

वेदश्लोकः

Issue 2, 2018

Evangelical Perspectives on Mission and Ethics

AIR POLLUTION



**The earth is the Lord's, and everything in it,
the world, and all who live in it;
for he founded it on the seas
and established it on the waters.**

Psalm 24:1-2 (New International Version)

Drishtikone means perspective or viewpoint in Hindi. The magazine seeks to provide a space in which Christians can share their perspectives and points of view on wholistic mission in India.

Our Vision is that **Drishtikone** will motivate change in readers. The experiences of development practitioners, theologians, grassroots workers and others demonstrating God's love in a practical way, will influence and encourage Christians to join the struggle for peace and justice in this country.

Drishtikone seeks to present a Biblical perspective on social issues and provide readers with information and models of engagement in wholistic concerns. It is a forum for evangelical reflection and dialogue on development issues in India.

Drishtikone is published three times a year by EFICOR to mobilise Christian reflection and action. Financial contributions from readers are welcome to support EFICOR in its efforts to influence the mind towards action.

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Letters to the Editor...



Dear Editor,

Thank you for sharing this important resource 'Displacement: The Plight of the Invisible'. The articles are very interesting and insightful.

Ms. Bal Kumari Gurung
United Mission to Nepal
P.O. Box 126, Thapathali,
Kathmandu, Nepal.

Dear Editor,

Greetings in the name of our Lord and Saviour!
Thanks for mailing the Displacement issue of Drishtikone. It is an interesting issue. I remember all of you in my prayer. May the Lord's Blessings be upon you!

In Christ,
Rev. D. Chander
Delhi

Dear Editor,

This is to acknowledge that I have received Drishtikone, thank you so much for keeping me in your mailing list. During my days in EFICOR I was closely associated with Drishtikone hence seeing the copy after many years brings back those good memories. I love reading it and will be helpful for the ministries, as it had been always in the past.

May God guide you and bless you as you educate and inform coworkers in the vineyards through Drishtikone!

Much regards,
Mr. Tongkhomang Haokip
Guwahati

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Editorial...

Pollution can be defined as the introduction of substances or energy into the environment with impacts that endanger human health, natural resources and ecosystems. We hear about pollution every other day in the newspapers, television, internet and various other social medium informing us about the effects. It occurs in different forms - air, water, soil, radioactive, noise, heat/thermal and light. This issue of Drishtikone will focus mainly on air pollution.

Air pollution occurs from anthropogenic or natural sources. With increase in the pollutant levels, air quality has become a major environmental and health concern all over the world. The rapid growth of cities, along with its expansion of industry and transport systems, has contributed to an increase in air pollution emissions. According to a study done by the Global Health Burden of Pollution, the largest contributor of pollution-related deaths is air pollution. Besides having impact on health, air pollution also poses threat to the food and water security and climate systems, thereby undermining poverty alleviation and sustainable development in the region. According to the Environmental Protection Agency, areas having the Particulate Matter (PM) level 2.5 pose a major health problem. A study by the International Bank for Reconstruction and Development/ The World Bank, 2016 reports that about 87 % of the world's population now live in countries in which ambient pollution levels exceed air quality guidelines set by the World Health Organisation.

Air pollution disproportionately affects the poor and marginalised in countries at every level of income as they are more often exposed to toxic elements via contaminated air. Pollution, poverty, poor health and social injustice are deeply intertwined. We need to rethink our approach on how we allow economic progress and development, at the same time, allowing air pollutants to increase and pollute our environment. As Christians we need to be aware that we have a responsibility to curb air pollution and not be the ones causing it. This issue of Drishtikone, therefore, seeks to sensitise the readers to be more proactive in dealing with this crisis.

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Air Pollution - A Growing Hazard to Human Health

Dr. Ken Gnanakan

The hazards of air pollution are being reported frequently in our news today and raising serious alarms. Delhi has earned the unenviable distinction of becoming the most polluted city in the world, with a recent study describing its air quality as having reached the worst category. The Sri Lankan cricket team protested. Schools closed for three days as harmful pollutants reach level more than 16 times the safe limit, an Air Quality Index of 999.

But Delhi is not alone. According to the World Health Organisation, 10 of the world's 20 most polluted cities are in India. A dubious distinction! And if it is any comfort, three such cities are also in China. India and China top the discreditable list of cities with the worst pollution, and consequently with the highest proportions of deaths related to air pollution. And these are not just statistics. People, rich and poor, constantly breathe in toxins and with the poor hurting most.

I remember being in Beijing when pollution was at its worst. Our taxi literally cut through the thick polluted air. However, China is making progress. The country is rapidly reducing coal-fired power and steel, suspected to be one major cause of their problems. It is also aiming to reduce coal consumption from the current 11 million tons per year to below 5 million by 2020. These steps are making a difference and bringing about improved human health, it is reported.

Rich and Poor effected

The situation is grave. Polluted air is a "public health emergency" states the World Health Organization (WHO), documenting that nine out of 10 people globally breathe bad air resulting in more than six million deaths a year. Air pollution levels are unsafe in nearly all cities in developing countries and crying out for urgent action. But sadly, WHO reports, nearly 90% of air pollution-related deaths occur in low and middle-income countries.

Pollution in various forms is mounting to perilous levels. We are all feeling the impact of the increasing amount of pollutants being released into the air. These are not only taking a toll on human health but causing increasing damage

to the planet as a whole. The dangers being posed by air pollution has caused the WHO to make a renewed call for rapid global action to tackle what it describes as one of "the greatest hazards to human health."

Urban air pollution is set to become the biggest environmental cause of premature death in the coming decades, overtaking other mass killers such as poor sanitation and polluted drinking water. Both developed and developing countries will be hit, and by 2050 there could be 3.6 million premature deaths a year from exposure to particulate matter, most of them in China and India. But rich countries will suffer severe effects too, and this is from exposure to ground-level ozone, a consequence of our consumer culture.

Interestingly, pollution is not a new intruder into our world. Ancient cities were known to be polluted places, badly contaminated by untreated human wastes. Right through to the 19th century, water and air pollution was rampant and mounds of solid wastes were familiar sights in congested urban areas. And later, with the growth of industrialisation and the rapid rise of population, human activities have added to aggravating these adverse impacts. And what is the Cause?

"Greenhouse gases" are threatening our climates, creating changes as well as posing threats to all life. What are these gases? We know what a green house is – the structure in some gardens where plants are kept warm. With increasing pollution, harmful gases are being released and these gases are trapping heat in the atmosphere. It is like a greenhouse! These "greenhouse gases", as they are now called, are making the Earth's surface warmer and warmer. This so called greenhouse effect is the cause for "global warming" and consequently "climate change."

Carbon dioxide is one such greenhouse gas, and is the main pollutant that is warming our planet. We all breathe out carbon dioxide but it is only a very small quantity compared to what our modern life style is contributing - cars, planes, power plants, and the burning of fossil fuels such as gasoline and natural gas are spouting out fumes that endanger life today. Modern day activities have raised carbon dioxide levels higher than they have been for hundreds of thousands of years.

There are other greenhouse gases such as methane - which comes from swamps and livestock - and what are now popularly known as CFCs - chlorofluorocarbons, which are used in refrigerators and common aerosol pumps which are deteriorating the Earth's ozone layer. Then there is sulphur dioxide, a component of smog mainly caused by various forms of industrial activity. All these gases are gradually taking their toll on human health.



Photo: EFICOR

Air pollution and Health

So, as we look at our global context today, the impact of pollution is being felt by everyone everywhere. Committed action is being advocated by Governments and non-Government bodies. Countries are pledging to reduce harmful emissions from their industrial and domestic activities. Understandably, the impact of pollution is more severe in developing countries, leading to critical health conditions, premature deaths and disabilities of millions of people annually.

Developed countries have the resources and technologies to combat these problems and so are spared the suffering that the poor are going through. It is not surprising, therefore, that there is a noticeable disparity with conditions in high-income countries showing improvement. But poorer countries, Asia, in particular are showing little progress, and in some cases getting even worse. Concerns about air pollution are therefore focused on these countries.

The poor live in appalling conditions. They inhale harmful gases that are released from various sources such as diesel engine exhaust and smoke, soot from inefficient cook stoves added to leakage from illegal activities of the rich. Around 3 billion people cook and heat their homes using open fires and simple stoves burning wood, animal dung, crop waste and coal. The rich, in developed and developing countries also use it for heating their homes. The poor in India use all kinds of agricultural residues, even dung as their cooking fuel.

