

# South Asia : State of the Environment 2002 The Youth Version



## Children Of The MONS N

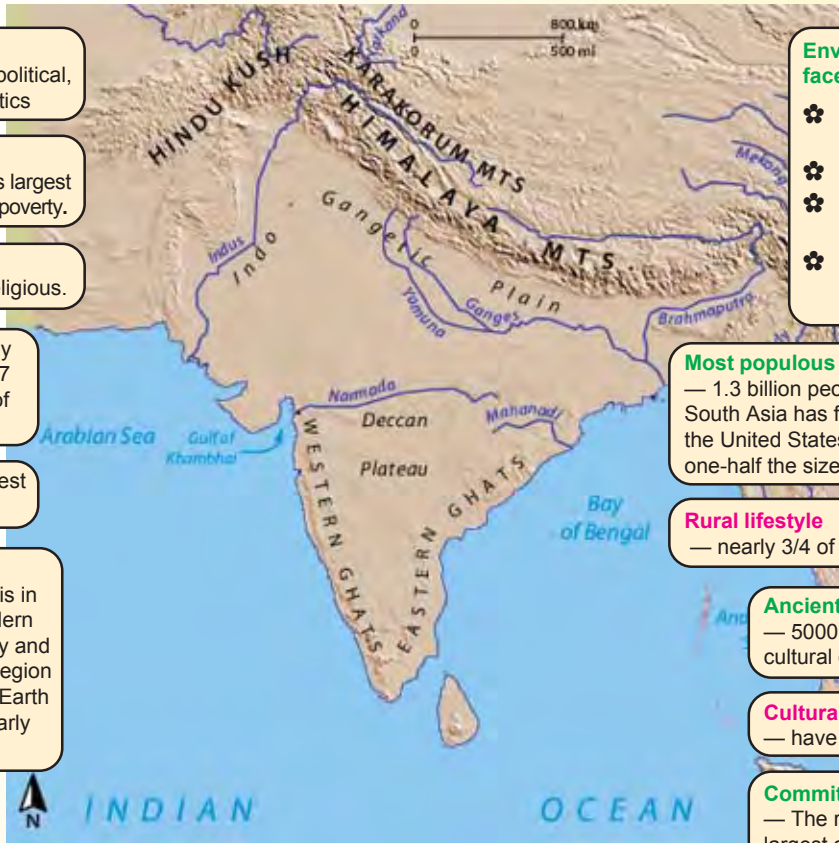


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# The Land of Monsoons: At a Glance



## Seven distinct nations

— with common cultural, political, and economic characteristics

## Dual economy

— industrial growth, world's largest middle class, and persistent poverty.

## National conflicts

— territorial, ethnic and religious.

**Land Area** : Approximately 4,29,16,000 Sq Km : or 1.7 million square miles, % of the world land mass.

**Water ways** : world's largest river networks exists here

## Food insecurity

— 50% of world's hunger is in South Asia. Although modern images often show poverty and lack of development, the region was one of the richest on Earth until foreign invasion in early 17th Century.

## Environmental problems faced by the region:

- ❁ Excessive land degradation
- ❁ Depleting forests
- ❁ Desertification
- ❁ Water quantity and quality
- ❁ Increase in energy consumption

## Most populous region

— 1.3 billion people, one-fifth of humanity. South Asia has five times the population of the United States in an area that is only one-half the size of the United States.

## Rural lifestyle

— nearly 3/4 of people live in rural areas.

## Ancient history and culture

— 5000 years of tradition and cultural continuity.

## Cultural and scientific advances

— have enriched the whole world.

## Commitment to democracy

— The region has the world's largest democracy (*India*).

	Population in 2000 (millions)	Infant Mortality Rate (per 1000 live births)	Population Doubling Time (years)	Life Expectancy (years)	Adult Literacy Rate, (percent)	Female Literacy	Military Expenditure Million \$
World	5,982	58	49	66.7	78.0	65	
Developing Countries	4,800	64	40	64.4	71.4	62	
South Asia	1,303.2	72	-	62.7	52.2	36	
India	1,029	71	37	62.6	53.5	38	9500
Bangladesh	131	81	38	58.1	38.9	26	380
Pakistan	146	95	25	64	40.9	24	3500
Nepal	25.3	75	28	57.3	38.1	14	40
Sri Lanka	19.4	17	57	73.1	90.7	87	500
Bhutan	2	87	22	60.7	44.2	28	na.
Maldives	0.3	53	32	64.5	95.7	93	na.

## Spectacular natural beauty and biological wealth

: Has 5% each of world's fauna and flora. The mangroves of Bangladesh, the virtually untouched forests of Bhutan, the coral reefs of the Maldives, Mt. Everest in Nepal, the Hindu-Kush region of Pakistan, Sinharaja in Sri Lanka... Nearly 28 places here have been identified as centres of plant diversity and endemism. Two of the world's biodiversity hotspots also lie here. Equally rich in agrobiodiversity and livestock diversity. Has made significant contributions to the world by supplying a wealth of timber trees, food plants, fruits, medicines, spices, fibres, oils, dyes and other useful plants for thousands of years.

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# Children Of The Monsoon

## South Asia : State of the Environment 2002

### The Youth Version

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in collaboration with



Development Alternatives



**NORAD**

DIREKTORATET FOR  
UTVIKLINGSHJELP  
NORWEGIAN AGENCY FOR  
DEVELOPMENT COOPERATION

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# FOREWORD



Dear Young friends,

**GreenTings!**

Despite the many global conferences and national discussions, our planet is certainly not in a healthy shape. The environment is in danger on nearly every front. Although awareness is growing that our present ways of living are not sustainable, humankind has yet to learn how to deal with the threats we have created to our life support systems.

The book in your hands has been written by the Children of The Monsoon, (the Youth of South Asia), as a stimulus for action. It describes the problems and suggests solutions, but most importantly it calls upon each one of us to act and become responsible for collective action.

As you go through the book you may be overwhelmed by the daunting problems that the South Asian region faces and that so much needs to be done. The book is not meant to make you lose hope, feel scared or even close it and never open it again. It may seem as if the problems are so big that there is no way one person or one organisation that could make a difference. You may think that reusing a plastic bag or cycling instead of taking a car is so trivial that it won't change anything. The fact is, every person can make a difference, and collectively we can make a BIG difference. It is up to you, and your community, to make choices and take actions that will solve the numerous problems that our planet is experiencing.

South Asia is a region which is economically poor and at the same time is also extremely rich in resources. The ancient culture, history, traditions and vast knowledge base has given its people a distinct edge in finding the solutions we are all looking for.

The youth of South Asia challenge you, and your community, to make your contribution to the cause of life. The book does not offer a panacea, it only offers some suggestions that will assist you and your group to develop your personal and community action plans.

The South Asian youth, while preparing this document, hoped that this would inform and inspire the readers, as they themselves were while preparing the document.

If we are going to create a positive change in the world, we must make a commitment to do something. It all starts with the first step, or sometimes even just a thought.

Hope we take a green U-turn.

A handwritten signature in black ink, appearing to read 'Klaus Topfer'.

Klaus Topfer,

Executive Director, UNEP

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**A Journey**

...9

**Breath Of Death**

...17

**MissionH<sub>2</sub>O**

...25

**Ground Realities**

...37

**COLOURS OF LIFE**

...43

**A TRAIL OF  
TOO MANY CITIES**

...51

**Will Vill-ages Survive**

...59

**REVENGE OF MOTHER EARTH**

...69

**SANS'-KRITI**

...77

**Vision**

...89

Children Of  
The MONSOON  
South Asia : State Of the Environment 2002  
The Youth Version

The Earth has a limit,  
the mountains and the seas.  
But the deep thoughts of men  
are without boundaries.





# INTRO | INTRODUCTION



# A JOURNEY



**“Om Mani Padme Hum, Om mani Padme Hum,..”** chanted **Darwu the Monk** as he climbed down the steps of the **Thyangboche Monastery**, breathing heavily in the thin, freezing rain. It had snowed the previous night and the steps of the monastery were covered with a light cloak of snow.

Thyangboche Monastery, as you all know, is in the Khumbhu region of Nepal. It sits on a hill at the confluence of the Dudh Kosi and the Imja Khola rivers, and has a clear view of the Mt. Everest. At about 3,867 m from the sea level, it is one of the most important religious centers in the region with about 35 monks residing in the monastery.

**Darwu Monk** is one of the oldest monks here. There are stories in the nearby villages which say he has been around for a century. But indeed, just looking at him one might think he has just crossed his 50.

On seeing the other monks of the monastery entering for the morning prayers, **Darwu** asked the Almighty Buddha for forgiveness in missing his morning prayers. This is the first time in many years he is missing it. And, yes he had a valid reason for it.

Today he expects some important visitors.  
Visitors from the region down below.  
Visitors from a new generation.  
And visitors on a mission.

A mission **“Save the environment, Save the region.”**

As the first rays of sunlight broke over the sky, lighting up the Everest, Lhotse and Ama Dablam mountain ranges **Darwu Monk** saw the visitors arriving at the Thyangboche Monastery.



**Darwu** was looking forward to the interesting meeting today. He was expecting 7 enterprising and concerned youth from the various countries of South Asia, to join him on a trek to the Khumbhu.

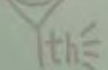
**Darwu monk:** **“Khye ran jel-ne ga-po joong! Nice to meet you!”**

As he welcomed the group with the traditional silk scarfs and butter tea, his thoughts flew back to the intriguing letter he had received a few weeks back.

**“We are concerned about the state of environment in our respective nations and in our sub-continent. We have heard of your nature-treks and the knowledge you impart through them. We would be extremely honoured if we could accompany you on such a trip.”**

Signed: **Dorji** (Bhutan), **Afzal** (Bangladesh), **Sidhant** (India), **Sadia** (Maldives), **Vikram** (Nepal), **Sunethra** (Sri Lanka) and **Nasir** (Pakistan).

On seeing these young visitors **Darwu** was reminded of his youth and how he as the eldest of the family was sent to become a monk. And how he along with his friends used to explore the unseen and unknown realms of the Khumbhu Himalyas.





**Darwu:** “Welcome to the land of Himalayas. So, prepared for the journey ? Are we?”.

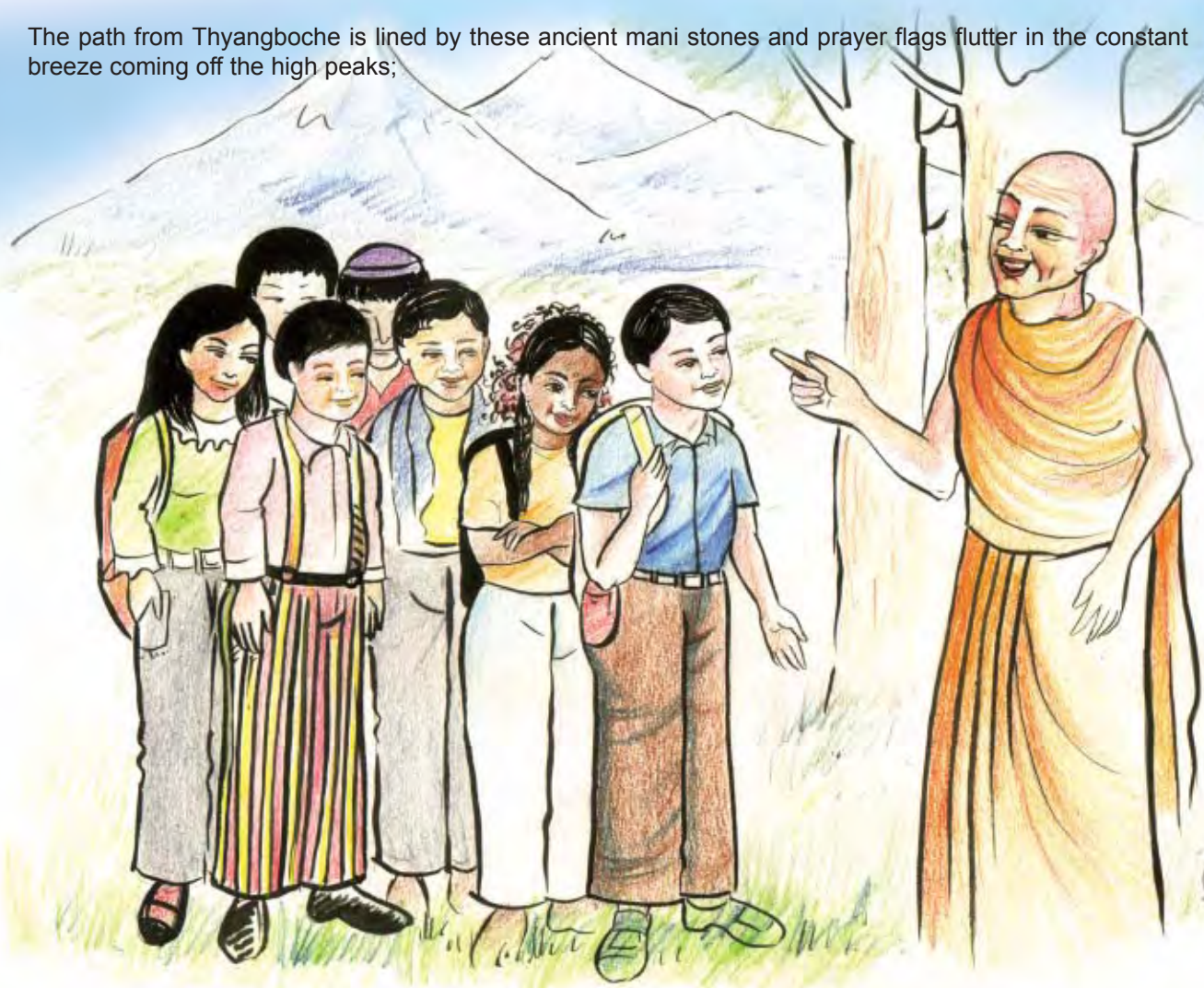
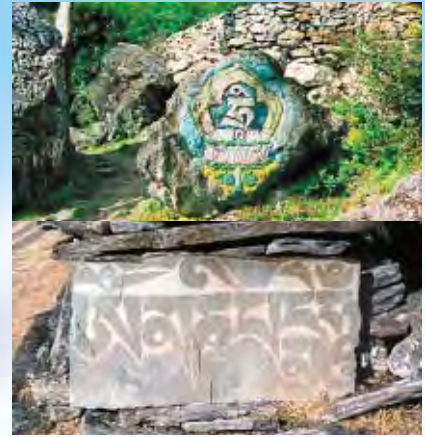
“Yes!”, came the resounding reply.

**Sidhant** had trekked a couple of times back in India. His walk upto Vaisno Devi temple near Jammu was the longest and most exciting so far. This, he had a feeling would be even more interesting. A lot looked different here. Firstly there are not many people on the path. No vehicles. No shops selling *puja* (worship) items. Only rocky mountain paths, wooden bridges across narrow rivers and the evergreen valley. Wait a moment, what are these?

**Sidhant:** “What are these strange stones along the path? And why are these flags all over?”

**Darwu:** “Mani Stones these are and inscribed have the mantra, “Om Mani Padme Hum.”

The path from Thyangboche is lined by these ancient mani stones and prayer flags flutter in the constant breeze coming off the high peaks;







**Darwu Monk:** “In 5 colours are these flags .Five colours for five Buddhist elements: earth, wind, fire, water and consciousness.”

**Sidhant:** “I want to carry back these flags and put them up on our roof top. It will be cool”

As the group passed by a Chorten, Tibetan for Stupa, Vikram, in true Buddhist tradition offered a ceremonial khata scarf on it.

**Sunethra** is an avid photographer. Ever since she completed her board exams she has been keenly interested in photography. Actually she had her own selfish reason to be on this trip. Photography was more important to her than environment.

**Sunethra** had read about the pine forest of the Dudh Kosi valley. But the pine forest visible consisted mostly of young trees and the legendary pine trees of large size she could not see.

**Sunethra:** “Hey, something is amiss! Where are all the sky touching pines we see in TV?”

**Darwu Monk:** “Cut in past years for building and constructions, and few devastated by fires some time ago.”

Then **Sunethra** saw this tree on the slope – it seemed as old as the hills. The pine tree of her imagination. The small deity resting at the base of the trunk was probably the saving grace for the tree.

And then it struck her – the tree was all on its own. There were no other trees of its age; the loggers had been too swift. That solitary tree reminded her of the Buddhist Monks in Kandy, in Sri Lanka.

She found herself comparing the beauty of the pine with the tropical forests of her country. .

**Sunethra:** “Does’nt the tree remind you of a meditating hermit, Darwu Monk?”

**Darwu Monk:** “Yes dear, fighting a lone battle he is...”

**Nasir:** “Oops!”

Down fell **Nasir**. He looked down to see what had tripped him and it shocked him.

“A coke can, of all things!”

What is a coke can doing in the pristine environment of the Himalayas?

**Nasir:** “It totally ruins the show.”







**Darwu Monk:** "Saw you did I, throwing the chewing gum wrapper half a mile ago".

**Dorji :** "Yes, even I saw you doing that."

Suddenly **Nasir** felt a little sheepish. It is people like him who are spoiling the show.

Here, in these snow clad mountains, where the white of the snow seemed to signify purity, waste remnants from the previous trekkers, made him realize that humans had been instrumental in environment degradation. He thought of the open garbage heaps back at home, growing every day. It was a rude reminder of the irresponsible attitude of the urbanites. He remembered his careless city days. In spite of his concern for the environment, he hadn't really changed his personal habits. Most of the times he would just throw away a poly bag or sweet wrappers, anywhere on the roads of Lahore.

And it struck him that urgent action is required from each individual to preserve and restore the environment.

**Nasir** looked at **Darwu Monk**. He did not have to say anything to him, the Monk just nodded at him. It seems **Darwu Monk** had read his mind and approved of his new resolution.

*It was already noon and they had walked to a Sherpa village called Sangboche. Everyone was very tired. They stopped for a short break. Water is a precious commodity in this region. Darwu Monk had advised everyone to be well prepared with lots of drinking water. A hard days trek makes one thirsty.*

But **Afzal** our friend from Bangladesh had not paid much heed to his words.

**Afzal:** "What is this? I drank up all the water? Not a single drop left?"

He shook his empty water bottle. The trek had tired him and he longed for some water. He thought of his life back in Dhaka where he would let the water bucket overflow without caring a damn. He never gave a second thought to all that water wasting down the drain. His parched throat was now making him miserable and he would have given anything to taste a drop of that cool, clear liquid – water.

**Darwu Monk:** "Extra bottle for an emergency, I do have. Here Afzal, take this."

**Afzal:** "Thanks a lot Darwu Monk. Thank you very much. You really are a good buddy."

**Darwu Monk:** "Kay-nang-gi-ma-ray !

**Afzal:** "What was that? Kay nang..what ever?"

**Darwu Monk:** "It means 'You're Welcome' in the local language !"

The Monk smiled gently. When he smiles the wrinkles on his face becomes more prominent. This makes him more lovable to the group.

**Dorji** is from Thimpu. The capital of Bhutan. **Dorji** was immensely enjoying the trek. He felt at home in the beautiful Himalayas. His country had worked hard at the preservation of its environment. He hoped the trend would continue always

"Ah....wonderful", **Sadia** took a deep breath of pure air. This is her first trip to the mountains. The air is rather thin no doubt but her lungs heaved a sigh of relief.



Malé, the capital of Maldives where **Sadia** lives has a growing concern due to dust, smoke, and fumes from motor vehicles. But the biggest concern for her is global warming and the climate change caused by it. Low-lying islands like the Maldives would be submerged by the rising sea level.

**Sadia:** “Oh, Darwu Monk , is’nt there a magic spell which can remove this pollution from the face of the Earth and make every place as clean and fresh as they were originally?”

**Darwu monk:** “Of a Magic spell, I have no clue, but the real magic lies in you.”

**Sidhant** saw this colourful bird – resembling a pigeon but sporting various vivid colours. He was amazed.

**Sidhant:** “ Hey, what a lovely bird ! Which one could it be? Does anybody have a clue?”

**Vikram:** “My God, Sidhant don’t you know, this is our national bird the Danfaé.”

**Sidhant:** “Wow, these Danfaés are really pretty. But honestly Vikram, nothing to beat our peacock.”

**Vikram** glared at **Sidhant**.

**Darwu Monk** smiled seeing **Sidhant** and **Vikram** fight. He was growing fond of all the young visitors.

**Darwu Monk:** “ Fight do you?

*A friendly fight is it ?*

*Yes, ...fight for the environment! Not with each other!”*





Vikram, from Kathmandu, was having mixed feelings. Proud that his country was so richly blessed with the beauties of Nature, but sad that it was not being managed properly.

It had been a very long day.

An expedition through the winding paths of Khumbhu Himalaya, and a journey along their conscience.

Everyone in the group was going through a turmoil of thoughts:



**Nasir:** *How has our environment become so polluted?*

**Vikram:** *Why haven't we woken up to the truth as yet?*

**Sidhant:** *How are we going to preserve our environment?*

**Dorji:** *How can we make this destruction stop?*

**Afzal:** *What can we do?*

Finally, back once again at the Thyangboche Monastery as the group put up their camps they saw the giant Himalayan peaks of Everest, Nupche, Ama Dablam and Pumori tower above them.

Suddenly **Sadia** who had been silent for a long time came up with an idea.

**Sadia:** *“Let us all make a promise right now , a promise to fight to save for our environment .”*

**Sunethra:** *“I second that !”*

*“Yes ! let's all make this promise.”* came the resounding reply from the group.

As the glowing snow of the mountains reflected the setting sun, the group made an offering to “*Chomolungma*”, as the Everest is called by the Sherpas .

An offering to dedicate their lives to a better environment for all.

And in this fight **Darwu Monk** would guide them through their inner doubts and questions, provide inspirations towards their goal.



**Darwu Monk:** *“Yag-po zhe daa, ...very good.”*

*“Honoured I will be.”*

Everybody gathered around **Darwu Monk** and together they sat down to discuss the state of environment in their region.





