



# POLLUTION AWARENESS

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MA, P.E (Pak), MAIChe (USA)**

**Specialization  
Environmental Pollution Control**



# BRAIN STORMING



**DURATION: 20 Minutes Approx.**



# Brain Storming : هدايات

## INSTRUCTIONS:

1. The participants will be divided into groups. The group in charge will conduct this part of the session. He/she will collect the views from the participants on individual basis, on each point given below.
2. The participants should note down the questions (on a separate sheet) which are raised during the discussion and get their explanation after the main presentation.
3. The following aspects of the Environment should be discussed in particular.



# Brain Storming

- ★ What do you understand by the term "Environment Friendly"?
- ★ What is Green House Effect? What are Green House Gasses? Why are they called so? (Ref Q/A)
- ★ Color waste of which industry is not harmful for aquatic life?
  - I- Food Color Industry
  - II- Textile dyeing industry
  - III- Paint Industry
- ★ How does industrial pollution affect a person, living in a posh area of a city, with his Industry is in a remote village?



# Brain Storming

## Continued

- ★ How can our daily-life activities of making tea and heating water for taking a bath affect our environment? How can we control it by changing our daily habits?
- ★ Differentiate between Natural and Man-made pollution in respect of its seriousness.
- ★ Name different types of pollutions, what is the most important pollution? How does this pollution affect our environment and what measures should be taken to control it?
- ★ What is Moral Pollution? How does it affect other pollutions?
- ★ How injustice effects the environmental?



# Brain Storming

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- ★ What is Moral Pollution? How does it affect other pollutions?
- ★ How injustice effects the environment?

# Pollution Awareness & Control

**Basic (General)  
IES 3.0**

```
graph TD; A["Basic (General)  
IES 3.0"] --- B["IES 3.01  
Awareness"]; A --- C["IES 3.02  
Awareness & Control"]; A --- D["IES 3.03  
Control"]
```

**IES 3.01  
Awareness**

**IES 3.02  
Awareness & Control**

**IES 3.03  
Control**

# Pollution Awareness & Control

**Intermediate  
IES 3.1**

**AIR(A)  
IES 3.11**

**LIQUID(L)  
IES 3.12**

**SOLID(S)  
IES 3.13**

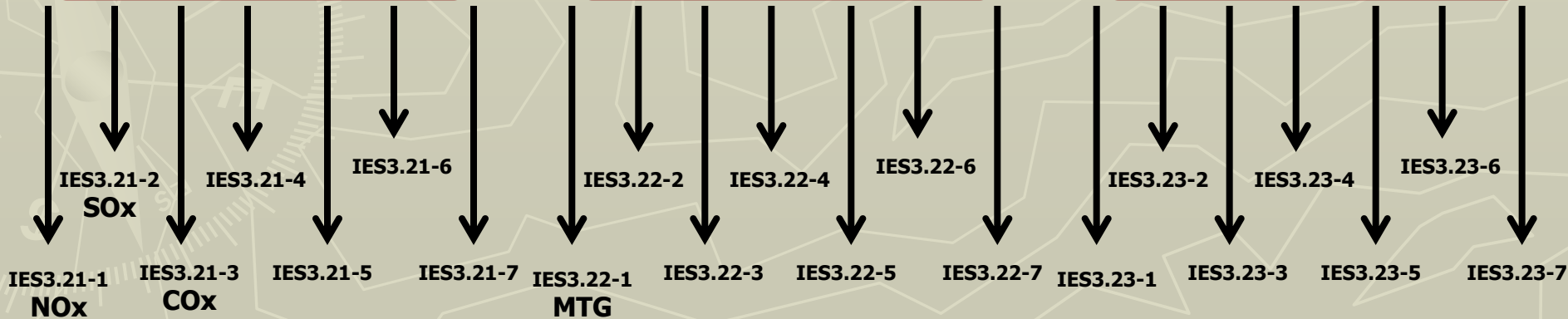
# Pollution Awareness

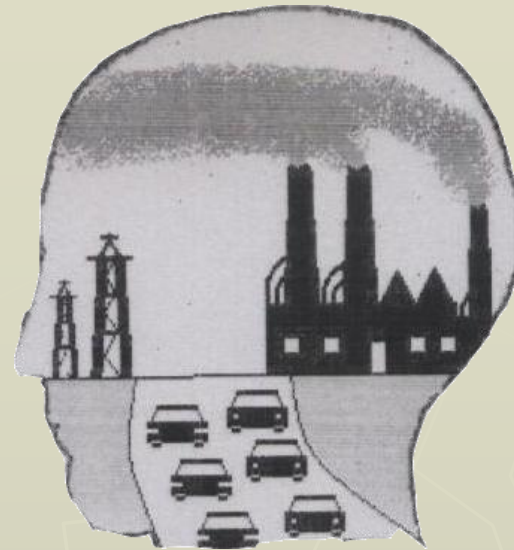
**ADVANCE  
IES3.2**

**ADVANCE  
IES 3.21(A)**

**ADVANCE  
IES 3.22(L)**

**ADVANCE  
IES 3.23(S)**





**Environmental Awareness**  
**Pollution Awareness**  
**Pollution Control**  
**IES 3.01**  
**Basic General**

# Pollution

► Definition:

Any thing disturbing the system is called Pollution.

(Moral pollution is one of the major root cause of other pollutions)

# POLLUTION

```
graph TD; P[POLLUTION] --> T[TANGIBLE Physical]; P --> NT[NON-TANGIBLE Abstract]; T --> A["AIR (Immediate)"]; T --> L["LIQUID (2-3 yr Span)"]; T --> S["SOLID (5-10 yr Span)"]; NT --> M["MORAL"]; M --> MA[Educational Arrogance]; M --> MI[Educational Ill-literacy]; NT --> LEGAL["LEGAL"]; LEGAL --> UN[Unawareness];
```

**TANGIBLE**  
Physical

**NON-TANGIBLE**  
Abstract

**AIR**  
(Immediate)

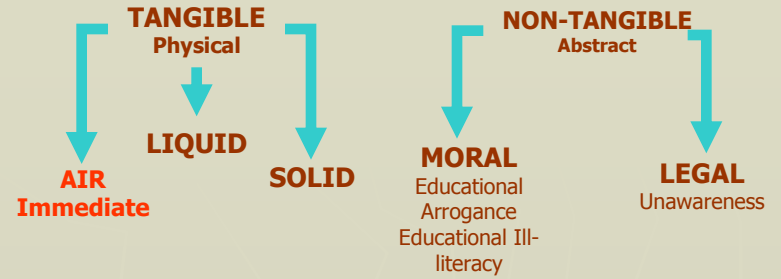
**LIQUID**  
(2-3 yr Span)