It is not only the type of fuel, but also the way it is used that is adding to the damage being caused. Incomplete combustion sends extremely harmful pollutants into the air.

Tiny poisonous particles are emitted that are endangering human health in the poorer households. These poor homes often have poor ventilation, and the smoke is taking its toll on lives through all sorts of respiratory ailments. People with chronic heart diseases are also vulnerable and their conditions are aggravating.

Lung cancer is on the increase. Approximately 17% of premature lung cancer

deaths in adults are from exposure to carcinogens from household air pollution caused by cooking with solid fuels like wood, charcoal or coal. The risk for women is higher, as they spend more time near these fires. Dangerously high levels of domestic air pollution, apart from emissions from factories and automobiles are increasing the risks.

Over half of deaths among children less than 5 year olds are from acute lower respiratory infections due to particulate matter inhaled from indoor air pollution. Chronic obstructive pulmonary disease in adults in low and middle-income countries is due to exposure to household air pollution. Stroke and other heart diseases are also reported to stem from such pollution. WHO has launched efforts to reduce these and other pollutants through the adoption of modern technologies, with efforts to distribute clean cook stoves in some poorer countries.

Action we can take

Most of the action that needs to be taken is from Governments, communities and for institutions as a whole. They are large scale and also may require some tested scientific steps. Indoor pollutants have been ranked among top five environmental risks to public health. If left unattended, these pollutants could build up in their adverse effects on human health. But we cannot be waiting for Governments to act. There are immediate steps we can take to fight pollution wherever we are. Grow plants in your home!

Back in the 1980s, NASA (National Aeronautics and Space Administration) published a research report called "Interior Landscape Plants for Indoor Air Pollution Abatement" which grapple with the problem of toxins building up indoors with poor ventilation. Using space station technology, the NASA Clean Air Study was conducted to

demonstrate the effectiveness of particular plants to purify air. Unknown to us, chemicals like benzene, formaldehyde, and ammonia come from household items, including furniture, carpets, paints, chemicals in household cleaners we commonly use. They pollute the atmosphere in our homes, causing many common ailments as well as leading to more serious illnesses.

Making your house green could help to a large extent. There are tests continuing to be conducted. House plants absorb the harmful particulates as well as absorb all the carbon dioxide we breathe out. In turn, life saving oxygen is produced. There are other microorganisms present in the plants and soil that clean up our environment indoors. No wonder NASA calls them “nature’s life support system.” These plants, being tropical, are known to grow under the shade and in the humidity of the thick forests, and so survive in spite of minimal sunshine. Even water is sparingly used for some of these plants. Here are some common plants that could help us in our homes. Take the message to the poor people in your neighbourhood, apart from telling your friends. I am listing just a few easily available ones...

Aloe Vera: The incredible Aloe Vera is a familiar sight in many a household. We have used it for some cosmetic and medicinal purposes. But, did you know that the Aloe Vera has much more to offer? It is among the most powerful natural air purifiers in the world. It helps clear chemicals like formaldehyde and benzene from the air, and also lower carbon dioxide levels at night. This rare ability to absorb CO₂ levels in the dark makes Aloe ideal for your bedroom.

Areca Palm: Also known as Bamboo Palm, this is another powerful air purifying plant, particularly formaldehydes, benzene and carbon monoxide. It needs a little more watering and some indirect sunshine. They not only add beauty to your home, but produce enormous supplies of oxygen. The palm is also a natural humidifier, making it a well suited plant for dry climates or in helping those with breathing problems.

Peace Lilies: The Peace Lily, also known as the White Sail Plant (because of its flower), is one of the most common indoor plants. Research by NASA found the Peace Lily to be one of the top indoor plants for cleaning air. This plant breaks down and neutralises toxic gases. The Peace Lily depends on indirect sunlight, room temperature and moderate watering.

“ Pollution needs to be tackled as a whole... There are stark warnings for humans and for the planet, and an all out war must be waged. ”

Snake Plant: Known more popularly as Mother-in-Law’s Tongue, the plant identified by NASA, removes at least 107 known air pollutants. Snake plant also produces copious

quantities of oxygen throughout the night, making it an excellent item to keep in the bedroom. Importantly, Snake plant is an extremely resilient species that can go for weeks without water, and also thrives in just about any climatic condition, including those with low light.

Spider Plant: Spider plant scientifically known as *Chlorophytum Comosum*, is another indoor plant that offers many health benefits particularly by removing harmful chemicals from the air. Spider plants come in around 200 species and many of them can survive in spite of neglect. The spider plant can remove toxic carbon monoxide, so ideally should be placed near the kitchen. They make good decorative hanging plants.

Money Plant: The very familiar “Money plant” was little known for its role in cleaning up our polluted air. It is also known as “Devil’s ivy” because of its refusal to be destroyed! It has been found to be one of the best plants to purify air polluted by synthetic chemicals from furniture and cleaning chemicals. It energizes the home by filtering air and increasing oxygen inflow. Place it near computers and any other electronic gadgets.

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Where are we heading?

We can do our part, but larger action is urgently required. If governments take steps now, and develop long-term views to tackle these environmental problems, we could be avoiding the worst consequences. There are major interconnected issues in our environment and all need to be addressed. Pollution needs to be tackled as a whole. Sadly, continuing industrial and consumerist trends are escalating our woes. Rapid population rise, urbanisation and its interconnected activities are contributing critically. There are stark warnings for humans and for the planet, and an all out war must be waged. Amid these threats, however, there are glimmers of hope.

(Dr. Ken Gnanakan is an educator, environmentalist and theologian. He heads the ACTS Group of institutions which include primary and secondary schools, colleges and private university. He can be reached at ken@gnanakan.com)

Impacts of Air Pollution on Health

Dr. Chong V. Shimray

The cover story by Dr. Ken Gnanakan has touched upon almost all aspects of air pollution. This response article will present air pollution in a slightly different perspective while attempting to provoke the various stakeholders.

Air pollution and its discourses

The United Nations' Glossary of Environment Statistics defines air pollution as, "The presence of contaminants or pollutant substances in the air that do not disperse properly and that interferes with human health or welfare, or produces

other harmful environmental effects." Based on this definition, air pollution can be broadly categorised into two groups: (i) those that directly cause health hazards such as carbon monoxide, particulate matter, nitrogen oxides, sulphur dioxide, other chemicals used in households, etc. and (ii) those that affect the environment such as global warming causing pollutants like carbon dioxide, chlorofluorocarbons, hydrofluorocarbons, methane, etc. Though it is impossible to completely segregate the two, because ultimately it will in some way impact our health, it is important to attempt to do so because doing this will not only help in understanding the issue better but also in coming out with appropriate solutions. However, in keeping with the title of the cover story, this response will focus on the health aspect of air pollution.

Air pollution that impacts health can be categorised into outdoor air pollution and indoor air pollution. Dr. Gnanakan has mentioned in quite detail about the disparities between the developed and the developing countries in terms of the health impacts of the people. It may be added that such disparities can be seen within a developing country or even within a community. It is true that nobody is spared from air pollution, however whether it is outdoor or indoor air pollution, the poor tend to suffer more because they live in

an unsafe and unprotected environment, and often in close proximity to the source of pollution. It is likely that many of them are not aware about the impacts and preventive measures about air pollution and even when they are

aware, they will not be in a situation to take appropriate measures such as using air purifying devices in their houses or wear specified masks when they are outdoors.

Air pollution is indeed an important issue and we do talk about it a lot especially in metro cities like Delhi. However what is astonishing is that we dedicate specific months of the year to do that,

October to January, because that is the time of the year when pollution is at its worst in the capital of our country with the Air Quality Index reading above 300 in most parts of the city. Come February and the issue 'hibernates'. The media, the politicians and the public forget about it and the issue comes back to life again 'that time of the year'. Sure enough, such 'vacation' does not apply to those who are the victims of air pollution. Their suffering continues. Besides, there is this chunk of less fortunate population of our country who have to face indoor air pollution throughout the year. Their issue does not catch anybody's attention. Whatever may be the case, we can agree that we are collectively responsible for the problem and collectively responsible for not taking appropriate actions.