*Anwar Hossain, Bangladesh  
( Source: Ozone Action Programme, UNEP DTIE)*



Breath of Death

AIR



AIR

# Breath of Death AIR

**Afzal :** Hey Nasir why are you carrying so many medicines with you?

**Nasir :** Well I suffer from Asthma so I need to carry a lot of medicines.

**Afzal:** Oh Oh ! Even my 2 year old nephew has frequent asthma attacks already. These days the kids are really weak. Not as strong as we used to be.

**Nasir:** That's sad. But know what? Since the day we stepped here I feel as if my lungs are filled with fresh energy and I do not need my medicines here.

**Afzal:** You are right. I had a horrible cold since the past one month and it has vanished like magic.

**Nasir:** Perhaps it is because of the pure oxygen we are getting here. Wish I can live here forever and get rid of my asthma.

**Afzal:** Or rather our cities become as clean as this so that we all could breathe easy.



People in South Asia are used to waking up to blue skies and the sun shining brightly. They are used to inhaling fresh, clean air. The only time the skies turn from blue to grey is for the rains. So what's the story now? Now there are grey skies most of the time, and not because the cities are being visited by the rains. Its because the air is polluted.

## WHAT IS AIR POLLUTION?

**“Pollute” = to make foul, unclean, dirty, taint, contaminate ...**

**So 'pollution' means 'contamination of any feature of the environment '.**

To put it simply, lets just say that air pollution is the contamination of air by damaging substances released into the environment as a result of human activities and even natural activities like volcanoes and dust storms.

## WHY IS IT IMPORTANT?

Do you really need to ask this question? We inhale and exhale, huff and puff, we blow, sniff and sigh.....**WE BREATHE** .

And through all these little exercises we do not even think of the one thing that makes all of this possible.  
**Air !**

Of course we take air for granted. Its always around. Why would it ever vanish? Well.....Have you ever tried holding your breath for even 60 seconds? Have you held your head under water? Or even worse, have you ever been in a room with no doors, no windows, not even a little slit to let in air? How would you feel, desperately wanting to breathe but not being able to?

**The future might very soon be just this way unless we do something quickly.**

## CHANGE OVER TIME

When life evolved all living things on the earth breathed pure, clean air. The air had 78 % nitrogen , 21 % oxygen and 1% other gases. Plants, trees and forests flourished. So did the animals and early man.

Then man rubbed two stones and fire was discovered. And soon after, that the wheel.

With this everything changed. Man made progress by leaps and bounds and left other concerns far behind. The environment was one of them.



And then, in the 19<sup>th</sup> century, the Industrial Revolution happened. But we can't really blame the Industrial Revolution for the quality of air now, can we?

We needed the Revolution to make progress and to develop our societies and countries. And yet what we have failed to do is to strike a balance between technology and the environment.

What we are doing is taking huge steps forward at the cost of our environment.

apart from this, there are badly maintained roads and automobiles, and traffic congestion.

Each year billions of tonnes of pollutants are generated and released into the atmosphere. Many come from known and identified sources, but even then no concrete and sincere action is taken.

Today we would love to grab some fresh air anywhere but it seems to be out of reach. The air is so choked with pollutants that we would probably be afraid to inhale too much.



*"I am better with a blocked nose" - Imran*

## THE INVISIBLE ISSUE

Air pollution is a serious environmental concern in our region. South Asia is a developing region where on the one hand you have growing industrialisation coupled with unplanned urbanisation and on the other you have large scale deforestation. All these just compound air pollution.

Air pollution is mainly caused by burning of fossil fuels to produce energy for our various uses. Use of poor quality fuels only worsens the problem. And

The plants and trees are the only source of fresh air we have left. They are like a life support system. But even this realisation doesn't seem to have deterred us from acting foolishly. Our population is expanding rapidly, unchecked, and so are the needs and demands. So we cut down forests, keep churning out newer and newer automobiles and air crafts, and have industries whose chimneys are constantly puffing smoke.



AIR





**BUT WAIT...**

## *There's only so much that the environment can tolerate*

We can't just go on polluting the environment and expect nothing to happen. If we ill-treat the very air that we need to exist, then we should prepare ourselves for a future where clean air will be hard to come by. It will become so precious that we would then be forced to learn to treat it well. But won't it be too late?

*Imagine oxygen cylinders being delivered to your home every week....*

*Imagine having to wear an oxygen mask when you're outside....*

*Imagine having to pay for pure, clean air....*

## **BREATHING = SMOKING: A COMMON STORY**

The Colombo Metropolitan Area is the most polluted region in Sri Lanka as it accounts for 60% of all vehicles and 85% of the country's industrial facilities. The transport sector is the biggest contributor to air pollution. The number of vehicles here have increased by an average of 6% annually. The use of diesel for transport and power generation purposes has also grown by double digits. A major problem is prevalence of low quality fuel as most gasoline is leaded and diesel produced contains high levels of sulfur (0.8 % as opposed to 0.05 % in many developed countries).



*"Imagine people having two noses by 2032 "  
- Shruti Gopal*

Similarly in Dhaka, air pollution has reached an all time high. By mid-day, the sky over the city is virtually blanketed by a thick layer of black smoke affecting the health of its residents as well as its natural environment. It is estimated to cause 15,000 premature deaths and several million cases of illness every year. The poor are particularly vulnerable due to above average physical exposure to air pollution.

The Pakistan Environment Protection Agency carried out a study to investigate the ambient air quality in three major cities: Lahore, Rawalpindi, and Islamabad, and to find out pollution levels in traffic-congested areas. The study showed that the average suspended particulate matter in the cities was **6.4 times higher** than the World Health Organization (WHO) guidelines and **3.8 times** more than Japanese standards.

In Kathmandu pollution is most noticeable in the late spring and early summer months, at which time haze forms through a combination of dust, household smoke and automobile exhaust fumes. The use of low quality fuel along with poor maintenance habits, results in the incomplete combustion of fuel, which is the main culprit.





## INDOOR AIR POLLUTION: SAFE BREATHING ENDANGERED

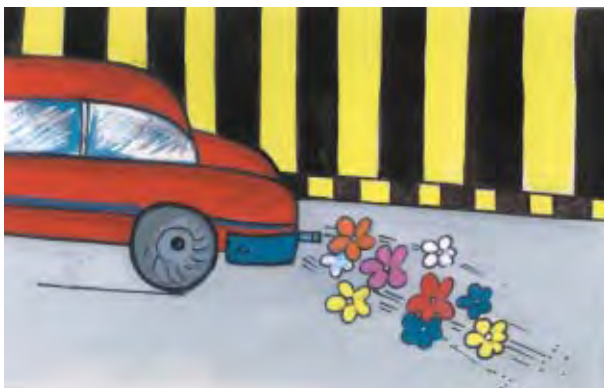
“ In Nepal more than 80% of total demand for energy is supplied from the traditional fuels such as fuel wood, agricultural residues and cow dung. In rural areas, these traditional fuels are major source of energy. Almost all people use these fuels for cooking and heating purpose and their burning creates indoor air pollution. This adversely affects the health of the inhabitants and poor ventilation system further aggravates this.

It is very common to find people of rural areas having respiratory diseases such as bronchitis, coughing and eye irritation due to Indoor smoke pollution. To avoid this problem some NGOs and Government agencies have started the introduction of smokeless stoves which are more efficient than traditional stoves. hopefully this will reduce the problem in days to come.”

- Sidhi ,Kathmandu

“Just a few years ago, the first monsoon rains after the scorching summers, were welcomed literally by singing and dancing in the rain. The first rains also cured our eruptions on the skins due to prickly heat. But these days we are literally scared of even getting wet in the rain, as it brings with it all the pollutants suspended in the air and is acidic.”

- Anuradha Rao, India



Clean fuels by 2032

“Air, air everywhere  
But not a part to breathe.  
Can you tell me what to do,  
If we are left with no trees.”

-Twinkle Chopra, India

“It first became visible  
and then it lead to grey  
now it's becoming blacker  
and blacker by day .

Just wipe your face with a white cloth at the end of a day. The black particles are what we get back after burning all the fuel in our vehicles and factories. We can clean our faces, but how do we clean our lungs?“

- Shubham Yogi, New Delhi

## SAFAI TEMPOS

“The three wheeler diesel Tempo was introduced in Kathmandu in the 1980's and their number increased tremendously afterward. Since then the air quality of the Kathmandu deteriorated rapidly mainly due to emissions from the three wheelers, which proved to be cheap on money but costly on the air. Realising seriousness of the problem, some NGOs and local youth started movement against the diesel Tempo even though they were providing good service in public transportation. They banned these vehicles from entering some streets. After a few months of conflict and struggle, the Government took it positively and forced diesel Tempos to convert into electrically operated vehicles. Now the government has declared that no diesel tempos will be allowed to run in the streets of Kathmandu if it is not converted to electric vehicle. Now we call these “SAFAI TEMPO” that mean “Clean Tempo”.

-Sidhi, Kathmandu

“Your child shall inhale  
What you today exhale ”





## WHY DOES THE CHANGE CONCERN ALL OF US?

Air draws no boundaries. It roams free on the Earth. We all breath the same AIR, which is why we have to be more responsible. Let's look at a simple example

Say your neighbour burns his leaves in his garden and the wind is blowing in the direction of your home. What happens? Aren't you left choking too?



*This is Taj Mahal, a wonder in black and white*

Well, a similar effect can be seen on a global scale. Pollution in one country affects others. For instance if the monsoons that originates in Indian Ocean and the Bay of Bengal becomes acidic, it will affect people living in the entire South Asia

## HEATED AIR ... MELTING EARTH

The one Earth we have is getting heated due to air pollution. Global warming is happening as all the carbon dioxide collects in the atmosphere and traps some of the heat going back to space, like a green house. This is expected to raise the global

## Pollution

- P - Pollution, Pollution and Pollution
- O - O Alas! A problem all know, but not the solution
- L - Large amount of fumes and smoke
- L - Lots of gases being poked
- U - Uncountable number of factories and car for which we don't care
- T - Tearing off the ozone layer
- I - If we want to save our environment
- O - Or even save the living creatures
- N - Now is the time to behave like better and responsible creature

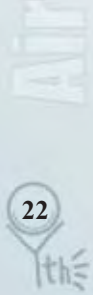
**- Mridul Kapoor, Delhi**

temperature by 2°C. Already the summers seem longer and hotter with each passing year in this region.

Global warming could melt the 15000 glaciers in the Himalayas in 40 years if the current rate continues. The Gangotri Glacier, from where River Ganga originates, has lost one-third of its 15 mile stretch in the last 50 years. The result of such shrinking would deplete water supply to the Ganga, Brahmaputra and Indus rivers in the region. Experts fear that the reduction in the water supply would critically affect even the distant plains which have so far been supplied water by these rivers and around 500 million people would be in trouble.

"Climate change effects will be felt over a century?? Not at all. We are feeling it in our short life spans itself. The summers all over India are becoming longer and warmer. This winters, the mango tree started bearing flowers in January itself, three months before they actually ought too. Longer summers mean more water and power shortage, more diseases, more discomfort."

**- Ambika Sharma, India**





Far away from the Himalayas a little bunch of islanders are also facing the problems of global warming. We would probably understand the gravity of the situation if we read an excerpt of the address given by His Excellency Mr.M.A.Gayoom, President of the Republic of Maldives at a Special Session of The UN General Assembly in 1997.

“Ten years ago, I stood at this podium and spoke about the impending dangers to my country, the Maldives, from sea level rise. Much has happened since then, but the threat to my country has remained as alarming and as urgent as ever. The irony, too, is no less painful: my country is amongst the least contributors to environmental degradation. For small island states the biggest environmental threat would stem from climate change. Increased, or even the present level of emission of greenhouse gases will lead to a degree of global warming that would cause a worldwide rise of ocean levels. 80% of low-lying islands, such as the Maldives, and many in the Pacific Ocean, would be totally submerged. “

The threat is not limited to tiny island states like Maldives with small populations. By the same magnitude of sea level rise, extensive areas of Bangladesh, Sri Lanka, India will be seriously affected.

That is why we need to think and act globally. Of course we must start locally bearing in mind that the impacts of our actions will be felt elsewhere .



*Anand, I told you not to play outside  
- you will dirty your lungs*



*“If air changes climate and we change air,  
This way we will have nothing to breathe here”*

**-Rohan Francis, India**

## **LIFE WITHOUT AN AIR CONDITIONER? “Unimaginable!!**

“Well not really if you ask my Dada (grandfather). He says when they were young there were no electric fans too! Boy! Then how did they manage in the scorching summers? “Dear one”, he replied, “the summer season was not this intense then. And the breeze from nearby lush green areas and water bodies had a cooling effect. And at that time we slept on our terraces, we actually felt cold in the night.”

Even I have vague memories of sleeping below the twinkling stars on our terrace. But now a days this practise has ceased, as the air pollution and the concretisation of the city do not allow temperatures to fall even in the night.

The water bodies and green areas have almost vanished now. So all of us are highly dependant on Air Conditioners for the eight months long summer. This does consume more electricity but we cannot have an air cooler as it needs so many buckets of water every day, and water is scarce too. Thus the Air Conditioner works fine except when there are the frequent power cuts. Our diesel generator is not able to run an Air Conditioner.”

**- Rajat Mehta, India**





## The youth of **TODAY** can make a difference to **TOMORROW**

We can give ourselves and others cleaner and purer air to breathe if we make the effort. Start with ourselves and spread the word. We must make people sit up and realise that these are vital issues and that it is necessary to act before its too late. Here are some suggestions on how each one of us can help

- ✧ Tread the Earth lightly. Use mass transport system or car pool. Share your vehicle with colleagues and neighbours while traveling to same destinations. Save money and save air!!
- ✧ Ever tried cycling? It is not only a great exercise but also a totally non-polluting way of commuting. Cycle or even walk wherever and whenever possible.
- ✧ In your own vehicle use good quality fuel. Also do regular and systematic maintenance of your vehicle, which will help in reducing fuel consumption and hence curb air pollution.
- ✧ If you see a vehicle which is polluting excessively, note down its number and report to traffic police.
- ✧ Stop smoking. Its not just the smokers' lungs that suffer. The non-smokers who inhale the smoke become passive smokers. Push for more non-smoking zones in your city.



- Pahun Jain, India

- ✧ Do not burn waste or leaf litter. Give paper and plastic for recycling and compost garden and other biodegradable waste.
- ✧ Do not burst crackers on festivals and other occasions. There are other ways of celebrating festivals which do not harm our environment.
- ✧ Electricity is primarily produced by burning coal. So save electricity and reduce air pollution. Like switch of lights and fans when not in use.
- ✧ Do not use chemical based insecticides or pesticides, instead use herbal ones.
- ✧ Avoid products made of CFC's like aerosols and styrofoam cups.
- ✧ Create Green Spaces: Plant and nurture atleast one new tree every year !! Every tree you plant clears the air by absorbing carbon dioxide and releasing oxygen. This is one of the cheapest and most effective ways of improving air quality.
- ✧ Have plants inside the house too.

### *On a Larger Scale*

- ✧ Improve public transportation facility. The challenge is to expand and improve the transportation system, which would reduce reliance on privately owned vehicles.
- ✧ Alternative fuels like CNG (Compressed Natural Gas) and LPG are increasingly being considered. A high priority for South Asia is to reduce lead content in gasoline.
- ✧ The energy of sun, " a celestial powerhouse", can also be harnessed and utilised for various purposes like power generation, cooking and heating. Other renewable energy sources like wind, biomass and ocean should also be promoted extensively as they are CLEAN and even villages can benefit from them.

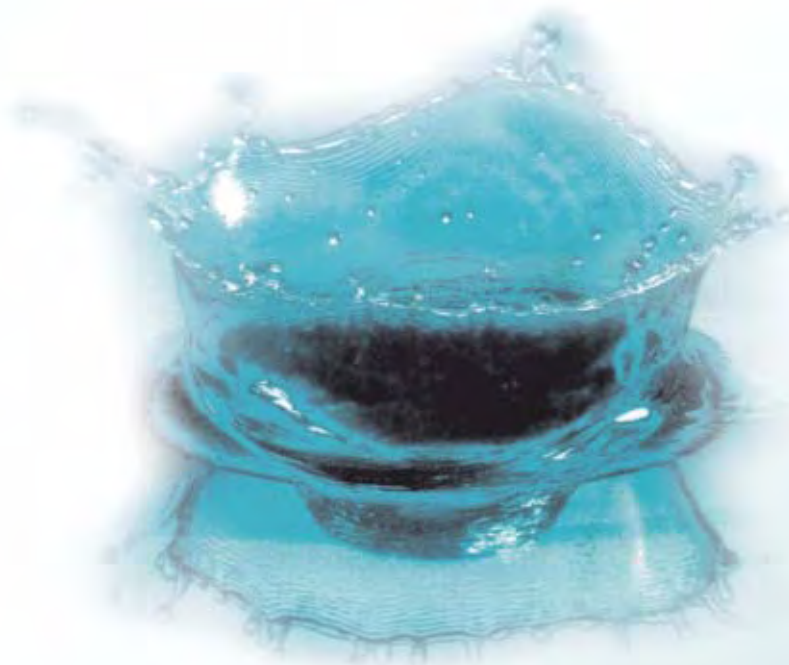
**Breathe again. That's what all of us should be able to do. And we the youth are responsible for making it a possibility.**



**So it is time that we start acting NOW.**

# Mission H<sub>2</sub>O

WATER



Water



After a nutritious and self cooked dinner the youth gather around for a chat. Sidhant narrates a folk tale with his own personal twist " Once upon a time there was an honest, hard working but a poor farmer. One day he accidentally drops his axe into a river and starts weeping. Taking pity on the poor farmer the Goddess of the river comes out and offers him a silver axe but the honest farmer denies that to be his. Impressed, the goddess then returns with a gold axe, which is also not accepted. The Goddess finally brings a dirty axe out and the farmer says "Even that axe isn't mine!!" The Goddess replies "Oh, yes it is. But you have to wash it with clean water to recognize it!" Everybody bursts out laughing.

Monk " Imagine a river which dirties rather than cleans. Is this not becoming a truth about our water these days? "

# Mission H<sub>2</sub>O

WATER



When Neil Armstrong saw the earth from the moon he saw a blue sphere, glistening like a jewel in the darkness of space, because  $\frac{3}{4}$  of the Earth's surface is covered with water. Were you to drop an object to earth from space, the chances are seven out of ten of it falling into water.

## IMPORTANCE OF WATER

Life on this planet owes its existence to water. Some very simple organisms can exist without air, but none without water.

Life without water is impossible and yet we take it for granted. It readily flows from our taps when turned on. Most of us are able to bathe when we want to and even swim, water our gardens, wash our cars and clean our homes. Like good health we ignore water when we have it.

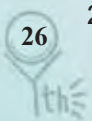
But where there is no water, there is no life. Did you know that 60 – 65 % of your body is water? When the amount of water goes down by even 1 % we feel thirsty, a 10% drop can cause our skin to shrink and a drop of 20 % can cause death by dehydration.

## WAT-ERR ISSUES

One thing that best connects South Asia is its rivers. Transcending the political boundaries many rivers originate in one country, flow through another and finally meet the ocean in another country. Bangladesh has 57 rivers which originate from neighbouring countries. Let us dive into some of the major **water issues** in South Asia that are cause for concern:

Water is H<sub>2</sub>O, hydrogen two parts, oxygen one, but there is also a third thing that makes water and nobody knows what that is

- D.H.Lawrence





## 1. Floods

South Asia, also known as the region of rivers, experiences floods as a recurring phenomenon. Floods have historically caused immense damage and death in the region. Even in recent years, with the sophistication of science and technology, with the region has not been able to prepare for the assault of nature. There are many reasons why floods occur like an exceptionally heavy rainfall or cyclones which result in flooding of coastal areas. Floods can also be directly attributed to **Man-made factors** like breaching of an embankment, or sudden release of water from dams. More over deforestation is proving to be one of the biggest causes of floods.

## 2. Droughts

Every year people in the South Asian region wait anxiously for the monsoons to arrive -like blessings from the heavens bringing water to the parched Earth. Over the years, while the monsoons have become shorter and shorter, the droughts have become longer and more frequent. And when monsoons fail to arrive or are below average in the region, trouble begins! Droughts force thousands of people to migrate to the already exploding cities or to irrigated areas in order to survive. And those who remain behind have no access to adequate supplies of food and clean water, facing the dangers of starvation and disease.

South Asia is a region of contrast, where on one hand there are floods in certain places, many on the other



*AQUA: source of life*

face grim droughts. Some scientists say that this is due to **global warming** !!!

However apart from global warming there are other local or regional causes as well. Like we are much to be blamed for unashamedly cutting down of forests consequently leading to a decrease in rains.

On an average the region receives more rain / snowfall than any other continent in the world except for South America. During monsoon, most of the water runs off and flows into the sea leading to less replenishment of ground water. If all this rainfall were collected, it would form a 1 m thick sheet of water. We use only 1/10<sup>th</sup> of this every year. This is the reason that an area which is faced with floods during monsoons, has water scarcity during other months. Even Sri Lanka has had to deal with drought in the past !!

These extremes are due to mismanagement of water . The traditional forms of water storage and **rain water harvesting**, which are now being realised as a good way of managing water, have almost vanished.

Can rain water really be harvested? Yes. Are you puzzled as to how ? Well rain water harvesting essentially means collecting rain water and storing it for direct use or for recharging groundwater. Rain water harvesting is thus a double edged sword taking care of both floods during monsoon and droughts during summers. The idea of rain water harvesting is gaining importance in many cities in South Asia. Some countries have also tried to recycle and desalinate water.





### *Saving on a rainy day!!*

Cherrapunji, in the state of Meghalaya in eastern India, is famous as it receives the heaviest rainfall in world. But in dry months it experiences acute water shortage. This is mainly the result of extensive deforestation and improper methods of conserving rainwater.

On the other hand many places in Rajasthan, western India which is a desert state, follow water conservation and management. Because of this they have more water available than Cherrapunji during the dry season. To fight drought, villages have pooled together money and have taken the initiative in building water harvesting structures like johads (check dams) to hold back rainwater. This has even revived some rivers and has transformed the ecology of the place and the lives of the people. Their relationship with their natural environment has been strengthened.

