Felled Trees Deal Double Blow to Global Warming

DYING forests could contribute twice as much as previously thought to the greenhouse effect, according to a new analysis being prepared by Charles Keeling, the American scientist who pioneered measurements of carbon dioxide in the air three decades ago.

In an interview Keeling claimed that deforestation could be sending 4 billion tonnes of carbon dioxide per year into the air today, not 2 billion tonnes as estimated. The practice of burning fossil fuels currently adds around 5.6 billion tonnes to this per year.

"Commercial logging destroys soils and prevents regrowth of trees," Keeling said. "It's not just Brazil and Indonesia. I can see it in British Columbia." Keeling, who works at the Scripps Institution of Oceanography in Seattle, Washington State, continued : "There is a fear in the timber industry that they the loggers may be stopped. So they are clear-felling larger patches of forests. There is a 'lumber war' in North America."

Carbon dioxide contributes more than any other gas to the greenhouse effect, which is likely to warm the planet by several degrees in the next few decades. The rate at which carbon dioxide accumulates in the air has increased by two-thirds over the past two years, according to measurements by Keeling at his observatory on the Hawaiian island of Mauna Loa. The rise has seen the average concentration exceeding 350 parts per million for the first time, compared with a pre-industrial level of around 270 parts per million.

Keeling does not blame this surge primarily on deforestation. It is connected, he says, with the occurrence in 1987 and 1988 of an El Nino, a switch in ocean and wind currents in the Pacific Ocean that causes droughts. These release large amounts of carbon dioxide into the atmosphere. The recent surge was "the largest oscillation in carbon dioxide levels that we've seen," said Keeling. It ceased in June this year, some months after the end of the El Nino event.

But Keeling's latest analysis, to be published as a monograph of the American Geophysical Union, suggests that over the past 15 years, the burning and logging of tropical forests has become an increasing cause of the underlying rapid rise in carbon dioxide in the atmosphere.

The air today is receiving roughly an extra billion tonnes of carbon from vegetation than it did 15 years ago, and a similar amount extra from the burning of fossil fuels, he said. Keeling's conclusion is that the only thing stopping an even bigger release of carbon from forests is a counter-balancing "carbon dioxide fertilisation effect". The theory is that extra carbon dioxide in the air will encourage trees to grow faster, thus drawing extra carbon dioxide from the atmosphere as photo-synthesis intensifies. "Ecologists disagree, but most modellers believe this is happening," he said.

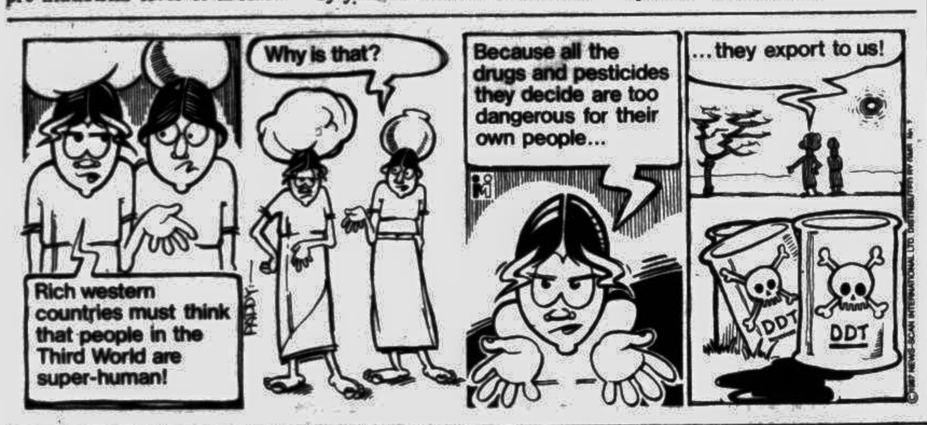
Keeling bases his conclusions on a detailed investigation of how much of the year-by-year rise in carbon dioxide in the air can be explained by burning fossil fuels alone, and whether other sources or sinks are involved. He relies both on his own data and on recent analyses of ancient bubbles of air trapped in ice-caps.