Fixing responsibility and accountability

While taking appropriate action to reduce air pollution, especially in homes, has been elaborately discussed by Dr. Gnanakan, it is equally important to understand as to why we have not been able to address this issue at the larger context and figure out which stakeholders have failed in doing its part. Identifying those responsible is important to address such important and complex issue as air pollution.



Photo: www.thepinsta.com

The natural choice for the top spot amongst those shirking responsibility and accountability is the policy makers. Almost always issues are politicised, more so often, out of fear that a good initiative by a certain political party will give them that political edge thus stalling anything good, if at all there was one, from happening. However, the fact that governments have not been able to take some drastic measures to effectively tackle air pollution shows their lack of seriousness. And the blame game that is played out every time, whether be it blaming another state, another government, another agency or a company, is not something new.

We, the public, are equally responsible. This apathy of ours is, to some extent, because the impacts of air pollution do not kill immediately and hence air pollution does not even appear in our radar. It is considered as something “that can wait”, unless we have a family member with health issues related to air pollution. When air pollution was at its peak in Delhi, in November 2017, we were okay holding the Marathon. It was not that air pollution caught the organisers by surprise. It was expected. May be it was expected and so it was business-as-usual for them, literally ‘business’ as usual. But what was more surprising was there was no dearth of people to participate. Doesn’t that say something about our attitude vis-a-vis air pollution?

The fact is the issue of air pollution hasn’t really sunk into our minds. We have not considered it to be our problem that we need to contribute in solving it. Not many of us have taken an action for the sake of the environment. If we had, our situation would not have been as bad it is now. How many of us take public transport regularly instead of hiring a cab? If we have braved taking public transport (safety and discomfort is packaged with public transport, sadly) then we do it with monetary savings in our minds, and not out of concern for the environment. We know that vehicles are one of the major contributors to air pollution. But it will be nothing less than shocking if we have come across a family not buying a car out of concern for air pollution. The question is not about taking public transport or cars, but it is about our attitude in general towards air pollution, our lackadaisical attitude.

“ The fact is the issue of air pollution hasn’t really sunk into our minds. We have not considered it to be our problem that we need to contribute in solving it. Not many of us have taken an action for the sake of environment. If we had, our situation would not have been as bad as it is now. ”

Given the situation that we are in, one can only wonder about the role of our education system. In this regard, we can safely say that educational institutions have failed us. In spite of environmental education being a compulsory component of our education from school to college, our attitude and behaviour towards the environment has not been impacted in any way. There is so much disconnect between what our curriculum offers and what we do with it in our daily lives. It is about time we relooked our teaching methods, pedagogies and approaches. Lack of adequate and unbiased research

is another area of concern. We will recall the contradicting and conflicting results of study put out by different institutions as to what was contributing to air pollution in Delhi. Good and sound research pertaining to the problems and possible solutions is inevitable to take appropriate measures to tackle problems related to air pollution.

Last, but not the least, institutions developing new technologies must come forward to tackle the problem facing the nation. We have the best brains of our country lodged in the Indian Institutes of Technology and other such institutions. It’s anybody’s guess as to how much of their research, innovations and inventions cater to meet the needs of the people, especially the economically weaker sections, for example, developing a better chulha (stove) that will be less polluting and more energy efficient, an air purifier or a good quality mask that is affordable to the poorest of the poor. The nation expects more from them.

Air pollution is here to stay. The readings in the Air Quality Index will show improvement only when each one of us has reduced pumping our share of pollutants into the atmosphere. Whether we want to breathe to live, or breathe to die, is pretty much a choice that is in our hands, but a collective one wherein each one has to do our bit.

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geothermal, and wind.

That brings me to an important point. Nothing in nature is a pollutant unless it is used in the wrong way or in the wrong place. Natural systems reuse and recycle everything: most obviously, the carbon dioxide we breathe out is absorbed by trees, and the oxygen they release keeps us alive. I once wrote a book called 'God Doesn't do Waste'

and if you think about it, it is true. Human beings are the only species that create waste, the only species that really pollute the planet. We do so when we forget our place as part of God's creation and act as if the world was made for us, rather than to be shared by all creatures for God's glory. So, our biggest and most important step towards reducing air pollution (and our pollution of waterways, oceans and soil) is to repent of our greed and selfishness and start living as if this is actually God's world. In practical terms, that means that our economic and industrial systems must stop treating nature as simply a source of raw materials and a dump for our 'waste'. After all, in God's creation there is no such place as 'away' for us to throw things! We need to rethink our business and industrial models to imitate natural systems through biomimicry. Dr. Gnanakan's suggestion of using indoor plants to purify the atmosphere is an excellent example – instead of using chemical air-fresheners we can use plants to absorb gases that harm us and also to control our indoor temperature.

I would also want to add to the list of actions that the article suggests. Yes, we should all use indoor plants, but there are also plenty of other actions we can take: individually, as churches and communities, and by joining together in advocacy and campaigns. Starting at the personal and household level, we can reduce air pollution by using cars less. Many Indian cities (and others around the world) are

gridlocked, so we should travel wisely in terms of timing and reducing journeys. Although it may not be

so fashionable or comfortable, using public transport (where it exists!) is a statement that we care about our neighbour and God's world. Mopeds (especially electric ones) are also a lower-carbon option. In our homes we can reduce our carbon footprint through turning off lights, fans and AC units

whenever possible, and not leaving TVs and computers on standby. We can also choose to use eco-friendly products for washing and cleaning, as these don't release damaging chemicals into the air or the water.

As churches we can work to green our local communities through tree-planting (which will dramatically reduce air pollution and cool the air), and through clean-up campaigns.

Air pollution is linked to litter and plastic pollution through legitimising careless attitudes, so if churches campaign against single-use plastics and have clean-up campaigns locally they will help reduce all pollutants.

Finally, we can join in with campaigns to put pressure on industry and government to improve legislation and enforcement regarding air pollution and other pollutants. As Christians, we should be prepared to make

alliances with secular and other faith groups if the aim is clear and simple. After all, we are told to seek and pray for God's kingdom to come 'on earth as in heaven', and we can be sure that God's kingdom is not about pollution, ill health and early death, but about justice, peace and the flourishing of all creation.

(Rev. Dave Bookless is Director of Theology for A Rocha International (www.arocha.org). He was born in Kolkata, later lived in Bangalore, and now lives in Southall, London. He writes and speaks extensively on issues around creation care and mission. He can be reached at dave.bookless@arocha.org)

// Human beings are the only species that create waste, the only species that really pollute the planet. We do so when we forget our place as part of God's creation and act as if the world was made for us, rather than to be shared by all creatures for God's glory. //



Photo: www.pixabay.com

WORLD



FACT

A World Health Organisation report states that 9 out of 10 people in the world breathe polluted air.

Air pollution is one of the UK's (and the world's) biggest killers. Breathing in polluted air cause various diseases.

Global cost of air pollution is **US\$225 billion annually** according to the World Bank

Air pollution kills

70 lakh

people every year

Children are most vulnerable to air pollution as it damages their lung development.

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According to WHO mortality data of 2012, Outdoor air pollution-caused deaths - breakdown by disease:

- 40% - ischaemic heart disease;
- 40% - stroke;
- 11% - chronic obstructive pulmonary disease (COPD);
- 6% - lung cancer; and
- 3% - acute lower respiratory infections in children.



Air pollution in India is estimated to cause 5,27,700 deaths every year.

2/3 of India's population still live in rural areas, and 30% of these households rely on biomass like wood and dung for cooking and heating which is one of the main sources of air pollution.

Nearly 3/4 of Indian cities have particulate matter (PM) levels exceeding permissible standards affecting the health of lakhs of people across the country

India has **11**
14 out of the 15
most polluted cities in the world in terms of PM 2.5 concentrations

Indoor air pollution-caused deaths - breakdown by disease:

- 34% - stroke;
- 26% - ischaemic heart disease;
- 22% - COPD;
- 12% - acute lower respiratory infections in children; and
- 6% - lung cancer.