### *3. Water Scarcity*

Water is scarce and so very precious. But we don't seem to use it judiciously. In developing region such as ours, not every household has the luxury of 24 hours water supply. Most of us receive water only for a few hours a day and yet don't feel the need to conserve it.

For instance, a simple act like leaving the tap running while bathing or brushing leads to enormous loss of clean water. The water of course goes down the drain and is unfit for consumption. We probably do this everyday thoughtlessly. But can you imagine how much water we are literally throwing away!! To meet the increasing water demand of the spiralling population, cities are turning to ground water. Farmers too are pumping groundwater faster than nature can replenish it.

Everywhere overuse of the ground resource is depleting water tables. Groundwater mining is causing the drilling of deeper wells and the cost of tapping these aquifers is ever growing. In India, as much as a quarter of its grain production could be at risk as a result of ground water depletion. It also impacts our health. Excessive pumping of groundwater has caused arsenic contamination in many parts of Bangladesh, while parts western India faces fluoride contamination.

### *4. Water Logging and Salinity*

Salinity in soil occurs when strong sunshine pulls saline elements present in the groundwater to the soil surface. In certain areas of Pakistan, where rainfall is less, canal irrigation without adequate drainage leads to a rise in groundwater due to water leakage. About 3 million hectares of irrigated land in Pakistan has been damaged by water logging and salinity. Both decrease land productivity substantially. In extreme cases, the land becomes barren.

Availability of water resources is a limiting factor for economic and social development in island country like the Maldives. It relies almost entirely on the monsoons for its water supply. The overpumping of ground water is causing salinity intrusion into the freshwater and a sea-level rise would compound the risk. Similarly the coastal states of Gujarat and Tamil Nadu in India, too face with ingress of salt water in ground water, making it unfit for consumption or farming.



### **Sita's Story : "The wells do not dry now"**

**"We are poor people. What could we do about our problems?"**

Like her mother, the 25 year old Sita had been helping her husband on his small agricultural land located in the semi-arid expanse of the Bundelkhand region in central India.

Sita never attended school and was married before the age of ten. Recalling her girlhood she notes that even then, water was the major constraint. **"Water is the biggest problem... it will solve all the other problems."**

With water being the most critical limiting factor for agriculture it is easy to understand Sita's assertion. In 1990 Development Alternatives (DA), an NGO worked with people in Sita's village to build a check-dam. Along with DA the villagers decided where the check-dam would be located. Local material and labour was to be used to construct the dam.

"Check-dams" are small barriers built across the direction of water flow on shallow rivers and streams for the purpose of water harvesting. The small dams retain excess water flow during monsoon rains in a small catchment area behind the structure. Pressure created in the catchment area helps force the impounded water into the ground. The major environmental benefit is the replenishment of nearby groundwater reserves and wells.

Sita says, "It's nice that the check-dam is built. Now it is much more convenient. The water level of wells has increased...."

A strange phenomenon also occurred. In areas near the check dam, lush green vegetation could now be found even during the dry, hot months. This meant better fodder for Sita's cow.

Sita explains that now they can grow an extra crop in a year and sell the surplus in the market. The extra income means that her family does not go hungry anytime of the year and in fact even can afford to buy better food. It also means security against impoverishment and migration, and improved quality of life.

All this because as she adds with a smile **"The wells do not dry now."**

## **5. Water Pollution**

You are thirsty. You fill a glass with water.

You're about to take a sip.

**STOP!**

Take a good look at the water.

Do you see anything?

No, of course you don't.

None of us would be able to see the microbes in the water. Most of us don't even know from where, the water we drink, or bathe with or brush with, comes from. If we knew the source or how polluted it actually was, we'd probably faint.

Water pollution is one of the most serious environmental problems in South Asia. Let's dive deeper.

Since water is constantly and openly flowing through the ecosystem – as clouds, rain, underground water: in rivers, lakes, ponds: through cities and fields – it picks up and carries whatever we leave behind.

And being a universal solvent, it easily picks up and carries bacteria, viruses, heavy metals, toxic chemicals ..... and many other unwanted substances. Once into the water, the aquatic life is affected and it is also rendered unfit for human consumption.



**Vision 2032: We go to another Planet to fetch water!**







When the well is dry, we know the worth of water.

- Benjamin Franklin

Recharging of groundwater happens when water, particularly rainwater, percolates through the soil till it reaches an aquifer. The layers of soil act as sieve, filtering the water as it passes each layer. But if the very soil itself is contaminated by toxic wastes and pesticides, the water rather than getting filtered gets contaminated further. The chemical pollutants in the soil get dissolved easily with the water and seep down and contaminate the entire groundwater deposits. Cleaning of surface water is still feasible, but once ground water is polluted, only God can clean it again !!!

Who is responsible for water pollution? Is it only the industries who dump their untreated effluents in water ? No. WE ALL are responsible. Lets swim through the ways water is polluted:

### a. Industrial Effluents

Industries that use large amounts of water for processing have the potential to pollute waterways through the discharge of their waste into streams and rivers, or by run-off and seepage of stored wastes into nearby water sources. Though the industries play a major role towards the regions endeavour towards self-reliance, many of its activities have a degrading effect on our environment . The rapid growth of industries has not been accompanied by adequate waste treatment facilities. Water is thus one of the prime victims of this unplanned growth.

### b. Domestic Sewage

This is the wastewater that is discarded from our households. Sewage generated from the urban areas in the region has multiplied manifold since the past 50 years.

As cities expand in the region without proper waste treatment plants, rivers and streams are being used increasingly as receptacles for their waste. Almost 90% of waste water in the region is discharged directly into water bodies. Many people also dump their garbage into water bodies , making them the final resting place of cans, bottles, plastics, and other household products. In fact our cleaning agents like detergents, bleaches contain chemicals harmful for aquatic life.

Ironic isn't it, because the same water is used again by us for drinking, bathing... Ugh!!

### c. Agricultural Run-Off

Agricultural practices today use chemical fertilizers and pesticides in large quantity. Thus when it rains on an agricultural field which has been sprayed with say a pesticide, the run off water picks up the chemicals along the way and brings it to a nearby aquifer or river, thus polluting it.

#### **Stop polluting the river and let them recover**

*"Water resource is largest resource of Nepal with more than 6000 rivers running across. But most of rivers in the urban areas are getting polluted. The rivers are dumped waste from industries and even from houses. The main river of the Kathmandu Valley, Bagmati river is biologically dead due to heavy pollution All the domestic and industrial waste is dumped in the river without any treatment. Likewise, some industries such as Bhrikuti paper mills produces thousand of tonnes of paper and recycled paper and thousand of litres of waste water as well. It is discharged directly in the Narayani River which is habitat of some endangered species such as the dolphin, gharial, and flows throughout Royal Chitwan National Park which is listed on world heritage site."*

- Sidhi, Kathmandu

## THE IMPACT

Adequate supply of fresh and clean drinking water is a basic need for all human beings. South Asia as a whole is blessed with sufficient quantity of water, yet millions of people are in the region deprived of safe drinking water. Contaminated water poses serious threats to health, life and the environment.

### *The Impact on ENVIRONMENT*

Water pollution has taken its toll on the environment too. The land has been degraded by water logging and salinisation . Unsustainable agricultural practices have led to droughts and floods. Both have led to enormous loss of not only human life but also aquatic life. For instance, like an oil spill in the sea causes severe damage to the surrounding ecosystems. It decreases the oxygen content in the water resulting in irreparable loss of marine life.

## The Impact on HEALTH

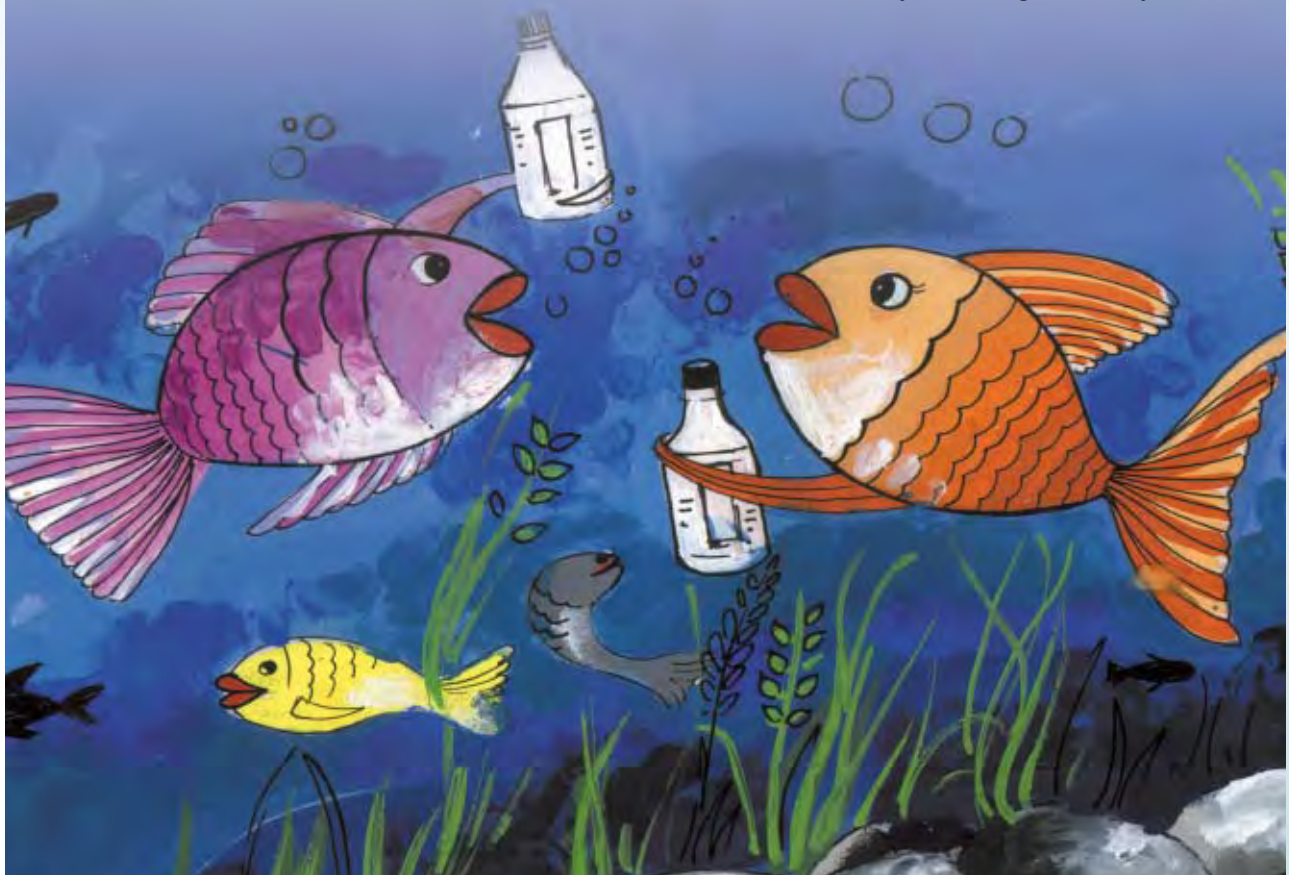
Water sustains life. But water can also endanger life!! There are short-term and long-term health risks associated with contaminated water - these may be microbial (bacteria, viruses, parasites), or chemical (metals, pesticides, disinfection byproducts). Fishes, that we eat, can also be contaminated due to effluents discharged into their habitat. If water used for irrigation is contaminated, it affects the agricultural produce and the poison thus may enter the food chain.

Stagnant water also provides the perfect breeding ground for mosquito (that causes malaria) and a host of other parasites and insects that cause life threatening diseases especially in Bangladesh and India.

Thus water is responsible for more than 60 % of diseases in the region. In Bangladesh alone, gastroenteritis and diarrhoea kill some 2,50,000 children under five years of age annually.



Water







### Nature's Natural soap!!

That's right. Nature has a great capacity to cleanse itself. Of course only if man's intervention is small. In case of water, the sun through its heat is a prime factor for cleaning and purifying. It converts water into vapour to form clouds which condense to refill our lakes and rivers with clean water.

Sunlight also penetrates the river water and helps in the process of photosynthesis of submerged plants, which produce oxygen. This oxygen level in water body helps water to become clean. Some plants also absorb toxic wastes from the water. .

But when the water body is polluted with our wastes, the sunlight is not able to penetrate and reach the plants. The plants and other organisms die also because many a times the waste is of toxic nature.

### Filthy water cannot be washed.

A West African Proverb



"To rid River Ganga of ghastly human carcasses, the Ganga Protection Directorate released flesh eating turtles into the river. Experiments showed that six turtles ate a pig of 35 k.g. in less than 6 hours. But unfortunately most turtles released in the river landed in the fisherman's net as turtle meat is in high demand. Thus the scheme had to be abandoned."

*The Statesman, January'95*

### Get Mercury free with Milk

Grass growing on banks of highly polluted rivers absorbs the pollutants especially mercury. The cows grazing on this grass take in mercury, which passes into the milk and affect the babies who drink the milk.

### WATER IS PRECIOUS,

So its use should be judicious,

Lets be extra cautious &

Never we will be oblivious.

To preserve the hopes of nature,

Conserve it and rapture,

Instead of share and care,

If we allow wear and tear,

Indeed there will be no more cheer.

So let us pledge

"Every drop of water is our blood,

We will conserve, share and care for it,

We have the foresight and vision

The focal science of this will be our

Mission."

*Ritika Sahni, New Delhi, India*





## WATER BODIES OR WASTE BODIES

Of all the South Asian countries, perhaps India has the most contaminated rivers. About 70% of the country's surface water is polluted. Only a handful of towns and cities have partial or complete sewage and waste treatment facilities. The ancient and 'holy' river **Ganges** has an unholy amount of pollutants in it. More than 50,000 inhabitants dump untreated sewage, hazardous industrial and agricultural effluents into the river each day making it dangerously polluted.

The **Bagmati river** in Nepal, celebrated in music, poetry and literature as the Holy river has shrunk a great deal due to water being tapped for factories and households. It is sadly today also a huge rubbish dump crawling with flies and rubbish. In spite of the fact that Dhaka faces devastating floods in monsoons, it faces chronic water shortage in summers. Teeming population, wasteful consumption are the reasons. The **Buriganga river** is dumped with harmful chemicals from tanneries and industries lining its banks, exposing many to health hazards.

As leather production declines in developed countries due to environmental laws in Pakistan, tanneries have grown as they give valuable foreign exchange. But the tanneries also give toxic effluents in the **River Kabul**. This is a big loss to the fishing industry and also made the river waters unsafe for humans, animals and crops.

Island countries like Sri Lanka, depend on sea. But oil spill's, ship wrecks, dumping wastes has made life tough for fishes and even fishermen. Rivers joining the sea are also highly polluted due to industries and hotels on the banks.



*"Today the fish die:  
tomorrow we will die" - a local saying*

### *Here is a Famous Riddle*

Imagine you own a pond on which water lily is growing. The lily plant doubles in size each day. If the lily were allowed to grow unchecked, it would completely cover the pond in 30 days, choking all other forms of life in water. For a long time, the lily plant seems small, and you decide to relax and not remove it until it covers half the pond. On what day will that be?

On the twenty - ninth day, of course. You have one day to save your pond!

### **QUE SERA SERA**

Can you imagine a future without water? Never ! But if we continue to be selfish and irresponsible then that is what tomorrow will be like. If we go on polluting, wasting, and mismanaging water, we are sure to run out of clean and safe water. You can forget about bathing, brushing, cooking, drinking, swimming, washing.....and all the other things that we think will go on forever.....!

From floods to droughts, from water scarcity to water pollution .. South Asia like rest of the world is plagued with water problems. Perhaps it is because of all this it is said that the next world war maybe fought over water. So let us learn and be responsible and find solutions.



Water





## We need AMPLE WATER

Over the years, increasing population, growing industrialization and expanding agriculture have pushed up the demand for water. What can we do to conserve water? Here's how.

- ◆ Do not leave taps running while bathing or brushing.
- ◆ Even a slow leak can waste many litres of water each day. Get the leaks fixed.
- ◆ Reuse water. Water used for rinsing clothes can be used for other cleaning purposes like mopping floors or cleaning cars. Similarly water used for washing vegetables can then be given to plants.
- ◆ Use a bucket for bathing instead of taking a shower. Bathtubs are an absolute NO as they use a phenomenal 300 litres of water.
- ◆ When you install a new toilet, buy a low volume flush system which saves water with every flush.
- ◆ Water plants using a bucket and not a pipe. You can also use drip irrigation and sprinklers
- ◆ Turn off taps when not in use, whether at your home, school, college, market, or any other place
- ◆ Do not use cleaning products that will harm the environment.
- ◆ You can also catch the rain by constructing water harvesting structures at homes. Use porous tiles while building driveways or courtyards as these will allow rain water to percolate into the soil.

*"If you could tomorrow morning make water clean in the world, you would have done, in one fell swoop, the best thing you could have done for improving human health by improving environmental quality."*  
 WILLIAM C. CLARK

## We need CLEAN WATER

We know what havoc contaminated water wreaks on our health and lives. Therefore we must take necessary steps to check water pollution.

- ◆ Stop treating water bodies as dump sites for our wastes !!!
- ◆ Lobby with the government to set up adequate sewage and waste treatment facilities.
- ◆ Publicly protest against units which are not treating their effluents before releasing them in drains.
- ◆ Check water pipes regularly for leaks and cracks.
- ◆ At home, the boil or filter water to make it safe for drinking.

## We need ... EFFECTIVE MANAGEMENT

South Asia need not face water scarcity if only we can manage water better. Some suggestions:

- ◆ People's participation is vital. Water related programmes must incorporate community participation. More than any hydrologist or planner, it is the women – the drawers, carriers and household managers of water – who understand what water scarcity. What is needed is allowing women a control – over natural resources such as water.
- ◆ Water tariffs in the region are very old do not even meet operational costs. They need to be revised. People consume so much water and in the end pay ridiculously low bills. If one can afford mineral water then why subsidise water bills? Why not provide good quality water at the right price which will make people conserve it and also give them better health.
- ◆ The South Asian region has a great interconnected river network. All the countries should co-operate with each other for matters like sharing water, monitoring transboundary water quality and developing water basins. This will develop the relations between the neighbouring countries and also benefit the rivers.







*Meenakshi bansal, Delhi*



Water







*Anuradha kobbedkaduwa, sri lanka  
(Source: UNEP and FGPE)*

# Ground Realities

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## LAND



land





In the morning, the youth go for a nature trail.



**Afzal:** Wow! Look at all the lovely flowers and the butterflies.



**Sunetthra:** Yuck but look here ! This patch of land is covered by waste of all kinds.



**Nasir:** Seems like that the people who came here for trekking have left their ugly mark. How uncivilised can one get!



**Monk:** Yes! See how a careless action can affect nature.



The waste is polluting the land which in turn has affected the growth of plants and other organisms dependant on the soil.



## THE GROUND BENEATH OUR FEET



All living things depend on the land. Plants, animals, humans, and even fish rely on the soil for food.



The land that we rest our feet on is not just an address for us, it is also the source of vast natural resources. For South Asia, it has much more value. Here more than three fourths of the total population is directly dependent on land. But over the last couple of decades, rapid growth in population coupled with unsound development have clearly taken their toll.



## IT'S A SMALL EARTH... AND IT'S GETTING SMALLER!

Millions of years ago there was so much untouched land on this earth that the huge dinosaurs roamed on it. Now there's so little of it that probably even the tiny ants are jostling for space.

The survival of life on Earth depends on the quality of land, and any change in its composition affects the **ecosystems**. Land ecosystem have been in existence since life began on Earth with all living creatures co-existing in harmony. In the mad race to acquire more, man began exploiting the resources on which the very survival of life on this earth depended, resources like forests, water and land.

There is a lot of concern for air and water pollution, but soil pollution is hardly talked about. While water and air pollution may still have remedies, once soil is destroyed, it is almost impossible to correct it.

# Ground Realities LAND



### *The monsters that are swallowing up our land:*

- ❁ Deforestation leading to soil erosion
- ❁ To feed the exploding population, chemical pesticides and fertilisers are used in agriculture, which contaminate the land.
- ❁ Toxic wastes dumped by industries on soil surfaces slowly seep through the soil, poisoning it.
- ❁ Construction of building and roads on fertile land
- ❁ Disasters like floods, droughts, landslides

It is high time that soil, the medium for plant growth, is given its due importance. It is well known that plants absorb air pollution. What is little known is that bare soil is also an important sink for pollutants in air. Soil removes them from the atmosphere through microbial, chemical and physical processes. So what may seem as an unused piece of land, may be another of nature's filter!!



The city of Delhi, with more than 70% built up area, is literally a concrete jungle today. This has reduced water percolation drastically, plunging the water tables upto 300 feet in many parts. Delhi also belches out more than 7000 tonnes of solid waste everyday, which ends up in the city's three overflowing landfills. Since these landfills are not scientifically designed, the leachates from the waste (which includes toxic wastes) contaminate both soil and groundwater.



**We need one city to live in.  
We need one city to feed us.  
We need one city to throw our waste.  
Where do we get so much land?**

## GROWING DEMAND LEADING TO EXPLOITATION

**By the year 2050, the global demand for food is estimated to be three times of what it is today.** The exploding population means more mouths to feed, but since the land does not grow proportionately, it either means hunger or over exploitation of land.

**We can estimate the total land available for growing food with a simple example**

*Take an apple and imagine that it is the Earth.*

*Cut it into four equal parts. Only one part is **land** and the rest is **water**.*

*Cut the total land in half, one part is for mountains, deserts and land covered with ice.*

*Cut the other part into four portions. Three of these are too rocky, wet, hot or covered with roads and cities.*

*Now there is **only 1/32** of the apple slice remaining. If this section is peeled, it represents the topsoil on which the food is grown that must feed the people on the planet.*

*To calculate the proportion of our region, the remaining area should be cut into several pieces.*

*So can you now imagine how much land we actually have left?*

**Practically nothing !!!**

*'My grandfather had three sons. All the three got married and all stayed in the same house. Then came the children. The eldest had two; the middle had two, and the youngest had three. So now the number of family members increased from 5 to 15, in just quarter of a century. So my uncles decided to make their own separate houses in the fields. Obviously the sizes of the fields decreased by 1/3 of its original size as three houses stood instead of two.*

*My father along with my uncles were very enthusiastic to open our own cotton mill. But where? So they decided to clear some more land to build the mill. And with the mill came a little swimming pool and a badminton court. And the end of it left us with less than 1/4 of the land we had. But my family is very satisfied with the progress. I don't know why don't they see the loss of the land, because they can't grow food in cotton mill and badminton court. And neither do those beautiful birds and butterflies come our way anymore.'*

*- Sidhi Bajracharya, Kathmandu*





## CROPPED LAND

To meet the ever growing demand of food, farmers in the region use different methods to increase food production. This includes using chemical fertilizers, pesticides, high yielding seeds. But technology doesn't always bring benefit everywhere. In cases it hurts more than it helps.

