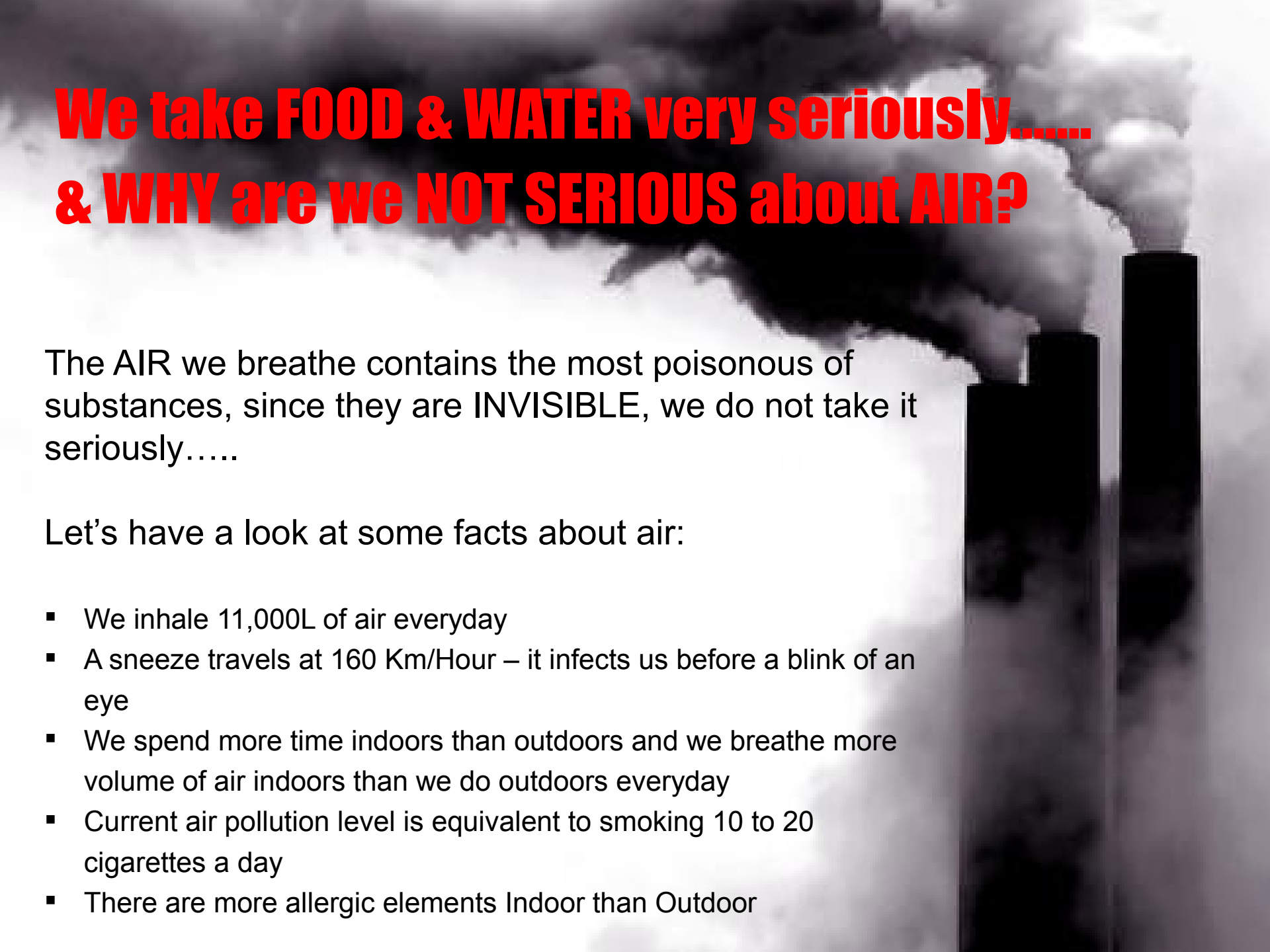

PROTECT YOURSELF AND YOUR FAMILY FROM THE INVISIBLE KILLERS!
ACT NOW!

We take FOOD & WATER very seriously…… & WHY are we NOT SERIOUS about AIR?



The AIR we breathe contains the most poisonous of substances, since they are INVISIBLE, we do not take it seriously…..

Let's have a look at some facts about air:

- We inhale 11,000L of air everyday
- A sneeze travels at 160 Km/Hour – it infects us before a blink of an eye
- We spend more time indoors than outdoors and we breathe more volume of air indoors than we do outdoors everyday
- Current air pollution level is equivalent to smoking 10 to 20 cigarettes a day
- There are more allergic elements Indoor than Outdoor

Alarming Statistics
of Indoor Air Pollution

- Indoor air pollution is the No.1 cause of poor health in India – *Hindustan Times (March 5)*
- 1/3rd of world's asthma patients are from India – *WHO Report*
- 93% of leave days are due to cold, cough and other respiratory diseases – *National Bureau of disease*
- Lungs of most Urban children are under developed – *Hindustan Times (June 2015)*
- Of the world's most 20 polluted cities, 13 are in India – *WHO Report*

HOW INDOOR AIR IS CHOKING US

ENTIRE NATION IN POLLUTION GRIP

India's five hotspots identified in report

- Largest hotspot are the stretches in Punjab, Haryana & eastern Uttar Pradesh
- *Second hotspot covers the rural areas of Bihar, West Bengal*
- Third hotspot includes areas in Orissa and Chhattisgarh
- *Fourth hotspot covers some areas of Gujarat and Maharashtra*
- Fifth hotspot covers areas in Andhra Pradesh

Health Hazards of PM

- Particles in the PM2.5 size range are capable of reaching deep inside the respiratory tract and harming the lungs
- *Exposure to fine particles can cause irritation in eyes, nose, throat and lungs & can cause coughing, sneezing, runny nose and shortness of breath*
- It can also affect lung functioning and worsen medical conditions such as asthma and heart disease
- *Studies also suggest that long term exposure to fine PM may be associated with increased rates of chronic bronchitis and increase in deaths because of lung & heart disease*
- Scientists have linked the exposure with increased cardiovascular cases in hospital and emergency department visits & deaths

Cool, busy and ill

We can't afford an office under a tree, but 9 hours in an AC workplace means you are at risk

Reema.Gobi
@timesgroup.com

They weren't lying when they said you can survive on love and fresh air.

Being in open spaces, research has proved, strengthens your immunity since white blood cells that fight bacteria need oxygen to function effectively. A free supply of oxygen means your blood pressure and heart rate is in check since the body isn't overworking itself to acquire it. Blood oxygen levels are also linked to serotonin, the 'happiness hormone', which is why you are more likely to slip into a refreshed, relaxed state when in green outdoors.

The hitch, of course, is that most urban residents end up spending close to nine hours a day in air-conditioned offices, often following it up with a whole night's sleep in closed, cool bedrooms.

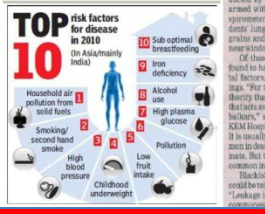
Your lungs are the first hit, which is why respiratory infections including common cold, frequent headaches, itchy throat and symptoms of flu, are most common among young, urban professionals. Fresh air that helps the lung's airways to dilate, releasing airborne toxins from your system, is scant in swanky AC offices.