The data show that there was a steady rise in airborne carbon dioxide in the early 1800s, before the Industrial Revolution was fully under way. This he attributed to the "pioneer effect" of forest clearing, mainly in Europe and North America.

From around 1940, says Keeling, vegetation seems to have become a "net sink" for carbon dioxide, with the fertilisation effect causing it to absorb more than it released. "In the past 15 years, however," he says, "the balance has changed again.

To explain this sudden swing, Keeling proposes that the effects both of carbon dioxide fertilisation and of deforestation on the chemical constitution of the atmosphere are much greater than previously supposed. This means that the extra destruction of forests is much more dangerous to the climate than assumed. But it also gives hope that if deforestation were halted, the green-house effect could be greatly reduced.

Then, the "fertilisation effect" of the carbon dioxide in the atmosphere could allow the surviving forests to absorb a substantial proportion of the gas put there by burning fossil fuels. This would allow the world to "buy time" while it rebalanced the planet's atmosphere.— Fred Pearce



Where They Bury the Dead Standing Up

Mexico City is unique in its regard for the dead. In no other city can one live on the Avenue of Bones (Calzeda de Huesos), work in the Ravine of Death (Barranca del Muerto) and drink in a bar called The Skeleto (La Calavera). Yet the most populous city in the world is running out of room to bury its dead.

This city of 13-15 million people is attracting 2000 newcomers a day and growing by 10,000 acres a year. It is predicted to double its numbers by the second decade of the next century. Where all this humanity is to live - and die -is a nightmare for planners.

Day of the Dead festivities in November reminded city officials of the population crunch . "In five years we will be entirely out of grave sites," said one. More than 48,000 licensed burials are being conducted annually in Mexico City - many more are unlicensed - and the district has room for only 159,000 more sites.

The crush is so heavy at the cemetary gates that 74 federal district graveyards are closed to new burials - even under short- term seven-year contracts.

Under federal law remains are removed after seven years to a "bone repository". The plot is returned to the government and the concessionaires who manage the graveyards. The plots are then re-leased to new seven - year customers.

Federal official Alma Espota say that nonetheless the turnover has not kept pace with the burial rate and the "bone repositories" are jammed with unclaimed remains.

Espota, who administers judicial affairs for the delegation (borough)of Xochilco, where many graveyards are located, says: "We are being pressed to develop new ways of dealing with the dead".

Enterprises like " Vertical Mausoleums," a cemetary in an industrial suburb, is one free market response to privatising the burial industrial suburb, is onef ree market response to privatising the burial indutry along economic lines laid down by President Carlos Salinas De Gortari.

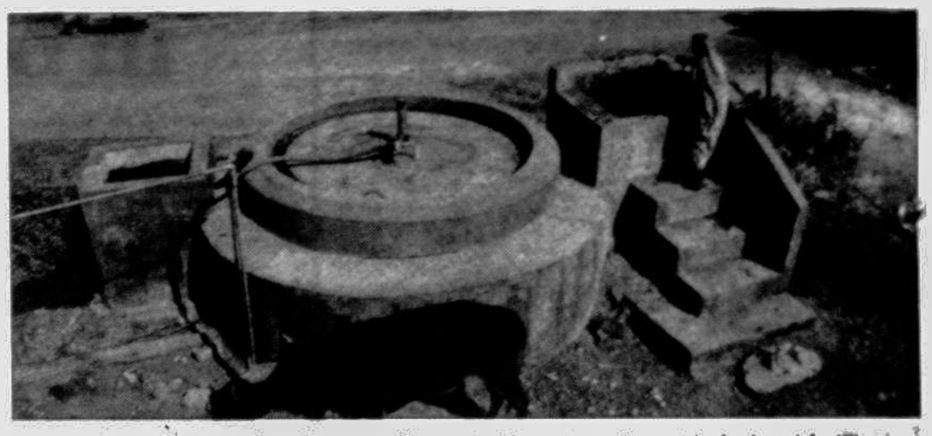
DOMESTIC WASTE: DON'T LOSE IT, USE IT!