For instance, high yielding species require more nutrients from the land. So farmers add more chemical fertilisers and even pesticides, which in turn effect the essential micro organisms in the soil making the soil lifeless. So for the next round of crop the farmer need to add an even higher dose of fertilisers. This vicious cycle more poison on land, into our food chain and also contamination of our water bodies.

Many high yielding seeds also require more water. But irrigation without proper drainage leads to soil becoming alkaline or saline. Due to wrong agricultural practises while some places are turning into deserts or wastelands, many suffer from water logging. In Bangladesh, for instance, more than 50 % of agricultural land has suffered from soil fertility decline to above reasons.

**An inch of top soil can take hundreds of year to develop, but minutes to erode.** Extensive deforestation, shifting cultivation, grazing and mining in the region are causing widespread soil erosion. Soil erosion again means less nutrients for the crops to grow. In Pakistan and India, farmers in the arid region lose valuable top soil due to wind. Mountainous countries like Nepal and Bhutan face severe soil erosion during monsoons.

Migration from rural to urban areas as land becomes unproductive.

Population explosion in urban areas : construction and concretisation eat land.



Land is ravaged by dumping of wastes and deforestation.

## THE CHANGING FACES OF LAND

## ONE WORLD MANY LANDS

Man first exploited land and then tried to divide it. **But is it that easy to divide land?** We should not forget that we are all linked in some way even though boundaries are drawn up. Rivers that start in Tibet flow through Nepal into India and finally into Bangladesh. The tiger in the south of Nepal and the snow leopard in the north cross boundaries in search of food and habitat. Birds that migrate are probably the best and most common examples to show us how we are all inter-linked and that **borders aren't barriers.**

Similarly, our actions affect the lives of people everywhere, no matter how many continents apart. And indeed if we did .....if we thought about other lives, we would respect the environment more.

How can we forget that we share Earth with thousands of other life forms?

How can we forget that they have just as much right to land as we do?

We seem to have established that we are superior to all other life forms on this Earth but perhaps that's not so true after all. The animals, birds and plants still live the way they did millions of years ago, respect their surroundings and each other's space. And they have learnt to give as much as they take. Their environment is their life support system and they will never do anything to harm it. And so it is they who have **REALLY EVOLVED**, and not us. We are instead selfishly and unwisely plundering land and snatching what is not rightfully ours.



## DOWN SYNDROME

“ Earlier man was so close to land. He lived every moment on it, whether by walking on it, sleeping on it or even ate sitting on the floor. They derived energy and strength from the earth. Today our connection with the land has become distant. We stay in high buildings, eat at tables, sleep on beds, travel in cars. Infact we have even stopped walking bare footed , except when inside our homes with carpeted floors. How can then we realise the value of our land?”

- Gunjan Doogar, India

“...the Earth does not belong to man,  
man belongs to the Earth.”





## EARTH MATTERS

*Small things that can save our Earth:*

- \* Think of entire forests being wiped out. Reduce the use of products made of wood. In your neighbourhood plant and nurture as many trees possible. They will reduce soil erosion and also add organic matter in soil.
- \* Go organic. Buy organically produced food. In your own gardens, use organic fertilisers and bio pesticides instead of chemical ones.
- \* “Don’t act in haste, Reduce, Reuse, Recycle, Don’t waste”. Be a Waste Manager. Think before you throw it ‘away’. There is no ‘away’, it is our land.
- \* Since over-population is a root cause spread the message of population control.
- \* When you hear of land being exploited or ravaged anywhere, gather support and voice your protest.

And there’s so much more. Find the will and the time. You cannot imagine what a long way these little acts will go to save our land.



*Battle Grounds*

## DON'T WANT A POLYNNIUM

Found here, there and everywhere  
red, yellow, green and blue  
do you need some more clues?

Yes ! It is polythene  
Which makes our city unclean  
Known to be non-biodegradable  
And the mess created is incredible  
It gets stuck in the gutter  
Chokes the Earth, our mother.

Polybags even kill a number of cattle  
Like warriors dying without a battle.  
Polybags when spread over a mile,  
Make the whole land infertile.  
When burnt they give out poisonous gasses,  
Which may prove fatal for the masses.  
This the current threat,  
Which is making environmentalists fret.  
Measures are being taken to ban polythene,  
And spread awareness about the  
alternatives.  
With the help of parents and teachers,  
Let’s pledge say No to polythene and  
Help to keep out city green.

- Vikas Khullar, India

“Will you teach your children what we have  
taught our children?  
That Earth is our mother?  
What befalls the Earth befalls all the sons  
of the Earth.”

- The Chief Indian, Seattle

# COLOURS OF LIFE

## BIODIVERSITY



Bio Diversity



# COLOURS OF LIFE

## BIODIVERSITY

After a long but fruitful day, the youth sit down for dinner.

**Sadia:** Mmmm! This is one of the tastiest rice dish I have ever eaten in my life. Is it because we have cooked it ourselves or we are famished ?

**Monk:** Definitely! Also this is a very sweet variety of rice grown in this region

**Sidhant:** I know. This must be the basmati rice. That is supposed to be the best, right?

**Monk:** No this is not basmati. Infact it is one of the 100's of variety of rice which are grown here. And many were even better than Basmati.

**Afzal:** There are 100's of variety of rice in this world?

**Monk:** Not the least. More than 50,000 varieties of rice grew in South Asia. But, unfortunately the number has dwindled considerably.



## WHAT IS BIODIVERSITY?

It is short for “biological diversity”, where ‘Bio’ means life and ‘diversity’ is variety. So simply biodiversity is the variety of living things. It is estimated that the Earth is shared by more than 12 million species. And one specie, the “Homo sapien” is threatening the existence of all others !!

## BIO RICHNESS

Many ecosystems flourish side by side in South Asia. From Mount Everest, the highest peak to the Sunderbans the largest mangrove. From Cherrapunji, the place with highest rainfall to the Thar desert. This diversity provides habitat for various kinds of flora and fauna, vital not only for the region itself but also for the world. Nearly 15.6% of the world’s flora and 12% of its fauna owes its bio diversity to South Asia.

And we the youth of this region should be proud to belong to one of the most beautiful parts of the world.

## UNDER SIEGE

Only a fraction of the actual biodiversity that exists in the region has been discovered, and much has to be still discovered. But what is disturbing is that what little is known is also under severe threat. This great natural wealth is being exploited, degraded and fast

**BIODIVERSITY HOTSPOTS!** Hotspots are rich and threatened reservoirs of plant and animal life on Earth. Of the 25 Hotspots in the entire world, two lie in South Asia. They are the Western Ghats in India and the South Western Ghats in Sri Lanka and Eastern Himalayas (Nepal, Bhutan, Northeast India). They are home to many species which till today are unknown to science. Recent research for instance has shown that Sri Lanka for its size has more frog and snail species than anywhere else in the world.

becoming endangered or even extinct. Lets us explore the reasons:

**1. Destruction of Habitat:** Imagine somebody destroying your home, or rather your entire city. Where will you go? How will you survive? Scary thought is it not? But this is what thousands of birds and animals face every day when the forests they have lived in for years are destroyed. On cutting a forest not only several plants and trees are destroyed instantly, animals, birds are left homeless. Most perish, few migrate and others like the monkeys pose threat to the their invaders, the humans. The same is true whether we harm a river, a lake, an ocean bed or even an mountain. If we interfere with nature its balance is disrupted having far reaching consequences for the living beings.

**2. Pollution:** in all its forms - of land, air, water - is a serious threat to all. It acts like slow poison, first spreading, then killing. Areas that are rich in biodiversity have become popular tourist destinations. More hotels and vehicles for tourists means more pollution.

**3. Guns and Arrows:** Animals and birds, even endangered ones, are hunted, often illegally here. The various purposes range from sheer pleasure to drugs, money, leather, medicinal products, and other products in high demand. Tigers are hunted for just about all their parts. The one-horned rhinos for its horn, the elephants whose tusks are sawed off for ivory and left to die. Snow leopards, desert cats, jackals and wolves for their fur.....Trade in wildlife in South Asia is reported to be next to trade in narcotics and illegal arms.

**4. Exploitation till extinction:** The numerous plants used traditionally for medicinal value, are now being exploited, some to the verge of extinction, since they are now used to make drugs on large scale.

**5. Neglected in fields:** The biodiversity in agriculture is also very impressive. The farmers have over centuries evolved more than 167 crop species suitable for different climatic zones. Till a few decades ago, the region had 60,000 varieties of rice, 1000 varieties of mangos, 40 breeds of sheep... This helped people withstand drought, floods, famine. But with hybrid seeds and selective market demands, the farmers are forced to restrict to growing what will sell easily and well. Thus many traditional varieties of crop species may have been lost for ever.

**6. Alien Invasion:** Introduction of exotic flora and fauna into new habitats have often sounded the death bell of native species. Native species evolve according to local environment and also support other species. But exotic species, though good at survival (since they are adaptable and have no predators) do not return much to the nature and infact harm the balance. In Bangladesh there was indiscriminate introduction of exotic fish species which spread rapidly during floods causing 54 indigenous species of fish being threatened with extinction. In Gujarat, India a tree from South America called *Prosopis juliflora* has spread like wild fire killing the native trees and plants and offering little value in return to the local people and birds.



*Tree of Life - Nishi Manhas, India*

**7. Bio-piracy:** To most Indians, turmeric is a part of growing up: a grandma's remedy for injuries. But recently two American scientists were granted patent to use its extract for healing wounds. They claimed they were the first to use turmeric for this purpose. The '*Neem*' (*Azadirachta indica*) tree was patented next for "fungicidal use of its oil". The Government of India has since then fought and got these patents annulled. But more than 100 plants from South Asia are awaiting grant of patents. While patents have already been granted to plants like Indian Gooseberry, Pomegranate, etc all household names in the region.

**Imperialism continues:** "Three hundred years ago, people from West came and took our material wealth away by colonising the subcontinent. Today they are taking our traditional knowledge by patenting our centuries old wisdom (like medicinal uses of plants). In exchange we are dumped with huge quantities of unwanted toxic wastes to recycle, old ships to break, radioactive waste to bury and live on."

- Satyaban Ray, India





The government of Bhutan has decided to maintain a 60% forest cover in the country even at the cost of economic opportunities. Here people live in a symbiotic relationship with nature since untold centuries. The rural community abundantly uses various kinds of plants for medicine, oils, traditional paper, natural vegetable dyes, etc. Domesticated ornamental plants are widely known to Bhutan's rural folk. Seed management to preserve crop germplasm is carried out, with women playing the leading role.

"Every form of life is unique, warranting respect regardless of its worth to man"

- **The world charter for Nature**

"One thing I love, is to eat different kinds of food. On visiting a hill station recently, I was eagerly looking forward to the local dishes and drinks. But surprisingly, all the restaurants there served only pizzas, burgers, coke and some common dishes that you would get everywhere. Not a single one had the traditional dishes of the state."

- **Ambika Sharma, India**

"Can somebody invent a vegetarian chicken?"

- **Imran Junaid, Dhaka**



*Future tense: the gallery of extinct species*



"Newspaper headlines on 20/02/2020 :  
Number of species left on Earth = 2020.  
So we are replacing our national animal and bird."

- **Sasi, India**

"Human beings are alike. Two eyes, a nose, a mouth, two arms, two feet.....not much variations. The amazing thing about animals and plants is that there are **so many kinds** existing on Earth.

From the blue whale to the plankton!

From the squid to the great elephant!

The lion to the lemur !

The petunia to the potato!

And last but not the least the friendly bacterial!

They are all beautiful and unique in their own special way. Each one of the creatures on this Earth has its own place in the vast food chain and the eco system. The loss of a single species threatens the survival of many others, in more ways than we could ever imagine or know.."

- **Rohan Francis, India**

"In Nepal people depend on wood for fuel, for making crafts items for sale. The government should give responsibility of managing the forest resources to local people as they are directly affected by its destruction so would take good care of it."

- **Siddhi, Kathmandu**

**Leave them Alone..** "There exist so many tribes in India who live absolutely cut off from the rest of the world. Living in harmony with nature, they meet all their needs from their surroundings and do not depend on the outside world for anything. They have their own language, science, means of calculation, health systems... What can we do preserve them? Just leave them alone!!"

- **Anuradha Rao, India**

"Sri Lanka is becoming a popular tourist destination because of its natural beauty. Ironically the growth in tourism has also resulted in forests being cleared to make way for hotels and golf courses."

- **Devaka, Colombo**



## GOING... GOING... GONE!!!

- Tiger was an animal abundant in the South Asian subcontinent but poaching and hunting has reduced their numbers to less than 3500.
- The Asiatic Lion once thrived all the way from the Black Caspian Sea to India, is now confined to a small pride in the Gir Forests in the state of Gujarat, India. Similarly the Snow Leopard found across Himalayas is now found only in a few pockets.
- South Asia is the only part of the world which is home to all three families of the crocodilia kind – gharials, crocodiles and alligators. But fishing and water pollution have caused their disappearance from many water bodies.
- Three of the world's fresh water dolphins found here in Indus, Ganga and Brahmaputra rivers are dwindling rapidly due to high industrial and agricultural pollution, fishing and construction of barrages and dams.
- The Tibetan Antelope, or Chiru, is being mercilessly hunted and killed to obtain wool, which goes into the making of high quality shawls.
- Many birds too have lost their battle for survival like the Pink-headed duck and the mountain quail, while species such as Forest owl, Jerdon's courser are sitting on the edge and may topple any moment.
- The coral reefs in the Indian ocean are suffering major damage due to the warming, because of the El Nino effect. Even the slightest increase in water temperatures results in severe coral bleaching, meaning that brilliantly coloured coral reefs turn white. Deforestation in the Sri Lankan hills means that silt is carried into the sea, settling on coral reefs and destroying them.
- Deforestation, forest fires, commercial exploitation have endangered many precious plants and herbs, which may have answers to many of our health problems. Many species have become extinct either because they were not 'glamorous' enough to attract attention like the larger mammals or because their existence was simply not known.

### Tusky tears

"In Sri Lanka, thousands of elephants roamed the wilds until they were ruthlessly hunted down during British rule for sport and tusks. Human encroachment and poaching further reduced the number. The remaining herds faced a new and deadlier threat - the country's ethnic war which affected their habitats. Due to war, elephants were orphaned or injured and many became victims of landmines. Few conservationists are now working to create better lives for the nation's elephants. A Pinnawala Orphanage has been created to take care of orphaned baby elephants. Sceptics said that baby elephants raised by humans would never acquire the skills to survive in the jungle. But when five elephants were returned to the wild, they joined a herd within hours of release."

- Devaka, Colombo

### The King is Threatened

"On my visit four years ago to Sunderbans, the only forest in my country, I saw many Royal Bengal tigers. But you rarely see them now. This is because little measures have been taken to protect the forest by the government. Poaching is also a main worry. The demand for bones from wild tigers for use in traditional oriental medicine, and the international trade in tiger skins, are the main reasons for poaching of tigers in Bangladesh and India. But the strange part is that there is no demand for either bones or skins of tigers within these countries. It is all for foreign consumption! Sunderbans is a prime tourist location of our country, so the economy will also suffer if it is destroyed."

- Imran Junaid, Dhaka

"The beautiful Kinjhar lake of Sindh may no longer be a sanctuary for wildlife. It is a home to some important forms of wildlife found mainly in Pakistan. Beautifully coloured birds, fierce crocodile, turtles and fishes. Increased hunting is disrupting the eco balance. If birds and ducks are killed, then a major component of the diet of crocodiles will be removed and they will starve. Thus if some species are wiped out here, no other country in the world will be able to replace them and these natural wonders will be lost forever."

- Sulmaan Khan, Pakistan





## WIPE THE SLATE CLEAN, NOT THE EARTH

Don't you think it's a sensible idea?

After all, the forests, the animals, the birds, the insects have a greater right on Earth. If humans are wiped off, the Earth would be better off, but if others species perish then so do we. Let us value other lives on earth not because we are dependant on them but because they are what they are.

We need to preserve biodiversity and create a home called Earth where all plants, animals, and other living things live in harmony. It is easy to make some minor changes in our lives and contribute immensely in saving the Earth and its family. Here are some ways:

- ❁ Grow different kinds of native trees, plants, bushes, grasses in your home and neighbourhood to attract birds, butterflies and other wildlife. Never use pesticides and chemical fertilisers.
- ❁ Take care that your pet dog or cat does not kill birds and other animals.
- ❁ Do not dump waste in water bodies. It kill the aquatic life.
- ❁ If you see any wild animal or bird in captivity, report to the authorities or buy them and release them to the wild again.
- ❁ Avoid feeding wildlife with our food. Our food is not good for them and can upset their natural behaviour and the balance of nature .
- ❁ Boycott meat of threatened wild animals or any objects made from them, such as ivory, rhinoceros horn, turtle shell, snake skin or medicines from tigers, etc.
- ❁ When you visit wildlife sanctuaries or a tourist place do not litter around or damage any plant. Drive carefully through any area where animals may cross the road.
- ❁ If you find an injured animal or a bird make sure it gets medical treatment.

- ❁ Raise your voice against circuses that ill-treat animals or make old and weak animals perform.
- ❁ Lend your support and contribution to wild life organisations.
- ❁ Use as many natural products as possible. Take cosmetics for instance. Instead of ready made ones, you could use rose water, milk, turmeric, soap nut etc, all natural and safe, with no side effects.
- ❁ Similarly, in the case of medicine, we have our ancient Ayurveda and Unani to fall back on for all kinds of ailments. You can also use many common herbs at home for minor ailments Like using basil leaves (tulsi in India) for fever, honey and ginger for a cold, neem leaves as an antiseptic agent etc. And if you must use ready made products, make sure that they haven't been tested on animals and don't have animal traces in them.
- ❁ Make nature a part of your daily life and try and make sure that no action of yours, however small, harms the environment.

" Many illegal shops sell the products which are banned. The youth can go and investigate and pass information to police."

**- Shanthini, Sri Lanka**

"The issue is not to plant trees but have belongingness towards them so that they survive and blossom for ever."

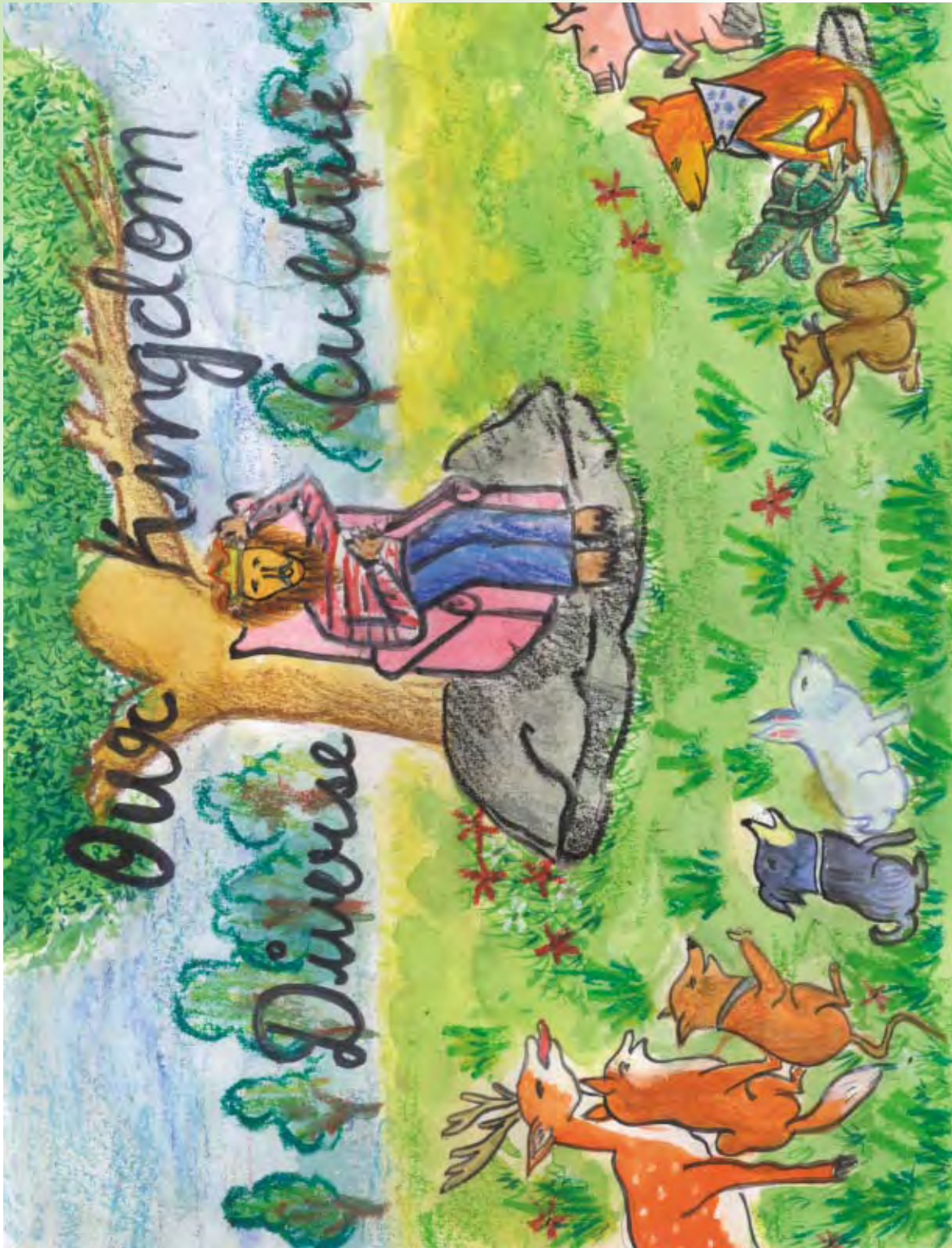
**- Aftab Hassan, Pakistan**

"Tissue culture allows plants to mature in a short span. Why can we not focus our resources on such research rather than using them for defense".