**SOLID**  
(5-10 yr Span)

**MORAL**  
Educational Arrogance  
Educational Ill-literacy

**LEGAL**  
Unawareness

# POLLUTION



# AIR

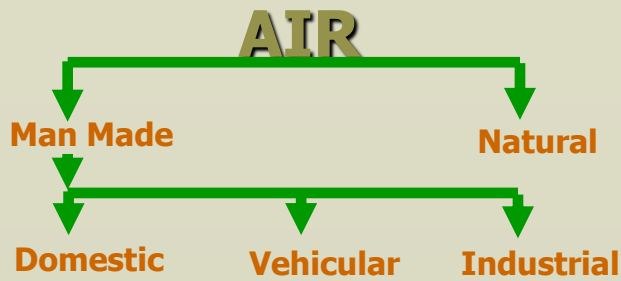
**Man Made**

**Natural**

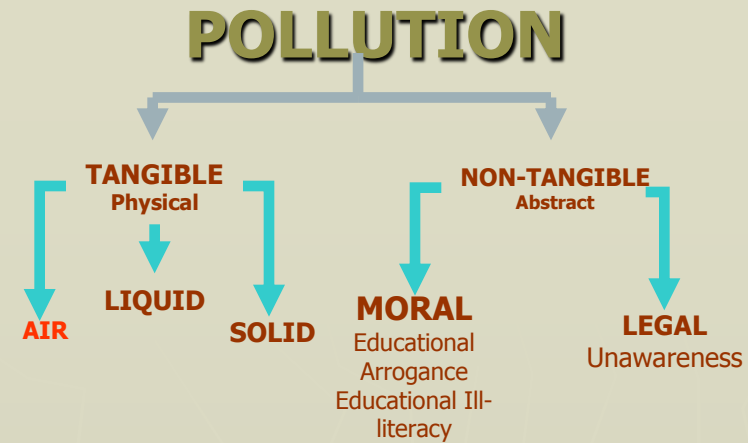
**Domestic**

**Vehicular**

**Industrial**

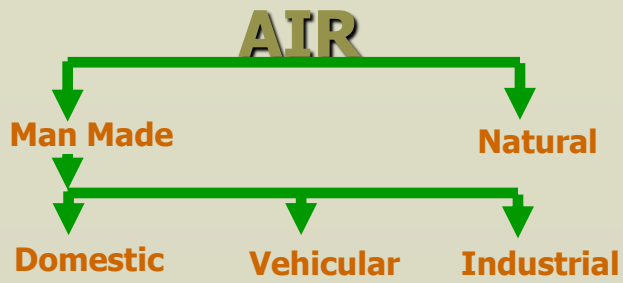


# AIR



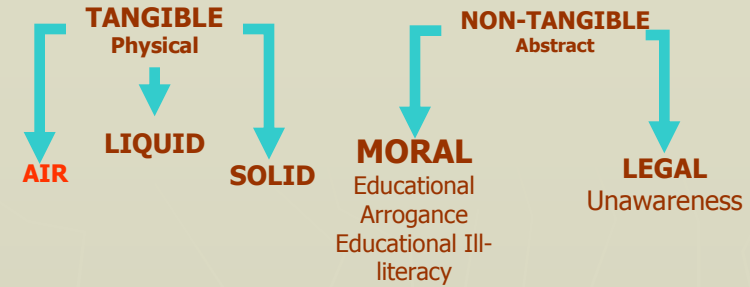
## ▶ DOMESTIC

- ▶ Kitchen Smoke, Refrigerants<sup>1</sup>, Oil from Kitchen
- ▶ Pesticides (DDT, FINIS, DETOLL)
- ▶ AEROSOLS (Spray, Perfumes, Air Fresheners, Other sources of CFC'S)
- ▶ Noise, Heat and REFRIGERANT



# AIR

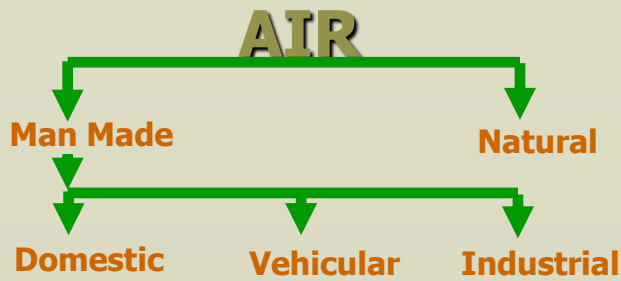
## POLLUTION



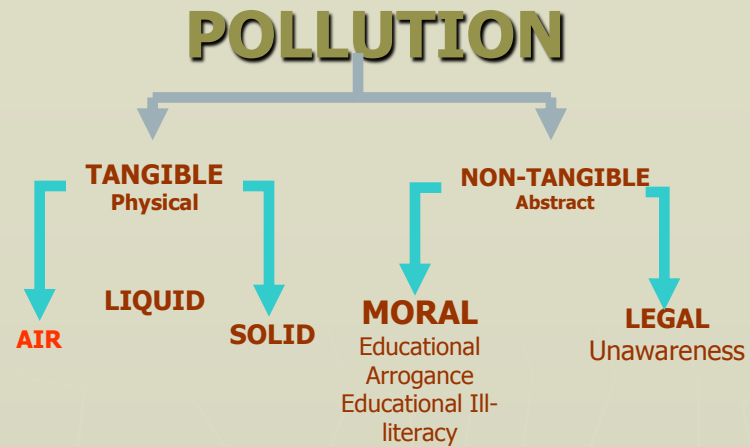
## ▶ DOMESTIC

### ▶ Smoking



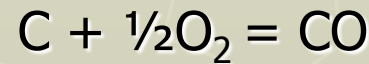
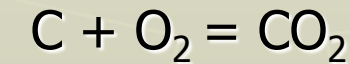


# AIR



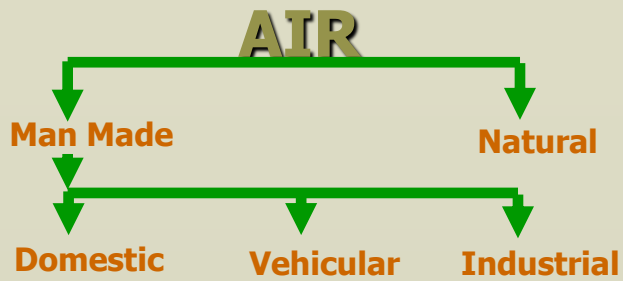
► IN BILAL GUNJ (LAHORE)

9 Laborers slept but could not get up.



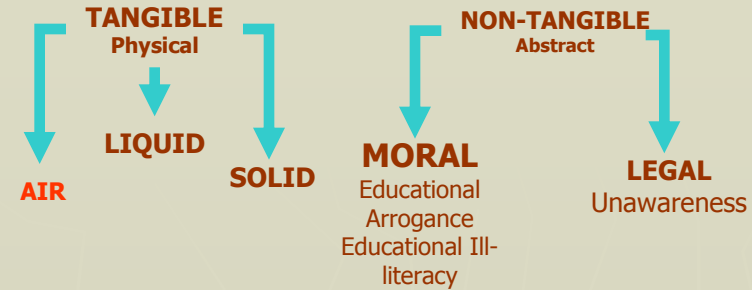
**Oxygen makes temporary bond with hemoglobin to get transported in the body. When there is a shortage of O<sub>2</sub>, CO makes bonding with hemoglobin & it kills.**





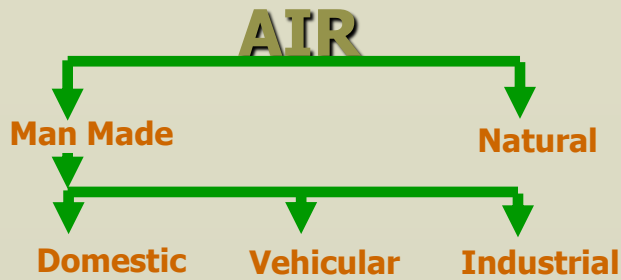
# AIR

# POLLUTION

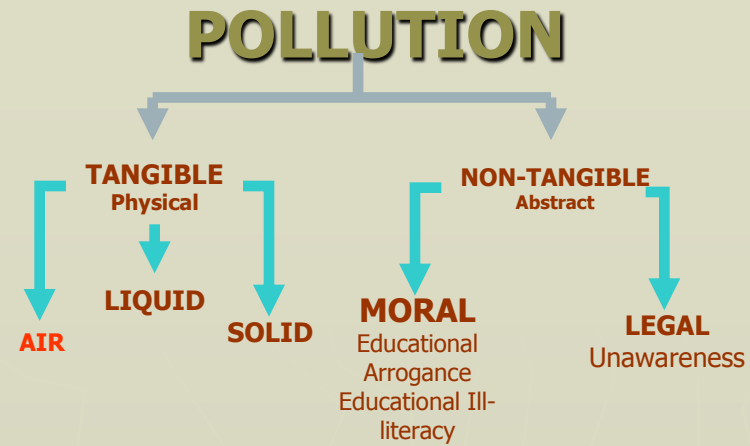


## VEHICULAR

- ▶ **Lead, Hydrocarbons (Unburned)**
- ▶ **Soot (Unburned Carbon)**
- ▶ **CO, NO<sub>2</sub>, SO<sub>2</sub>, 1,3-Butadiene.**
- ▶ **Noise (Horns, Engine), Heat, Acid Rain**