Dr Gauri Mankekar, consultant ENT surgeon at Hinduja Hospital, says an air conditioner is able to cause cooling through the process of evaporation. "Thanks to the very manner in which it functions, an AC ends up drying the mucous membranes in the nose and mouth," she says. Our nasal passages, sinuses and throat depend on moisture in the membranes for their immune functions. When moist, the immunity cells are able to attract and trap viruses, bacteria and allergens, acting as the body's first line of defence against airborne pathogens. Most air-conditioners aren't fitted with humidifiers, upping levels of dryness in the surrounding air.

This constant and direct expo-

FUEL WASTED & AIR POISONED

- A recent CSE pilot study in South Delhi, Noida, Greater Noida, Gurgaon and Dwarka found that cars crawl at 4 km/ph for almost 24 minutes in two hours of driving and waste 200,000 litre of fuel for one million cars plying daily
- 320 kl of petrol and 100 kl of diesel are burnt daily due to the idling of vehicles at traffic intersections in Delhi alone
- The study cautions against building new roads and flyovers. Delhi is so gridlocked and polluted even when 48 per cent of Delhi households do not own any vehicle
- Earlier, MAIL TODAY published a report, based on a CRRI study on congestion, that "six years of your career go in a traffic jam"



Air-conditioned life can pollute homes

Keeping Windows Shut May Lead To Growth Of Fungi

Madhavi Raju,Ruyakha & Malathy Iyer | TNN

Mumbai: Civic doctors have identified flora specific to Mumbai that could be triggering asthma or aggravating allergies. Pollen, for instance, has been acknowledged as a trigger for respiratory ailments. Also, fungi, molds and dustmites, not expected in a hot climate, are stalking Mumbai homes.

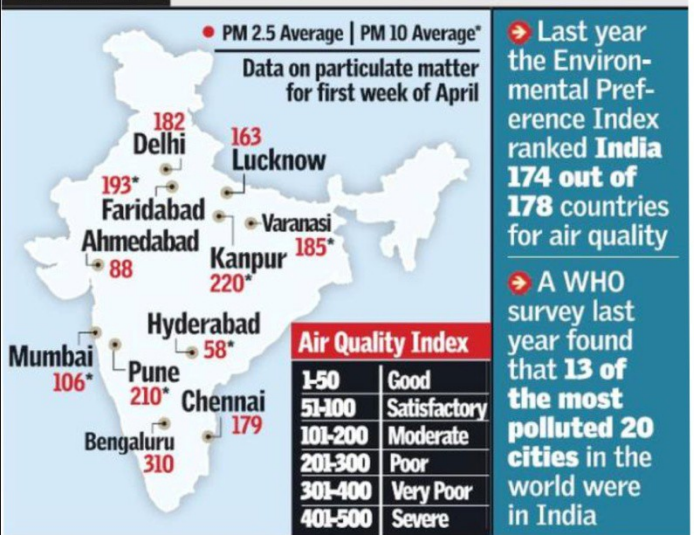
The findings are from an ongoing study undertaken by KEM Hospital's Department of Chest Medicine and Environmental Pollution Research Centre. Doctors, who set out to study the effect of environmental factors on asthma, have since January zeroed in on 468 homes in Khar, Andheri and Borivli, covering 540 Mumbaikars. After an initial census and round of questionnaire circulation conducted by social workers, medical experts armed with peak flow meters and portable spirometers visited homes to assess residents' lung functions. They collected pollen grains and fungal spores by hanging slides near windows in the identified homes.

Of those with asthma, nearly 3.5% were found to have been affected by environmental factors, according to preliminary findings. "For the first time, we can say with authority that there is pollen in Mumbai's air that acts as an asthma trigger in some Mumbaikars," said Dr Anita Athavale, head of KEM Hospital's chest medicine department. It is usually believed that fungus is not common in desi homes due to India's tropical climate. But the KEM study found that it is as common in Mumbai as in Western cities.

Blackish cottony growth on home walls could be telltale signs of fungi, warn doctors. "Leakage in walls and ceilings is one of the commonest causes for fungus in breed in

TOXIC SKIES

AIR QUALITY IN INDIA'S MAJOR CITIES IS FAST DETERIORATING



- Last year the Environmental Preference Index ranked **India 174 out of 178** countries for air quality
- A WHO survey last year found that **13 of the most polluted 20 cities** in the world were in India

Air pollution 5th largest killer in India

New Delhi, Feb 15: Outdoor air pollution has become the fifth largest killer in India after high blood pressure, indoor air pollution, tobacco smoking, and poor nutrition, says a new set of findings of the Global Burden of Disease report. The India and South Asia-specific findings were officially released on Wednesday at a Dialogue Workshop jointly organised by Centre for Science and Environment (CSE), Indian Council of Medical Research and the US-based Health Effects Institute. The Global Burden of Disease (GBD) report is a world-wide initiative involving the World Health Organization which tracks deaths and illnesses from all causes across the world every 10 years. The new findings were released by Aaron Cohen, principal epidemiologist of the Health Effects Institute and co-chair of the GBD Ambient Air Pollution Expert Group.

The report says that about 620,000 premature deaths occur in India from air pollution-related diseases. GBD has ranked air pollution as one of the top 10 killers in the world, and the sixth most dangerous killer in South Asia. In fact, particulate air pollution is now just three places behind indoor air pollution, which is the second highest killer in India. "This is shocking and deeply disturbing news. This calls for urgent and aggressive action to protect public health," said Sunita Narain, director general, CSE. The key finding in India states that air pollution is the fifth leading cause of death in India, with 620,000 premature deaths. This is up from 100,000 in 2000 – a six-fold increase. It is seventh leading cause behind the loss of about 18 million healthy years of life due to illness. It comes after indoor air pollution, tobacco smoking, high blood pressure, childhood underweight, low nutritional status, and alcohol use. These diseases include stroke (25.48%), chronic obstructive pulmonary disease (17.32%), Ischemic heart disease (48.6%), lower respiratory infections (6.4%), and trachea, bronchus and lung cancer (2.02%). Meanwhile, the key findings in South Asia and the world points out that air pollution related diseases cause 3.2 million deaths worldwide every year.

- **Delhi and Ghaziabad among five top critically polluted cities**
- Deaths caused by particulate air pollution increased by six times since 2000
- **Respiratory and cardiovascular diseases key reasons for air pollution-induced premature deaths: These diseases include stroke (25.48%), chronic obstructive pulmonary disease (17.32%), Ischemic heart disease (48.6%), lower respiratory infections (6.4%), and trachea, bronchus and lung cancer (2.02%)**
- Globally, air pollution-related deaths increased by 300 per cent since 2000. About 65 per cent of these deaths occur in Asia
- **A Global Burden of Disease report says that in 2010, about 6.2 lakh premature deaths occurred in India from air pollution-related diseases. This is up from 1 lakh in 2000 — a six-fold increase**
- One-fifth of global deaths due to pollution in India
- **CSE's quality analysis shows half of urban population breathes air with particulate levels that exceed the permissible limit**

ARE YOU ALLERGIC TO YOUR HOUSE?

Banish the nasties in your house that make you cough, splutter and wheeze. Here are 10 ways to fight back against the scratching and sneezing

Dust mites cause a rise in household allergies

The very thought of them makes you scratch and itch — and now the dust mite is behind a rise in household allergies. Cases of perennial allergic rhinitis, or hay fever, have risen 10 per cent in a year, with 12 million people allergic to their own homes. Unlike regular hay fever, which is triggered by high seasonal pollen levels, home fever is caused by allergens like dust mites, moulds, cleaning products and pets. Since these are present all around the year, they can catch you unawares any time.