Sources:

<https://timesofindia.indiatimes.com/India/India-tops-world-in-bad-air-quality-kanpur-delhi-among-top-15-mumbai-4th-most-polluted-megacity/articleshow/63997130.cms>

<http://www.who.int/mediacentre/news/releases/2014/air-pollution/en/>

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The Gift of Clean Air

Ms. Hoinu Kipgen

In 2015, Delhi notoriously became the most polluted city in the world. Various newspapers highlighted this issue, citing doctors' orders to patients to "*Leave Delhi*" in the wake of the alarming air pollution levels. Three years on, Delhi seems to have made some progress, with an improved ranking of 11th most polluted city in the world. In November 2017, pollution level in the city was almost 30 times the safe limits (prescribed by the WHO), with concentration of PM 2.5 particles topping 700 microgram per meter³ (anything above 300 is hazardous). This phenomenon is not unique to Delhi alone, as several Indian cities like Patna, Gwalior, Varanasi, Vadodara, Surat, Allahabad, Lucknow and Raipur figure in the top 20 most polluted cities of the world. Critics suggest that the change in Delhi's ranking could be due to the inclusion of more cities in the analysis, from 1500 in 2014 to 3000 in 2016.

Despite this alarming situation, little has been done to improve air quality. Why is there apathy when it comes to air pollution, even though it affects us all? How should our faith influence the way we think about air quality and the problems associated with it?

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Clean air: God's gift for all

Clean air is vital for life, and is a central part of God's creation. We see the abundance of God's creation in Genesis 1, which also shows peace and harmony in creation.

In Genesis 1, we see that God brought forth life and was pleased with his creation (Genesis 1: 10). Further, in the chapter (Genesis 1:18, 21, 25, 31), we see how God sees the goodness of His creation. Human beings, created in the Image of God are part of God's good creation (Genesis 1:27-29). In Genesis 2:15, "*The Lord God took the man and put him in the Garden of Eden to work it and to take care of it,*" the word translated as work is 'Abad', which means 'to serve' and the word translated as 'take care of' is 'Shamar', which means 'to keep, guard, protect.' In Genesis 1:28, God blesses humanity, and entrusts us to care for His creation. These verses indicate that we have been given the responsibility to keep, guard, protect and serve God's good creation, which

„ Why is there apathy when it comes to air pollution, even though it affects us all? How **should our faith influence the way** we think about air quality and the problems associated with it? „



Photo: www.pixabay.com

includes the air we breathe.

Clean air under threat: What we have done with God's gift?

We love receiving gifts, and often treasure those given by people who are special to us. However, what have we done with God's gift of clean air? Clean air is essential for life (we

breathe in at least 11,000 litres of air per day). At the same time that we inhale life-sustaining oxygen, we also breathe in the by-products of our lifestyle choices - car fumes, fine particulate waste from industrial pollution, building sites etc. For instance, in cities like Delhi, car emission is one of the main causes of air pollution yet reports suggest that at least 1800 new cars¹ are added to the city every day.² To make matters worse, diesel cars which emit air that is far more noxious is preferred over petrol car due to the low

¹ Delhi registered about 681275 vehicles in 2016-17, which is approximately 1800 per day

² Statistics - Total Vehicles registered in Delhi (2016-17). (n.d.). Retrieved April 19, 2018, from http://delhi.gov.in/wps/wcm/connect/doi_transport/Transport/Home/Statistics

cost associated with running it. In our desire for short-term benefit, we have failed to protect the environment and our well-being.

We have also ruthlessly destroyed forests, which act as sinks in regulating air quality. This shows the delicate balance that of nature and our misdeed in one sector affects all other sectors. In Isaiah 24:4-6, we see how man's disobedience to obey God's commandments and statutes affects creation. The present condition of air quality is indicative of our carelessness, greed and selfishness. We have ruthlessly used and abused the environment without considering the consequence of our actions. We often read Genesis 1:28, to mean subdue and have dominion over everything on earth and ruling ruthlessly, and fail to obey the call to be faithful stewards. John Stott calls our dominion as 'cooperative dominion', which should be seen as a delegated responsible, with the intention to express the same sustaining care of the environment as its Creator. The earth "belongs" to us, not because we made or own it, but because its Maker has entrusted its care to us.³ Far from exploiting, we are called to be good stewards who are accountable to God and to others - we do not have the liberty to do as we please.

Caring for creation is part of loving God and loving our neighbours

Air pollution affects everyone, but its impacts are not homogenous. The outcomes of our lifestyle choices have severe impacts on the health of millions, particularly children, the elderly and the poor. Air pollution is the fourth highest risk factor for death globally, having caused 65 lakh deaths (90% in low and middle income countries), and even affecting babies in the womb.⁴ The poor who live on the margins of society with little economic security, live and work in areas of high pollution and have limited capacity to cope with the challenges imposed by air pollution. The rise in

// We have ruthlessly used and abused the environment without considering the consequence of our actions. We often read Genesis 1:28, to mean subdue and dominion over everything on earth and ruling ruthlessly, and fail to obey the call to be faithful stewards. //

real estate developments has relegated these construction sites to become extremely polluted and a major source of pollutants. However the poor working in these sites are exposed to many health risks owing to the lack of appropriate gear. A study conducted in 19 construction sites in Delhi, found that these sites emit as much as 4000 tonnes of dust every day, making pollution at these sites 3 times higher than the permitted limit resulting in 58% of workers suffering from respiratory problems.⁵

These facts above highlight the impact of our actions on us and particularly on the most vulnerable in society. So, what does this present scenario entail for us? Our present condition should enable us to respond in two ways – as seen in Matthew 22:36-39

- **Loving God and loving His creation:** God loves



Photo: www.pixabay.com

His creation, and thereby our love for God should be reflected in the way we care for His creation. We often limit God's love and salvation in John 3:16 to human beings alone while the original texts meant it for the whole world (cosmos). Our love for God would entail living in right relationship and caring for His creation.

⁴ UNICEF(2017), Danger in the air. Also available at https://www.unicef.org/environment/files/Danger_in_the_Air.pdf

⁵ Ravinder Singh et al (2014) Impact of Air quality on Human health in the vicinity of construction sites in Delhi-NCR, Int. Journal of Engineering Research and Applications Vol. 4, Issue 8(Version 4), pp.18-26 (Accessed 18 April 2018) Also available at http://www.ijera.com/papers/Vol4_issue8/Version%204/C48041826.pdf

If we proclaim to love God, we should love the things He loves, and that includes people and all of His creation.

▪ **Loving our neighbours:**

The command 'to love our neighbours' is a good starting point for Christians to respond to the degrading air quality and its

implications. This command encompasses the call to not only care about our neighbours' spiritual welfare, but their physical and material needs. Scholars suggest the need to redefine the scope of the term 'neighbours' to include those across time (future generations) and space (those living in distant location) who are and will be affected by our current actions.⁶

“ Thus, protecting, caring and preserving our shared environment will bless our neighbours. We need to ask ourselves ‘what kind of a world are we leaving behind for our future generations?’ Our current actions have made the air we breathe to be a curse instead of a blessing intended by God. ”

Thus, protecting, caring and preserving our shared environment will bless our neighbours. We need to ask ourselves ‘what kind of a world are we leaving behind for our future generations?’ Our current actions have made the air we breathe to be a curse instead of a blessing intended by God. Further, it will have repercussions on future generations – whether we leave them a healthy world or an

unhealthy one. A Kenyan proverb reminds us of our role to, “*Treat the earth well, it was not given to you by your parents, it was loaned to you by your children.*”

J. Matthew Sleeth aptly applies the parable of the Good Samaritan (Luke 10:25-37)⁷ to illustrate our present ecological crisis, saying that the priest represents those who refuse to take any responsibility for our environmental problems; we close our eyes and walk by. The Levites, like most of us, see the problem and think we must ‘get back’ to Jerusalem and raise awareness, maybe talk or blog about it. Like the Levites, we see the hardship caused, particularly on the poor. Our hearts are moved to compassion, but we do little, if anything, to help. Only the Samaritan, the one who is least likely to view the mugged man as his neighbour, takes action. To have lasting effect, our hearts must be moved by compassion and it may be dangerous, inconvenient, expensive and we may be ridiculed. Most importantly, our ecological crisis will not change by good intentions alone - it will be made better or worse only by our actions.

So, in conclusion, should we ‘*Leave our Delhis*’ like the newspaper suggested or should we show our love for God and His creation by doing something to improve air quality in our present locations? Can we reclaim our cities or our homes that have become gas chambers? The onus lies with us – to ignore and carry on or to take actions to reduce our contribution to air quality. We can equip ourselves with information, advocate for those most affected, and lastly commit to live a lifestyle that reflects care and love for God’s gift.