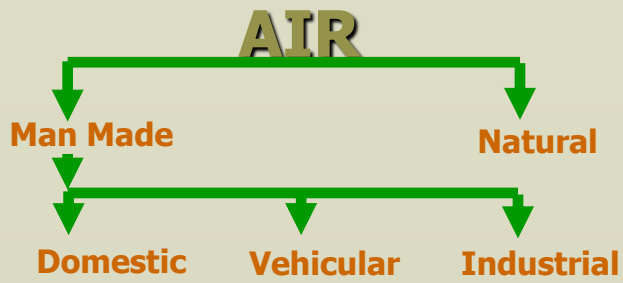


# AIR

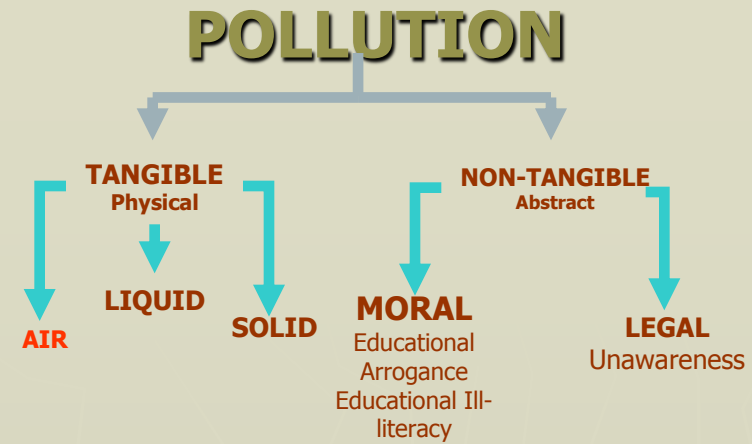


## ➤ INDUSTRIAL

- **HCl, Cl<sub>2</sub>, SO<sub>2</sub>, SO<sub>3</sub>, NO, NO<sub>2</sub>, N<sub>2</sub>O<sub>3</sub>, NH<sub>3</sub>, CO, CO<sub>2</sub>**
- **Particulate Matter, Radioactive Waste**
- **Noise, Thermal**  
(Heat Losses in canteens & cafeterias in Industries) (Ref Q/A)
- **Industrial Solvents for Cleaning and degreasing**
- **Dry Cleaners (Produce CFCs)**
- **Acid Rain, Pesticides, spray in factories, hospitals and institutes.**



# AIR



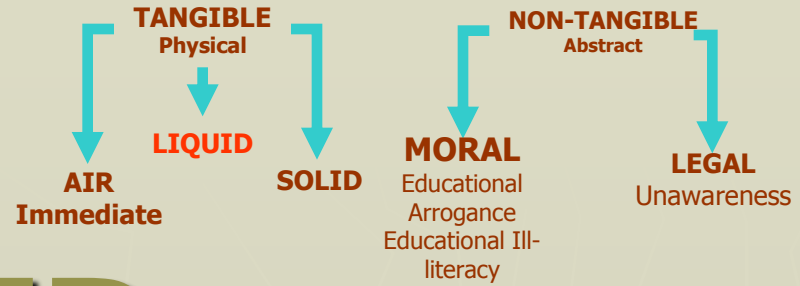
## ➤ NATURAL

- **Volcanic Activity (In Sea, Out Sea water leaves salts in air)**

- **Life Cycle (Dead Bodies)**

- **Storms and Tornadoes**

# POLLUTION



# LIQUID

**Man Made**

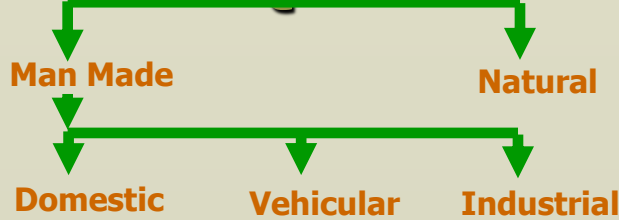
**Natural**

**Domestic**

**Vehicular**

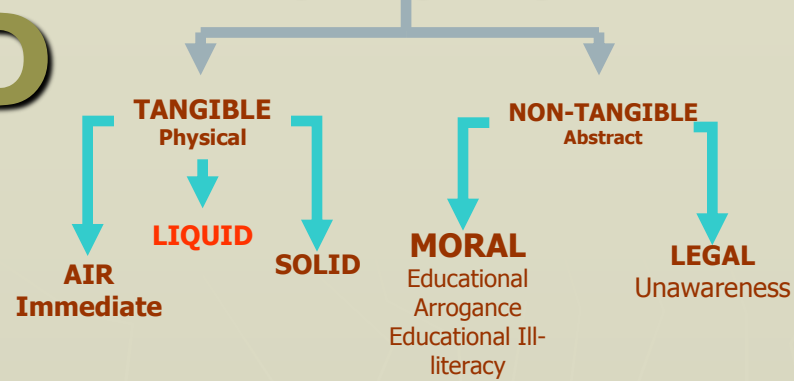
**Industrial**

# LIQUID



# LIQUID

# POLLUTION



## ▶ DOMESTIC

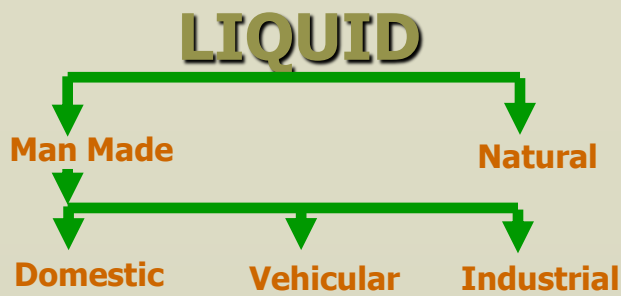
Toilet Waste  
Kitchen Waste

## ▶ VEHICULAR

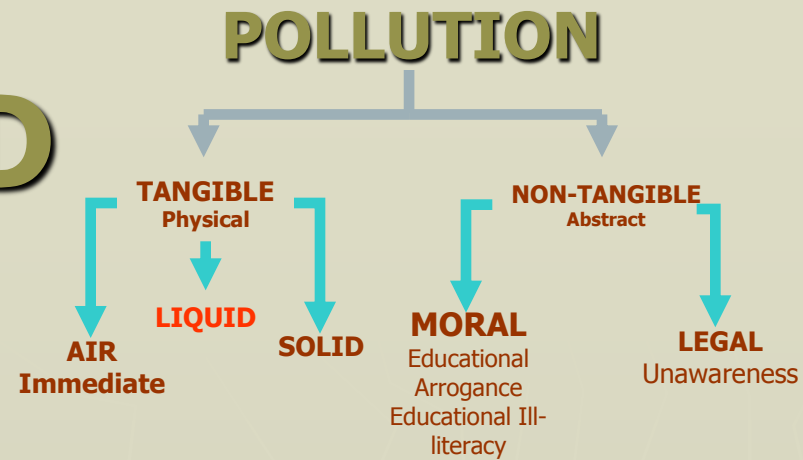
Aircraft/Train toilet, Kitchen waste,  
Engine Oil  
Animal driven vehicles

## ▶ INDUSTRIAL

Cooling Tower Blow Down,  $(ZnCrO_4)$   
Boiler Blow Down (Hydrazine)  
DM Water Waste (Resin regeneration) Cations  $K^+$ ,  $Na^+$ ,  $Mg^{++}$ , Anions  $CO_3^{-2}$ ,  $SO_4^{-2}$ ,  $Cl^{-1}$   
Radioactive waste (Green Peace Organization, Danger for BNFL)



# LIQUID



## ▶ PROCESS WASTES

Sugar washing

Paper black liquor

Alkali Industries (Hg, HCl)

Textile (Dye, Pigments)

## ▶ NATURAL

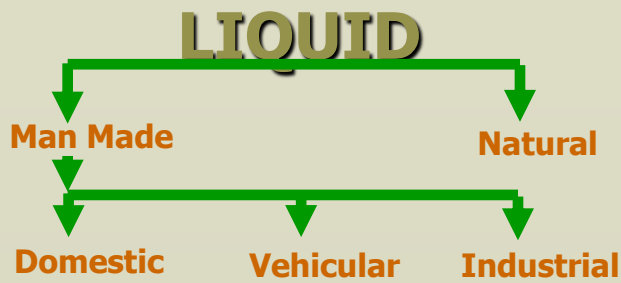
Volcanic Activity

(in Sea, Out Sea)