**- Vikas Khullar, India**

"I make-up after a quarrel in 10 minutes.... But coral takes longer ... a life time."

**-Monica, Maldives**



*Preeti Kamuka, India*



Bio Diversity





*Bindu Joshi, Nepal  
( Source: Ozone Action Programme, UNEP DTIE)*

A TRAIL OF  
TOO MANY CITIES

---

U R B A N





# A TRAIL OF TOO MANY CITIES URBAN

After the dinner meal, the youth are lazing out in the open before retiring.

**Nasir:** Just look at the sky! It looks so different from the sky in my city.

Everybody laughs at him.

**Sidhant:** Hey! But wait! Nasir is right. I have never seen the sky with so many stars. Come to think of it, I never get a chance to see the sky as all I can see above me are buildings.

**Afzal:** Yes! And the smoke in our city probably hides the stars.



## WHAT IS AN URBAN AREA?

An urban area, usually a city or a town is a large settlement characterised by its size, economic structure, population density and historical development.

The first signs of civilization appeared mainly near water sources. Crops were grown and harvested, animals were domesticated and an entirely new way of life appeared. Clusters of villages popped up and trading started. People traded food grains, spices, cloth, livestock, poultry etc. People still loved their land and their forests.

Then came industries. The work opportunities in factories attracted many people to stay near them. With concentration of population around the industrial regions, soon the villages grew into towns, and towns grew into cities.

## IS ANYTHING WRONG WITH URBANISATION?

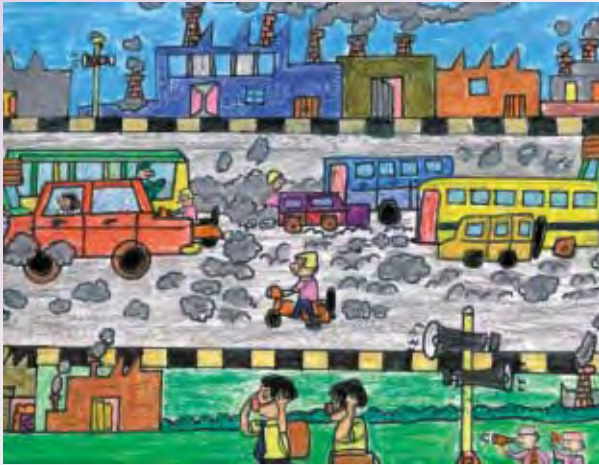
Actually urbanisation in itself isn't such a bad thing. It becomes bad when people don't understand the responsibilities that come with new lifestyles and start living selfishly to pursue their own goals.

Due to economic and other reasons, a city in South Asia today, on an average provides, **or seems** to provide, greater social and economic benefits such as employment opportunities, health, education and sanitation facilities. Most rural areas in South Asia are devoid of these basic amenities, thus many ruralities migrate to cities, attracted by their lure, while many are forced because of lack of work, famine or war.

What happens next? The cities are not designed to accommodate so many people that come here everyday. The increasing population puts more pressure on infrastructural facilities and services. For instance, inadequate housing results in slums and squatters. To meet the increasing demands of land, cities start eating into agricultural land on the periphery.

This of course has disastrous consequences because our natural resources are exploited and over exploited just to meet growing needs. Land, water, forests, wildlife...just about everything that is humanly possible.





*A daily battleground - Akash Suri, India*

## THE IMPACT

Without proper safeguards, a city harms not only its local environment, but also impacts areas, both near and far from it. The urban sprawl leaves a legacy of habitat loss and degradation. Let us see how:

### 1. Space Crunch

'From thousand to million,  
From million to billion.  
From billion to zillion  
From zillion to I don't know where,  
But we sure gonna have one walking on another here.'

To accommodate the growing influx of people, cities are expanding beyond their original boundaries. Agricultural or virgin land on periphery of cities is taken over to make way for new roads, houses and industries.

Poor or inadequate housing facilities force migrants to settle in slums and squatters. In the mega cities of Chennai and Mumbai, India, 40–50 % of the population live in slums. Dharavi, the largest slum of Asia lies in the heart of Mumbai! Then again in Colombo, 50% of population lives in sub-standard areas.

"The world is a gift from God, painted in beautiful greens n' blues. But as our brains developed, we are re-colouring it in black, brown and gray. We have now our own concrete jungles with **trees of bricks and flowers of cement.**"

- Shubham Yogi, India

### 2. Gasping Air

#### More people = more vehicles

As cities expand, vehicles are required for mobility. You need not close your eyes to imagine the congested road, you can see them everywhere. As roads choke, so do we. Emissions from factories and power plants only add grey colour to the air.

"Ours was surely the brightest car amongst all our neighbours that day. My father had bought a new car which would zip around the city, mountains and even cross steams, as was shown in the ads. There was great rejoicing in our family. Then my father did not take a bus to office and would even drop us to school, instead of us walking all the way. 4 years later we bought another one for my mother. By then another multi storeyed apartment had been built near ours, so the number of vehicles in our locality more than doubled. Today each house has a minimum of two cars and even more. There are quarrels amongst residents on who parks where. Now people have even started parking in the playground so the children have no playing space. Do more cars mean more fun ? "

- Dhiraj Minhas, India



*Vision 2032: Trees of bricks and flowers of cement!*







"As a small kid, my parents forbade me to go out after dusk as there were not many people around our house. And it use to be frighteningly quiet and lonely. More than a decade later the story has not changed much. My younger cousins are not allowed to play out in the evening as the office rush on our road is even more frightening." - **Manjari, India**

### 3. What Wat-er ??

In a city, you open a tap and the water flows. Simple! No need to walk miles to get a pitcher of water. This convenience has also made us take water for granted unlike our rural counterparts, the urbanites do not use it judiciously. Cities are not only water guzzlers, they also treat the rivers and lakes as a dump site for their assorted waste. The course of River Yamuna in Delhi is only 2% of its entire length, yet the city drops in more than 70% of the waste that the river carries. These polluted rives end up in the oceans, where the poison keeps pilling up. Thus the impact of cities is felt as far as the big blues.

### CHANGES IN DHAKA

"Dhaka is a city of contrasts. There are the two famous five star hotels and a huge slum right behind it. Areas such as Hazari-bag in Dhaka, where the city's leather industry lie, have polluted the surrounding water bodies with their wastes. Many fish have been dying each day, posing health risk to all as they are collected for food. People living in these areas have developed severe skin diseases also. Housing areas too have become crowded. People just keep on extending their houses both vertically and horizontally, illegally without permission from city corporations which is why sometimes buildings collapse.

There is also a lack of transport services and traffic rules. which result in traffic jams. For example, to travel from Dhanmondi to Gulshan which is only a 14 km journey it takes 1 hour, sometimes even more. The traffic jams give rise to a lot of air pollution especially from the two-stroke autorickshaws."

- **Imran Junaid, Dhaka**

#### 4. Drowning in Trash

Our cities are collapsing under mountains of garbage and seas of sewage. As sections of the South Asian society prosper, its trash grows exponentially. Indian cities churn out enough garbage every day to fill up trucks lined bumper to bumper for nearly 300 kms. With no effective waste disposal systems like the West, waste is either dumped on land or water bodies, or burnt which only increases pollution.

"These days everything is either readymade or instant. Be it clothes, drinks or any other amenity of modern life. They all come in fancy packets. The mineral water bottles, the snacks in tetrapacks or even a little computer pin comes with a big and fancy packets. These packets are just waste and they do not serve any purpose except attract us to buy the product. Most of them are plastics, which are not accepted back by nature."

- **Zeenat Niazi**, Pakistan

"In Dhaka, as waste is not disposed carefully, so you have instances of sewage pipes getting clogged and bursting. This also sometimes injures people."

- **Imran Junaid**, Dhaka

#### 5. Noisy Noises

Airplanes in the sky, vehicles on the roads, blaring loudspeakers all have raised the noise levels in a city to make them have effect on health. If one wanted to run away to some peace and quiet, one would have to look really hard to find a place like that.



*Priyanka Malakar, India*



**VISION 2032: Instead of Himalayas,  
we will have Garbage-alayas!**

#### Waste not Waste

When we dump our waste in dustbins, we only shift the problem and do not solve it. In Dhaka, a NGO called "Waste Concern" collects waste directly from households, vegetable markets and hotels. From a ton of organic waste, about 200 kgs of high quality organic fertiliser is produced, reducing the country's dependence on chemical fertiliser. Also as this is labour intensive, it provides employment. Similar movements are running in a few cities across the region. Determined individuals have inspired entire localities to take responsibility of their waste.

Surat, a city in India, shot to international headlines due to being struck with a disease like palgüe. Piles of uncleared garbage, overflowing drains were the main reasons. But within a span of 18 months, inspirational leadership along with peoples participation caused a complete reversal to make Surat one of the cleanest cities in the country. Today 95% of streets are cleaned, some even twice a day. The level of solid waste collection has increased from 30% to 93% daily. A fine of Rs 50 has been imposed for littering and doubled for every subsequent offence.



## The Glitter is off the Gold

"I was highly excited to go to Mumbai after seeing so much about it in the movies. As our train entered the dream city, the tall buildings became visible. But so did the squatters all along the railway tracks. On getting off at the station, it was as if (humans)<sup>99</sup> were every where. The taxi took two hours through the traffic to reach our destination. On traffic lights, small kids came up asking for money. With all the glamorous tall buildings, huge shopping complexes, classic hotels, swanky cars, fun parks, Mumbai is still unable to provide for those small kids who beg, meandering through the vehicles, oblivious of the danger of traffic and its deadly fumes in the day time and sleep along the roads at night."

- Sidhant Mattha, India



## Time to Learn

Last year to escape the summers, we went to Mussorie, a hill station in Himalayas. But I cannot say it was a real getaway. There were so many people, it seemed everybody from the country had descended here. The crowds were everywhere, on the Mall, at the lakeside, the sunset point, in hotels and so were the heaps of garbage - polybags, mineral bottles, coke cans, chips packets,.... The exhaust from the taxis ferrying the tourist, the landscape was dotted with more hotels and leafy trees, the shops putting up bargains did not make you miss your own city. Why don't the smaller towns learn from the mistakes of the bigger cities and progress in a better way? Why can we not plan our new cities and even re-plan our old ones? Or should the urban city people stop going to these places as our lifestyles only harms them. As a tourist driven economy generally badly alters the character of a place and even its infrastructure demands.

- Rajat Mehta, India

## The Change Over Time

Let's take a lesson from the 'Flintstones', a cartoon about life in the Stone Age

### FLINTSTONES

1. In the mornings, Flintstones are woken up by their pet birds, and they don't get up unless their birds do!
2. Fred Flintstone eats a hearty breakfast of fruits straight from the trees and sparkling water from the streams. Food acts as fuel since it gives him the strength and energy required to travel from one place to another.
3. The Flintstones' rely mostly on natural resources for food, clothing and shelter.

### US

1. This is the 21<sup>st</sup> century. We are woken up by alarm clocks, cars honking factory sirens or even LOUD speakers.
2. We thrive on fast foods and even faster cars. Cars guzzle fuel which pollute air, while we joyfully devour aerated drinks or juices with preservatives.
3. We can't live without machines. The washing machine, the fridge, the air conditioner, computer....



*Grocery list 2032: Organic Fruits, Bottled water, O<sub>2</sub> cylinders ...*

**Who is responsible for the Mess?**

"Strong coffee is the best way to start a Monday morning. A drive to the near by park and jogging for half an hour followed by relaxing shower. The kids are ready to be dropped to school by then. Back home the breakfast is re-heated in microwave and then my wife and I leave for work in our cars. The temperature outside reaches 38° C and the smoke from the traffics makes it worse, but thank God for A.C cars and A.C. Offices. We are able to survive. In between the hectic day, I have a bite at the fast food where all is clean and hygienic due to usage of disposal cutlery. On returning home I head for a long relaxing bath in the bath tub. But soon a power cut greet us. Thanks to the diesel generator, we are atleast able to run fans. In dinner the kids insist on going out for pizzas which means wasting the food cooked at home. Kids do not listen do they ? A bargain in a shop near by tempts us to exchange our old fridge for a new, big, double door one. On returning the power cut is still there. Which means no water too! When will our government be more responsible and give us proper infrastructure, we wonder?"

**- D. Kaluwitherne, Colombo**

**The Progress?**

"We started with caves,  
And then we turned to houses.  
Now we dig our graves,  
We made factories,  
And we cut down forests for them.  
Now because of this there will be drowning  
countries,  
Just because we did not think of it then.  
Our planes and cars can zoom us into the future,  
Leaving their smoke behind.  
Which does nothing nurture,  
The world that we now find.  
Is getting covered with toxics,  
And that will do nothing except make us sick."

**- Usman Ahmed, Pakistan**



## FUTURE IN OUR HANDS

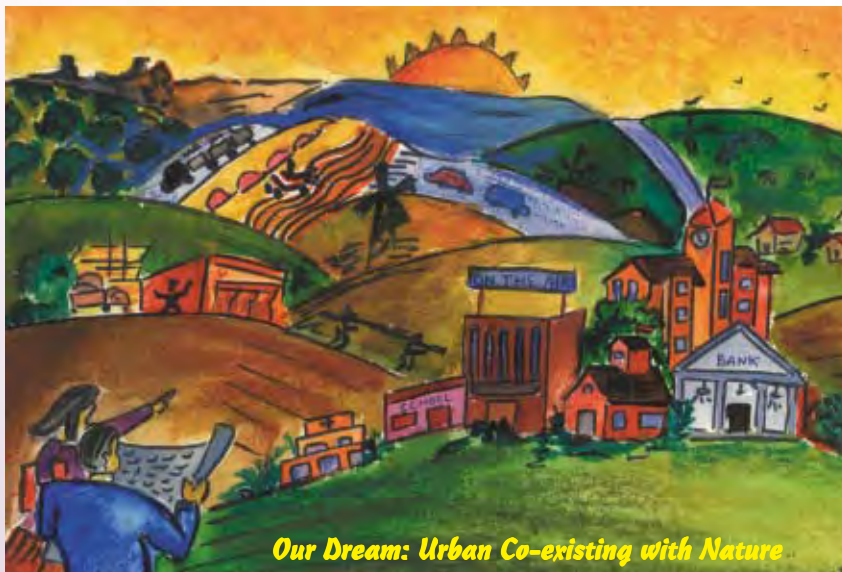
Cities now dominate the region and it is part of a development process that can't be reversed. Many of us have grown up all our lives in cities and it would be difficult for us to think of living elsewhere. No one is asking us to move out of our homes but while we live in the city we could also live responsibly. Just think about it.

We are young and can put our youth and energy to good use to save our cities. Here are some ways:

- ⌚ Be an environment friendly consumer : that is consume minimum and waste nothing. Do not waste water, food, electricity, fuel... and conserve natural resources.
- ⌚ Promote the use of products which are environmentally sustainable. Avoid products with excessive packaging. Encourage rural crafts by buying their products. This will increase livelihood opportunities to our village counterparts.
- ⌚ Take responsibility of your waste. Ensure it is recycled and remaining disposed properly.
- ⌚ Reduce the use of non biodegradable things. Like instead of a styrofoam, use steel or glass cutlery, instead of poly-bags use cloth or jute bags

- ⌚ Water is more precious than diamonds. You can survive without diamonds but not water. So conserve every drop of water.
- ⌚ Use public transport whenever possible.
- ⌚ Bring Nature back to your city: Demand more room for green areas. City dumps, river banks, edges of drains, roadsides can be made green. Plant and nurture native trees and bushes and protect the existing ones.
- ⌚ Rooftops and balconies should also be used for gardening and would attract butterflies and birds. You can also make your own compost for your garden.
- ⌚ Rediscover your roots. Traditional living techniques of the region have evolved over hundreds of years and well suited to your local living conditions. Do not ignore them. If you have to copy from West, take the positive aspects rather than the negative aspects.

"Urbanization should be done in a planned way to help us progress and not to end in football grounds fighting for a space of 50 yards"  
**- Rekha Kothari, India**



**Our Dream: Urban Co-existing with Nature**

**Kriti Gupta, India**

# WILL VILLAGES SURVIVE?

RURAL



Rural





# Will Vill-ages Survive?

## Rural

**Sadia:** *Hey ! In all the fun, I forgot to call my parents and inform them that I have reached safely.*

**Afzal:** *Yes I need to call up too! But how to do it? There is no phone here.*

**Monk:** *Not to worry. Let us go to the nearby village and from there you can call your parents and even email to your friends.*

**Sidhant:** *What? The village even has an internet*

**Monk:** *Hmmm! Seems you have a very wrong picture of villages. Have you ever been to a village, let alone spend a few days there? Villages are fast changing here*



## THE RISE OR THE FALL

Between 60 to 70 % of the wonder that is South Asia is based in the villages. In terms of sheer size, rural South Asia dwarfs its urban counterpart. People, forest cover and natural resources, food baskets... rural areas are obvious in their importance. But strangely and sadly, it is also obvious at once that they have been the most widely ignored. Villages, the backbones of the economies, are facing economic and social insecurity. Here the environment-related problems pertain much more to the degradation of productive resources: the land, the soils, water and forests. Injudicious use of natural resources in and around villages has not only degraded the quality of life within the villages, but has far-reaching consequences. Let us explore what ails our rural areas:

### 1. From Decreasing Forests to Degrading Natural Resources

Many forests have been wiped out in South Asia, to provide wood for building material, to make way for expanding cities and even for agriculture.

When the delicate eco-system of any forest area is disturbed, when even one kind of tree is chopped off, survival of other creatures is jeopardized. For the rural people, forests are interwoven with their lives. It is a source for their food, fodder and fuel wood and they even make their implements from forests.

### Colonial Forestry

In India before the 19<sup>th</sup> century the commercial exploitation of forest produce was largely restricted to commodities such as pepper, cardamom and medicinal plants, whose extraction did not seriously affect the ecology of the forest.

In 19<sup>th</sup> century, when the colonial state asserted control over woodland, earlier controlled by local communities, it represented an intervention in the day-to-day life of the Indian villager. The property rights were redefined. The state became the manager and controller of the forest as against the earlier systems of local use and control. Under the colonial system, the forest became a place to be exploited rather than to be protected and live with symbiotic relationship. The tree species promoted by colonial foresters were commercially important species – like teak, pine and deodar in different ecological zones – but these were of very little use to rural populations. The species they replaced (e.g. oak, terminalia) were intensively used for fuel, fodder, leaf manure and small timber.



When forests decrease, not only are food, fodder and fuel wood affected, but there is also a loss of soil fertility. The rain fall decreases and the water table falls, all of which affect the agricultural yield. When a forest shrinks, it also results in a conflict situation between the humans and animals. The rural people are the most vulnerable. Elephants enter agricultural fields causing damage, cattle and humans too are under threat from attack of wild animals.

"My grandfather says that our village was blessed with plenty of rain when he was young. But the rainfall has considerably decreased now, badly affecting our agriculture. The poor families (more than 60% population in our village) now have to depend on the forest for their daily bread. The forest has also decreased due to illegal felling and we are afraid it will disappear in the next decade.

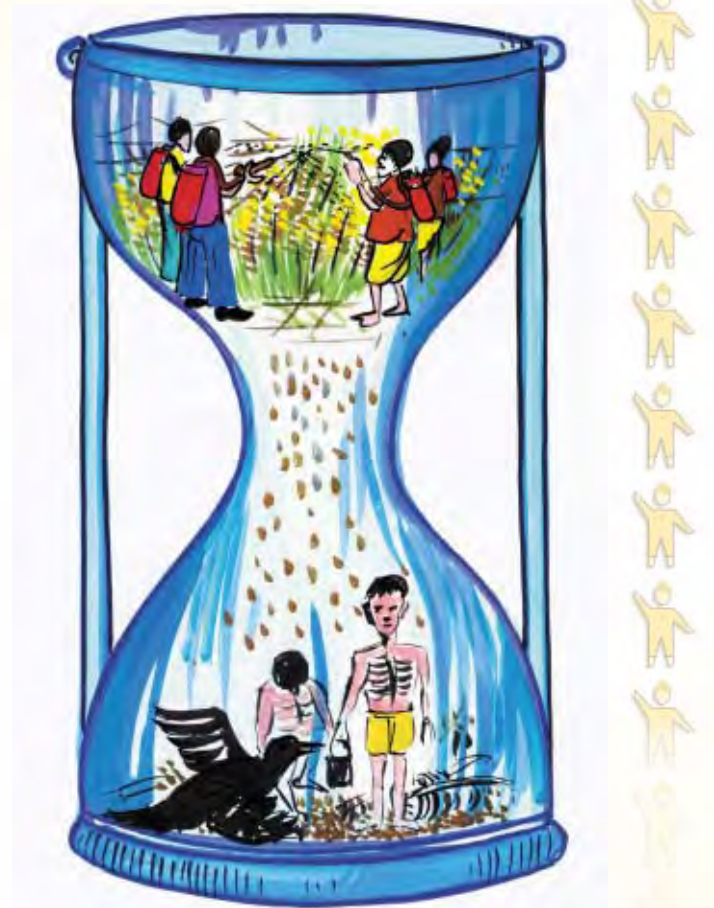
We want the government to establish a factory in our village so atleast the youth can get work, otherwise we will be forced to move elsewhere."

**Ravinder Yadav, Lotna village, India**

## 2. Chemical Over Dose

To feed the growing population in the South Asian region, high yielding seeds were developed. But this came with a price. These seeds also require greater inputs of water, fertilisers and even pesticides. These take their toll on the land and water and cause great harm to all. The run off from fields mixes with local water bodies or seeps into the groundwater. Even minute percentages of such chemicals can have disastrous effects – and even kill marine life.