Photo: www.pixabay.com

⁶ Spencer, N., Vrobley, V., & White, R. (2009). Christianity, climate change, and sustainable living. Peabody, MA: Baker academic

⁷ The Green Bible: NRSV New Revised Standard Version (2008). San Francisco, CA: HarperOne.

⁶ Spencer, N., Vrobley, V., & White, R. (2009). Christianity, climate change, and sustainable living. Peabody, MA: Baker academic

⁷ The Green Bible: NRSV New Revised Standard Version (2008). San Francisco, CA: HarperOne.

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Coping with Air Pollution

Mr. James Ray Jena

Pollution refers to the contamination of the earth's environment with materials that interfere with human health, quality of life or the natural functioning of the ecosystems. Urban India has been listed among the world's most polluted places. Reports on air pollution often focus on urban areas, with little mention of air quality in rural areas. Even when it comes to measuring and monitoring pollution level, the focus remains on cities. This might suggest that air pollution is an urban problem - car fumes, industries, construction sites, etc. However, in reality, rural India is not devoid of pollution. Even though pollution in rural areas might not be as alarming as urban areas, various agricultural practices, deforestation, soil erosion and reliance on smoky biomass fuels for cooking has contributed to air pollution in rural areas. Various reports suggest the impact of pollution on crops and on human health, particularly indoor air pollution.



Photo: EFICOR

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“ ...pollution in rural areas might not be as alarming as urban areas, various agricultural practices, deforestation, soil erosion and reliance on smoky biomass fuels for cooking has contributed to air pollution in rural areas. ”

In 2014, we moved to Barela in Madhya Pradesh to start a Sustainable Livelihood Project among the Barela tribes in Pati and Barwani block. The is one of the most backward tribes in the state, who bear the brunt of corruption and injustice. The community reside in forests and hills, and depend largely on agriculture and forest products, and daily wage work. For decades, the community has practiced shifting cultivation - and in the process destroyed the forest cover. When we entered the area for the first time, we recognised the barrenness and dryness of the area. This lack of vegetation results in large scale erosion during the monsoons while increasing the incidence of dust storms in summer. All these factors affect temperature - hot and dry weather, making it difficult to breathe especially in summer.

In our intervention, we realised the importance of raising these issues to the community - in the VDCs (Village Development Committees), Farmers group, Self Help Groups, Youth, and the Gram Sabha. We encouraged the community to plant trees and raised awareness on the impacts of climate change and pollution. In addition, we have encouraged the community to plant fruit saplings, and provided them with the same. The VDCs realised the potential of planting trees to help them cope with climate change, hence raised the issue in the Gram Sabha and applied for saplings to the Forest department. Overall, 18000 Teak, Indian rosewood (Sheesham), Bamboo and Indian gooseberry (Amla) saplings were planted in Dervaliya and Pospur village. The community continues to care for these saplings, which is an encouraging sign. In addition, we also helped BPL (Below Poverty Line) households to access liquefied petroleum gas connections under the Pradhan Mantri Ujjwala Yojana - which will help in reducing indoor air pollution. These small efforts will go a long way in enhancing the green cover and help in reducing air pollution (ambient and indoor) in our operational areas.

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Church Initiatives to Care for Creation

Mr. Thangmang Doungel

Over the years, the concern for climate change has increased, not just in the scientific community alone but even in the general public. It is no longer just an environmental issue as it continues to challenge the economies and survival of communities and nations. The recent World bank report “Groundswell – Preparing for Internal Climate Migration,” forecasted that “the worsening impacts of climate change in three densely populated regions of the world could see over 140 million people move within their countries’ borders by 2050, creating a looming humanitarian crisis and threatening the development process.”

In the last 130 years, the world has warmed by approximately 0.85°C. Each of the last three decades has been successively warmer than any preceding decade since 1850. The

IPCC (Intergovernmental Panel on Climate Change) confirms that the main reason for these changes is anthropogenic, mainly due to human activities. Air pollution, an alarming environmental concern, has contributed to more than six million deaths worldwide in 2017 and has played a huge role in increasing various health risks.

In order to address these environmental issues, EFICOR has been involved in enabling communities to adapt to these changes through climate change adaptation activities in their project locations and through trainings. EFICOR’s projects in Rajasthan and Bundelkhand region (Madhya Pradesh and Uttar Pradesh) focus on climate change adaptations; training the farmers on different adaptation methods, building water harvesting structures, land treatments, etc. On the other hand, EFICOR’s training and mobilisation department conduct workshops and awareness programmes in churches, universities and communities to highlight the biblical basis for caring for creation and enabling them to respond on these issues.

As a result of these initiatives, Churches and Christian organisations in India have begun to respond, albeit slowly, in caring for the environment. In many of our workshops,

attitudinal change is visible as participants share their testimonies and learnings at the end of the session. Many of those trained, commit to share their new learnings, to use resources (energy, water, etc.) judiciously and to take steps not to pollute the environment further by using harmful products like plastic, thermocol etc.

Some of the ways in which churches are making a difference are highlighted below -

“ In the last 130 years, the world has warmed by approximately 0.85°C. Each of the last three decades has been successively warmer than any preceding decade since 1850. ”

In 2017, the Eternal Faith Ministry Church in Faridabad (UP) was trained on creation care. This inspired the church to decide to stop using disposables and plastics in any of their church events. The Pastor,

Sunil Archana Barik, highlighted the impact of the training saying, “After understanding the consequences of plastic on the environment, we made a decision not to purchase or use disposable plastics (plates and cups) for any church event.” In addition, Pastor Sunil continues to mobilise youths in the locality for a plantation drive during the monsoons and also created awareness in the locality about the importance of plantation.

The Association of Good Shepherd Mission (AGSM), an organisation based in Orissa, works with a vision, ‘to restore human beings and creation to its perfection.’ The organisation has mobilised the community in Maliguda village (Koraput district) to restore the village forest. The mission raised the community’s awareness on forest degradation and helped them in planting trees in the barren land which was once a forested area. They have not only planted over 10,000 saplings, but have also nurtured and cared for the sapling to ensure that they survived. This venture proved to be an advantage not only for the environment, but is also a source of happiness and recreation for the villagers. The community committed to never rampantly cut trees or leave the land barren but to

continue planting wherever barren. Today, these plants not only improve the green cover of the village, but also helps in restoring the biodiversity in the area to a large extent. This venture was encouraging for the mission, as indicated by the Director, Mrs. Pani, “Indeed, it was a great challenge to educate the people and encourage them to plant trees instead of cutting them. But through perseverance, God made it possible and it worked out.”

Another church in Delhi, Deeper Life Fellowship, has mobilised the local community in the slum to find spaces to plant trees. In a city like Delhi, which has limited space available, each household in the community committed to plant at least one sapling in and around their homes, and took the responsibility to care for these trees. At a time when Delhi continues to be one of the most polluted cities in the world, this small initiative by the church is highly commendable. After attending the creation care workshop, the Manipur Baptist church realised the need for developing their own environmental policy - for them and their association churches. The main mandate was to bring environmental consciousness in the congregation and encourage them to care for God’s creation. This policy covers all important aspects of the environment and envisages the potential in equipping churches and associations in performing their duty to care for creation as faithful stewards. Among other important directions, the policy highlights the need to observe Green (Eco) Sunday once a year in June, to incorporate creation care in the Sunday school syllabus, while including sections on the importance of protecting community reserve forest, guidelines and measures to control hunting, fishing and managing waste etc. MBC in partnership with its associations also conducted workshops and awareness programmes on the issue of Creation Care in different parts of the states. In one such workshop at the Japhou Baptist Church in Chandel, the church leaders and village authority formed the Chakpi River Protection Committee, with the mandate to protect the environment by stopping people from hunting during the breeding season, promoting the usage of resources judiciously and to manage waste.

The Dimapur Ao Baptist Arogo youth group has taken the issue of caring for the environment to another level. The youth group has proactively taken steps to generate awareness and bring changes in the community’s actions. Their actions are not limited to planting trees and caring for trees planted, but they also volunteered to clean drainage systems, installed dustbins in public places to discourage throwing of garbage in open places.