## ▶ LIFE CYCLE

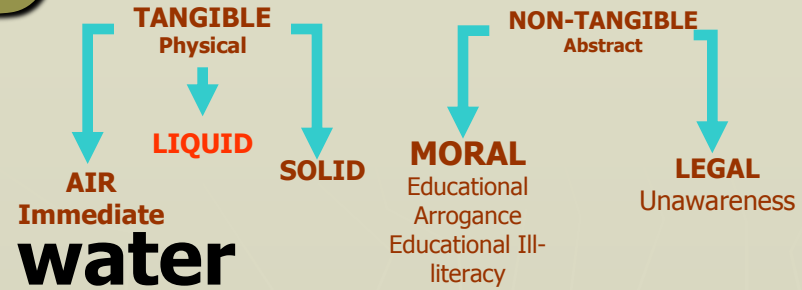
(Dead bodies In River/Sea etc)

Surface washing By Rain



# LIQUID

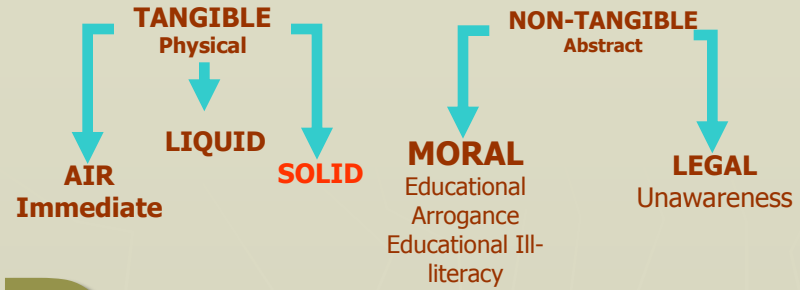
# POLLUTION



## Color dye drain in water



# POLLUTION



# SOLID

**Man Made**

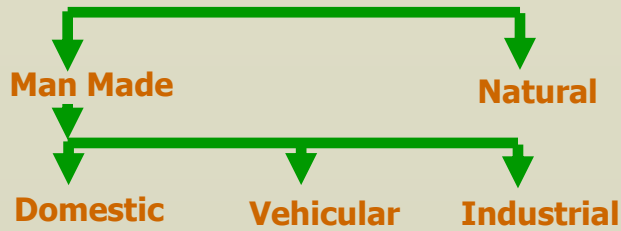
**Natural**

**Domestic**

**Vehicular**

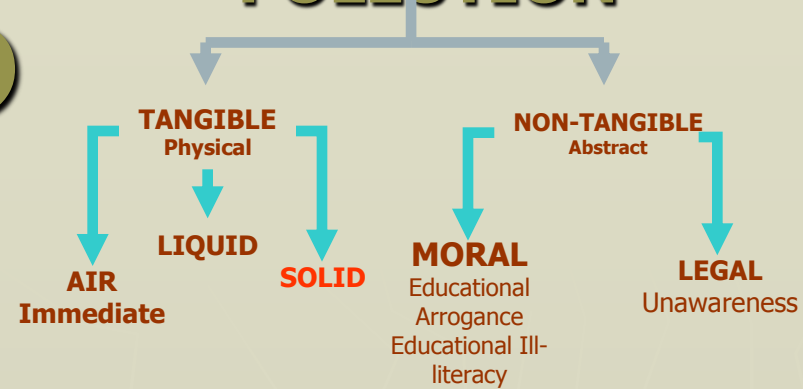
**Industrial**

# SOLID



# SOLID

# POLLUTION



## ▶ DOMESTIC

Packing Bags

Paper Bags

Metallic Foils

## ▶ VEHICULAR

Aircraft/Train kitchen Solid Waste

Animal Driven Vehicles

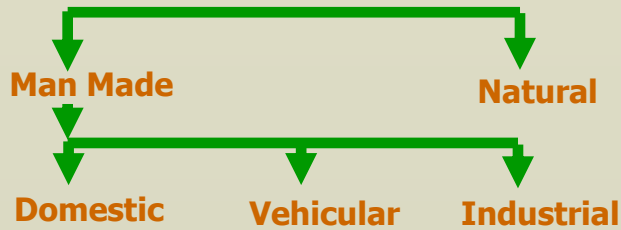
## ▶ INDUSTRIAL

Radioactive Waste

Leather Industry (Leather Clippings, Skin Hair)

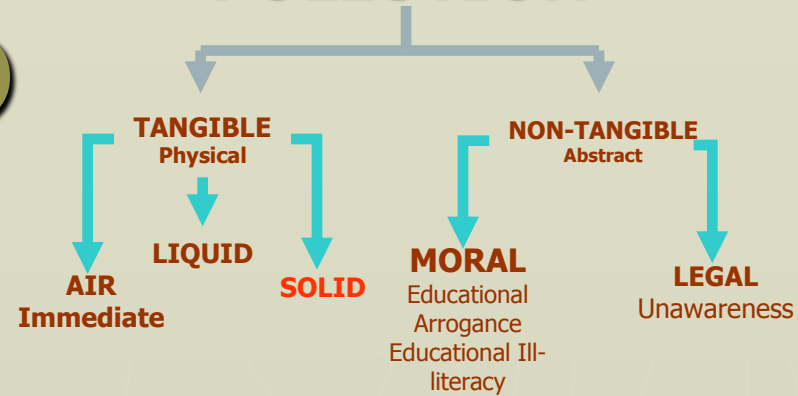
Sugar (Filter Cake)

# SOLID



# SOLID

# POLLUTION



► Take the following

1. Famous Bleach Cream Brand A
2. Archi
3. Amazing Bleach Cream Brand B
4. Most Sold Fairness Cream Brand C

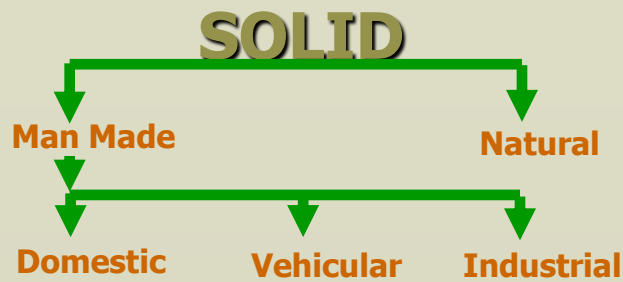
**Mix them in equal amounts ,then apply a single thick layer on your face at night, because at that time , the pores of face are open, [as your muscles relaxed and are away from dust].**

**Leave it till morning.**

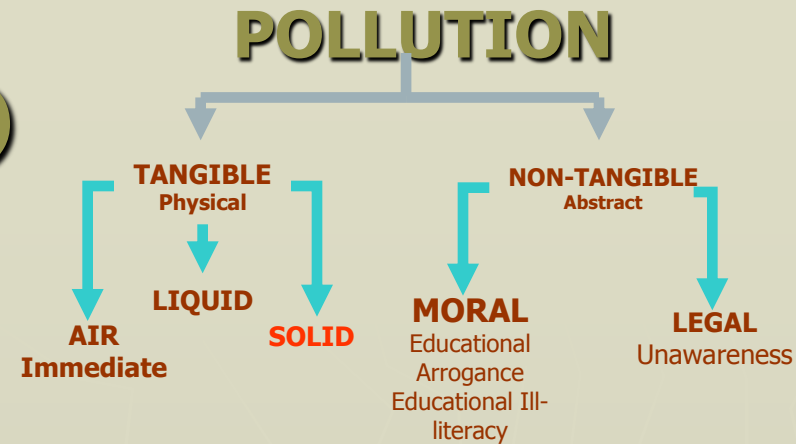
**It will be absorbed in the pores of your face as such leaving a waxy oil layer outside.**

**Remove it with any soap, which you use for face washing.**

**Apply it for one or two weeks, so as you can feel a better change and your face will be glowing and you will look beautiful.**