Follow the food chain upwards, and you will realise that from small creatures, these toxins are accumulated in the bigger animals that consume them. A similar pattern follows with plants: plants take in toxic chemicals with water. They are eaten by small animals, who in turn are eaten by big animals. And at the end of the day, the creatures who end up swallowing all the toxins are probably 'WE'.



**Chemical fertilisers and pesticides: health or death?**

## 3. Lack of Basic Amenities

The standard of living in most South Asian villages is even below the basic levels, resulting in severe hardships for village folk. In many villages here, the facilities that many of us city-dwellers take for granted – running water, electricity, health care, education – are almost non-existent, making life a daily struggle.

Access to safe drinking water is a widespread crucial issue. Even mere access to water is a big question mark. Some villagers often have to travel miles for a pot of water. And then there's poor sanitation that leads to diseases.



## Subsidising with LIFE

For 10 years, a doctor struggled to understand it. Why were so many people - children in particular — in his village Kasargode in Kerala, India suffering from disorders of the central nervous system in huge numbers? Cerebral palsy and mental retardation, among other disorders. Then, one day he wondered: Could it be the pesticide endosulfan? The effects of this toxin on human body are quite similar to the maladies he was seeing. The cashew plantations in the place had been aerially spraying the pesticide endosulfan for years through helicopters. Due to aerial spraying the pesticide was now limited to fields but was spread over ponds and other areas too.

On getting blood, milk, water, soil and food samples tested, the amount of endosulfan was found to be incredibly high in all the samples. In one woman's blood it was 900 times the limit set. Area residents had been subsidising cashew production with their lives.

The residents had to fight a long battle to get the pesticide spraying banned. But even then, today Kasargode is a devastated area. Its ponds have been poisoned and will be many years before they recover.

### 4. Burnt Breath

Villages might be absent with cars and industries, but they still have air pollution. That is because of burning wood for cooking purposes. In the villages of Nepal, the smoke level within the houses are so high that it leads to serious health problems among the villagers. In India, it is estimated that half a million deaths occur each year due to indoor air pollution caused by using traditional biomass fuel.

### 5. Lacking Access to Information

Illiteracy, or being unable to read, is another causal factor in the degrading environment of rural areas. People who are able to read have access to more knowledge. They can learn from the experiences of people from all around the world, and can implement the practices best suited to their situation. *The key is*, they needn't reinvent the wheel, and they needn't be restricted to the experiences of their forefathers and neighbours only.

Illiteracy also comes with other evils. Illiterate villagers are seldom well versed with their rights, confusion policies regarding them and their environment, or even redressal mechanisms. This not only has direct effects on their actions, but also acts as a feedback loop in the vicious circle of social and economic causes.

"What is the definition of 'literate'? Different standards, parameters for different people and different lifestyles etc. Farmers have knowledge about farming methods, crops, cattle etc. So in their own way they are 'knowledgeable' and thus 'literate'."

- Lyonpo Naichu, Bhutan

"I see many facets in a rural person. They may be poor and not knowing the letters, but they know and live in harmony with environment better than the supposed educated. They know more about agriculture compared to any agricultural scientist. Compared to any hydrologist and geologist, they have managed their water resources better by constructing local tanks and check dams. They are in certain ways better than doctors and vets as they are able to heal themselves and their cattle too with only the plants around them. They surpass the skills of any financial managers as they support a big family on meagre incomes. They are the true artists creating beautiful things out of waste.

More than anything, to me farmers are true environmentalists. They use environment friendly things (the pesticides and chemical fertilisers has been imposed on them), make their own compost and have protected their forests and other natural resources for centuries. And we still call them poor and illiterate?"

- Gunjan Doogar, India

## 6. Governance Goals

The governments make a lot sure-to-succeed plans for the growth and development of the villages. So what happens? They don't succeed! Why?

For two reasons:

- The people who make the plans do not involve the people for whom the plans are made.
- The ones who implement the plans, are unaffected by the consequences.

But things could be easier. To put it simply, decentralise planning and involve the people who are the reason for the plan. Undoubtedly they best people to understand the area and its resources. We need to give the villagers the authority to participate in planning and implementation. Give them the chance and see what they can do! This will also bring in transparency and accountability.

"How can they claim what is due to them? The government has so many policies and benefits for the rural, but these only benefit the government officials, or the rich farmers who do not need them."  
-**Shruti Gopal, India**

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*"For people like us here, the world gets better and more interesting everyday. We live longer, know more, travel to more places, have more things than people at any other time in history. But it is not so for more than half the people of our world. For many of them, things are getting worse, not better .....*



**Rajendra Kumar Gurung, Nepal**  
(source : NNEP and FGPE)

## STEPS TOWARDS TRANSPARENCY

Mazdoor Kisan Shakti Sangathan (MKSS) is a mass-based organisation working in one of the most backward regions of Rajasthan state, India.

In the early 90s, the MKSS started working in the Rajsamand District of Rajasthan. The MKSS prepared no project proposals, had no registered society, took no foreign funds, and recruited no staff. All they did was walk from village to village asking simple questions - **did the people know how much money was coming to their village for development and where it was being spent?**

MKSS held a series of public hearings — village by village - challenging the accountability of local officials. In response to the pressure and to avoid public humiliation, village sarpanch (elected village representative) of the panchayat (village council) returned public money they had embezzled.

No law or arrest or departmental enquiry made these officials return the money. It was the local villagers who finally humbled them.

*They don't know about the World Bank or UNDP or about Rio or Johannesburg.*

*Nothing seems to change in their lives, no matter how many conferences and summits the leaders of their countries attend. And, many things get worse. Certainly, we have conquered many diseases, but we also have growing epidemics of TB, malaria, HIV/AIDS. We have all kinds of new building materials, yet there is today the largest number of shelterless people. We have all kinds of scientific methods for managing our environmental resources, and still the forests, rivers and soils keep disappearing. And for many, many people, destiny is something completely outside their control."*

- **Dr. Ashok Khosla,**  
**Development Alternatives, India**





## AND THEN WHAT?

So what does an average rural person in the region has to struggle with? A LOT! Degrading natural resources, decreasing agricultural profits, middlemen, inefficient implementation of government programmes, increasing population, lack of basic amenities.... and most importantly loss of livelihoods. This forces the rural youth to migrate to the cities for better opportunities, where ironically they could be worse off.

With this migration, rural-urban balance is getting disrupted. Though a rural family might be better off when its members are able to provide financial support back home by earnings from the city, the social structure of villages change due to absence of youth. Traditional art forms are slowly dying out as there aren't people left to carry them on. Thus we are losing out to our culture which has been preserved and passed on since generations, but is now finding no takers.

"In Nepal there are cases of villages where there are no youth left. And probably by 2032 there will be no young people in the villages at all. They do see the examples of the not so successful people in the cities but still do not go by them. They all want to take a chance. They all want to move to the city. They come to urban areas in search of jobs and end up being a housemaid, servants and helpers or guards and peons. They are forced to settle in unhygienic conditions which give rise to many diseases. They are not satisfied with the kind of work they do or how they live, but still want to continue."

- Sidhi, Kathmandu



ICT: Bridging the gaps

**BUT there are positive signs as well. Many new initiatives are beginning to change the lives of the rural people all across South Asia. Let us get motivated from a few:**

**WWW.RURAL.COM**

"IT" is a very important word in the present world. One finds news reports about IT revolution sweeping across rural South Asia. Farmers would be able to 'access' land records and rates of agricultural produce from markets across the country in no time. Latest government schemes for development would become more accessible. Educating children would become easier. But there are some problems for IT like:

- Electricity is the biggest hurdle. Almost all the South Asian countries are power-starved. Electricity has not reached many rural areas. So its impossible to run computers there.
- Telephones too are a distant dream in many places. So internet connection is a problem and will have to rely on satellite dishes which are expensive.

Anand, Gujarat, India is famous for hugely successful White (milk) Revolution in western India. At present another experiment is being carried out in Anand. Some 3,000 villages in Anand are part of this new exercise. An exercise in increasing productivity using information technology.

An automatic milk collection system (AMCS), has been set up by Amul (Anand Milk Union Limited). This is a computerised system and allows the reading of milk quantity and quality. It also maintains daily records of milk societies at the village level. In the previous manual system, two to three days were spent on collecting information on the quality and quantity of milk deposited by each member. Payments too, were worked out manually, which was very time consuming. The producer was sometimes paid only ten days after depositing the milk. "IT" has not only reduced the time factor but also ensures quicker payments for the villagers.

## FASHION ORIGINS

Fashion designer Bibi Russell from Bangladesh has introduced hand-woven Bangladeshi silks to the catwalks of Europe from the villages of the country. In the villages of Bangladesh one million people depend on weaving these glamorous silks and cottons for their livelihood. But the spread of cheap machine-made fabrics has threatened their traditional skills. And as if that were not enough, many weavers are left destitute by the recurring floods

"Everyone thinks Bangladesh is a poor country....for a creative person - for me - it's rich in culture and everything. It gives me a lot of energy. Most of the time I'm in villages and I'm competing with the top designers."  
- **Bibi Russel**

Bibi Russel's clothes may be a big hit in Europe but the technology that produced them is centuries old. Her effort has not only popularised an almost dying art form but has also saved the livelihoods of many villagers .

This is just an example . Everywhere you go in South Asia you will find superb art and craft forms in the remotest of villages. Be it the mirror work from Gujarat, India or the traditional mask makers of Bhaktapur Nepal, embroidery of Pakistan, men and women have tremendous skill in their hands, to create beautiful things.

## CHIPKO MOVEMENT

*In 1737, the Bishnois, a tribe in Rajasthan, India opposed the State on felling of trees in their village. Amritadevi, a mother of three, took the initiative and sacrificed her life by hugging the tree that was being axed. Almost two centuries later, a similar revolt took place in a more organised manner. In the 1970s and 1980s the resistance to the destruction of forests spread throughout India and became organised and known as the Chipko Movement.*



**Nayana Priyadarshini, India**



### Women self help groups

*The word "chipko" means "to stick to". And that is precisely what the movement is all about. People hug ged trees, saving them by interposing their bodies between them and the axes. The Chipko Movement is the result of hundreds of decentralised and locally autonomous initiatives. Its leaders and activists are primarily village women, acting to save their means of subsistence.*

## MONEY MATTERS

"In 1976, Professor Muhammad Yunus, an economics professor in Bangladesh tried an experiment. From his pocket, he lent the equivalent of \$26 to a group of 42 workers. With that 62 cents per person, they bought the materials for a day's work, weaving chairs or making pots. At the end of their first day as independent business owners, they sold their work and soon paid back loan. The success led to the formation of the first microcredit program the Grameen Bank. Today almost all its borrowers are women, who tend to be poorer than men, have fewer opportunities and are much more likely to spend their earnings on their children. Grameen now makes a profit, claims a higher repayment rate than traditional banks. One-third of its two million borrowers have crossed the poverty line and another third are close.

"We need to learn a thing or two from our villages. How to work with our hands, how to respect life around us, how to live without destroying other lives, but most important, how not to forget that we have inherited a rich culture and benevolent natural resources. And we need to preserve this to ensure a better future."

- **Abdul Salem, Pakistan**





## WE RECOMMEND

- ◆ The government and other sectors should invest in rural areas to provide them with the means to earn their livelihoods in their local community itself so that they are not forced to migrate to the slums of a big city.
- ◆ Preserve their traditional knowledge and provide relevant education so that the rural masses are aware of the options available and can make wiser choices.
- ◆ Design and provide access to the appropriate technologies which is for their benefit and also recognize the environment friendly technologies and practises they have been practising for ages. In South Asia, to create sustainable livelihoods technologies which make people, not machines, the masters are required.
- ◆ The need to look ahead. Rural areas should be planned better anticipating growth and development
- ◆ Each village is different from the other. Each village has its own sets of problems and needs. Its therefore essential that each area has its own unique model of development and solutions. The **'development'** models of cities should not be aped, because the economic and social needs of a city are completely different from those of a village or rural area.
- ◆ Today, government in our countries is too far removed from the people, and hardly accountable to them. The planning should be decentralized planning – the rural people should be participate in the planning, execution and evaluation in programmes concerning them.

## AND US?

- ◆ The people living in cities are obsessed with the latest equipment that money can buy. We really have no idea of what village crafts are or under what conditions they are produced. We need to create a platform for these craftspeople so that they can not only market their products to buyers all over the world but earn enough money for all their effort too. And of course we need to create interest.
- ◆ Many urban children have never seen villages except in movies. Encourage schools and colleges to introduce exchange programmes or visits to villages that would include study of village life, art, craft and traditions.
- ◆ You can use handmade products made in villages instead of the usual machine made products that we are so used to in the cities.



*Empowering rural areas with small scale enterprises*

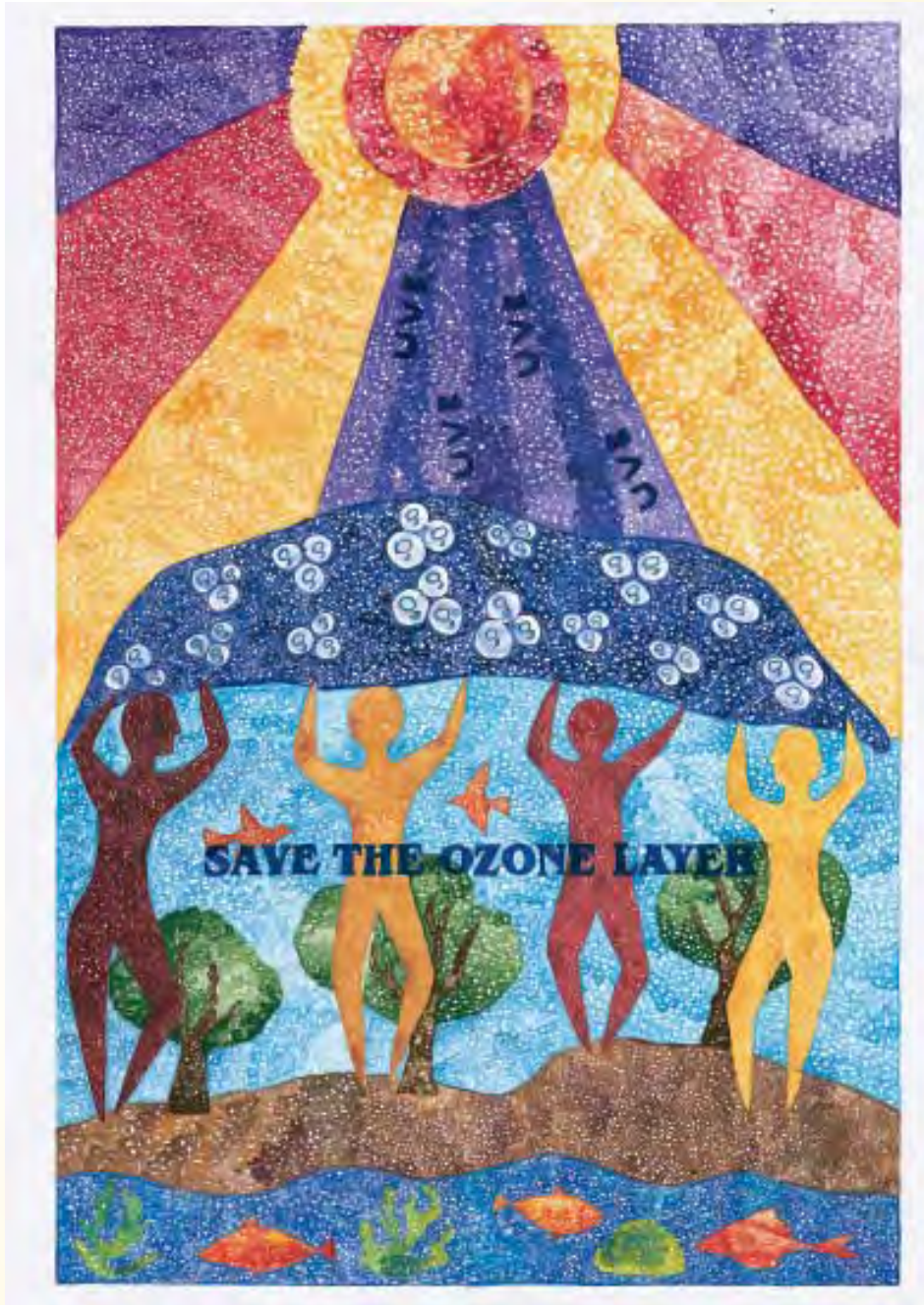




*A village with all amenities: A village of our dreams*







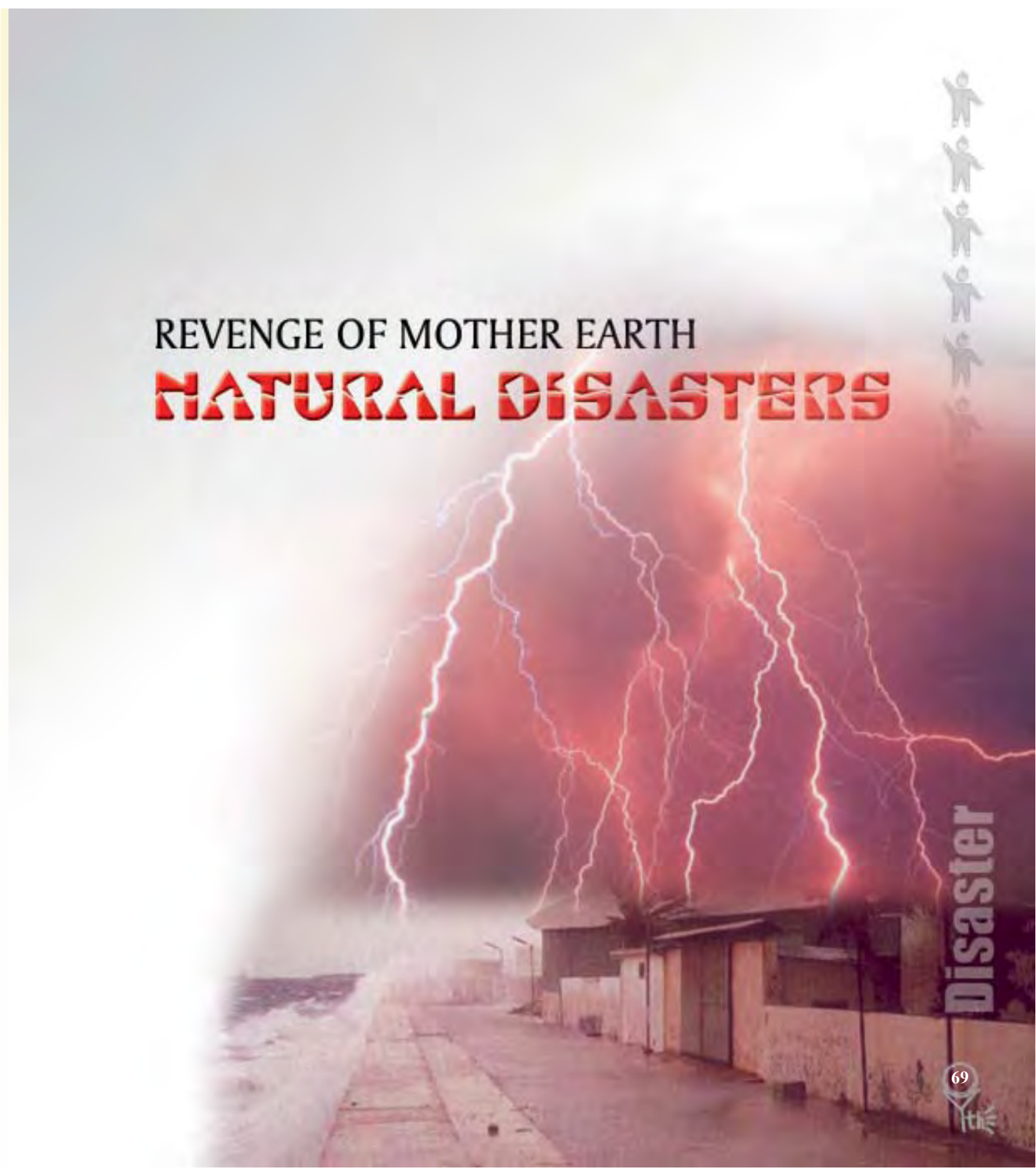
*Mariyam Bassama Farooq, Maldives  
( Source: Ozone Action Programme, UNEP DTIE)*

RURAL

REVENGE OF MOTHER EARTH  
**NATURAL DISASTERS**



**Disaster**





## REVENGE OF MOTHER EARTH NATURAL DISASTERS

While trekking they come across a mountain of stones blocking their way.

**Monk :** This has happened because of a recent landslide.

**Nasir:** Boy! Did we narrowly escape? What could have caused this ?

**Monk :** Lots of things. Cutting trees as we need wood for our homes, is the main reason.

**Afzal:** You mean we are indirectly responsible for this.

**Monk:** Yes. We all are. We do not live in isolation. What we do affects the nature and so each other



### WHAT ARE NATURAL DISASTERS?

Our Earth sometimes start behaving abnormally like it erupts, trembles, cracks, makes buildings fall by, sometimes gushes with water and sometimes is parched dry or sometimes has winds race with themselves !!

Such events are called **Natural Disasters**. They occur in the form of volcanoes, earthquakes, landslides, floods, cyclones, fires, and many more. They can strike anytime, anywhere without warning. They are tragic as they disrupt the normal routine of life, causing loss of property, life and bring lot of suffering.

### NOTHING UNNATURAL ABOUT IT !

Since life began, the earth has been witness to several natural disasters. Earlier disasters were a part of the natural cycle and even helped to a certain extent to maintain nature's balance. Like forest fires helped sprout seeds that required high temperatures or killed invading weeds, and also increased soil fertility. The annual floods too were beneficial as they brought along fertile alluvial soil. Till the 18<sup>th</sup> century, an intelligent system existed in South Asia such that whenever there was excess water in

rivers, it was diverted through a intricate system of channels or canals to agricultural fields or lakes. The flood waters thus spread as a shallow sheet all over the paddy fields depositing fine silt and algae, increasing the fertility of soil and replenishing ground water for dry months. It also brought fish eggs and growing of carnivorous fish would snap up all malaria causing mosquito larvae.