The group has innovatively highlighted the issue of waste by finding ways to reuse waste. As stated by one of the youth leaders - “We are trying to make the best use of the waste (such as waste clothes, paper, plastics, etc.) we generate

daily, by organising special youth events on creating fashionable items from wastes, modeling and making these items to attract people.”

In addition, the group initiated a “Walkathon and cyclothon”, to encourage physical fitness. They also visited government run schools and conducted awareness programmes for children using streetplays and pamphlets to create awareness in children and among the public on environmental issues. These activities are crucial in developing in us an attitude to follow the principles of protection and conservation.



Photo: www.pixabay.com

Conclusion:

The above stories of involvement highlight some of the ways in which the church has been involved in caring for environmental issues. Since environmental disaster is no more a distant threat - something that is with us, that will stay with us, and that will endanger our future generation, the Church has a higher calling to restore our already fragile environment. Often discussions on this issue highlight the responsibility and inaction of the government to ensure a better environment and a cleaner air to breathe, however, in reality the government alone is not responsible, but each citizen has the responsibility and can take small or big measures to combat this issue. Communities, churches and faith-based organisations can play a substantial role in enabling their constituencies to be involved in caring for creation - in big or small ways.

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Fair Weather

Weather insurance can play an important role in hazard reduction given that India is primarily a rainfed agrarian economy.

In a predominantly rainfed agriculture, weather or rainfall insurance can substantially reduce the risks of farmers from hazards like drought and flood. Sajjata Sangh, a network of 28 NGOs in Gujarat, introduced the rainfall insurance in the state in 2006. Sajjata Sangh conducted a study in 2006 on probable ways to provide some insurance to farmers against crop losses because of weather uncertainties. Rainfall insurance emerged as the most viable and needed option. The aim of promoting rainfall insurance was to enhance the capacity and resilience of the farmers, especially of small and marginal farmers, to cope with the externalities by insuring against the deviation in time and amount of rainfall required for a particular crop.

THE OBJECTIVES OF THE PROJECT ARE

- To make farmers, particularly small and marginal farmers aware about the concept and benefits of Rainfall Insurance.
- To raise confidence of farmers on Rainfall Insurance as an effective cover to help mitigate their perceived risks of crop loss due to rainfall deficiency.
- To dialogue with Government to launch extensive promotional campaigns to popularise the concept and benefit to the farmers.

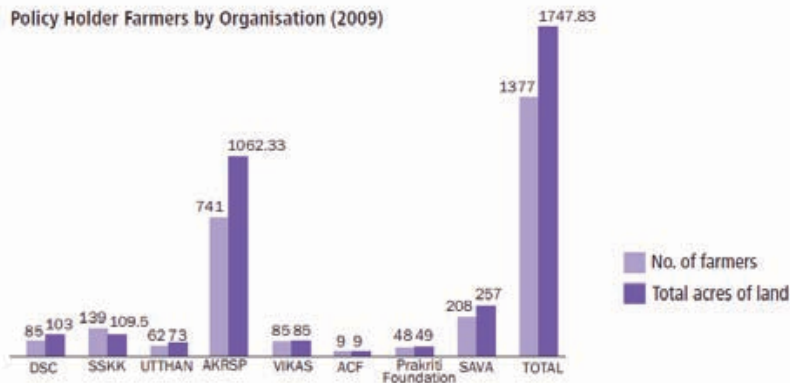
WEATHER REPORT

Under the initiatives, various weather insurance product designs for different locations were circulated among the members of the Sajjata Sangh. They in turn discussed the product designs with farmers in their working areas. Based on the feedback from the field, Sajjata Sangh along with technical experts hired by them developed specific products for different areas. Then this product design is forwarded to the agriculture insurance company's office in Delhi. Here the insurance company modifies the same based on their rainfall database and comes up with the final product. The final product is sent to the Sajjata Sangh and is circulated to the network partners who carry out the promotional campaign for the policy in their operational areas. Members of the Sajjata Sangh are responsible for promotional strategy planning, promoting and popularising the scheme, undertaking the required paperwork for application and premium collection from the farmers in their operational areas. Also, from time to time, they provide consultation

to the farmers regarding the rainfall insurance policy. Sajjata Sangh's role in this programme is to coordinate with Agriculture Insurance Company (AIC) for product development, chalk out the promotional measures in consultation with the partner organisations and provide inputs in their implementation and share the experiences in workshops with farmers and network partners. Promotional activities differ from area to area based on the strategy planned by the network partner in their respective areas. Meetings at the block level and village level are held to explain the policy to the farmer and clear his/her doubts regarding the same. A documentary film has been developed by Sajjata Sangh addressing the major questions of the farmers regarding rainfall insurance which has been very effective. And before June 20 every year, the premium collection is done by the network partners. After the crop period based on the rainfall data collected by agriculture insurance company, the payoffs are calculated and the cheques are distributed to the farmers.

Saurashtra Volunteer Action (SAVA), a Jamnagar-based organization and a member of Sajjata Sangh, implemented the rainfall insurance scheme in its pilot phase in 10 villages of Kalyampur and Khambhaliya blocks in 2006 and in 24 villages of Kalayanpur, Jamjodhpur and Khambhaliya blocks of Jamnagar district in 2007. In 2008, the scheme was extended to Amreli district. Development Support Centre (DSC), another member of the network, promoted the scheme in Amreli district. Other partner organizations - Sikshaane Samaj Kalyan Kendra (SSK) and Utthan – also initiated the scheme in other blocks of the district.

Policy Holder Farmers by Organisation (2009)



Graph for farmers covered along with land covered

ROUGH WEATHER

The programme has faced major challenges since its inception. One such challenge is delay in the product development. For example, the final policy product for groundnut came in the end of April 2008 and for cotton in mid-May. Due to this, there was very less time available for popularising the insurance scheme and this brought down the total number of farmers covered by insurance.

Coverage of the Rainfall Insurance Scheme (2009)

Taluka (District) Partner	Federation/ Producer Company	Facilitating Organisations	Crops
Dhari (Amreli)	Dhari Krushak Producer Company Private Limited	Development Support Centre	Cotton & Groundnut
Khamba (Amreli)	Avirat Agro Producer Company	Siksha ane Samaj Kalyan Kendra (SSKK)	Cotton & Groundnut
Rajula (Amreli)	Mahila Vikas Sangh	UTTHAN	Cotton & Groundnut
Sayla & Chotila (Surendranagar)	Panchal Gram Vikas Sangh	Aga Khan Rural Support Programme	Cotton
Maliya & Mangrol (Junagadh)	Panchal Gram Vikas Sangh	Aga Khan Rural Support Programme	Groundnut
Kodinar	Balram Kishan Juth	Ambuja Cement Foundation (ACF)	Groundnut
Jhalod & Fatepura (Dahod)	SHG Federations, Watershed Associations	Prakriti Foundation	Maize
Talaja & Ghogha (Bhavnagar)	SHG Federation	UTTHAN	Cotton & Groundnut
Dediapada & Sagbara (Narmada)	SHGs	Aga Khan Rural Support Programme	Cotton
Jamsbusar, Amod & Vagara (Bharuch)	Farmer Federations	VIKAS Centre for Development	Cotton

Table: Coverage of the insurance scheme.

Secondly, another challenge is the dependence of the agriculture insurance company on Indian Meteorological Department (IMD) stations for rainfall data. There are 16 IMD stations in Gujarat. In many cases, the distance of the field was about 100 Km from the nearest IMD station that definitely did not indicate the right rainfall data. The area where IMD station is located might have received good rainfall but the fields far away might not have. However, later on with constant discussions with AIC this challenge was overcome. The AIC agreed to consider the data of rain gauge stations of other government departments in the area. Other major issue is of higher premium rates of the product. This restricts the small and marginal farmers from taking this policy. The premium rates for crop specific and area specific products differ quite a lot. For example, in Mangrol block of Junagadh district the premium rate for groundnut was 7.64 percent while the same in Khambalia block of Jamnagar district was 28.46 percent. It becomes difficult to promote policy at such high premium rates. Farmers ask for subsidy in the premiums. Providing subsidy, on the other hand, depends on the capacity of the network partner organisation. Many partner organisations have finally provided subsidies on premiums.