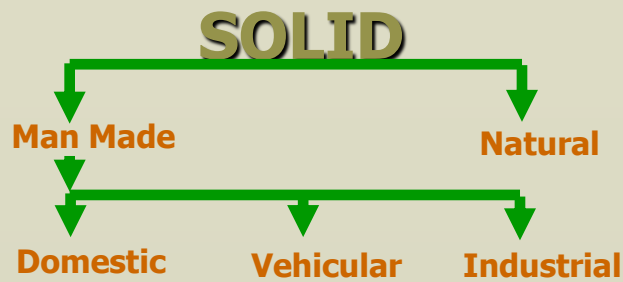


**SOLID**

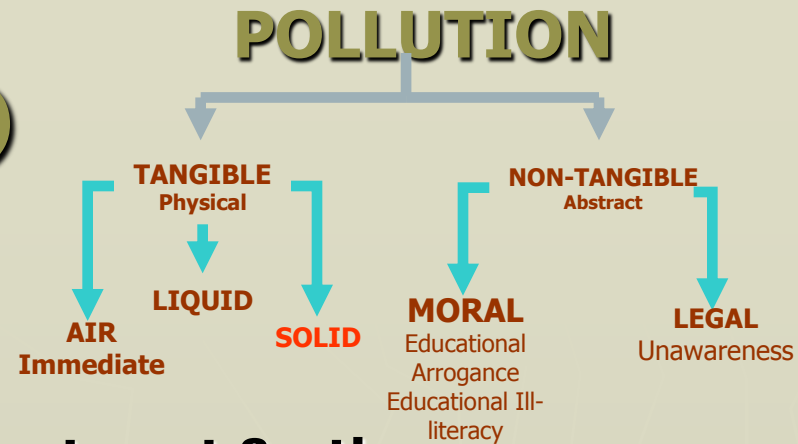


**A renowned senior skin specialist delivered a lecture on a leading TV Channel, explaining the side effects of above application, after 15 months will be as under;**

- 1. White and black patches appeared on the skin.**
- 2. Pimples (as U.V. radiations absorb into your skin after above application)**
- 3. Hormonal imbalance.( Which may result in facial hair growth\*)**

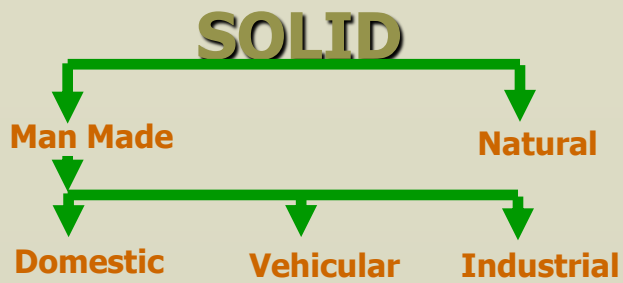


**SOLID**

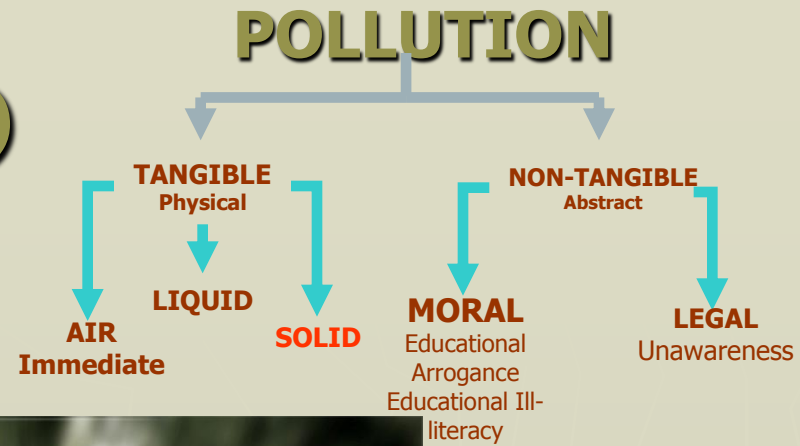


**\*then go for laser hair removal treatment & other treatments(1)**

- 1. This results in skin wrinkles and you will look overage, go for other treatments(2)**
- 2. Then go for plastic surgery, go for other treatments(3)**
- 3. Your skin will become expressionless and require regular treatment , Natural Beauty lost, go for other treatments & this causes many other effects and circle goes on**



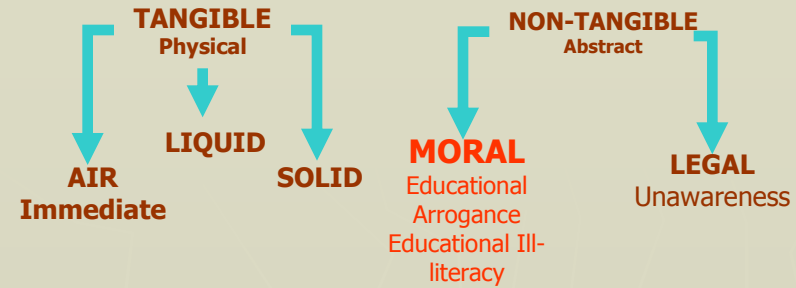
# SOLID



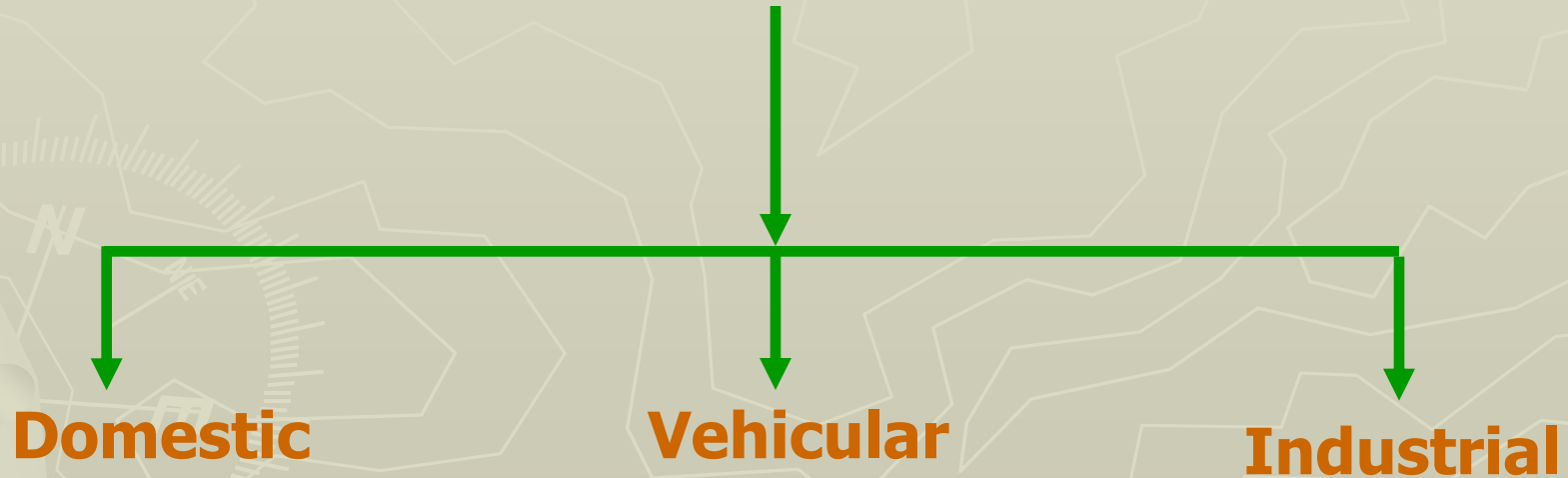
*L*ets prevent Littering  
**DO NOT** throw garbage out of your car, instead dispose it off properly.

**keep your enviroment clean!!**

# POLLUTION



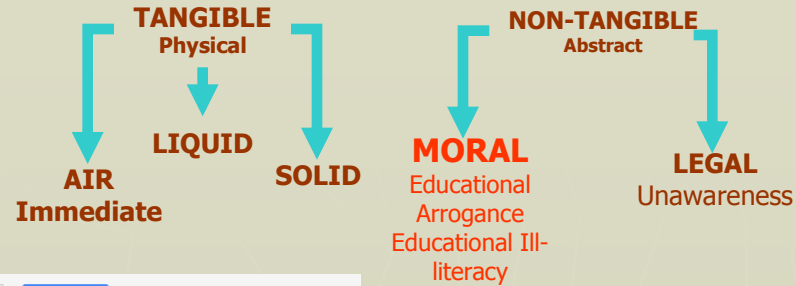
# MORAL POLLUTION



# MORAL

Domestic      Vehicular      Industrial

# POLLUTION



# MORAL POLLUTION

Google search results for "moral pollution".