With the most common symptoms of an indoor allergy or home fever being a runny nose and sneezing, people all too often confuse symptoms with a common cold or flu and don't treat the cause of the problem. While curing home fever is tough, here's how you can fight back:

ROOM SPRAY

This is one of the most common causes of allergic reactions and is even known to trigger asthma attacks. Room sprays are unnecessary if you keep your house clean, don't smoke indoors and open your windows regularly. There's also an alternative — create your own by mixing a tablespoon each of bicarbonate of soda and lemon juice with warm water.

DUST MITES

Your bed provides the ideal environment for dust mites to thrive because in them they can feed on skin cells, obtain warmth from your body and gather water from your sweat. Their droppings, though invisible to the naked eye, are responsible for causing the majority of allergic reactions. To eliminate them, use allergen-proof barrier covers on all mattresses, bedspreads and pillows. Wash your sheets and blankets every week, ideally at 60 degrees or above. Also, change your mattress every eight to 10 years, and replace pillows every 12 months.

PETS

Cat and dog dander, which are flakes of dead skin that collect on fur and other surfaces, contain allergens that can cause serious asthma attacks. Pets also carry outdoor allergens back inside on their coats. Keep your pets in well-ventilated rooms and never let them sleep on the beds or furniture. Wipe pets down after long walks and wash their bedding weekly. You could try a pet cleaner which removes allergens from coats.

Cat and dog dander, contain allergens that can cause serious asthma attacks

chemical that can give off a colourless gas that irritates the airways. Buy solid wood furniture if possible.

7 VACUUM CLEANERS

Not all vacuum cleaners suck up dust and particles properly.

8 PERFUME

All perfumes, hairsprays, shampoos and soaps have the potential to cause nasty skin reactions. Try to use unperfumed products when you can, and dab natural oils on your clothes instead of man-made ones.

9 FLOWERS

Indoor plants and flowers can produce pollen so avoid having them in the house if they cause sneezing. Speak with garden experts to find the best plants for indoors. Be aware that planters, soil and old leaves can serve as great hiding places for mould.

10 SOFT TOYS

Dust mites are commonly found in furry toys so it's especially important to keep them infrequently. Washable stuffed toys should be put through a 60 degree wash/dry machine cycle on a regular basis. You can also place the toy in a plastic bag in the freezer for at least 12 hours once a month, and then wash the toy at a lower temperature if needed.

4 MOULD

This is a type of fungi that grows best in damp and poorly ventilated areas. To stop it developing, simply reduce humidity by increasing ventilation. Use trickle vents in double glazing or just open your windows. Extractor fans in bathrooms and kitchens are also useful at getting rid of steam.

Avoid hanging damp washing in the house. Also, try an air purifier to trap mould spores.

5 CARPETS

If allergic, remove as many of the carpets in your house as possible and replace with solid wood flooring. New carpets in particular are full of noxious chemicals that can be inhaled for months and could trigger allergic reactions. If you do have carpets, regularly use a high-temperature steam cleaner to get rid of any dust mites.

6 FURNITURE

Avoid furniture and shelving made from chipboard or manufactured wood as these may contain formaldehyde — a chemical that can give off a colourless gas that irritates the airways. Your best bet is to invest in solid wood furniture in the long run.

2 DUST MITES

Beds provide the ideal environment for dust mites to thrive because in them they can feed on skin cells, obtain warmth from your bodies and gather water from our sweat. Their droppings are invisible to the naked eye but are responsible for causing the majority of allergic reactions. To eliminate them, use allergen-proof barrier covers on all mattresses, duvets and pillows. Wash your sheets and blankets every week, at 60 degrees or above. Also, change your mattress every eight to 10 years, and replace pillows every 12 months.

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Cat and dog dander, which are flakes of dead skin that collect on fur and other surfaces, contain allergens that can cause serious asthma attacks. Pets also carry outdoor allergens back inside on their coats. Keep your pets in well-ventilated rooms and never let them sleep on the beds or furniture. Wipe pets down after long walks and wash their bedding weekly. You could try a pet cleaner which removes allergens from coats.

THE TIMES OF INDIA

The air inside your homes is not fit to breathe: study

NEERI FINDINGS Readings at 4 locations across city finds pollutants above limits

Snehal Rebello

snehal.rebello@industantimes.com

MUMBAI: We all know that Mumbai's roads are crowded and polluted. But the air you breathe at home may not be as clean and safe as you think either.

A detailed study of the indoor air quality in Mumbai's households by the reputable National Environmental Engineering Research Institute (NEERI), Worli, has found carbon concentration in fine particulate matter within homes to be far higher than the permissible limit of 60 micrograms per cubic metre of air (ug/m3).

The study at four locations across the city – Colaba, Dadar, Khar and Mahul — found fine aerosol particles (particulate matter measuring less than 2.5 microns) comprising carbon, dust, soot, smoke and liquid droplets, which are responsible for respiratory and cardiovascular ailments, to be at least 80 ug/m3 on an average. The recordings outdoors at the four locations were within the permissible limits at 84ug/m3.

A four-member NEERI team made the recordings over three seasons between 2007 and 2008 and, worryingly, the researchers say the pollution level could now have gone up 20 per cent taking into consideration the increase in vehicular traffic and of construction projects.

"As buildings in Mumbai are ... indoor air quality is an important issue. While outdoor air gets cleaned because of land and sea breeze over the city, the same doesn't happen with indoor air," said Rakesh Kumar, director of NEERI's Mumbai centre. "The easiest solution to clean up indoor air is creating a good ventilation system."

breathe at home, workplace, schools or colleges is clean compared to outdoors. Studies in the West have proved that long term exposure to particulate matter leads to chronic ailments such as cardiovascular diseases, lung cancer, asthma and bronchitis," said professor Abba Elizabeth Joseph, lead

AIR POLLUTION INDOORS

NEERI, who conducted a study at four locations over two seasons between 2007-2008, found varying levels of particulate matter

DADAR

INDOOR	OUTDOOR
93 ug/m3	92 ug/m3

Busy roads and flyovers meant this area had the highest concentration of particulate matter. The percentage of outdoor particulate matter coming indoors was 79%.

KHAR

INDOOR	OUTDOOR
64 ug/m3	78 ug/m3

Location was 15 metres from the road and hence, saw lowest recording of particulate matter

COLABA

INDOOR	OUTDOOR
90 ug/m3	73 ug/m3

Air outside was much cleaner as the location was close to the sea. High indoor reading could be because kerosene was used as cooking fuel next door.

MAHUL

INDOOR	OUTDOOR
72 ug/m3	92 ug/m3

Good ventilation checked indoor pollution here, though area had many industries.

Permissible limit: 60 ug/m3 (micrograms per cubic meter of air)

SHRIKRISHNA

Is your office making you ill?

World Health Organisation estimates that one out of every three workers may be toiling away in a workplace that is making them sick due to poor indoor air quality

REPRESENTATIONAL PICTURE

The problem worsens when people cannot even crack open a window in an airtight office. They breathe in stale air, work under fluorescent lights which cause boredom, lethargy and eyestrain

Kuldeep.Tiwari

@timesgn.com

Alcoakik Shah, a 20-year-old, was glad when he got a job at a call centre on Drive-In Road. A few months later, the computer science diploma student began suffering from constant headache, bodyache and felt suffocated. "I waited impatiently for my break time so I could go out and breathe in fresh air. Surprisingly, there were many others in my office who

PREVENTING SBS

- Check air quality in offices
- Carry out regular maintenance work
- Replace faulty air conditioning units
- Look for possible sources of mould
- Wall-to-wall carpet, chipping old paints and varnishes may contain high levels of dangerous chemicals
- Open the windows, let the fresh air circulate and clear your space

to me with complaints of frequent headaches, stress and body pain. Most of them work in centrally air-conditioned offices." The problem is found mostly in the age group of 18 to 35 years, says Dr Shah.

