

Feature Environment

How Real is Global Warming?

by A S M Nurunnabi

GLOBAL catastrophes have always held a special fascination for the human mind. Since ancient times, philosophers and theologians have contemplated worldwide cataclysms. In recent years, it has been the global environment that has taken the centre stage, and has engaged scientists, politicians, environmental activists and the media.

The new wave of global environmental concern has concentrated on global climate warming. It extends beyond apocalyptic visions and intense hype from environmental groups and the media to a political drive to establish international controls over industrial processes and business operations. The scientific basis for such drastic action is uncertain and contentious. However, this type of policy may stifle economic growth and hence reduce human welfare.

Climate warming, as a possible consequence of greenhouse effects, has emerged as the major environmental issue of the 1990s. However, the scientific base for greenhouse warming includes some facts, lots of uncertainty, and just plain ignorance requiring more observations, better theories, and more extensive calculations.

Specifically, there is consensus about the increase in so-called greenhouse gases in the earth's atmosphere as a result of human activities. Major uncertainty and disagreements exist on the question of whether this increase has caused a change in the climate during the last one hundred years. The scientific community also disagrees on predicted changes from further increases in greenhouse gases.

As a consequence of this "shaky" science, we cannot be sure whether the next century will bring about a warming that is negligible or one that is significant. Even if there were global warming and associated climatic changes, it is debatable whether the consequences

would have been good or bad. The scientific base for an enhanced greenhouse warming due to human activity is too uncertain to justify drastic action at this time.

It has been common knowledge for about a century that burning of fossil fuels — coal, oil and gas — increases the atmospheric content of carbon dioxide (CO₂). Conventional wisdom predicts and enhancement of the natural greenhouse effect and a warming of the global climate as a result. Advances in spectroscopy have produced evidence that CO₂ absorb infrared radiation. Consequently, a

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build-up in CO₂ would impede the escape of heat radiation from the earth's surface. In fact, it is the greenhouse effect from naturally occurring carbon dioxide and water vapour that has warmed the earth's surface for billions of years. Without the natural greenhouse effect, ours would be a frozen planet without life.

The policy issue now is whether the nearly 30 per cent increase in CO₂ since the Second World War, calls for immediate and drastic action. According to the prevailing theory, and taking into account increases in the other trace gases that produce greenhouse effects, we have already gone halfway to an effective doubling of greenhouse gases. This cannot be reversed in a century or more.

More recently, it has been discovered that other greenhouse gases have also been increasing. This is due, at least in part, to human activities. These gases currently produce a greenhouse effect nearly equal to that of CO₂ but may soon outdistance carbon dioxide's greenhouse effect. The

list of these non-CO₂ greenhouse gases include Methane, Nitrous-Oxide, ozone from urban air pollution, chlorofluorocarbons (CFCs) and water vapour. The most effective gas by far is water vapour, the last item on the list. It is not a man-made gas, but is assumed to amplify the warming effects of the man-made gases.

Has there been a climate effect caused by the sharp increase in greenhouse gases during the last few decades? The data are ambiguous. Advocates for immediate action profess to see a global warming of about 0.05°C since 1880.

They point to record temperatures experienced in 1990s and confidently predict a warming of as much as 5°C in the next century.

An Intergovernmental Panel on Climate Change (IPCC), sponsored by the United Nations, has been laying the groundwork for an international convention aimed at averting such a climate catastrophe. Its scientific base is a "Policymakers Summary" on greenhouse warming, according to some scientists, the IPCC summary ignores valid scientific objections to the theoretical calculations that predict a global warming. Further, according to them, it is silent about other human activities, notably the emission of sulfur-dioxide in industrial processes that are thought to promote a climate cooling. They call attention to the fact that the strongest temperature increase occurred before the major rise in greenhouse gas concentration. This increase in both northern hemisphere land and marine air temperatures was followed by a thirty-five-year temperature de-

crease, between the years 1940 and 1975, when concern arose about an approaching ice age. Following a sharp increase in average temperatures between 1975 and 1980, there has been no increase during the 1980s in spite of record increases in greenhouse gases. Similarly, global atmospheric temperatures, as measured by weather satellites, show no trend in the last decade. It is fair to say that we have not seen the huge greenhouse warming of 1.5°C expected by now from some theories and played up by the media.