Search bar: moral pollution

Results: About 10,500,000 results (0.24 seconds)

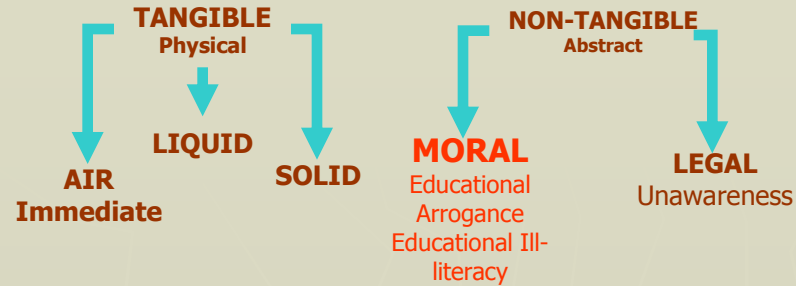
- [Moral pollution - المجلس الأدبي](#) - www.ye1.org
- [Moral Pollution - Parableman](#) - parablemania.ektopos.com/archives/2006/09/moral\_pollution.html
- [EDITORIAL ENVIRONMENTAL POLLUTION, MORAL POLLUTIO...](#) - www.adoratrici-asc.org/i/ftpasc/pdf/giu09\_en.pdf
- [Philosophy, et cetera: Moral Pollution](#) - www.philosophyetc.net/2006/09/moral-pollution.html
- [Environment Pollution: Physical and Moral - FMDA](#) - morality-fmda.org/chapter43.html
- [Moral Pollution - IMS Media Online Library](#) - www.imsmedia.org
- [Political Corruption: A Moral Pollution - Oxford Scholarship Online](#) - www.oxfordscholarship.com
- [Moral Pollution](#) - wordlist.com
- [A Greater Pollution](#) - www.renaissance.com.pk
- [Pope: Moral pollution from the media "harden hearts"](#) - www.christiantelegraph.com
- [Pollution As Moral Coercion Culture, Risk Perception ...](#) - www.cato.org
- [EUDict | moral pollution | English-Japanese dictionary](#) - www.eudict.com
- [The Church and the environment: address the moral pollution first](#) - www.ad2000.com.au
- [Religion and Child Abuse News: Moral pollution oozing from dark...](#) - religiouschildabuse.blogspot.com
- [A Physical Harbinger of Morality: Weather, Pollution, and The ...](#) - www.academia.edu
- [Moral Pollution - Calmando Qual - Discover music at Last.fm](#) - www.last.fm
- [The Ethics of Population and Pollution](#) - thecresset.org

Google Search Results  
10,500,000  
10.5 Million

# MORAL



# POLLUTION



## MORAL POLLUTION

### ▶ DOMESTIC

Lack of management setup

Management setup is there but people are ignorant about each other's status

Backbiting

### ▶ VEHICULAR

Driver and passenger behavior

Loose talking of passengers

Unwanted music by the driver

Telling off Driver without genuine reason

### ▶ INDUSTRIAL

Boss, Manager (Superiority complex, educational ignorance, seniority ignorance)

Workers, operation (Inferiority complex, why to follow boss, he is human being like us, he has weaknesses and that)

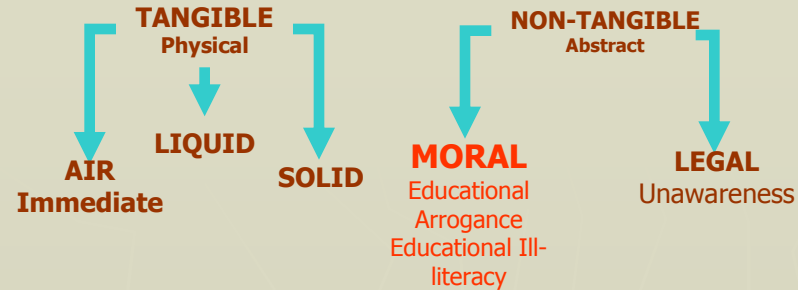
Backbiting

# MORAL

Domestic      Vehicular      Industrial

# Air Pollution

# POLLUTION



Air Pollution may be defined as any atmospheric condition in which substances are present at concentrations high enough above their normal ambient levels to produce a measurable effect on man, animal, vegetation or materials



Every day there are ten million empty seats on the road.



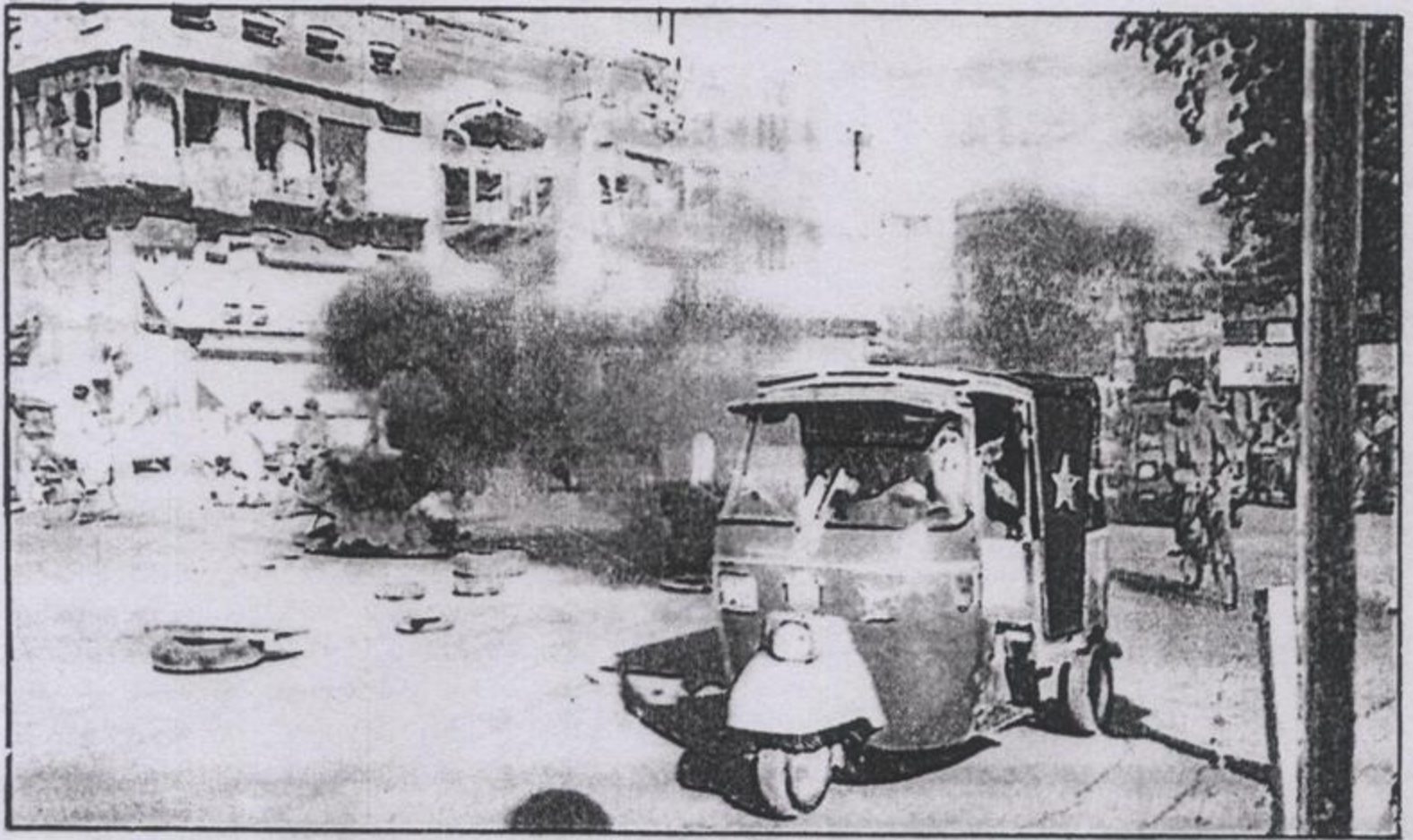
Encourage people to use public transport.