Nikhil Lala, chief medical administrator at Sterling Hospitals, says, "A polluted environment can lead to stress and depression."

IMPROVING PRODUCTIVITY

HOW INDOOR AIR IS CHOKING US

25% city children have asthma

Bangalore Climate Worsens It: Study

Hetal Vyas | TNN

Photo for representation only

TAKE CARE: More greenery which generates pollens is the culprit, say pulmonologists

Bangalore: Changing demographics, ever-increasing air pollution, air-conditioned houses and offices and different dietary habits have increased the prevalence of asthma — one of the most dangerous respiratory disorders — in Bangalore. A study by the Institute of Medical Education and Research across four Indian cities —Delhi, Chandigarh, Kanpur and Bangalore— reported asthma prevalence in adults at 3.47% in 2011. About 10% adults in Bangalore are said to be suffering from asthma, according to pulmonologists.

A study conducted by Lakeside Medical Center and Hospital and its team of pulmonologists between 1979 and 2009 concluded there is a three-fold rise in asthma cases among children. Said Dr H Paramesh, director, Lakeside Medical Center and a paediatric pulmonologist: "About 9% children were found to be suffering from asthma in 1979. In 2009, we found 25.5% children suffering from it." In adults, the present prevalence is about 10%, he added.

What's more worrying, added Paramesh, is the prevalence of persistent asthma (which needs medication) among children has gone up to 72.5%. "We must blame the changed weather conditions, increased air pollution level and eating habits for it. Also, houses, offices and schools nowadays lack ventilation. People, especially children, prefer junk food over freshly cooked home food. All these have contributed to the rise in number of cases," he said.

WORLD ASTHMA DAY

Said Dr Vishwanth Bellad, consultant, pulmonologist, BGS Global Hospitals: "Asthma is commonly seen in younger people, the majority in the age group of less than 20 years. The symptoms are more visible during childhood, but no age is immune to asthma. Bangalore is more vulnerable to this disease because the climatic conditions as rains almost through the year and the air density is low."

"Asthma is constantly on the rise in Bangalore. We can blame it on more greenery, which generates pollens, the main source of allergy. Also, people are more exposed to environmental pollution which increases respiratory disorders," said Dr Sumant Mantri, consultant, pulmonologist, Apollo Hospital.

What can lead to it

"Genetic and environment factors can trigger asthma in children. The gene Adam 33 is said to be responsible for someone contracting asthma. If a child, who has an aggressive Adam 33 gene is exposed to unhygienic conditions, pollution, etc. then the chances of her contracting asthma increases. It can be treated by oral medications like steroids and by using inhalers," said Dr Hirenanappa, pulmonologist, Columbia Asia Hospital.

Higher morbidity, less mortality

Said Dr H Paramesh: "The morbidity of asthma is said to be highest as it spreads fast among people who are allergic to certain kind of smells, food or weather. But, the mortality rate due to asthma is just 1.2% in India. Globally, it is between 1-4%."

Home improvement

With these simple tricks, banish the nasties in your house that make you cough and wheeze

Wash your sheets and blankets every week, ideally at 60 degrees or above

The very thought of them makes you scratch and itch — and now the dust mite has become increasingly responsible for a rise in household allergies.

Instances of perennial allergic rhinitis, or home fever, have shot up in our urban homes, making people allergic to their own abodes. Unlike regular hay fever, triggered by high seasonal pollen levels, home fever is caused by allergens such as dust mites, moulds, cleaning products and pets. Since these are present all around the year, they can catch you unawares any time.

With the most common symptoms of an indoor allergy or home fever being a runny nose and sneezing, people all too often confuse symptoms with a common cold or flu and don't treat the cause of the problem. While curing home fever is tough, here's how you can fight back:

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Avoid furniture and shelving made from chipboard or manufactured wood as these may contain formaldehyde — a chemical that can give off a colourless gas that irritates the airways. Your best bet is to invest in solid wood furniture in the long run.

PERFUMES

All perfumes, hairsprays, shampoos and soaps have the potential to cause nasty skin reactions. Try to use unperfumed products when you can, and dab natural oils on your clothes instead of processed ones.

FLOWERS

Indoor plants and flowers can produce pollen so avoid having them in the house if they cause sneezing. Speak with garden experts to find the best plants for indoors. Be aware that planters, soil and old leaves can serve as great hiding places for mould.

SOFT TOYS

Dust mites are commonly found in furry toys so it's really important to keep them infrequently. Washable stuffed toys should be sent rumbling through the washing machine on a regular basis. While children at home would be aghast at

Toxic air hurting kids' lungs, heart & mind

But Pollution Board Sat On Findings For 7 Yrs

MOST VULNERABLE

How children get affected by pollution

40% Indian children have hyperreactive airway disease

100% increase in hyperreactive airway disorders like wheezing, bronchitis, bronchial asthma in last decade

20-22% are overweight due to lifestyle and genetic causes

2-10% Hypertension

Results of study by Central Pollution Control Board

- Reduced lung function in 43.5% Delhi schoolchildren compared to 25.7% in control group (schoolchildren in West Bengal and Uttarakhand)
- Sputum of Delhi children contain 4 times more iron-laden macrophages (specialized cells) than controls. Abundance of siderophages (macrophages that have ingested red blood cells) in lungs may indicate covert pulmonary haemorrhage
- Hypertension in Delhi

Shocking Air Pollution Headlines

Indoor air pollution kills a million people every year in india

hindustantimes.com
hindustantimes

Air pollution is World's top environmental health risk

World Health Organization

Delhi is World's worst in air pollution

THE TIMES OF INDIA
Powered by Indiatimes

India wakes up to an air pollution problem it cannot ignore

The Economic Times

Air pollution causing irreversible damage to India's children

The Indian EXPRESS

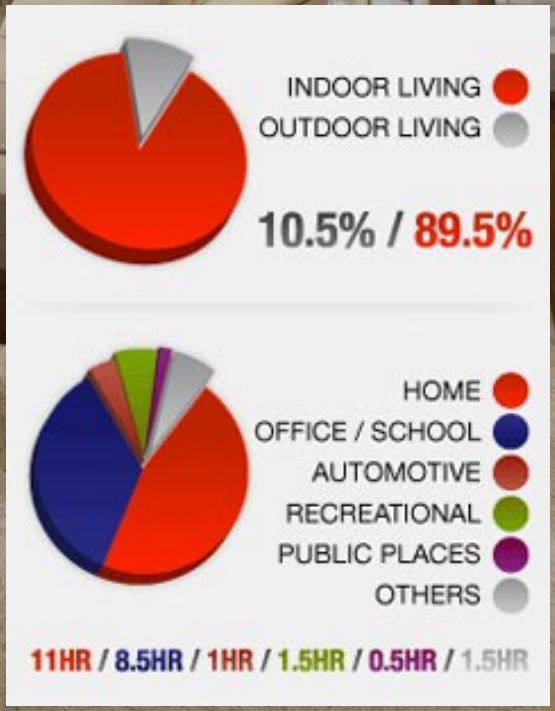
India needs an air quality crackdown

NDTV

Think your indoor air is safe? Think again.