### Disasters: Now under our control

With time, disasters have become both more frequent and more intense. Do you know why?

Because, these very disasters are no longer only natural. They are now not only human triggered but also not man-made. **Surprised?**

A number of human activities like industrialisation, deforestation, dams, mining have caused large scale destruction of the environment. If the balance of nature is disturbed, it triggers off a chain of reactions that act as catalysts for calamities. Let us delve deeper:

South Asia stands out as a one region of the world as most vulnerable to natural and man-made disasters. During the last decade, each year on average 56% of those killed world wide by disasters were in South Asia. A tough mesh of poverty, rampant and unplanned urbanisation, population densities and poor preparedness has trapped its people.

## Water water everywhere !!

As the green cover decreases, the soils capacity to absorb rain water decreases. A single tree can absorb 200 litres of water per hour. The soil that is held on by the roots of the tree may absorb even more. If the tree is gone, water runs off carrying along a lot of soil. This gets deposited in the bed of the rivers making it shallower, which means the river has decreased water holding capacity. This results in flooding of rivers even in less rains and conversely the river dries up sooner in summers.

The annual floods in Bangladesh deposited alluvial soil and kept the land fertile, making it possible to grow three crops. But now floods have started misbehaving. Bad planning, poor agricultural practices, but most of all deforestation (especially in Himalyas) are major reasons. The Farraca Dam in India too is responsible for increasing the intensity of floods in some parts.

The 1998 floods of Bangladesh lasted eleven weeks, ranking as the worst floods in living memory. The floods covered two-thirds of the country, caused over 1,100 deaths and affected 30 million people. They severely damaged roads, schools, bridges and close to 500,000 homes.

"Loss of forests in Nepal is causing massive soil erosion and frequent landslides in the country. This has far reaching impacts in the lives of not only our people but is also increasing floods in Bangaldesh."

- Siddhi, Kathmandu

Assam, a state in north-east India is home to the Kaziranga National park and it has been bearing the brunt of floods every year. According to an estimate about 500 animals died in the 1998 floods, and as many as 101 highly prized one-horn rhinos were swept away, reducing their already endangered population by half.

## Winds in chorus with rain

Cyclones are high velocity winds and cause immense damage. They also generate heavy rainfall and may cause severe flooding, and are often accompanied by devastating tidal storm surges.

South Asia is specially vulnerable to cyclones due to high pressure and depressions developed over the Bay of Bengal and the Arabian Sea.

In 1970, a devastating cyclone and tidal waves in East Pakistan killed 200, 000 people and left many more homeless.

"We face floods almost each year, but we forget about them after 3 - 4 months, so next year we are again caught unprepared"

- Imran Junaid, Dhaka

The Super Cyclone that struck Orissa, India in 1999 was severest of the century, resulting in more than 20,000 human lives lost. Half a million animals also perished, including bullocks, which are the mainstay for ploughing. It is estimated that one and a half million coconut trees were also uprooted - a major source of income for many.

One reason for the intensity of the cyclone is the rampant destruction of Mangrove forests and sand dunes that act as a natural barrier against cyclones and tidal surges. Mangrove forests are being cleared at a rate of 3 km a year here for various purposes. For example, during the construction of Paradip port in Orissa, thousands of hectares of mangroves were cleared.





### *Mother Earth on her wing !!*

Earthquakes are sudden geologic movements - tremors that create shaking at the surface. Convulsion of earth or earthquakes are common in South Asia. The crust or the plates of the sub continent are still moving northwards and joining the rest of the Asian plate, making the entire region vulnerable to earthquakes.

The entire country of Nepal lies in the region of seismic activity and regularly experiences earthquakes anywhere between magnitudes of 5-8.

India is one of the fourth quake-prone areas of the world, and between 50 to 60% of the country is vulnerable to seismic activities of varying intensity.

"The town of Bhuj, once a flourishing centre of craft, was transformed into a "graveyard" in seconds on 26<sup>th</sup> January, 2001. The saddest thing is that many people could have been saved had rescue arrived on time. With more than 20,000 perishing in the state, another sad fact came to light. The state is ill-equipped to handle disasters of such magnitude. Earthquakes don't normally kill so many people, it is faulty construction and poor crisis management policies that do. In India quake-resistant buildings are almost unheard of. But one could also see some ray of hope. At this difficult time, not only the people of the country but the entire world stood with us. Each individual helped in every way s/he could. People forgot their differences and became one in this hour of need. It can only be described that God had put us to test in his own way."

- Aparna Nahar  
Gujarat, India

### **THE GAME**

It was a windy morning  
And God started the furious game!!!

The deadly game he played and  
The mournful paintings he portrayed

Earth shook for a minute.  
Leaving the life mute

Buildings collapsed and turned to debris  
Even God was not there in this crisis!!

People died, kids cried  
Many buried and left the whole world worried

To burn the dead bodies there was no fuel  
I never thought God could be so cruel!

**but**

In the midst of nightmare....  
The ray of light....

Sweet water spring sprouted in the saline  
desert...

And across the border and boundaries  
Sprouted the care and humanity

Oh God you are really a big player.....!!!  
But do not play such game again that is the only  
prayer.

- Anup Shah, Gujarat, India





### *Rocks play running race !!*

Landslides are the downslope movements of earth materials (rocks, debris, soil) under influence of gravity. Topography is the primary cause for landslides in hills and mountainous regions, where they are common, or they can be triggered by rain and earthquakes. But they are aggravated by human activities like deforestation, construction, mining and slope cutting on the already fragile slopes of the mountains.

In Nepal, approximately 12,000 landslides occur each year. A disturbing example of the combined result of man made and natural factors.

"While playing in the park one day, I heard people shouting and the hill facing our colony was letting the stones and mud go loose. Next I saw the trees join the wild race. It seemed like the over filled clothes of my sister's closet falling down."

*-Amar Bahadur, Nepal*

### *The Fire ball*

Forest fires, are nature's way of managing forest by recycling nutrients, kick-starting regeneration and destroying pests. But fires in forest are no more natural in South Asia. Forest are now burnt purposely as it is the cheapest way to clear land and change its use. The need to clear forests is because of population expansion and the pressures that come with it. But many a times the fires get out of control and spread wildly. Then they become life threatening for animals and humans ! In India, in May 1999, forest fires claimed many lives and destroyed property worth crores.

## DISASTERS INVENTED BY MAN

In some cases, the disasters are entirely man-made. Mother Nature plays no part. The industrial disaster at Bhopal is regarded among the worst man-made disasters ever.

### **The Hiroshima of Chemical Industry**

"Claiming the lives of over 8000, left Bhopal side no less than a Graveyard. December 2<sup>nd</sup> 1984 as the clock struck mid-night, the seventh fairy seemed to have cast a spell on the whole place. This was longer than 100 years of sleep. It would last forever. The station master instead of seeing off trains, caught the spell sitting in his lobby. The trains instead of moving stood still with compartments full of people fatally struck by the spell. That night other trains were ordered to rush past Bhopal over a speed of 100 miles / hour with everyone praying and holding wet cloth over their faces.

The firm "Union Carbide", the gas "Methyl Iso Cyanide" which had leaked out of its chamber due to a faulty pipe. The saviours: the lake separating old and new Bhopal as the gas got dissolved in the lake killing the fish but saving others. The floating dead fishes were a horror."

*- Shruti Gopal, India*

"In Bangladesh, as waste is not disposed carefully, so sewage pipes get clogged and burst suddenly leading to death of people"

*- Imran Junaid, Dhaka*



*Forest, forest, burning wild !*



Disaster





## THE AFTERMATH

Natural disasters throw life out of gear completely and the damage done is unimaginable and irreparable. There is large scale loss of life, property and livelihoods. Entire settlements are devastated and the survivors have to start from scratch. Even basic amenities like water, food, clothing and health services become precious because there isn't really anything left. One is literally thrown back by a 100 years in terms of progress.

More often than not, many people actually die in the aftermath of the disaster than during the disaster itself. Does that sound strange? Not really. Apart from the destruction these disasters wreak, they also increase health risks. For instance, after floods or cyclones, there are high risk of water getting contaminated. And if people are not provided with safe drinking water, then they are forced but to drink the contaminated water, which may give rise to various diseases.

"Is our country learning from these disasters?? Every year it is the same story. Floods, cyclones, earthquakes catch the people and government unprepared and unaware. How many more disasters to go before we can face them with minimal loss? For example the earthquake in Gujarat exposed that many houses were designed wrongly. Maybe the people of Gujarat will be more cautious when they design a house next, but what about other places of the country?" **-Shubham Yogi, India**

### MOST VULNERABLE?

One of the impacts of global warming is extreme weather events like floods in some places and droughts in other.

The rich and developed nations are majorly responsible for global warming. On the other hand, the poorer nations contribute less to global warming, but bear the maximum consequences.

Again, in most natural disaster conditions the poorest get impacted most increasing their vulnerability further. Even amongst the poor, women and children suffer the most.

## SITTING ON A TIME-BOMB

Disasters, as said before, have been happening for years. Still there seems to be little awareness among people. Few steps are taken for prevention or . Even now in the panic stirken hour, nobody knows where to go or what to do? Rescue comes after everything is over, like the police in our movies. People start praying to GOD instead of taking safety measures or launching a rescue mission.

But do we care? We must advance, develop, progress at any cost. At any cost!! Are we using the advancement or development in the right way for the greater good?

If this attitude persists, it won't be long before our region will be reduced to mere rubble and sand. We must protect our environment and save it from further destruction. And the answer is quite simple. Change the way we live and see the difference!

## PLAY SAFE

What can we the youth of today to minimise natural disasters and its impacts? There are many things we can do. Here is a possible response strategy :

### Being Ready

- ✦ Areas prone to calamities should equip themselves suitably. For instance, in cyclone prone areas, either houses should be able to withstand the fury of cyclone or else special cyclone shelters should be built. Similarly earthquake resistant housing must be made mandatory in seismic zones.
- ✦ Training programmes on how to cope with disasters should be introduced in schools and colleges.
- ✦ Many natural disasters can be forecasted the way we predict weather. Lobby for the government and private sector to set up research centres for disaster prediction management and also put aside funds for times like these.

### Helping in Rescue

- Youth in schools and colleges can organise themselves and volunteer to provide physical assistance in rescue work with co-ordinating agency.

### Providing Relief

- The youth can organise collection centres for money, clothes, medicines, food and other essential items and deliver them to the affected areas.

### In Rehabilitation

- After disasters many lose their livelihoods. The youth should encourage rehabilitation efforts by buying products made by those affected by disasters.

### Prevention is better than cure

- Environmental improvement measures are important in combatng natural disasters. Afforestation can reduce intesity of many calamities. For instance afforestation on mountain slopes can reduce landslides and along river banks can reduce floods. Open spaces and parks in a city can provide shelter during earthquakes.
- In your city, stress the need to build capacity at the community level because most lives are saved by the affected community before outside help arrives.







*Lavanga Ranjithkumara, Sri Lanka*

# SANS'-KRITI CULTURE



South Asia : State of the Environment 2002  
The Youth Version





# SANS'-KRITI CULTURE

*Afzal: I need water to brush my teeth. Will somebody accompany me to the stream. I am scared to go alone.*

*Sunethra: Wait! But I have been told that one is not supposed to disturb the water in the night*

*Afzal: You are right. I have been told this too. Wonder why we have such funny things in our culture?*

*Monk: This is not just a superstitious custom. It is because our ancestors valued nature and established certain principles to protect it. We are supposed to leave water undisturbed for some time so that it gets time to revive and purify itself.*



## CULTURE: WHAT IS IT?

- \* The way people live in society in relation with others and with environment.
- \* The way they express themselves
- \* The way they interact and communicate
- \* The way they appreciate art, literature

Every culture has its own ways of living life, passed on from one generation to another through **traditions and civilisations**. *Traditions* are customs, beliefs, values, and practises which are followed by members of the society.

South Asia too has unique and diverse cultures. Cultural traits like costumes, food habits, language, values and customs are all different and unique. The diversity can be perceived by the fact that more than 1000 different languages are spoken throughout South Asia. The cultures of South Asia may be different but they all bear the same message: **Protect Mother Nature!**

## CULTURE, WHY DO WE NEED TO KNOW ABOUT IT?

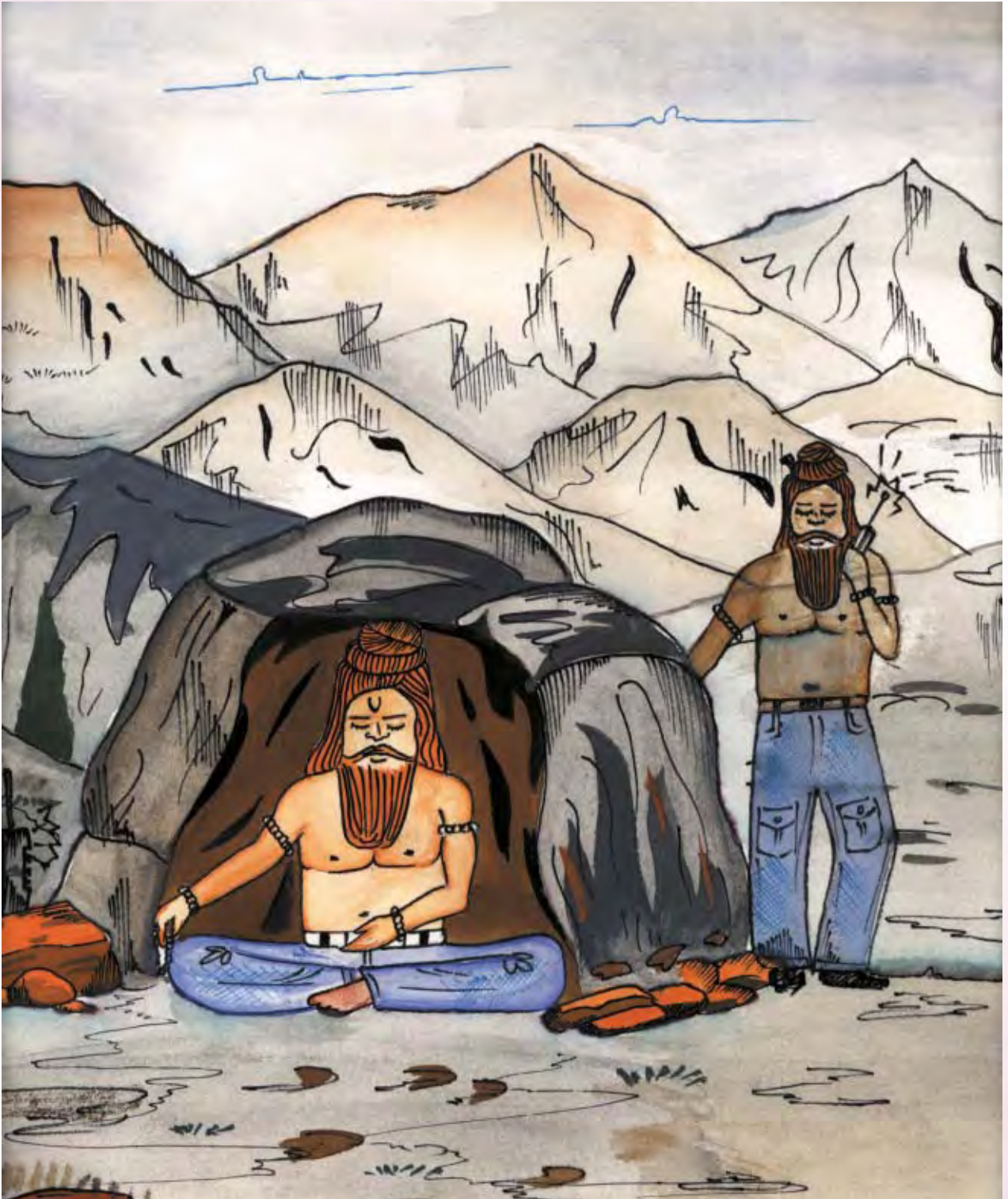
For centuries, people in this region have carefully tended the land on which they directly depended. Man was aware that his survival was directly dependant on nature. And to recklessly exploit and destroy this vast natural wealth would be disastrous for mankind. And this is why the our forefathers protected the environment. They preserved forests and wildlife and also natural resources like water and land.

This resulted in man learning how to live in harmony with nature. Each generation has passed on its profound understanding of how to manage natural resources. Thus many of our traditions and customs bear environment in mind.

Our ancestors have left us a wonderful legacy and we must cherish and preserve it. Otherwise we face the danger of destroying this Earth forever.

Culture has defined man's existence both individually and as a member of society. Culture isn't born or created. It evolves and grows. And it is ever changing. That is where the importance of culture lies. That it blends with our lives; that it is a way of life; that is designed to make our lives easier and in harmony with nature.





*"VISION 2032: Sadhus in jeans"*- Abhishek Chaudhary, India





## CULTURE HAS BEEN IN HARMONY WITH ENVIRONMENT: ARE WE?

Centuries ago no one would have ever known the meaning of the word “**environment friendly**” but amazingly, the way they lived and worked was simply that!

*Let's take the example of architecture.* While building wide open spaces with plenty of trees and plants, were a must. The beautifully and practically planned monuments of the Mughal period in India are proof of that. In fact many of the ancient buildings, temples or monuments will point out how environmentally aware their architects were. For instance, marble and lime paste were used to keep floors, walls and ceilings cool during the summers. Rooms were built to face a certain direction depending on natural factors like sunlight and wind. Most constructions were even earthquake proof!

In the past, houses and settlements in water scarce areas were constructed having provisions to collect and store rain water for future use. On a larger scale, building tanks and lakes was considered a noble deed and kings and rulers took particular care to build them for the benefit of all. In the state of Karnataka in India, in the 19<sup>th</sup> century, there was one tank for every 40 sq.kms. Here festivals were also organised around tanks, so that the farmers would clean and desilt them. Bangalore, capital of Karnataka had 262 lakes three decades ago, but now only 81 remain.

*Here's how flora have been able to escape the axe!*

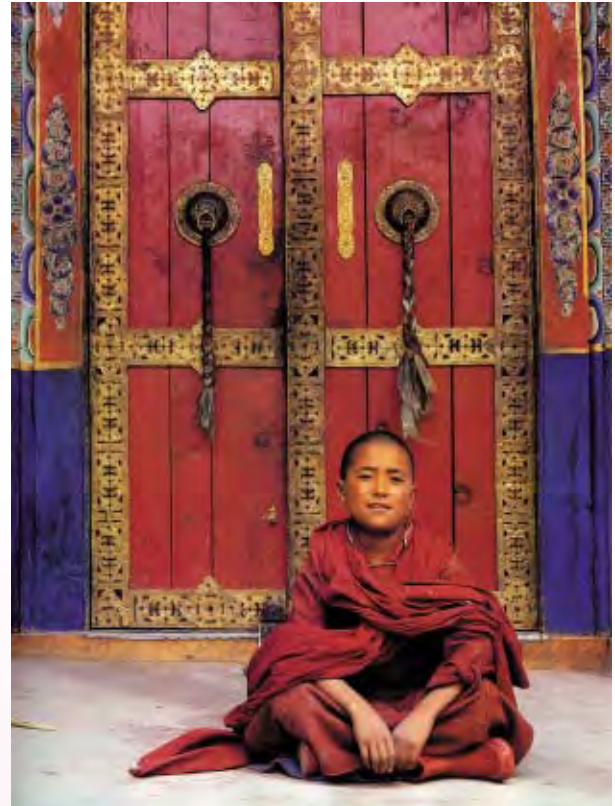
The culture of respecting and worshipping trees goes back to the earliest Indus valley civilisation. The seals show that plants were regarded as holy and the homes of divine spirits. That custom lives on and even today, plants and trees like the *Tulsi*, *Peepal*, *Neem* for instance, are considered sacred and worshipped. Many households in India have the medicinal and holy Tulsi plant growing in their backyard which is like having a doctor in each home.

Cutting of trees is considered a sin even today. Incidentally trees particularly regarded as sacred, are not only storehouses of numerous medicinal

properties but also are beneficial to the environment as they release a lot of oxygen and transpire.

Trees are also a must in every temple compound. The Golden Temple in Amritsar, India, which is a holy places for the Sikhs, has a *ber* (*zizyphus*) tree in its central courtyard called the Beri Sahib which is also worshipped. Likewise temples in Sri Lanka and Nepal too have trees in their courtyards.

Many other religious customs are interwoven around trees. During prayers, offering of flowers and fruits is necessary. Like Lord Shiva's worship is considered incomplete without offering of 'Bael' fruits and 'Shankpushpi' flowers, while Lord Ganesha's with fruits of "Kadamba" trees (again, not surprisingly, all have tremendous medicinal properties). Similarly, other flowers, fruits, leaves are integral part of religious ceremonies. As various dieties have to be worshipped with different flowers and fruits, it meant that people not only grew trees but also a variety of them. Priests also gave devotees saplings as 'prasad' or blessing or sacred gift from the God, so that people took good care of the saplings.



Similarly Islam places a lot of emphasis on protecting trees. After death, bodies are not burnt but buried in the ground which in a way enriches the soil and saves wood. A tree is also planted over the grave.

Even **superstitions** have helped our environment! There is a belief that one should not pluck flowers at night. Botanists have discovered that some insects like moths carry out pollination only at night. Another belief says one should not sleep under a tree at night. Science has proved that plants release carbon dioxide at night so it is unhealthy sleeping under them.



*Let us not junk our traditional food*

### *How fauna was saved*

"Everytime I go to a temple, I am given a piece of jaggery and a few 'tulsi' leaves as prasad. There is great science in this. Scientists say that having a few Tulsi (*Ocimum sanctum*) leaves every day can save one from fevers and even cancer! A Tulsi plant also releases a lot of oxygen in air. Growing one plant in the compound house can purify air of the entire house. The plants fragrance kills the germs in the air. Isn't this a beautiful tradition which preserves our nature and our health. Interestingly another variety of Tulsi family is also worshipped in Islam, known as *Ocimum basilicecm*."