to cycle and to walk



Photograph taken on Leeds-Bradford Road during Educational Visit to UK



**FASHION OF ANGER & PROTEST**

# Vehicular Moral Pollution

## Prof Dr X, Officer's colony PU



# Industrial Moral Pollution

Consider for example  
**Do Moria Pul (Railway Station)**

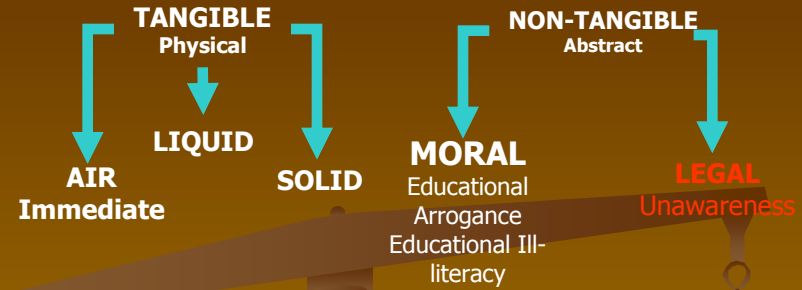


# Industrial Moral Pollution

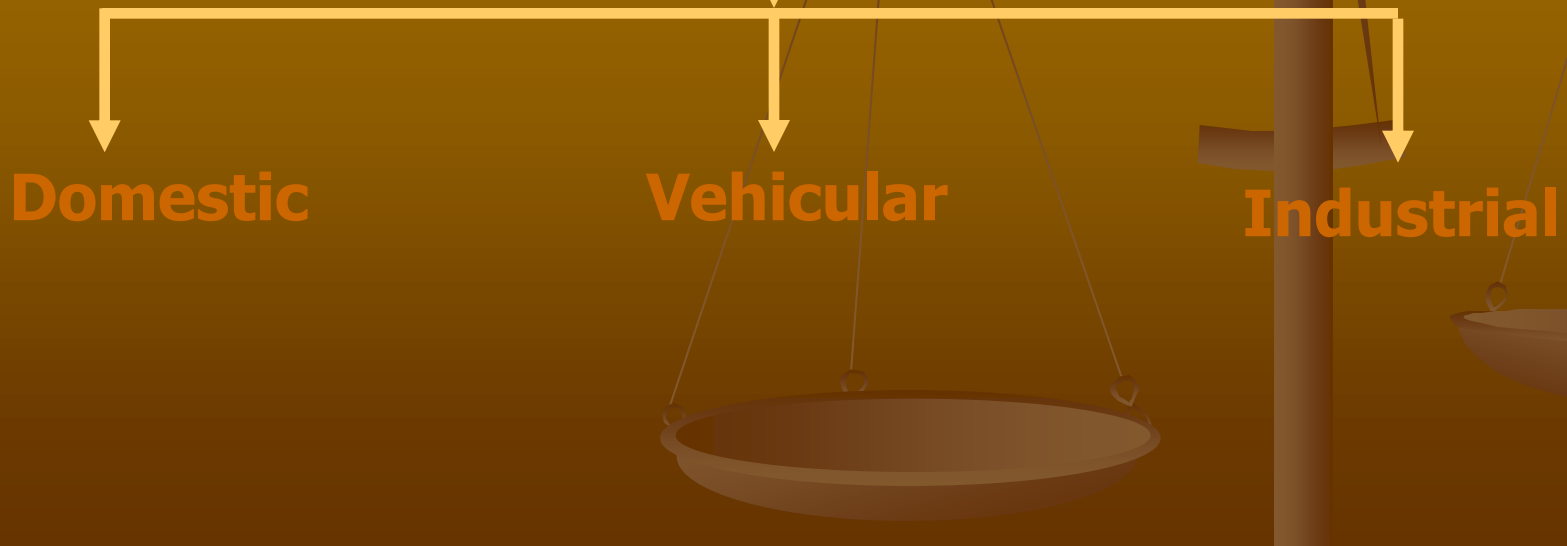
Consider for example  
**Canal Road Overhead Bridge**



# POLLUTION



# LEGAL POLLUTION



Take participants'

# Comments



Take participants'

# Comments



# Equality is not always Justice



**This is EQUALITY**



**This is JUSTICE**

# LEGAL POLLUTION

إِنَّ اللَّهَ يَأْمُرُ بِالْعَدْلِ [القرآن]

**Injustice** → **Leads to** → **Violence**

**Injustice** ∝ **Violence**



# QUESTIONS/ANSWERS

Green

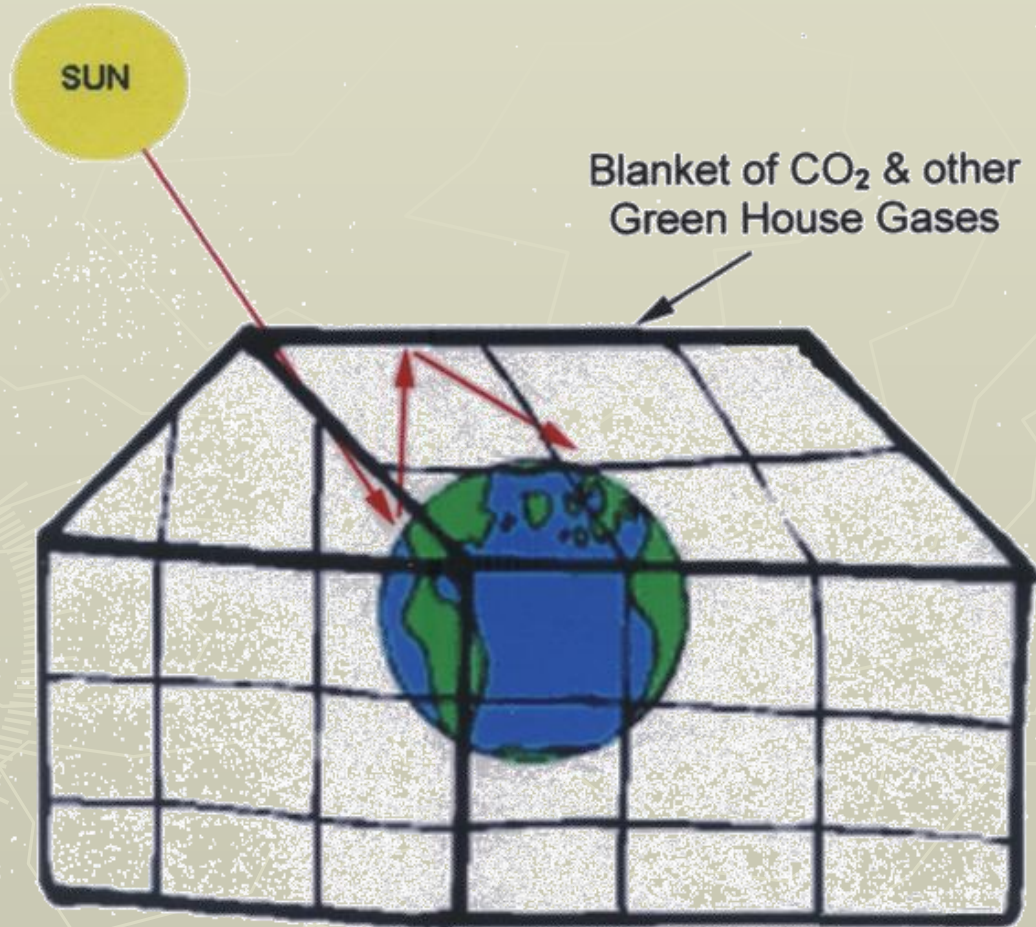
Tea

POSH

Bucket

Shukrun

# Green House Effect



# Green House Effect

A T M O S P H E R E



1 Solar radiation passes through the clear atmosphere.  
**Incoming solar radiation:**  
343 Watt per m<sup>2</sup>

2 Net incoming solar radiation:  
240 Watt per m<sup>2</sup>

3 Some solar radiation is reflected by the atmosphere and earth's surface

**Outgoing solar radiation:**  
103 Watt per m<sup>2</sup>

6 Some of the infrared radiation passes through the atmosphere and is lost in space

**Net outgoing infrared radiation:**  
240 Watt per m<sup>2</sup>

G R E E N H O U S E G A S E S

5 Some of the infrared radiation is absorbed and re-emitted by the greenhouse gas molecules. The direct effect is the warming of the earth's surface and the troposphere.