THE loss of precious Indian forests for domestic cooking fuel would seem to have little to do with household waste disposal. But when the energy produced by India's 1.2 million biogas plants, many of which are run on all kinds of household waste, is compared with the wood needed to get the same energy, the biogas plants save 4.24 million tonnes of firewood a year. According to the UN committee on new and renewable energy this wood is valued at US$ 100 million.

But the biogas plants don't just supply gas to cook off. The UN committee estimates that the plants currently generate 20.4 million tons of enriched fertilizer each year which they value at US$100 million.

Although biogas plants don't come free, with savings like these the plants pay for themselves in two and a half years, while there is an even more valuable long benefit from forest retention.

The biogas plants not only save trees and provide fuel, they also avoid many of the health, problems associated with the disposal of household waste in many parts of the world. But if some domestic waste represents valuable potential in India, other more dangerous domestic waste is not even fully recognized as a threat, let alone an opportunity, in many other parts of the apparently more developed world.



Indian biogas plants safely dispose of household waste and provide fuel and fertilizer

On the east coast of Australia, Sydney, the country's largest city, still pumps it's sewage straight into the sea, with only a minimum of treatment. The city is famous for its sun'n surf coastal life style, yet only one of the city's 35 beaches remains unaffected by pollution. Malabar beach has been permanently closed for some time while many other are frequently besmirched with bacteria and virus-laden water.

The most recent attempt by the city to deal with the problem has been simply to build longer outfalls so that the sewage is dispersed further out to sea, takes longer to come back to land and is more diluted, but environmentalists point out it will now affect a much larger area.

But the United Kingdom has made an even nastier mess for itself than Sydney.

Courtesy : UNEP.

Water Desalination in Gujarat

By Lalitha Vaidyanathan

AN alarming fall in the water table in the coastal region of Gujarat is creating problems of unprecedented magnitude for the State Government. To compound matters, increase in the number of salt pans covering vast areas along the coast, has rendered the available water brackish and saline, thereby turning the region largely uncultivable and unproductive.

Certain coastal areas in Tamil Nadu also face a similar problem. To counter this situation, a project blueprint has been prepared by an environmentalist, Rear Admiral J. N. Buxi and submitted to the Gover-nment recently. Titled "Desalination of Water for Augmenting Water Resources in Saurashtra and Kutch", it is oddly enough based on a report tilted "Nuclear-power Agro-industry Complex", prepared by the Bhabha Atomic Research Centre (BARC) way back in 1970.

According to the proposal, application about 50 MW of electricity in desalination in any commercial power plant, could yield one million tonnes of salt, besides 750 million litres of fresh water per day, as also enough water for irrigating 16,500 hectares of land. The minimum domestic requirement of water has been estimated to be 50 litres per individual per day.

The BARC report had similarly competed an output ratio of 19.50 per cent on its project. It pointed out that a pipeline would have to be laid between Bhimgaja-Mithikhan lakes and the Sikka Thermal Station in the State to avoid the cost of creating fresh water storage capacity for the agro-based complex.

Insofar as application of this technology is concerned, the problem does not rest on lack of know-how. In fact, there are several other, equally effective, ways of removing salt from sea water, such as are practised in countries of the Middle East, the Carribean, Mediterranean and certain island nations as Malta, Bahrain and Japan. The question now is to identify an appropriate cost-efficient and long-standing method that would permanently solve the water problem of coastal Gujarat.

Desalination undertaken in India so far has been through the utilisation of a very rudimentary technology. It involves heating sea water till it evaporates leaving behind, salt. The water vapour is then cooled until it condenses into fresh water. This is actually a distillation process and is applied by all the ships of the Indian Navy for supplies of potable water on high seas.