THE KILLER IS INSIDE OUR HOUSE

- We spend 90% of our time Indoors - WHO
- Our family is exposed to more pollutants indoors than a factory worker
- Poor indoor air quality at home causes:
  - Headache
  - Fatigue
  - Shortness of breath
  - Hypersensitivity and allergies
  - Sinus congestion
  - Coughing and sneezing
  - Dizziness
  - Nausea

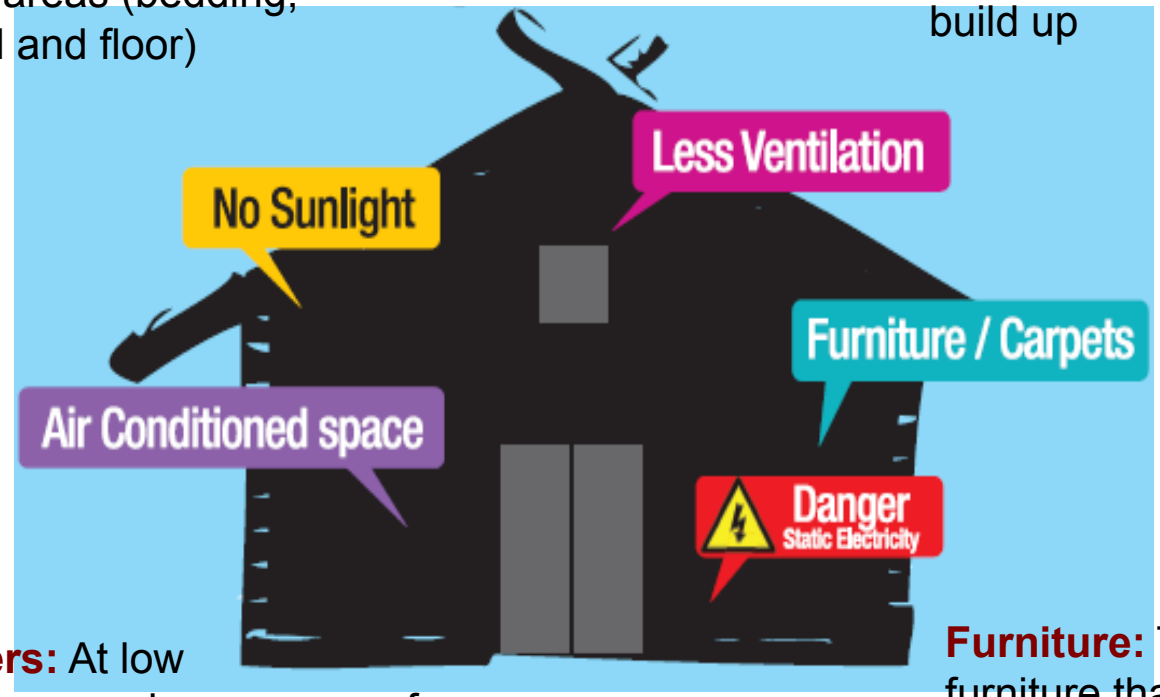


20TH CENTURY CONSTRUCTIONS WERE MORE AIRY WHILE MODERN ONES ARE COMPACT AND LESS VENTILATED

Primary causes of poor Indoor Air Quality

No Direct Sunlight: Sunlight acts as a natural disinfectant for the living areas (bedding, cushion, wall and floor)

Less Ventilation: It is important that outside fresh air is circulated in the indoor environment to make sure that harmful levels of gases or particle gets diluted and do not build up



Air Conditioners: At low temperatures they can be a source of biological allergens and can grow mold. It only cools and recycles the same air. They also blow smelly, unhealthy air if not cleaned properly

Furniture: The pressed wood furniture that are used nowadays contributes largely in trapping harmful substances as they are mostly attached to the wall or floors

AIRCONDITIONERS ONLY RE-CIRCULATE THE SAME STALE AND STUFFY AIR WHILE COOLING IT

Secondary causes
of Indoor Air Pollution

- **Carpets:** Carpet materials can emit a variety of Volatile Organic Compounds (VOCs)
- **New electronics and other plastic products:** Products made with Polyvinyl Chloride(PVC) can emit phthalates, which have been linked to hormonal abnormalities and reproductive problems
- **Toilet:** The poor ventilation at Toilets attached with our bedrooms poise severe threat in circulating Infections and toxins in our living space.
- **Harsh cleaning chemicals, paint, repellants and varnish:** The cleaning agents that we use at home like floor cleaners, glass cleaners etc. varnish on the furniture, paint, all emits harmful VOC's
- **Heating equipment (stoves, heaters, fireplaces, chimneys):** Heating equipment, especially gas stoves, can produce carbon monoxide, which can cause headaches, dizziness, fatigue, and even death if not ventilated properly
- **Pet Dander:** Tiny pieces of skin shed by dogs, cats or other animals with feather or fur greatly affects air quality inside our house as they stick to each and every corner of the rooms
- **Smoking:** Cigarette smoke and other irritants can cause allergic reactions, asthma and even lung cancer


DUST MITES


BACTERIA


VIRUSES


POLLEN


PET DANDER


MOLD/FUNGI

EARLIER FURNITURE WERE MADE OF SOLID WOOD WITH COTTON OR CANE FURNISHINGS

Types of Indoor Air Pollutants

Category 1	Category 2	Category 3	Category 4	Category 5
• Dust • Smoke • Pollen	• Smell • Gases • VOC (Volatile organic compound) • Toxins	• Static Charge	• Virus • Bacteria • Mold • Fungus • Dust Mites	• Suffocation • Staleness (recycling of Air)

INDOOR air pollution worse than outdoor

"Indoor air can be 5 to 10 times more polluted than the air outside your house"

- US *EPA (Environmental Protection Agency)*

Outdoor air has mainly **Category 1** of air pollutants. But Indoor air has all the **5 Categories** of air pollutants.

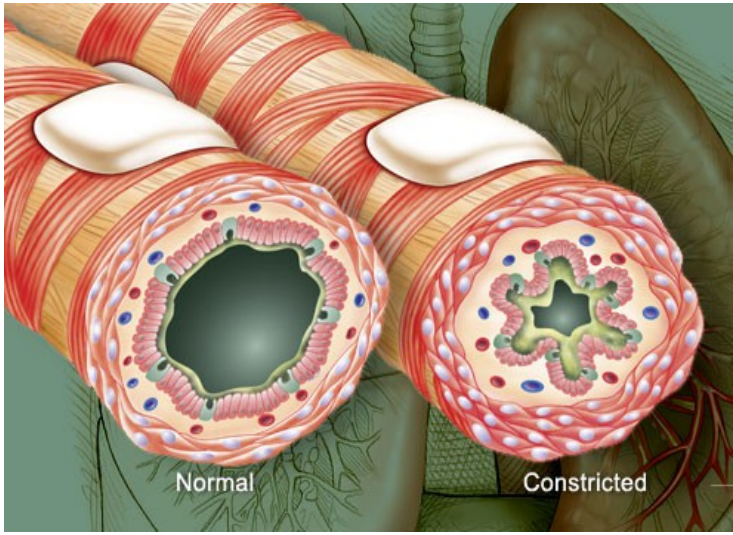
Indoor Air Pollution –
Biggest Threat to Children's Health

- Children breathe more air per kg of body weight, so their exposure to air pollution is much greater than adults

- Children's organs, including their lungs, develop until they reach their late teens, usually around the age of 13

- Studies show that developing organs are sensitive to the toxic effects of air pollutants and environmental toxins, and that children absorb pollutants more readily than adults and retain them in the body for longer periods of time, which results in constriction of the airway passage