Surface gains more heat and infrared radiation is emitted again

4 Solar energy is absorbed by the earth's surface and warms it...  
**168 Watt per m<sup>2</sup>**

... and is converted into heat causing the emission of longwave (infrared) radiation back to the atmosphere

E A R T H



# Green House Effect

▶ Green house Gases:

1. Carbon dioxide ( $\text{CO}_2$ )
2. Water Vapors ( $\text{H}_2\text{O}$ )
3. Methane ( $\text{CH}_4$ )
4. Nitrous Oxide ( $\text{N}_2\text{O}$ )
5. Ozone ( $\text{O}_3$ )
6. Chlorofluorocarbons (CFC'S)

# QUESTIONS/ANSWERS

Green

Tea

POSH

Bucket

Shukrun

# Experimental Observations



## HEAT/THERMAL POLLUTION

(Increase in global temperature, enhances green house effect)

### STEP FOR FRIENDLY ENVIRONMENT



# Case 1

**Cold Milk**      +      **Qahva**      =      **Tea (Hotter)**  
**78 °F**                      **200° F**                      **180 °F**

**First pour milk in the cup then qahva from hot insulated cattle; final temp = 180 °F**

**In this case heat of qahva goes to milk and tea is hotter**

**OR**

# CASE 2



$$\begin{array}{rcccl} \text{Qahva} & + & \text{Cold Milk} & = & \text{Tea (Colder)} \\ 200\text{ }^\circ\text{F} & & 79\text{ }^\circ\text{F} & & 174\text{ }^\circ\text{F} \end{array}$$

**First pour qahva from hot insulated cattle; then milk from milk pot in the cup final temp = 174 °F**

**In this case heat of qahva goes to surrounding , by the time milk is poured qahva has gone cold and hence tea is cooler.**

**Room Temperature = 80 °F**

**$\Delta T = (200 - 80) = 120\text{ }^\circ\text{F}$  greater  $\Delta T$ , greater heat losses from qahva  
In case 1, milk in cup,  $T = (80 - 79) = 1\text{ }^\circ\text{F}$  smaller  $\Delta T$  no heat losses from milk**

# Heat Savings

▶  $\Delta T = 180 - 174 = 6^{\circ}\text{F}$

Considering the no. of cups made per day in a City/Province/Country we can save millions of calories of heat, thus less power generation, less fuel consumption, less SO<sub>2</sub>, NO<sub>2</sub> etc evolution, less pollution, less global warming.

# QUESTIONS/ANSWERS

Green

Tea

POSH

Bucket

Shukrun

# Experimental Observations

## CASE 1

**Before Mixing**



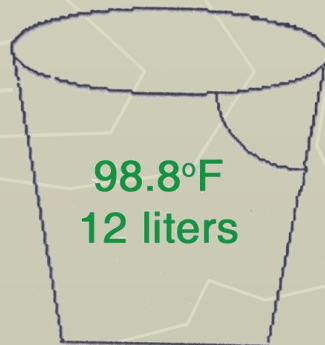
BUCKET  
(a)

+



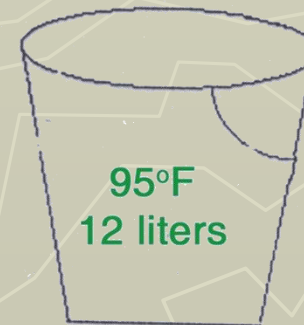
PAN  
(b)

**After immediate mixing**



BUCKET  
(c)

**10 minutes after mixing**



BUCKET  
(d)

# Experimental Observations

## CASE 2

**Before Mixing**



BUCKET  
(a)

+



PAN  
(b)

**Left the PAN for 10 minutes**



BUCKET  
(c)

+

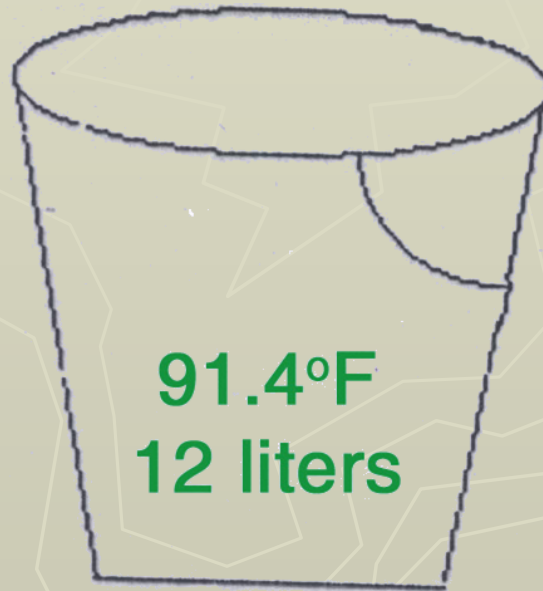


PAN  
(c)

# Experimental Observations

## CASE 2

**On Mixing**



BUCKET  
(e)

# QUESTIONS/ANSWERS

Green

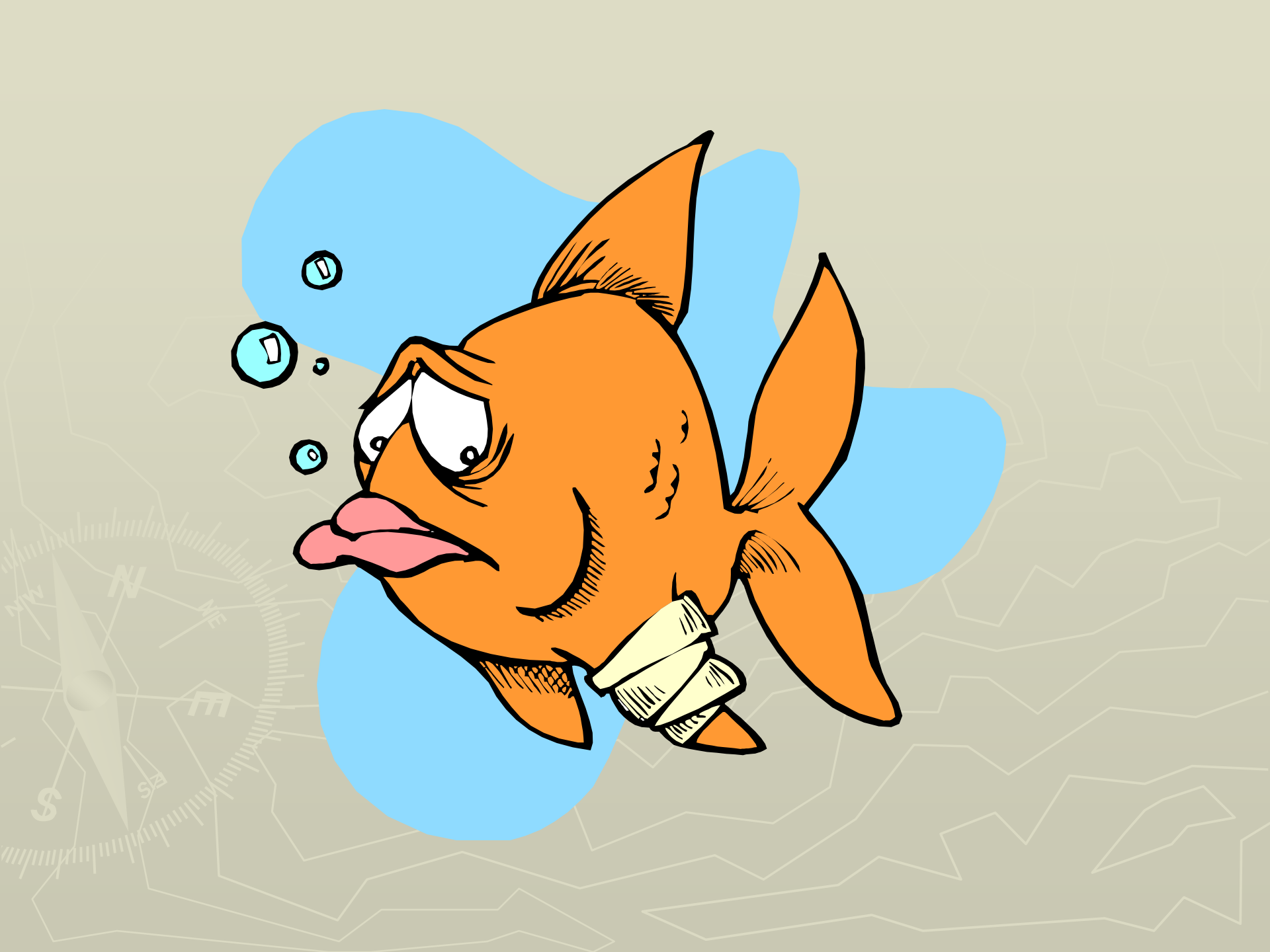
Tea

POSH

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# QUESTIONS/ANSWERS

Green

Tea

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Thank you for your  
enthusiastic participation.

Hoping to see you next time again.

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