BARC has recently devised and installed a multi-stage flash (MSF) unit for desalination with a capacity of producing 425 cubic metres of fresh water per day of an overall purity of 30 ppm (parts per million) of TDS (total dissolved solids), as against a permissible level as high as 1000 TDS.

According to Dr M. P. S. Ramani of the Desalination Division of BARC, this unit can run on waste heat of a power plant or on a gas-based boiler or even electricity generated from a thermal plant.

Now, when a cheap source of heat is not available, sea water can be treated by means of another process called reverse osmosis. The water is forced at a high pressure through a semi-permeable membrane and in course of time, filtered.

The Central Marine and Salt Research Institute (CMSRI) at Bhavnagar, Gujarat has developed a variety of semi-permeable membranes of cellulose acetate which can be used only for brackish water. BARC scientists have also developed polyamide membranes which were otherwise having to be imported for desalination plants. These membranes are undergoing pilot trials, in which they are proving "quite effective".

Yet another desalination process in use relies on solar power. Energy from the sun's rays is collected through glass tubes and used for "flash evaporation" of sea water.

— PTI Feature.

Gulf crisis

'Historic sites damaged by Allied bombings'

BAGHDAD, Feb 18 : Iraq's top archaeologist in an article published Saturday said allied air raids in Iraq have caused extensive damage to some of the world's most historic monuments and archaeological sites, reports AP.

Mu'aid Saeed, director-general of Iraq's Archaeology and Heritage Department, told the defence Ministry newspaper Al-Qadissiya that the affected sites included the Iraq National Museum in central Baghdad.

The museum houses thousands of treasures from some of the world's earliest civilizations, including pottery dating back to 5,000 B.C. and ancient clay writing tablets.

The museum building remains intact, but allied warplanes have destroyed a communications centre across the street. Saeed, without giving details, said there had been serious damage to the museum's collection, although he said many items had been taken to basement rooms for safe keeping before the war began.

Another historic site in Baghdad to suffer damage, Saeed said, was the Al-Mustansiriya school, built in the 13th century under the direction of scholars from the Abbasid dynasty who helped make Baghdad one of the great learning centres of the time.

Also damaged, Saeed said, was the famous spiral minaret of the great mosque of Ak-Mutawakkil in Samarra, built in 850, and monuments at Ctesiphon, near Baghdad, the ancient capital of the Sassanian empire.

In the article, Saeed did not give details about the damage to most of the sites, although he said an ancient arch had collapsed because of bombing at the city of Hatra.

Saeed did not mention assertions by US officials in Washington that the Iraqi military had attempted to shield two Soviet-made warplanes by placing them at the door of an ancient pyramid.

Saeed described the air raids as "a crime committed by US President George Bush against civilisation and world history." He said he had written to UNESCO, asking the UN cultural organisation to intercede in an effort to spare the historic sites further damage.

A specialist in Babylonian architecture, Saeed was supervisor of an ambitious project to rebuild the ancient city of Babylon. The project was about half completed when the war began.

Concern about the war's impact on historic sites in Iraq has been expressed by experts elsewhere, including two Americans interviewed in January by the Associated Press.

"It's one of the more unfortunate places in the world where this could happen," said Mike Shoemaker, Assistant Editor of Biblical Archaeology Review, a Washington-based publication, McGuire Gibson, an archaeology Professor at the University of Chicago, said of Iraq: "It's where we have the first writing, it's where we have the first cities, it's where we have the first monumental architecture. All of these things are the base of all modern civilisation."

On Gulf front lines nights are busy

NORTHERN SAUDI ARABIA Feb 18 : The Gulf war flares up at night. By day it's quiet on the desert front lines, reports Reuter .

Nights are busy. Air combat goes on in a cloak of darkness, suddenly pierced by lights to guide the bombers.