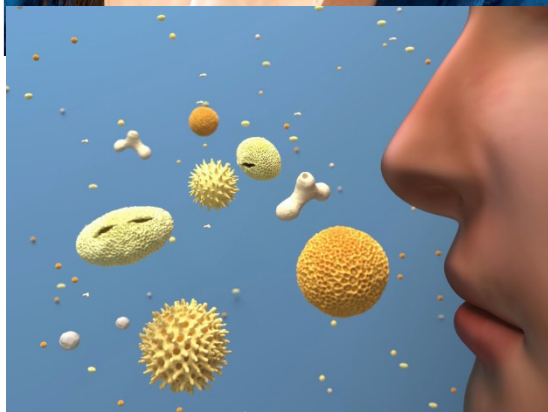
- Several studies have shown that there is a direct relationship between exposure to air pollutants and aggravation of asthma



Indoor Air Pollution

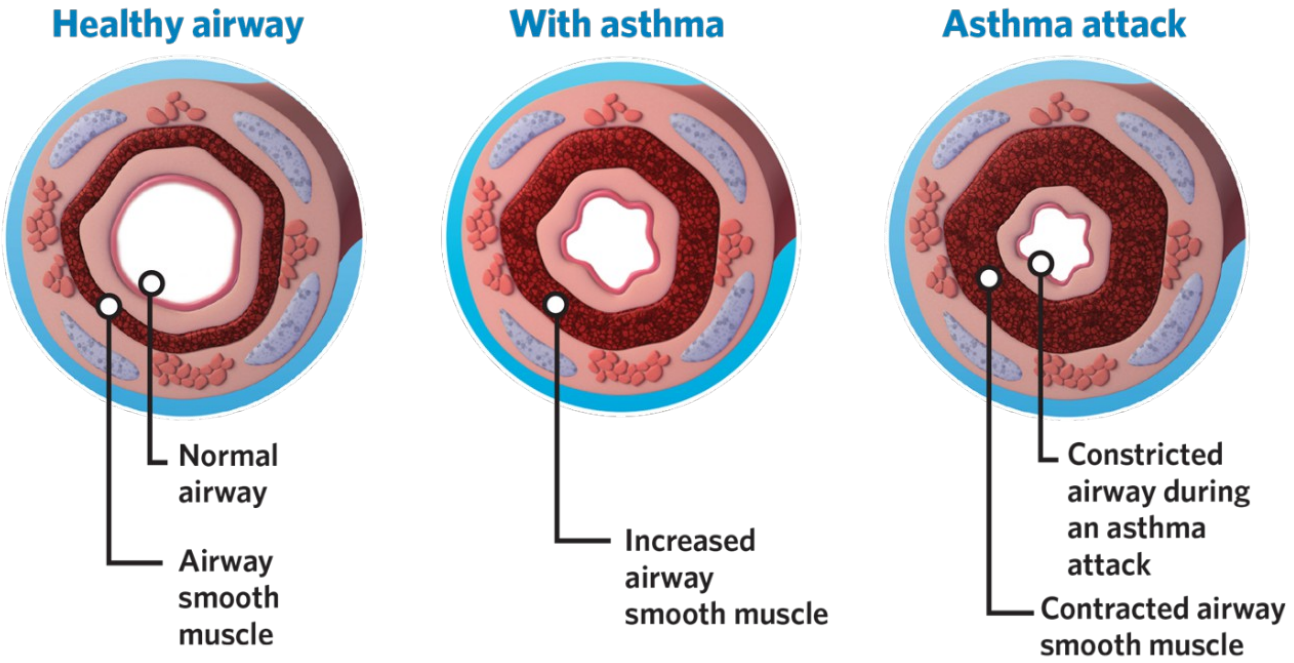
poses huge risk to health

- Breathing air pollutants can lead or contribute to allergies, infections, asthma, and other health problems that involve the lungs, nose and throat
  - For example, mold and pollen can trigger allergic reactions or asthmatic symptoms in some people
- Exposure to other indoor air pollutants, such as high levels of carbon monoxide can result in headaches, nausea, vomiting, brain damage, and even death
- Exposure to VOCs (Volatile Organic Compounds) may affect the lungs, brain, and nervous systems
- It can affect various stages of pregnancy and infant health
- Senior citizens and people with weak immunity are more sensitive to air pollutants
- Indoor Air Pollution also increases the risk of developing **Asthma**



Facts about Asthma

- The volume of air that we breath are mostly polluted indoor air full of poisonous harmful substances which accumulates in the airway passage, resulting in infection and contraction of the airway muscles
- The common indoor triggers are – pet dander, dust mites, pollen, perfumes, mold, fungus etc.
- Continuous exposure to polluted air can lead to wheezing, coughing, shortness of breath, or tightness and pain in the chest
- If prolonged and ignored these can actually lead to chronic asthma, especially children



An asthma attack never happens in a clean environment, like a park or forest

PROTECT YOURSELF AND YOUR FAMILY FROM THE INVISIBLE KILLERS!

ACT NOW!

Ways to improve
Indoor Air Quality

1. Improve ventilation of your house and workplace
2. Keep indoor potted plants
3. Avoid using toxic household products
4. Identify the right Air Purifier

1. Improve Ventilation

- The most effective way of getting rid of indoor pollutants is exchange your indoor air as often as possible
- Open the windows wide or run exhaustion fans every day
- Always open windows in your bedroom after you wake up and leave them open for several hours

2. Indoor Potted Plants

- Indoor plants clean air naturally and return oxygen into the air you breathe
- Besides, indoor plants regulate air humidity, eliminate toxins, filter chemicals, some of them kill viruses and germs
- Leafy plants are very effective for indoor air purification

3. Avoid using toxic household products

- Avoid using toxic household chemicals, the most dangerous ones being products for cleaning bathrooms, floors and kitchen
- Toxic substances in these products can cause harm if inhaled, swallowed, or absorbed through the skin
- There are many inexpensive, easy-to-use natural alternatives which can be safely used for cleaning and disinfecting like Baking Soda, common salt, Lemon, Vinegar, Borax etc.

WHEN WE ARE CLEANING OUR HOUSE WE ARE ACTUALLY POLLUTING IT MORE

4. Air Purifiers

- Quality air purifiers will help you combat most airborne pollutants and ensure fresh and safe air in your house
- While selecting the right Air Purifier for yourself, please study the method and process of purifications
- The best quality **AIR PURIFIERS** should be able to remove all the 5 below mentioned categories of pollutants

Category 1	Category 2	Category 3	Category 4	Category 5
• Dust • Smoke • Pollen	• Smell • Gases • VOC (Volatile organic compound) • Toxins	• Static Charge	• Virus • Bacteria • Mold • Fungus • Dust Mites	• Suffocation • Staleness (recycling of Air)

10 things to remember while selecting an Air Purifier for your loved ones!