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It is important to keep in mind that year-to-year changes at any location are far greater and more rapid than might be expected from greenhouse warming. But there is no indication from actual experience that such extreme events as crippling winters, persistent draughts, killer hurricanes which cause the great ecological and economic problems would become more frequent if greenhouse warming ever becomes appreciable. The exception might be tropical cyclones which would be more frequent but weaker, cooling vast areas of the ocean surface and increasing annual rainfall by 10 to 15 per cent.

In view of the uncertainties about the degree of warming, and the ever greater uncertainty about the possible impact, what should we do? Energy conservation, efficient management, and use of non-fossil fuels are all prudent policies as long as they are cost-effective. But more drastic, precipitous — and especially, unilateral — steps to delay the putative greenhouse impacts can cost jobs and economic prosperity without being effective.

Live in Harmony with the Environment

DESERTIFICATION in Namibia has taken place only in limited areas, but unless steps are taken now it will accelerate and droughts will occur more often.

This is the warning of the independent Desert Ecological Research Unit of Namibia, in its new publication *Namibia: Drought and Desertification*. Environmental protection in Namibia is still in its infancy. Although the govern-

ment has set up a Ministry of Wildlife, Nature Conservation and Tourism, little is being done.

The Research Unit says desertification has mainly taken place in areas around artificial waterholes. Large numbers of animals concentrate in one place resulting in overgrazing.

This contributes to desertification and soil erosion during occasional downpours.

The people need to become aware about Namibia's varied and fragile environment in order to preserve it. Only

when the basic characteristics of an arid or semi-arid area are ignored does desertification take place. /PANOS

Getting Rid of those Flies

by Winnie Ogana

RESEARCHERS in Kenya say they have conducted successful experiments with a bacteria that attacks fly larvae and thus prevents disease — carrying houseflies from reaching maturity. Researchers at the

International Centre of Insect Physiology and Ecology (ICIPE) sprayed latrines with either a powder or solutions containing spores of the larvae-attacking bacteria.

Evening is the best time to apply the bacteria, as the strain dies in contact with direct sunlight.

So far, housefly elimination using this technique has been carried out in two Nairobi slums, Mathare and Kibera, and in several areas occupied by the Maasai people, who keep large herds of cattle. /PANOS

Plague on the Merchants of Pollution

by Cameron Doudu

THE village in which I was born and raised in Ghana is surrounded on every side by greenery. One has to walk only about three miles to get deep into virgin rain forest.

This forest is treated with the greatest respect. No-one can farm in it unless he has been authorised by the chief and his council. These authorisations are made only once in several decades, and when the land is being shared, every adult is allocated an equal acreage. The last share-out was made when I was a child. I haven't heard of another one being made since then.

The sacred nature of the forest is reinforced by the observance of a number of customs which the ignorant might regard as "superstitious." For instance, people are discouraged from going to work on their farms on Thursdays, the ostensible reason being that this is the day of the river that gives sustenance to the land.

openly. All this care has meant that our forests have survived up to a point.

The logging companies occasionally make inroads into the forest's survival by getting the central government to give them "concessions" in that

think she ever saw the inside of a hospital throughout her long life. My father didn't quite make 90, but he was well past 80 when he was gathered unto his fathers — not bad, seeing that women tend to outlive men.

Coming from such a back-

A Memo to the staff written by the chief economist of the World Bank has caused a rumpus because it suggested toxic wastes should be exported to the developing countries. In defence, the writer said he was taking a "narrow economic viewpoint" to sharpen the debate. For Gemini News Service, a veteran Ghanaian novelist and journalist vents his anger.

part of the forest which has been turned into "reserves" and which not even our chief is allowed to touch without government approval.