**- Anuradha Rao, India**

**Many traditional environmental practices are still relevant today:**

- ✿ Whenever a body is cremated or buried, a tree is planted
- ✿ Not cutting green trees
- ✿ Create parks and gardens
- ✿ Not to pluck flowers at night
- ✿ Don't disturb water at night ( to allow pollution to settle)
- ✿ Adopt a simple, non-violent lifestyle
- ✿ Reduce consumption. Recycle and reuse (what you do not need, give to the needy)

Our culture has the belief that there is a soul in all plants, animals, birds, insects and thus receive special care and consideration. Islam prohibits killing any animal or bird for the sake of killing. In Hinduism the principle of cow protection indicates reverence for all forms of life. In reality also, a cow is a gift to humans (provides milk) and environment (it eats waste and the cow dung is excellent food for plants).

In the Hindu mythology, Gods have taken on animal forms in various incarnations. In Vaishnava sect, God moves through series of divine incarnations beginning with fish, moving through amphibious forms and mammal's and then into human incarnations. This view holds that man has evolved from these forms itself and is therefore integrally linked to the whole creation. A holy status is also bestowed to the animals so that one would never dare to harm them. Like "Lord Hanuman" is in the form of a monkey and "Lord Shiva" has a snake around his neck. Different animals are also the 'vehicles' like "Goddess Durga" rides the mighty tiger while "Goddess Saraswati" has an owl. And not surprisingly, all these animals are critical strands in ecological web.

The South Asian region is possibly where the concept of vegetarianism originated. A vegetarian diet feeds more people and is less wasteful of Earth's resources.



CHILDREN







## CONSERVATION THROUGH RELIGION

"All religions of the world, through their moral and spiritual percepts guide human's conduct and relationship with nature and environment. The conservation ethic based on the spirit of caring and sharing is central to all faiths and religions."

- **Mr. Samar Singh, India**

In Bhutan, the Buddhist philosophy is seen as a major reason for prevention of environmental disturbance. Lord Buddha taught that survival of the forest is vital to the survival of natural harmony, balance, morality and environment, which have been adhered to here. Buddhist philosophy also teaches the importance of living in tune with nature, to respect all life, to live simply and use nature as a spiritual force.

Islam also teaches to preserve each and every gift of nature. Like wasting food or water is forbidden, whether they be scarce or abundant. One also is not supposed to throw anything here and there but bury it in soil so that it decomposes and enriches it.

Hinduism too is very near to nature. It asks its followers to see God in every object, whether be it the Earth, rivers, plants or animals. All rivers are worshipped as Goddesses and so not supposed to pollute. In Jainism, non-violence or 'ahimsa' is a fundamental vow. "*Ahimsa paramo dharmah*". It involves avoidance of violence in any form, not only to human beings but to all in nature.

Sharing Resources: The Sikh religion initially spread in Northern India, where people were dependant on limited resources. The Gurudwaras (holy places of sikhs) were specifically designed to have water tanks, or were near water bodies - which were always considered a community resource. The cities and towns that grew near the gurudwaras were centered on a spiritual lifestyle based on sharing. A lifestyle that promoted equity among people and optimum utilisation of resources, with considerable re-use. Even today rural families in Punjab state, India share resources with their neighbours. On large family occasions such as weddings, the entire village may play guests and share living space, beds, etc.

## Bio-diversity and cultural diversity The Missing link!

"There it was, staring me in the face and I could not see it, as I rambled through the 'Sacred Grove' to find the link. Yes, 'Sacred Grove' was the link. We Khasi people of Meghalaya have 'Lawkyntang' or commonly called as Sacred Groves. These groves are a biological heritage, which has helped preserve the genetic resources of our place. We believe that if anyone cuts a tree or does anything to spoil the sacred grove, the person would be socially isolated for the rest of his life. By protecting the groves, not only do we help to preserve the bio-diversity of our region but also protect our cultural heritage.

Practices like this are followed all over South Asia. The link is clear: even though we have diverse cultures, each culture has its own, simple and beautiful way of preserving the bio-diversity of the Earth. It seems that the two have been secretly married for ages.

-**Aibanrihun Lyngdoh, Meghalaya, India**

"In the desert state of Rajasthan, India we have simple customs which save water in daily life. Like we drink water without touching the glass to our lips but hold it a little above the mouth. This way the glass can be reused without having to wash it every time. This is also a good exercise for our necks."

- **Somya Doogar, Rajasthan, India**

"Many a times when we crossed over a river while travelling in a train, my mother asked me to drop a few coins in the river as a mark of respect. I used to do so obediently, watching my small offering make a smaller splash in the mighty river, till I realised that this simple ritual has scientific basis. When this custom must have been established, the coins in circulation were made of silver. And silver metal has property to clean polluted waters!! Thus the custom of dropping (silver) coins in rivers. Even today in many places, silver coins are dropped in wells during worship on festive occasions. To me it also teaches that water bodies are precious and deserve only silver coins and not our garbage "

- **Sasi M., Kerala, India**

*And in everyday life too, people took help from nature.*

An excellent example is the *Panchmahabhuta*. It is a popular Indian medical philosophy, which portrays the balance between air, water, earth, fire and space. This balance is today known in the field of development as sustainable development.

Ancient medical sciences like the Ayurveda and Yunani form which developed here, prescribed only natural remedies. These health systems are now scientifically acclaimed and have gained a lot of popularity all over the world.

## UN - CULTURED

Somewhere along the time we have forgotten the reasons of our customs and traditions and are following them in a mechanical way, and today in a more glamorous and pompous ways. Our religions, the foundations of which lie on peace, non-violence, environment protection, are being misused and the result is violence and chaos in society and personal lives too.

Here are some instances of the  
**CHANGE OVER TIME :**

### 1) Choking Rivers

During festivals like Ganesh Chaturthi, Diwali and Durga puja, in India, it is a custom of immersing idols of Gods and Goddesses into water bodies. Earlier the idols used to be made of only mud and stuffed with a kind of grass, all of which was actually good for the water bodies. But now we want gigantic God idols! So the idols have to be made of plaster of paris and other water unfriendly material. Not only that we even want our Gods to be as glamorous and attractive as the film stars. So we paint them with flashy paints which contain toxic substances like Mercury, Lead, Cadmium...

Just think of the effect when thousands of such idols and other material of the religious ceremonies are immersed in a limited stretch of water !! Our already polluted water is poisoned further. It kills innocent aquatic life and effects our health too.



*Water woes: Worshipping it, polluting it*





Polybags, garlands and other matreial forming an island in River Yamuna after the custom of idol immersion in certain festivals. The woman on a flimsy boat, is risking her life and collecting polybags for resale.

## 2) UnHoly Colours of Holi

Holi, one of the most colourful festivals of Nepal and India, bids adieu to winter and heralds spring. It is celebrated by applying colour on each other. It is an occasion to promote and renew friendship. The festival was traditionally played by using colours made from flowers and herbs. The fragrant natural colours even had therapeutic value and were beneficial for the skin and prepared one for the harsh summers.

But over the years, natural colours have been replaced by synthetic colours to the extent that most Holi colours sold in the market now contain toxic chemicals or are industrial dyes. Can you imagine the havoc these chemicals wreak on the skin? Allergies, rashes, infections and more. When washed, they enter our water and soil, and cause even more pollution. The alternative to these harmful chemicals is to return to traditional natural colours made from flowers and vegetable. In some places, like Vrindavan, (near the birth place of Lord Krishna) Holi was and is still played with actual flower petals.

## 3) Celebrating with Noise and Smoke!!

**Diwali**, the festival of lights in Nepal and India used to be just that. Oil or ghee lamps were lit but no firecrackers were used. Today Diwali is one of the most polluting festivals. People use firecrackers senselessly, more perhaps to outdo their neighbours than to enjoy the sound and light. Double impact !! Air pollution and noise pollution together spiral. In Delhi the air pollution increases by six times and the noise levels are enough to cause deafness. There is a significant increase in incidents of respiratory and heart diseases.

"Diwali festival is a time when we clean and decorate our homes. Then how come we have made it an occasion to mindlessly pollute our environment? My sister who suffers from Asthma, can only stay indoors and wait for the air to clear. Is this how Diwali should be celebrated?"

"I did not like Holi festival because the dirty colours made me sick and gave rashes to my skin. To escape, I used to lock up myself in a room for the entire day. Then one day in our school, experts from Development Alternatives came and taught us how to make our own natural Holi colours using different flowers, leaves and herbs. I never knew that I could have my own palette of colours from nature. These lovely natural colours do not harm our skin like the chemical colours but on the contrary benefit it. They are even safe for the environment. I now realise the true significance of Holi and look forward to."

- Sweta Mattha, Madhya Pradesh, India

## Good and Bad Practices of our Culture

Our forefather have taught us many things through the cultural practices. There are many positive and negative teachings that affects the environment. People of Kathmandu Valley clean up all the wells and water spouts and other water resources on a particular festival and enjoy after the hard work with delicious food.

But in the festival of 'Shivratri' people spend whole night celebrating in front of bon fires. On this day, thousands of tonne of fuel wood is burnt for seemingly no purpose. In the past when there were plenty of forests, fuelwood could be received easily. But now time has changed and such practices bring negative impact on the environment.

Similarly in Nag Panchmi (a festival in which snakes are worshipped) is celebrated by offering milk in rivers. Earlier it was fine as population was less. But now there are thousands who offer milk in the river. The river has only a limited capacity to cleanse itself, and with population pressure the revitalizing power of the river is saturated.

-Siddhi Bahadur, Kathmandu



Diwali: time to flee

" In Islam a tree should be planted on a grave. But now people are making permanent graves, which not only occupies land but also deprives greenery."

- Tahira Niazi, Pakistan

"In the past 'Yagnas' (a ritual worshipping fire) were performed with ingredients which actually purified air. But now the yagnas are performed only to satisfy the ritual without looking into its deeper meaning. These 'wood only' yagnas, only pollute air".

- Akshay Goyal, India

"For our ancestors, respecting and preserving nature was a way of life. But today the relevance of this unique relationship seems to be lost. Unfortunately the environment seems to be the least important part of our lives. However man is not mightier than nature. Our very survival depends on nature and not the other way round.

Our culture has time and again taught us how to preserve nature and live in harmony with it. What we must do is follow what is useful and apply it to our daily lives."

- Rajat Mehta, India



CHILDREN





## CULTURE REDEFINED!

To begin with let us question how we follow our traditions and celebrate our festivals now? Were our festivals and celebrations designed to be at the cost of our environment and life? ABSOLUTELY NOT!

All religions, age old customs and traditions are to benefit environment and thus man. If anything is done in the name of religion or tradition, which is harming the environment, it is because of wrong interpretation. Let us rediscover our traditions and customs in the true meaning and nature, and follow them in that way.

**Why is it important to relook, redefine, and rediscover our culture?**

**Culture could be an effective means of environmental management...or alternatively, preventing its degradation by masses.**



*Siddhi, Kathmandu*

## Doing Your Bit

We must ensure that :

- ☆ Good and sensible practices are followed. And practices for which the science or logic has changed are not continued. After all culture must also evolve according to circumstances and not become static. For instance earlier, in parts of India, people used to immerse dead bodies into rivers. At that time the rivers had good flow of water and marine life like crocodiles and tortoises existed in abundance to feed on the dead bodies. But due to pollution, the marine life has decreased or disappeared and by immersing dead bodies we only pollute the rivers more. Why can electric crematoriums be used instead and also save wood?
- ☆ Certain environmentally insensitive practices are being followed in the name of culture and religion. These should be stopped immediately as no religion ever espouses harm to anybody let alone Mother Nature.
- ☆ We should all celebrate our beautiful festivals and observe rituals and customs without polluting our environment. Make the festivals, not just happy but also safe for us and nature.
- ☆ In your school or college, organise awareness programmes about environment protection.
- ☆ People like religious heads should exert their influence to spread awareness about the environment and the need to protect it.

**Nature is like a mother who gives life, nurtures, cares and cures for her children. And we her children, must respect, protect and sustain Mother Nature.**



*The gifts from Tree,  
all for free*



Culture







VISION

*Bimal Prajapati, Nepal  
( Source: Ozone Action Programme, UNEP DTIE)*

# Vision



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Vision





As Children of South Asia we have discussed the situation in our region and we realize that our forests are being destroyed, rivers being poisoned, air being polluted, unmanageable waste is being churned out.....

If this continues to go on for another few years soon our Earth will have no space for us or even other forms of life

## VISION 2032

Que Sara Sara the future is 'OURS' to see.....

- ▶ From blue to Black: the colour of aqua and air.
- ▶ Space crunch: One man walks over the other.
- ▶ Hardly any land left for agriculture or forests.
- ▶ Our meals from the factories: capsules of food and injections of concentrated H<sub>2</sub>O
- ▶ Animal and humans grow two noses to intake sufficient oxygen.
- ▶ Today's science and geography is 2032's history. Students visit museums to see models of the once living animals, birds and trees.
- ▶ "Dancing in the rain" songs are replaced by "hiding from the rain" as the rain is acidic.
- ▶ Global warming causes two climatic zones in South Asia. One zone which faces floods each year. Second which only faces droughts.
- ▶ New mountains taller than Mt.Everest emerge in each city : the Garbage-alaya
- ▶ Property prices rise in Mars, as it is the most sought after place to live



*We have identified the problem but it exists at all levels. From top to bottom. From the local level to the global level. We rely on our governments to combat these problems. But simply making policies and legislations won't help. Endless meetings, negotiations and agreements won't help. Unless all of this is actually implemented.*



## YOUTH VOICE WHY ? WHY? WHY?

Sure you must have asked a hundred questions to yourself while going through this book. So did we while preparing it. Here are some questions for which we are searching answer. Maybe some questions have no answers, but asking the questions is more important than getting answers

- ❁ Why is that we are still talking and not taking strong action outside?
- ❁ Why do we need to develop in such a way that it harms the environment?
- ❁ Why do countries fight over rivers instead of jointly working to save them?
- ❁ Why do we have so many laws but so few followers?
- ❁ Why hasn't anything concrete been done if we have so many environmentalist?
- ❁ Why isn't environment added as a school subject?
- ❁ Why aren't we united over saving Earth when all our religions teach the same thing?:
- ❁ Why don't we realise that we need different models of development for each situation?
- ❁ Why can't people take responsibility of the waste they generate?
- ❁ Why after all the research the new cleaner technologies are not made available widely?
- ❁ Why don't we use renewable sources of energy even though we have the capability?
- ❁ Why do we have to carry on our consumerist lifestyles?
- ❁ Why don't we bother about the the garbage outside our house too?







# IF I WERE THE PRIME MINISTER

## I WOULD.....

- ★ Decentralise. And empower people. Have participation of local people for local planning and implementation
- ★ Balance development and environment
- ★ Create jobs in the rural areas. Encourage them to adopt new environment friendly technologies so that can develop their area sustainably.
- ★ Renew traditional environment friendly practises.
- ★ Have laws for environment protection and make them work too. Impose heavy taxes and fines on any kind of environmental damage.
- ★ Increase expenditure on environment, health and education as compared to defence.
- ★ Promote environmental projects and schemes. Enforce appropriate policies and programmes which would benefit the environment.
- ★ Encourage corporate social responsibility.
- ★ Introduce Environment Care Taker system.
- ★ Give more power and recognition to youth and youth groups in terms of environmental issues.
- ★ Increase awareness and understanding on environment and social issues amongst all. Employ methods like using mass media, establishing national environment awards, etc.
- ★ Making 'environment' a compulsory subject at a school level.
- ★ With neighbours, have co-operation and not conflict

In Bangladesh, defence is useless, so why not divert the money to environment.

- Imran Junaid, Dhaka

Stop fighting over Kashmir & help save its natural beauty and resource value. If the youth of 7 countries sit together & make a plan it will work

- Shubham Yogi, India



# YOUTH ACTION

*HURRY, The Clock's ticking.....*

## **Bringing about change is difficult, but definitely not impossible.**

The grown ups have made many mistakes from which the youth have to learn. We now have to correct those mistakes and rebuild.

It's all upon us to make Earth a better place. We must remember that there is no superhero who is going to come out of the blue to save us each time we are in trouble. The only ones who can help us, is ourselves.

All is not lost yet. There is still time to *heal the Earth and nurse it back to life*.

We are the youth of today. We have the potential, the power, the ideas, the enthusiasm, the eagerness to make a difference. We live in an age where information is literally at our fingertips. So all we have to do is invest our energies towards a positive direction, that is, to save our planet.

Let us, the youth of South Asia be responsive towards creating a world that is alive, clean and healthy. We just need to do small little things in our lives, and the results will be wonderfully amazing!

### **We the youth of today and leaders of tomorrow challenge ourselves to:**

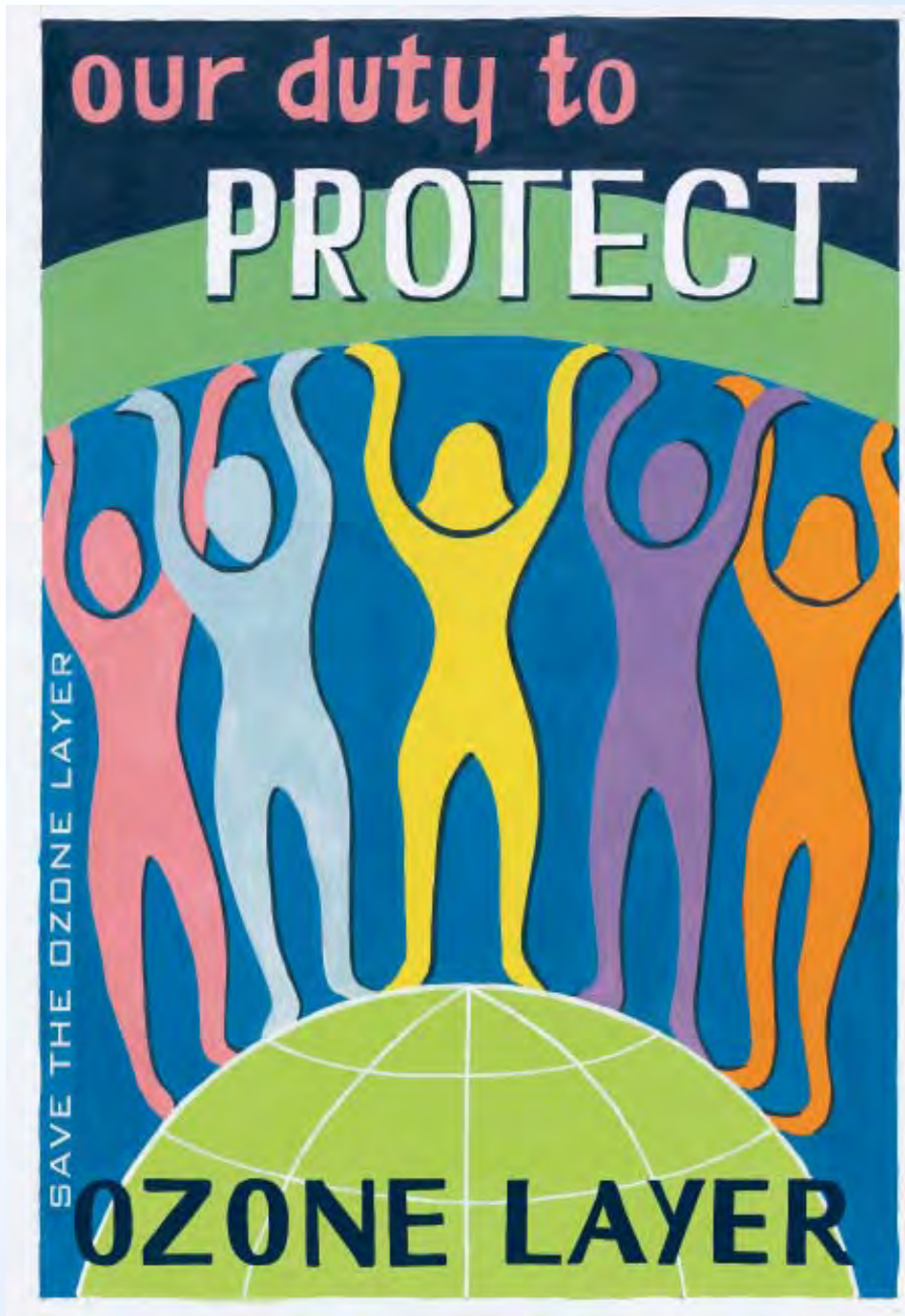
1. Charity begins at home. Start with yourself, your own home and surroundings first. Examine and analyze your lifestyle and make changes.
2. Conserve and value all resources and not misuse them.
3. Be waste managers by following the "R" principle: reduce, refuse, reuse, recycle, rethink, recreate, recharge, revive, recap, recover, repair.....
4. Revive traditional methods and practices which protect and conserve the environment
5. Plant and nurture more and more trees.
6. Only use products which are environment friendly.
7. Change any behaviour, action or attitude that harms the environment
8. Support whole heartedly the environment friendly programmes and initiatives of the government or others.
9. Respect all living beings and do not harm them.
10. Form youth groups and clubs to promote eco-awareness and action.







VISION



*Mariyam (Misha) Ahmed, Maldives  
( Source: Ozone Action Programme, UNEP DTIE)*



# Annexures



# Annex: I

## Acronymes

AIDS	: Acquired Immune Deficiency Syndrom
CFC	: Cholorofluorocarbon
CNG	: Compressed Natural Gas
DA	: Development Alternative
DTIE	: Division of Technology, Industry and Economics
FGPE	: Foundation for Global Peace & Environment
HIV	: Human Immunodeficiency Virus
ICT	: Information and Communication Technology
LPG	: Liquefied Pressure Gas
NORAD	: Norwegian Agency for Cooperation and Development
MKSS	: Mazdoor Kisan Shakti Sangathan
RRC.AP	: Regional Resource Centre for Asia and the Pacific
SACEP	: South Asia Co-operative Environment Programme
SEAMCAP	: Strengthening Environmental Assessment and Monitoring Capabilities
TB	: Tuberculosis
UN	: United Nations
UNDP	: United Nations Development Programme
UNEP	: United Nations Environment Programme
WHO	: World Health Organization

# Annex: II

## List of Participants of Design Workshop 10 –13 April 2001 New Delhi, India

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Rohan Francis, India

Shruti Gopal, India

Shubham Yogi, India

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