1. Did you know that allowing **Cross Ventilation Indoors** is the best method of Air Purification?

2. Does your Air Purifier employ **Natural or Artificial** method to treat Indoor Air?

3. Can your Air Purifier **Generate Fresh Air** or does it recycle the stale Indoor Air?

4. Did you know that **Dust Mites, Fungus, Mold & Toxic Gases** are found more on the **Surface** than in the **Air?**

5. Can your Air Purifier remove **Static Electricity & Odour** from the **Surface?**

6. Is your Air Purifier capable of removing germs from the **Air & Surface?**

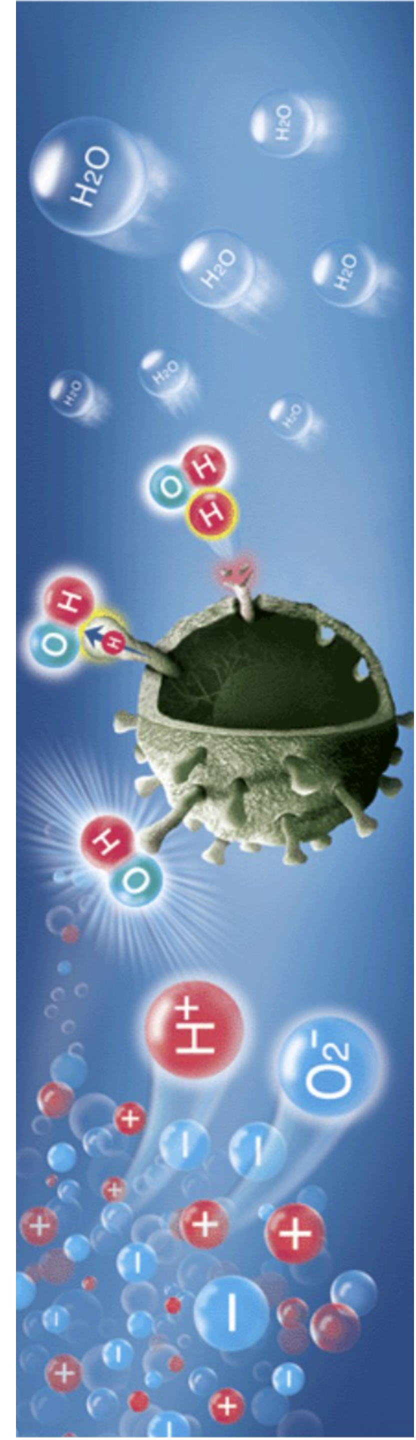
7. Is your Air Purifier effective with **Doors & Windows open?**

8. Can your Air Purifier Moisturize Skin and improve **Elasticity & Texture?**

9. Is your Air Purifier certified by **22 Research Organizations across the World?**

10. Is your Air Purifier **ONLY** cleaning the Air that is passing through a **set of filters?**

About SHARP



- A company that is constantly exploring new frontiers of technology, to evolve products that are "not just No. 1 but the only one" of its kind
- Beginning with the invention of the Ever-Sharp Pencil, Sharp has developed many of world firsts such as mass production of Televisions, Electronic Calculator, Superheated Water Oven, LCD TV etc
- By creating products which bring a sense of satisfaction to people, Sharp always intend to meet and exceed expectations of the people
- Dedicated to improving people's lives through the use of advanced technology and a commitment to innovation, quality, value, and design
- Sharp has an unwavering commitment to excellence and passion for caring
- They have teamed up with world renowned experts in the field of indoor air quality and allergies
- With years of experience and research Sharp can guide you in maintaining best indoor air quality as an aid to preventing allergies, respiratory diseases and other symptoms triggered by indoor pollutants and irritants


Sharp Air Purifiers with
Plasmacluster Ion Technology
REPLICATES NATURE indoor thus
creating a Safe and Fresh
environment like in a Forest

Lets look at the 5 categories of indoor air pollutants again

PM2.5 – the Invisible Killer

They are dust particles of size upto 0.3 microns – 1/100th of human hair

The main sources of high PM2.5 in our Indoor Air are vehicle emission & Industry fumes

Toxic Gases/ Smell

Household cleaners, spray, repellant, varnishes, paint, kitchen, toilet etc emit lot of gases that can be more dangerous than Industry fumes

Suffocation/ Staleness

Low Ventilation & AC Environment together can cause heaviness in the Indoor Air

Infection causing germs

Lack of sunlight, NO/ LESS Ventilation & Furniture create space that are favorable breeding ground for these Infection causing substances

Typically they are more on the surface than air

Static Current

Static Charge Indoor not only attracts the tiny particles (PM1 & PM2.5) and traps them on the surface of fabrics & furnishings but may also interfere with Pacemakers and hearing aids

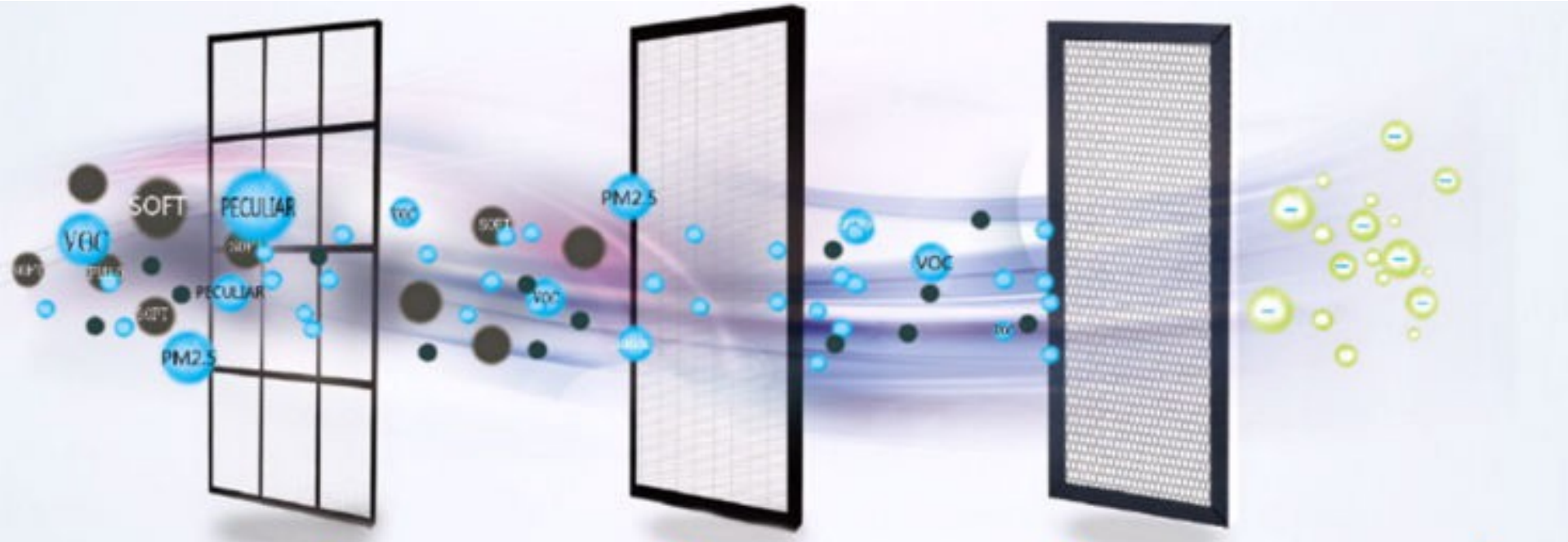
AFTER A HOLIDAY WHEN WE REACH HOME, WE IMMEDIATELY VENTILATE OUR HOUSE AS WE FIND IT SUFFOCATING AND STALE

How Sharp
Air Purifiers works

INVISIBLE PROBLEMS IN INDOOR AIR THAT CAUSE AIRBORNE DISEASES HOW SHARP AIR PURIFIER ELIMINATE THEM			
Dust (PM2.5), Pollen, Smoke	**Smell, Gases, Toxins and Infection causing substance (Dust mite, Mold, Fungi, Virus, Bacteria)**	**Staleness and Suffocation**	**Static Current**
1.HEPA with large surface area (AHAM Certified) 2. Industry best Clean Air Delivery Rate (CADR) for faster and superior performace	Active Plasmacluster ion Technology does not wait for the air to pass through, but NEUTRALIZES all harmful substance from both AIR and SURFACE by going out of the Purifier	The Plasmacluster technology creates the same level of freshness as in a forest. It is proven technology that can generate FRESH AIR	The Plasmacluster technology removes static current from all SURFACES reducing threat from dust and pollen to get attracted to fabrics