I can tell you that we hate the logging companies. They employ our virile men for a

ground, can you imagine the anger I felt when I read recently that the chief economist of the World Bank, Lawrence Summers, had written a memo to his staff in which he proposed that toxic wastes and dirty industries should be ex-

luded. For someone whose lunch bill alone, to say nothing of the gasoline guzzled each day by his automobile, cost more than the entire cash earnings of the likes of my grandmother in her lifetime, to suggest that the noxious effluence resulting from that "civilised" life-style should be dumped on the clean-living poor, because they have "low wages" is arrogance of a sort that I could never have imagined even in my worst nightmares.

In a letter to The Economist, Summer protested that he was only taking a "narrow economic viewpoint" in order to sharpen debate on an important issue.

But this will not wash, for there is to be an important world environmental conference, known as the Earth Summit, in Rio de Janeiro, in June, and debate has already begun in the World Bank on what position the Bank should take on environmental issues. So Summers was clearly attempting to use economic arguments to influence the Bank's line at the conference.

At the beginning of the programme in 1983, the cedi was worth 2.75 to the US dollar; today it is worth 390 to the US dollar. This has shrunk the minimum daily wage from \$4.36 in 1983 to \$1.17 today, at a time when prices have been rising generally to accord with the devaluation. If Ghana was a country peopled by rich gas-guzzling yuppies like in California, would anyone suggest such a horrendous decline in living standards for its people?

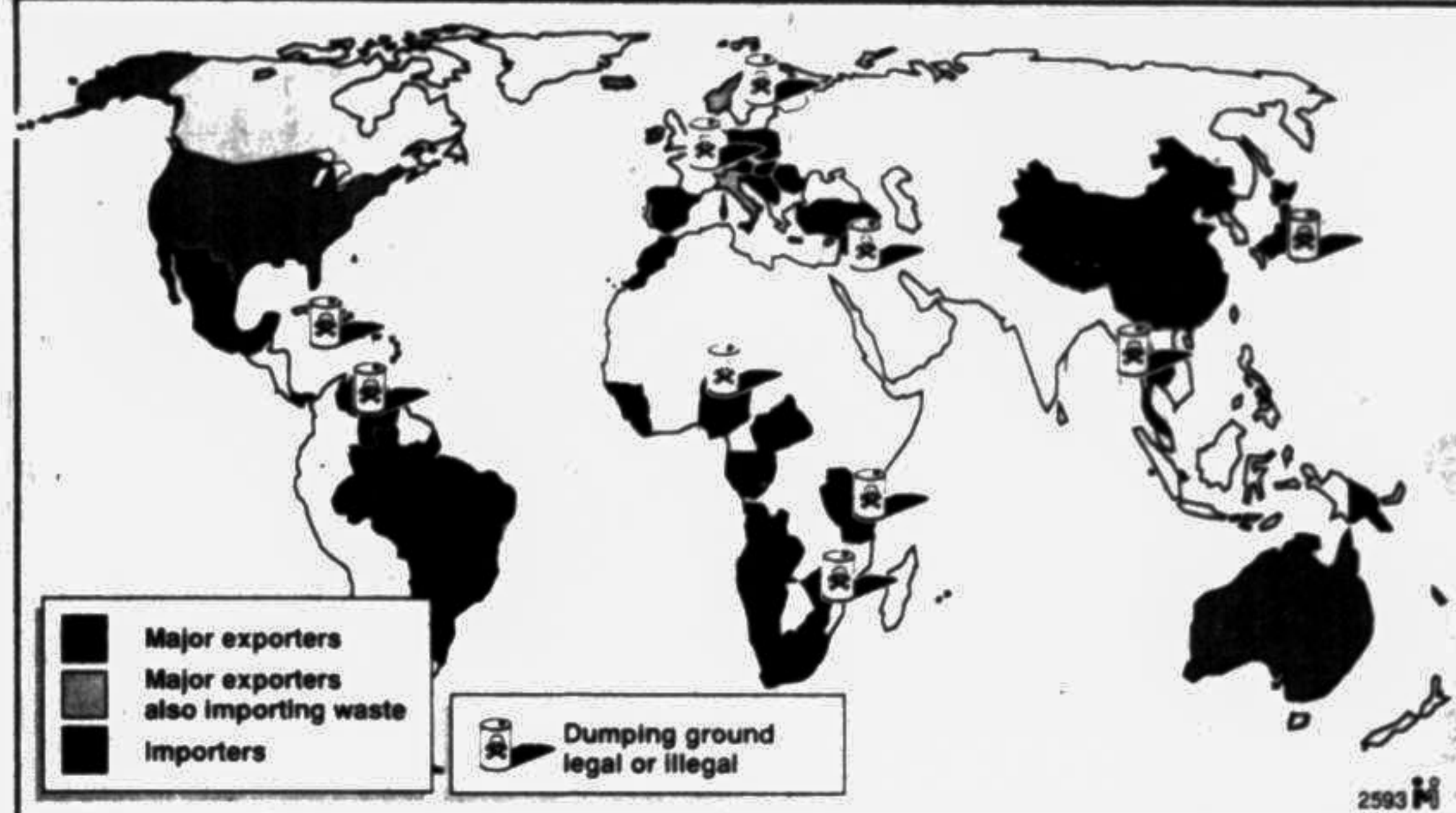
To the developing countries, there is only one thing to say: "Don't manage your economics so badly that you end up falling into the hands of the World Bank and the IMF. They don't respect your people. If you don't believe it, try to read the lips of the chief economist of the World Bank."