Another challenge is to come up with the right approach for implementation of this programme. Some people think that this should be taken as a commercial product and marketed properly so as to increase the number of policy holders. Some say that consideration for local capacity to pay premium must take precedence and subsidy should be given. Despite subsidies, the small and marginal farmers cannot afford to pay the premium. The reason being that premium is to be paid when he has to pay for the inputs for the crop and hence even if it is reduced, for a farmer with 2-3 acres of land it is unaffordable. Rainfall insurance scheme will be beneficial for the farmers of Gujarat if this programme is up scaled. For this the government needs to step in and take some initiative. Also, in case of high premiums all the NGOs are not capable of providing subsidy to the farmers and those who are providing it cannot continue forever. Hence, Government's initiative is needed. Risks, other than uncertainty in rainfall, should also be considered and capacity building of farmers needs to be done to fight the risks.

(Adapted from the book 'Turning the Tide: Good Practices in Community Based Disaster Risk Reduction', published by EFICOR and Sphere India, 2010, pp. 124-127)

Books on our Desk

Low-Carbon and Loving It

By Mark & Tom Delaney

First published by the authors in 2018, Pages 240

Mr. George Samte

The father-son duo of Mark and Tom Delaney have come up with a book that is truly a product of our times. Climate change is a hotly debated topic worldwide today. This book aims to debunk many myths about climate change, focusing on the imminent dangers arising from it and the need (and ways) to adopt corrective measures immediately to prevent an ecological disaster. Their palpable concern for the environment, arising partly from the contrast between how the “Western” (or developed) countries abuse the resources at their disposal compared with developing countries like India, along with their first-hand experiences of both worlds gives them a unique perspective in commenting on the topic of sustainable lifestyles. Hailing from Australia, Mark Delaney, while pursuing law, realised the undue privilege he had simply by virtue of being born in a developed country. As a person who held the likes of Gandhi, Mother Teresa, Martin Luther King and Jesus as role models, Mark could not ignore the call to do more for society. Consequently, he shifted to India at the age of 28 in 1995 with his wife Cathy to carry out a “more direct path” to respond to the needs of the world. After spending 19 years in India, during which their children – Tom and Oscar were born – they returned to Australia. The Delaneys were shocked to see “a disturbing lack of concern about climate change” in their own country, where the citizens have one of the highest average carbon footprints in the world. This prompted them to write a book on the reality of climate change and the practical ways to reduce one’s carbon footprint, gleaned from their life in the slums of Delhi, India.

Every human activity produces carbon emissions, whether directly through burning fossil fuels or indirectly by eating meat (emissions from livestock and their feed) among other things. A “Low Carbon” lifestyle involves identifying the areas in our daily activities which cause high emissions and reducing or replacing them with less polluting alternatives (eg. taking a train journey instead of a flight).

Mark starts the book by telling us about the motivation to start this journey. The book then explains the science



behind climate change, backed by solid facts and figures to give a compelling argument to the reality of global warming, the irreversible changes already taking place and its fatal consequences. They found that an average Australian emits 10 times more carbon than a slum-dweller in India, and studying the social and psychological causes for the inertia against a low carbon lifestyle, they identified few reasons – consumerism, putting the responsibility/ blame on institutions and corporations and the belief that individual effort is futile. The latter part of the book compiles various steps and solutions which can be taken at both the national

level and the individual level to combat climate change. While solutions at the national level may involve policy changes (investing in renewable energy resources, commitment to international climate change agreements, carbon taxes), at the personal level, many of the lifestyle changes proposed seem practical, sensible and, most importantly, doable (reducing meat consumption, reusing or recycling items, using public transport etc.). Each chapter closes with a few thought-provoking questions as well as references, lending a familiar textbook feel to the book – indeed, it would fit nicely into any respectable school library. There is also a rich appendix, providing further references for research as well as a small quiz to test the reader’s understanding of the concepts in the book.

The idealistic tone of Mark Delaney is nicely balanced by the pragmatic and scholarly treatment of his son Tom to bring forth a very readable book, concise enough to even hold the attention of today’s generation, for whom this volume is truly apt. The Delaneys truly seem to practice what they preach – they proactively pursue a minimally-polluting lifestyle and they are “loving it”. Though we may not be able to match their enthusiasm, we can surely try to emulate some of their habits. Their hope is that we may find it a fulfilling exercise, a healthier alternative and maybe even fun.

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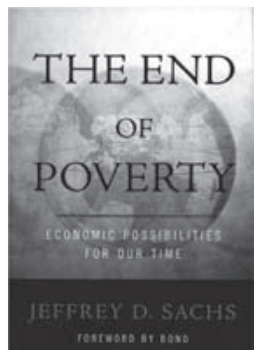
* The book is available on-line (Google 'Low Carbon and Loving It'), or from EFICOR at a discounted rate of Rs. 250 for Drisktikone readers. To order copies, e-mail: thangmang@eficor.org

The End of Poverty

By Jeffrey D. Sachs,

Publisher Penguin Books, New York, 2006, Pages 396

Mrs. Joan Lalromawi



The book by Jeffrey Sachs is about ending poverty in time. But it is not a forecast. Currently more than 8 million people die each year due to poverty. Equality is a very big idea, connected to freedom, an idea that doesn't come for free. We can choose to shift this responsibility, or, we can choose to shift the paradigm. The book is a handbook on how we could finish the job of cutting poverty by half. Sachs says our generation can choose to end extreme

poverty by 2025. He said economic development works. It can be successful but it must get started.

Our generation's challenge is to help the poorest of the poor escape the misery of extreme poverty so that they may begin their own ascent up the ladder of economic development. The development ladder hovers overhead, and the poorest of the poor are stuck beneath it. They lack the minimum amount of capital necessary to get a foothold, and therefore need a boost up to the first rung. The end of poverty, in this sense, is not only the end of extreme suffering but also the beginning of economic progress.

Sachs mentions the 'Big Plan' for development, the solutions rightly focusing on integrated activities on multiple fronts in the battle against poverty. Ending global poverty by 2025 will require concerted actions by the rich countries as well as the poor. The poor countries must take ending poverty seriously, and will have to devote a greater share of their national resources to cutting poverty rather than to war, corruption, and political infighting. He says that the end of poverty lies in the hands of each individual as we pledge to do justice in a world of poverty and hunger.

Though the book was published before the Sustainable Development Goals were laid out, it still provides an essential read as it provides a base for those seriously concerned about international development and the importance of the role of rich countries in this process.

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Good News and Bad News

Published by Centre for Science & Environment, First Edition (2014), Pages 262

Ms. Margaret C. Samte

The book delivers an interesting account and perspective on air pollution and transport in India. It opens with an account of the general dismal air and environmental conditions of the urban cities in India, and contributing factors such as the increase of individual motor vehicles like cars and two-wheelers, apart from public transport.

One of the main aspects of the book is the detailed study of public transport facilities in Indian cities and even small towns. There is an in-depth view of public transport services ranging from the private BlueLine buses of 1992 to the recent Bus Rapid Transit (BRT) corridors introduced in Delhi in 2011, to the suburban rail system of Mumbai, and the introduction of JNNURM buses in Kolkata, among other cities.

It also focuses on the challenges faced by pedestrians and cyclists in public space for walking and cycling. The book also reveals the implications as well as necessity of employing other modes of transport such as auto rickshaws and taxi services, categorised as intermediate public transport (IPT). Each and every government policy dealing with public transport and road facilities has been discussed and the book provides the achievements and the failures of targets. The book addresses many issues faced in implementation of public policies and government initiatives, and unlike most textbooks, solutions and suggestions are provided at the end of most chapters. The text also throws light on the fiscal aspect of controlling air pollution and measures taken by the government, such as the imposition of vehicle and fuel tax, bus taxes and green tax.

The book is a well-researched compilation of studies which helps to understand better the air and environmental conditions that plague the cities in the country. It can be concluded that this book will be an indispensable volume for students, researchers, educationists and development workers.

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Building a Self-reliant Community

Pastor Hengam Kipgen

The Deeper Life Ministry Church was established in 2006 at Gokalpuri in New Delhi. The vision and mission of the church was to reach the unreached through acts of love demonstrated with a genuine concern for those in need.

A thorough understanding and conviction of the wholistic mission which is grounded in Scripture motivated the church to put its belief into practice through many avenues of work among the communities in Gokalpuri and Amar Colony in East Delhi area and the NCR (National Capital Region). It was after attending EFICOR's Parivartan training that the Pastor became fully convinced of doing good work for the community.

