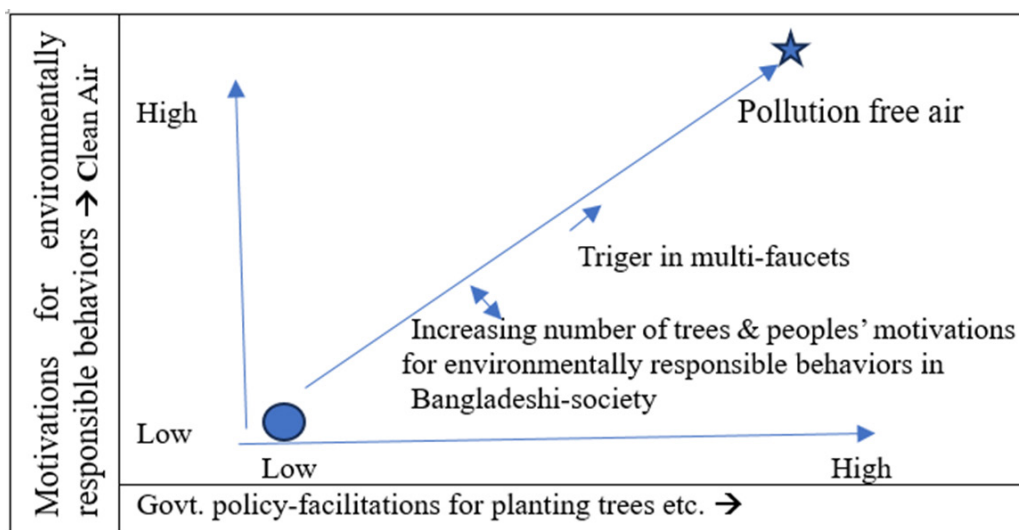
Motivation for environmental responsible behaviours: We know that motivation theory seeks to explain what compels us to take certain actions. While some theories credit our instincts, drive, or arousal levels for helping us get and stay motivated, others suggest that motivation is derived from certain human needs, our expectations, or a desire for external rewards or any events that facilitate self-excitements in lifestyle. Motivation is a tricky psychological experience (Rahman, 2024). Sometimes we have a lot of it and oftentimes we have none, depending on what is going on in our lives or our mental state at the time. Certain mental health issues or neurodevelopmental disorders like depression can drastically impact these motivations, efforts, or levels [16-20].

So, in general, motivation is the inner drive, which directs a person's behaviour towards the goal such as planting a tree celebrating the person's 18th birthday etc. Many models of motivation focus on a "carrot and stick" approach, concentrating on the use of incentives to motivate desired behaviours. Suppose under the proposed psychology and psychotherapy environmental policies, local government issues a Certificate of Commitment for environmentally responsible behaviours etc. All these together can serve as inspiration or as an incentive, which can increase

individual's motivation for environmentally responsible behaviours such as throwing own trash in a dustbin throwing here & there. Underpinning the theme of today's business-driven world, the theory of psychology and psychotherapy driven environmental policy option(s) can ensure success of addressing air pollution issues country-wise such as Bangladesh.

The success or achievement of addressing air pollution issues can be elaborated as such: Success of addressing air pollution issue=ƒ (motivational policies such as tree planting on 18th birthday etc. is in place and strict regulatory laws for industrial sectors etc.) and the value of success is proportional to the probability of success or achievement i.e. (value of success) α (probability of participation in the program (18th birthday celebration etc.). In other words, the value of success increases with a higher probability of success where motivation=ƒ(event such as 18th birthday celebration etc. and probability of success) where Probability of success=ƒ(motivational events in place) (motive to ensure environmentally responsible behaviours)=ƒ(issuing Certificate of Commitment for environmentally responsible behaviours) and (probability of success)= ƒ(value of success and ability for efforts) and (ability for efforts)=ƒ(psychology & psychotherapy driven environmental behaviours, offering incentives such as certificate etc.).

In today's business-mentality world, achieving any goal requires the ability to persist through obstacles and endurance to keep going despite difficulties where policy-design on environmental issues in Bangladesh is no exception. In this journey, psychological factors and accordingly psychotherapy techniques such as inclusion the ideas in academic curriculum at appropriate class-level in education system can be helpful addressing today's air pollution levels. It is also recognized that most countries including Bangladesh have enacted a range of legislative measures to tackle its air pollution and advance sustainable development. So, the proposed policy will serve as an inspirational policy besides having law & order policies in practice. These dual policies can ensure environmentally responsible behaviours without interruption [21-23].

Figure 4: Tree-planting on celebrating 18th birthday under Govt. policy for motivating environmentally responsible behaviors. (Source: Authors).

Figure 4 clearly shows that as motivations of people increase for environmentally responsible behaviors can ensure higher number of trees, which can ensure less polluted air country-wise such as Bangladesh. After adopting the policy, the number of trees in Bangladesh will grow slowly but steadily under the program. The main reason is that at the beginning of the program, the newly 18th year holders will be planting trees, but some people surrounding may not ensure environmentally responsible behaviors even though they will witness the program. So, air pollution level will get better as more people become motivated for environmentally responsible behaviors. After witnessing the program for few years, the number of motivated people along with number of people who participated in the program will increase and air quality will get better. Accordingly, this better-ness of air quality will continue in a faster phase, which may ensure pollution-free-air in Dhaka City and beyond. This model can be known as Akim's model-2024 in literature.

Direction for Future Study

It is now well recognized that pollution from human-generated and other sources is often created in one place and transported through the air. It is also recognized that sometimes chemical reactions in the atmosphere change pollutants or pollution level before they are deposited. Pollutants in the air can create haze, making it harder to see, and pollutant deposition can have biological effects. So, the policy proposal in this study, psychology & psychotherapy driven environmental policy-approach such as Tree Planting Program Celebrating 18th Birthday can marginalize today's dilemma on air pollution issues country-wise such as Bangladesh. For further study related to the proposal, Tree Planting Program Celebrating 18th Birthday, welfare analysis can be conducted. Surely it can serve the policymakers as well as human society-members for its better understanding for effective policy-design for the greater of the society. The welfare analysis can be instrumental as a psychotherapy approach to readers for motivating themselves for environmentally responsible behaviors in their daily lifestyles.

Conclusion

In today's business-driven world, air pollution level has been significantly growing country-wise where Bangladesh is no exception. Most countries including Bangladesh have enacted a range of legislative measures addressing the issue. However, like many other countries, Bangladesh still grapples with the challenges due to rapid industrialization, urbanization, and increased vehicular traffic etc. The capital city Dhaka is facing the air pollution problem severely. Besides current relevant command & control policies or laws in place, Bangladesh requires adaptation of policies for encouraging people in society for environmentally responsible behaviors in daily lifestyle and for planting more trees. So that the expected policies can become psychology & psychotherapy driven environmental policy-approach reducing today's air pollution levels in Bangladesh. As proposed, tree planning for celebration of 18th birthday can serve as psychology & psychotherapy driven environmental policy-approach meeting today's air pollution crisis in city areas in Bangladesh. This proposal can be known as Akim's model-2024 in literature. The Ministry of Environment, Forest and Climate Change, Bangladesh can facilitate a tree to the individual who is ready to celebrate. Obviously, these officials' engagements are not daily but will be once a month where all can be joined who turned 18th during that month. In the gathering, other environmental efforts such as solid waste management can also be discussed, which can be inspirational to the audiences of tree-planting programs.

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