Of course, with falling commodity prices, it is easier to say "Don't fall into the hands of the World and the IMF" than to observe the precept. In that case, let us agree on this: go in there with your eyes open.

The clean-living poor of the world are depending on you not to allow some high-falootin' economic theorists to ruin their lands after the economists' own people have ruined theirs with the sort of greed that shuts people's eyes to the effects of dirty industries and toxic wastes.

— Gemini News
Cameron Doudu a Ghanaian, was editor of *Drum* in West Africa for three years before resigning to write his novel *The Gab Boys*.

Toxic trade



Now, the real reason is that the elders know from experience gathered over centuries that over-tilling kills the land and they want to prevent it. But they also know that if they were to disclose the real reason, people might argue against it. So they masked the real reason with a quasi-religious custom which people were happy to observe without argument.

Except when they became Christians, in which case, regrettably, they sometimes ignored the social edict, on the ground that it was based on "river-worship" — an abomination unto the Lord. Fortunately, not many Christians took such a narrow view of social customs, so there was never any point, to my knowledge, at which the two systems clashed

pitance to engage in the dangerous job of cutting and transporting huge logs of timber over great distances.

In transporting the logs, they ruin many food and cocoa farms. But we tolerate them because they also make roads — after a fashion — and they put better bridges on our rivers than we can do ourselves. But it is a delicate balance and if any logging company crosses the line, it can expect its workers to be harassed by us villagers.

This careful husbanding of what nature has given us makes the atmosphere in villages like mine one of the healthiest in the world. My maternal grandmother grew to the ripe old age of over 90, though there wasn't even a clinic in the village. I don't

ported to the less developed countries.

People in the World Bank had been so outraged by the memo that they had leaked it to the *Economic Magazine* although it was meant for internal consumption only. This is what he wrote:

"Shouldn't the World Bank be encouraging more migration of the dirty industries to the LDCs (less developed countries)? A given amount of health-impairing pollution should be done in the country with the lowest cost, which will be the country with the lowest wages. I think the economic logic behind dumping a load of toxic waste in the lowest-wage country is impeccable... I've always thought that under-populated countries in Africa are vastly under-pol-

Odyssey through the Wild Flowers

In an English birch and oak wood where little has changed for generations, Dr John Rodwell takes some final notes at the end of a 15-year odyssey covering 250,000 miles (400,000 kms) of the length and breadth of Britain.

On the wet rocks below the branches grow a profusion of mosses and liverworts, perhaps 50 of them, all painstakingly recorded in the most comprehensive survey of Britain's vegetation ever undertaken — spanning five volumes and running to a million words. But the aim of Dr Rodwell's research team in compiling the survey was not to catalogue individual species but to identify plant communities and determine how changes in soil and climate across the country affect the balance of species within them.