Based on the need assessment survey, various programmes were introduced to the community. Initially, there were several problems such as language barrier for the community to accept them. Gradually, the community began to accept them seeing the genuineness of their work and their dedication. The elders and Pastor have compassion for many poor children in the neighbourhood who did not attend school. Therefore, they started setting up a non-formal education for the children in 2010. They began educating many poor children who could not afford the school fees. Tuition centres were also set up to help the school going children in their studies. The primary aim of these efforts was to help the poor and needy children to have access to education.

Besides education, the church is engaged in several other programmes like formation of Self Help Groups among the women's group. As a result of this, many women like Shanti¹ were able to gain self-confidence and became an inspiration for the other women in the community.

This case study is one of the many real life stories which the DLM Church has made to the individual lives of the communities in Gokalpuri. Many widows, the aged and the differently-abled were able to get their rightful benefits from the Government. Many of the youth were also trained on basic English communication skills and some were also given vocational skill training so that they could be employed somewhere. Awareness on various social issues such as domestic violence, human trafficking, children at risk and climate change were given to the communities to sensitise them to these crucial issues.

¹ Name Changed

Shanti's story:

Shanti had attended EFICOR's Training Programme called the Parivartan programme (community and church working together for their own development) in the year 2015. Since then, she has regularly attended all the other skill development programmes offered by EFICOR. She recalls many difficult days due to the financial crisis, but testifies that her perspectives have changed since the time she has attended the Parivartan training. She was able to form a SHG with the help of the Training Facilitators. She started embroidery work with the other women and was soon able to save some money to be able to take care of the family needs to some extent. The group members earned Rs. 160 per week and motivated the others also to join them. With the little income that she earns from the embroidery work, she could purchase some of the essential household needs and pay the children's school fees. Once a shy woman unwilling to talk to others, she is now a confident and self-reliant woman.

Indeed, the EFICOR's Parivartan training programme has made a significant impact in Shanti's life. This in turn has positively contributed to the family's need. In addition, her husband started a piggery shed, and she eventually received a diploma in embroidery. All these changes have resulted in Shanti receiving respect within the family. She has also played an instrumental role in encouraging and challenging other women to become confident of themselves and in turn become an inspiration for others.

The work of the Deeper Life Ministry church has therefore created an impact which is not manifested in terms of large numbers, but it has significantly impacted many individual lives in different ways. The church does not have any infrastructure like a church building, but the communities could recognise them as a church because of their work and their dedication. The DLM church believes that every church should have a deep conviction on social concern but without any compromise on the sanctity of the church. It should take it as an integral part of its mission to help the poor.

(Pastor Hengam Kipgen is the Pastor of the Deeper Life Ministry in Gokalpuri, New Delhi. He can be reached at hengamk@gmail.com)

Creation instructs us on Air Pollution

Rev. Kennedy Dhanabalan

Introduction:

With 2.51 million deaths in 2015, India has been ranked No. 1 in pollution related deaths, according to a report by The Lancet Commission on Pollution and Health. India accounted for about 28 percent of an estimated nine million pollution linked deaths worldwide in 2015. Among them 1.1 million deaths are due to air pollution.



I. Creation story and air pollution

A study by Olivia V. Sanderfoot and Tracey Holloway on the effects of air pollution on the avian species since 1950, finds consistent evidence for adverse health impacts on birds such as respiratory distress and illness, increased detoxification effort, elevated stress levels, immunosuppression, behavioural changes, and impaired reproductive success attributable to exposure to gas-phase and particulate air pollutants. Exposure to air pollution may furthermore reduce population density, species diversity, and species richness in bird communities.

Questions for discussion

In Genesis 1: 26 God gave human beings dominion over the fish of the sea and over the birds of the heavens and over the livestock and over all the earth and over every creeping thing that creeps on the earth. Consider the word "Dominion" with the passage in Deuteronomy 17: 16 – 20 and Psalm 72.

- How was the King expected to rule?
- In the context of air pollution, how are human beings supposed to act as good stewards in caring for the avian population and simultaneously coexist harmoniously.

II. Significance of trees in the face of air pollution

Isaiah employs figurative language in describing nature. In Isaiah 55:12, the trees are clapping and rejoicing along with the people for the happier times gone by. Similarly, a poetic expression in Isaiah 14:8 reveals the trees rejoicing because the woodcutters do not come against them.

Questions for discussion

- Read Isaiah 14: 3 -8. What causes the trees to rejoice? (The king could no longer cut it down to build his palaces, or to construct his weapons of war).

- A study by US-based The Nature Conservancy (TNC) reported that the average reduction of particulate matter (microscopic particles that become trapped in the lungs of people breathing polluted air) near a tree was between 7% and 24%, while the cooling effect is up to 2°C (3.6°F). Imagine, in our current situation, if the trees were to recognise their contribution in reducing the air pollution, will it also not be a cause for joy provided they are not cut?

- From the above context, if you recognise why and how the trees rejoice, what attitude change will you have about planting and saving trees? What action will you take?

III. Use or exploitation of resources

Today we see many industries not only overuse the natural resources (water, minerals, wood etc.) available to them, but also pollute the water, land and air with their effluents.

Questions for discussion

- Is God concerned about this situation or is He only concerned about the soul?
- Read Ezekiel 34:17-24. Is there a similar concern one can notice in these verses and the present context mentioned above?
- If yes, what would be the Lord's response to the present situation?
- If we are the ambassadors of Christ, then what should our response be in such circumstances?

Conclusion:

People who visit Leh (in Jammu and Kashmir) recognise the importance of air where oxygen level is low leading to Acute Mountain Sickness. We take for granted the air made available to us by the Lord. While teaching others to use the natural resources economically, as ambassadors of Christ, it is our duty to work along with others in curbing air pollution too. The Lord wants us to recognise that the whole creation, which is also waiting for its redemption should rejoice along with us in caring for the whole creation. Let us be good stewards for Christ.

(Rev. Kennedy Dhanabalan is the Executive Director of EFICOR. He can be reached at kennedy@eficor.org)

IDEAS FOR ACTION

AS AN INDIVIDUAL AND AS A CHURCH

- Conserve energy - at home, work and church - remember to turn off lights, computers, and electric appliances when not in use.
- Look for the Energy Star label when buying home, office or church equipments.
- Opt for natural gas instead of charcoal or wood. Opting for natural gases such as biogas or Liquefied Petroleum Gas (LPG) instead of the traditional chulhas using charcoal or firewood can tremendously help in reducing air pollution as it limits emission of smoke into the air.
- Avoid burning leaves, trash, and other materials in the open.
- If possible, consider installing solar and wind power to make use of the renewable energy instead of depending totally on the regular power grid.
- Use environmentally safe paints and cleaning products whenever possible. Use water-based or solvent free paints whenever possible and buy products that say "low VOC" (Volatile Organic Compounds).
- Consider taking steps to improve your indoor air quality. Even if outside air is good, the inside air may not be. You may learn ways to reduce your indoor air pollution from this site - <https://www.specksensor.com/learn/air-quality>
- On days when the outdoor air quality is poor, limit outdoor activities. Take steps to minimise your exposure to air pollution and protect your health. When the Air Quality Index (AQI) rise, people with health issues should take precaution. AQI values between 151 and 200 are dangerous.
- Consider car pooling, use public transportation, go on a bike or walk wherever possible.
- Always keep your car well tuned and maintained. Follow the manufacturer's instructions on routine maintenance, such as changing the oil and filters, checking tyre pressure and wheel alignment.
- Keep containers of household cleaners, workshop chemicals, solvents and garden chemicals in air tight to prevent volatile organic compounds from evaporating into the air.
- You may advocate for and write letters to the editor in newspapers or magazines, call up or write emails to your local state representatives to raise awareness about the need for clean air and also for a more stringent national vehicle emission standards.
- Inform and sensitise your congregation about wasteful lifestyles which contribute to more pollutants in the air. You may encourage your church members to plant trees or plants.
- You could adopt green living in all your choices. Join environmental programmes and actively take part in green activities as it helps to limit air pollution and also improves the general environmental sustainability. Learn more about green lifestyle and environmental conservation from such programmes so that you as an individual and even as a church could adopt green lifestyle in all the regular church activities.

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