At 3 A.M. the Saudi sky sparkles with illumination rounds dropped by Allied aircraft to expose Iraqi targets.

Soldiers confronting Iraq's occupation forces in Kuwait watch from foxholes or bunkers, tense for signs that ensuring artillery fire is incoming or outgoing.

Days are quiet. Troops relax, pending a signal for a ground offensive.

Soldiers at the front play the world-game Scrabble, write letters and read between their duties.

At one forward unit soldiers lay football with a package of army chicken stew.

A brigade commander scratches his head over a crossword puzzle.

During the day. I's an effort to remind yourself it's a war, said specialist George Jackson 23, 'of Dallas a gunner on a tank killing TWO missile, he adds :"I can't let my guard down or I could get a buddy killed".

Wave after wave of Allied aircraft can be heard roaring north nightly. The distant thunder of artillery guns also wakes soldiers when ground patrols encounter Iraqi reconnaissance teams seeking to learn about the strength of Allied forces along the border.

It's sort of like being in a field training exercise during the day's said Private Patrick West 22, of Bloomington, Illinois who arrived in Saudi Arabia only two weeks ago. "It's kind of a relief to know that there's not that much to worry about in the day".

It doesn't even seem like there's a war here, said specialist Brian Hopkings, 20, of Indiana Polis, a member of another team.

History indicates that the best time to strike a foe is just after dusk or just before dawn and many soldiers here assume full fighting positions at these times entering their foxholes.

It is apparently more an exercise in discipline than to meet a real threat of an Iraqi assault.

Soldiers know the big fireworks come at night. They are awake wondering if the ground war they have trained from these past six months has begun.

I wonder if this is it, said Sergeant Raymond Decpulo, 28, a maintenance technician from Guam, I wonder if we're moving or it they're launching their assets.

We're still alert in the day but the sense of anxiety is not as high".

I don't feel I'm in danger here, said Sergeant Anibal Gomez 36, a brigade communications chief from Aguas Buenss, Puerto Rico.

We don't have to feel too excited until we see the enemy coming.

SAUDI ARABIA: Air Chief Marshall Sir Patrick Hine (R), Joint Commander of the British forces talks with the ground crew at an air base somewhere in the Saudi desert, during his visit. Military officials in Saudi denied Sunday that a date for a ground offensive against Iraq had been set. — AFP/UNB photo

US using 'poor men's atomic bomb'

WASHINGTON, Feb 18:--A fuel air explosive bomb, currently being used by the U S military to clear Iraqi mine fields along the Kuwaiti border is capable of creating an explosion rivalling that of a small tactical nuclear weapon for a fraction of the cost, reports AFP.

The bombs, nicknamed "Daisy Cutters" by the U S military for theri ability to level large areas, provide destructive force up to ten times more powerful than that afforded by conventional munitions, while relying on relatively simple technology.

Also known as " the poor man's atomic bomb "for their low cost, the devices are dropped from a plane like conventional munitions and explode between 10 and 30 meters above the ground.

In the first stage of a two-step detonation, an initial blast dispereses a mist of an explosvie liguid such as propane. This is then ignited, creating an enormous fireball and a powerful shockave which detonates nearby mines.

The fireball sucks oxygen form the air in the surrounding area, as physiating any soldiers who survive the intense heat and blast wave.

The Los Angeles Times reported in October that Iraq also possessed fuel air explosives, a possibility which was not rulud out by the Pentagon.

The United States used fuel air explosives ,in Vietnam , particularly to clear landing zones for helicopters. They can also be used to clear drop zones fro airborne troops .

The largest U S bomb of this type, the CBU-55B , includes three seperate 50-kilograms (110 pounds) fuel air explosive devices, whose falls are slowed by small parachutes.

The Soviet Union, china and Israel are all believed to posses fuel air explosives.

Iraq deliberately damages building?

WASHINGTON, Feb 18- The U S Defence Department said on Saturday that Iraq deliberately damaged at least one building for propaganda purposes but declined to produce any immediate evidence, reports Reuter.