What is HEPA Filter

- High Efficiency Particle Arrestor (HEPA) can trap particles upto 0.3 microns or even smaller – Traps the tiniest of pollutants
- The quality, efficiency and life of a HEPA filter largely depends on the thickness, folded area and the material used in it
- The True HEPA Filters used in Sharp Air Purifier is of the highest quality standards and are best suited for use in Indian conditions where the concentration of the PM1 & PM2.5 is high (as per WHO Report – 2014)

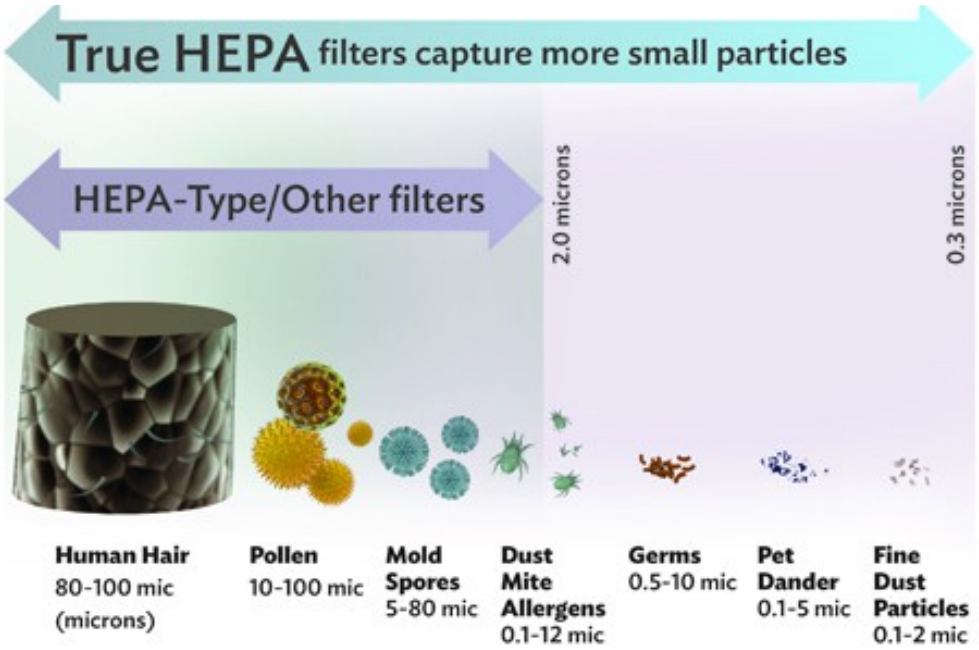


Sharp – True HEPA Filter

- 2 parameters determine quality of HEPA
  - **Surface Area** – the length, depth & height of HEPA, higher the better
  - **Clean Air Delivery Rate (CADR)** – measured in Cubic meter per hour, determines the amount of air cleaned per hour. Higher the better

    CADR for Sharp = 168 m3/H

- Sharp offers the highest Clean Air Delivery Rate (CADR) in it's category
- AHAM Verified



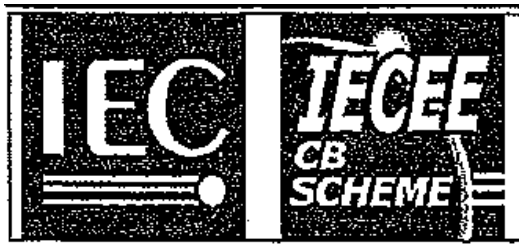
Sharp- Plasmacluster Technology

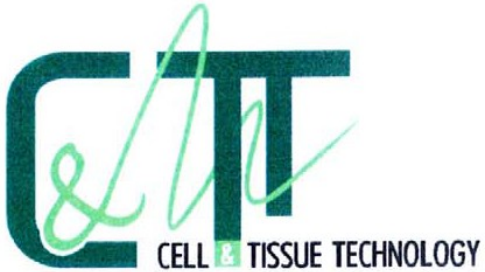
Replicates Nature

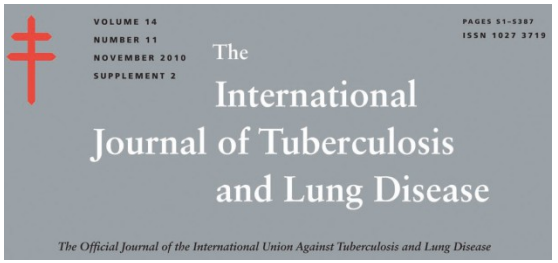
- Plasmacluster Ion Technology is Sharp's original ACTIVE disinfecting technology for suppressing the effects of viruses, mold, fungus, dust mites, VOCs and toxins
- ACITVE Technology effective on SURFACE as well as AIRBORNE infections
- Plasma discharge generates and emits the same positive and negative ions that occurs in nature
- Plasmacluster Ion Air Purifiers clean the AIR and SURFACE using positive and negative ions
  - These are positive hydrogen and negative oxygen ions, which are extracted from the water molecules in the air
- These ions inactivate the flu viruses including H1N1, e-Coli bacteria, MRSA, SARS, polio virus and dust mites
- Plasmacluster Ions are proven effective against 29 types of infection causing substances, certified by 22 independent research organizations

Certifications

confirming safety and effectiveness







Sharp Air Purifier...

The One And Only Mechanism to

- Generate forest fresh air
- Kill infection causing substances
  not only from air but also from surfa
- Neutralize smell and unpleasant odours
- Remove static electricity
- Improve skin hydration

Over 5 Crore Satisfied Users Worldwide!

General Specifications

- Plasmacluster Ion Generator, HEPA & Pre Filter can trap upto 0.3 micron particles, HAZE Mode, capable of NEUTRALISING secondary sources of PM2.5 particles
- A balanced mix of Active & Passive Air Purification with Plasmacluster Ion Technology
- Suitable for 24 x 7 operation
- **Coverage Area:** 220 sq feet
- **Filter Life:** upto 2 years (depending on the nature of the environment)
- **Power Consumption:** max 51W
- **Noise Level:** max 47db
- **ON SITE WARRANTY – 2 YEARS**

Works best in...

- **Home** – bedrooms, study, living room (220 sq. ft.)
- **Offices** – cabin, meeting room, canteen
- **Doctors Consultation Room**
- **Path Labs, Ultrasound & MRI Centres**




Sharp Air Purifier

- Produce **fresh and pure air** as in a forest
- **Kills** germs from air & surface instead of absorbing: mimics nature
- **Neutralize odour and toxins**
- With Plasmacluster technology, ions are spread throughout the room, to purify the air - even the air underneath the sofa, behind the wardrobe and under the carpet
- Improve **skin moisture**, elasticity & texture

Other Air Purifiers

- Recycles same stale air
- Uses only PASSIVE technology to pull the air through Filters – cleans the air passing through filters only
- Produces ions but they merely attach themselves to the air pollutant and weighs it down to the ground or any surface it comes in contact with (table, utensils, carpet etc)
- Unwanted particles (like bacteria, virus, mold etc) are not broken down, it just gets trapped into the device or stays in the room

Also Remember....

- Air purifiers act as a safeguard against respiratory infections and trap the allergens and pollutants before they get us
- Limiting exposure to pollution is one of the best solutions to reduce or eliminate the chance of contracting respiratory infections
- Air purifiers may not act as a solution to your asthma or allergy problems by themselves
- Air Purifiers are effective only if they are used on a regular basis and may not show immediate results
- Filter maintenance is important for healthy indoor air and to keep your Air Purifier working efficiently and effectively