"They are taking soem of it, Rear Admiral Mike Mcconnell told a press briefing". We saw them inflict some damage on a specific building...".

The intelligence expert for theU S Joint Chief of staff said Iraqi authorities then alowed western reporters in Baghdad to tour the area and photograph the site.

"There is some information that indicates the Iraqis have deliberately planned what appears to be collateral (civilian) damage", he said.

Iraq has repeatedly said the Allies were deliberately bombing civilian ares of Baghdad while the Allies insist they are obly aiming at military targets.

Pressed for details, Mcconnell said, let me to this: let me get the information and just make it available to you".

Mcconnell later said that Pentagon would consider making its evidence public but declined to do so now. He also would not elaborate on which building was allegedly damaged.

Mistaken fire from US helicopter, 2 troops killed

RIYADH, Feb 18 : Two US soldiers were killed and six wounded by mistaken fire from an American helicopter as US forces took on the Iraqis in seven separate border clashes early Sunday, a senior military official said, reports AFP.

US Marine Brigadier General Richard Neal said the Americans destroyed tanks, other hardward and bunkers, and pulled off a rare wartime feat as two Apache helicopters rounded up groups of Iraqi soldiers without ground support.

Brig. Gen. Neal, Deputy Director of operations for the US central command, also denied an assertion by French Foreign Minister Roland Dumas that a date had been set for the Allied ground offensive to retake Kuwait.

"No, there is no date set at this time," he said. A senior military official said it would be "militarily dangerous" to fix a date.

Meanwhile, a British spokesman said it was possible that one of their Tornadoes could have been responsible for the accidental bombing of a marketplace in the western Iraqi city of Fallujah which killed 130 people.

Group Captain Niall Irving showed a film of what he said was a "wild Bomb" dropped during an attack on a bridge across the Euprhates river in Fallujah. But he said they were still investigating the incident which happened on Wednesday and not. As the Iraqis reported, on Thursday when no Tornado was in the area.

Brig. Gen. Neal said the morning fighting at separate spots on the Saudi Border with Kuwait and Iraq was of "varying degrees and at varying times," "involving tanks, anti-tank weapons, artillery and helicopters."

He said that during one firefight, an American bradley fighting vehicle and a ground radar surveillance unit were hit by a "hellfire" missile from an Ah-64 Apache helicopter, killing two soldiers and wounding six.

France second biggest supplier of Iraqi arms: IAN

LUXEMBOURG, Feb 18 : As was officially recognized here, France was the second biggest supplier of arms and military equipment to the Iraqi regime after the USSR, reports IAN.

Only an insignificant part of their cost has been repaid, Saddam Hussein still owes France nearly 16 billion dollars.

As many as 750 American companies supplied arms and munitions to Baghdad on a large scale in 1985-1990. The government immediately issued all necessary licenses.

In short, the Iraqi regime received armaments from various sources. But, strange as it may seem, the five UN Security Council Permanent Members have proven the main suppliers of weapons to Baghdad.

In local sources' view, the main responsibility rests with the western European corporations who have provided the Iraqi Armed Forces with lethal gases, outlawed weapons of mass destruction. With Bonn's assistance Iraq launched its own chemical industry for the manufacture of toxic agents, including cyclone gas which the Nazis used against prisoners in their death camps.

Thousands suffer from diarrhoea in Baghdad

LONDON, Feb 18 : Tens of thousands of people in Baghdad are suffering from diarrhoea and other deadly diseases because of Allied bombing of the Iraqi capital, a British Sunday newspaper reported, reports Reuter.

The observer quoted Iraqi Health Minister Abdul-Salam Mohammed Saeed as accusing the coalition of "systematic bombing of water installations, pumping stations and even reservoirs" in Baghdad.

The accusations were contained in a report by a British water expert which said Baghdad faces "a very servere risk of epidemic diseases"