Likely applications include assessing the impact of development and pollution on vegetation; determining what kind of plants are appropriate to landscapes surrounding developments such as motorways and airports; and assessing the impact of climate change on the distribution of British plants.

The approach has been new in that the survey describes for the first time all of Britain's vegetation in a systematic fashion, and weds the interest in the classification of communities, characteristic of botanists in continental Europe, with the deep concern traditional among British ecologists about how vegetation works in relation to the life cycles and growth patterns of its constituent species, the soil and climatic conditions, and the impact of Man.

Until this century, most agricultural activity was able to co-exist with the rarest plants. Since then, according to a Nature Conservancy Council report in 1980, 95 per cent of Britain's hay meadows have vanished, 99 per cent of lowland heaths, 80 per cent of chalk downlands, and 50 per cent of lowland woods.

But much remains, among the most picturesque and commonplace being bluebell woods, found elsewhere only in Belgium or northern France, and with the help of the work entitled "Britain's Plant Communities", the Nature Conservancy Council, which paid £ 500,000 for it, hopes to preserve much of what is left.

Germany Helps Save Tropical Forests

by Karl Zawadzky

GERMANY has assumed a leading role in global efforts to create, expedite and streamline programmes to protect the tropical forests. This country is the main source of funds for tropical forest protection, with an annual contribution of more than 300 million DM; this represents 15 per cent of the total raised internationally.

With these funds, the development aid ministry in Bonn is sponsoring more than 120 projects in 54 countries, including forestry conservation and afforestation programmes in other climatic zones. Furthermore, the research ministry has allocated 30 million DM to assist a tropical ecology research venture aimed at conserving the rain forests in the Amazon region.

Bonn is making a special effort for a pilot programme to safeguard rain forests in Brazil launched at the initiative of Chancellor Helmut Kohl.

At a donors' conference in Geneva, the participating governments agreed on the funding of an initial three-year phase costing more than 250 million dollars, including a 50-million-dollar rain forest trust fund set up by the World Bank.

The German government is injecting into the programme existing technical, financial and research cooperation facilities and will be allocating more money in 1992 and 1993. So far, the total German contribution to the pilot programme amounts to 265 million DM.

At several summit conferences of the West's seven main industrialised nations, Chancellor Kohl has seen to it that the subject has been placed on the international list of priorities. The German Chancellor is maintaining keen interest in preparations for the United Nations Conference on Environment and Development to be held in Rio de Janeiro in June and he himself will be in attendance.

He will also ensure that tropical forest protection, environment and development form part of the agenda for the

economic summit scheduled to take place in Munich in July under his chairmanship.

Speaking in Bonn, the German development aid minister, Carl-Dieter Spranger, pointed out that, every year, some 17 million hectares of tropical forest is destroyed; this is equal to half the entire area of Germany. The forests fall victim to burning by land-hungry settlers, often unproductive farming, systematic population settlement and lumber operations.

This destruction deprives millions of people of their means of existence, causes the spread of deserts and the extermination of flora and fauna and changes the regional and global climate.

Through its tropical ecology research programme, the Federal German Ministry for Research and Technology is enhancing the scientific basis for implementing the pilot programme for the Brazilian tropical forests; 30 million DM has been earmarked in the ministry's budget to help fund the programme up to 1995.

Spranger believes that, notwithstanding necessary backing for development, countries with tropical forests are called upon to make a massive contribution of their own if life-giving nature is to be preserved in the long term. This means not only cash injections but also creating the framework for success.

Spranger includes in this the agrarian reforms necessary in many countries, as well as economics and taxation policies which do not ignore the need to safeguard the forests. International economic relations — which are strongly influenced by the industrialised nations — are of key importance in this regard.

Bearing in mind that more effective concepts are needed to curb the destruction of tropical forests, Spranger has introduced new principles of sponsorship in this sphere. These lay down that, apart from effective protection of vitally important forest regions, ecologically and socially acceptable methods of utilising the forests have to be

brought in to safeguard the basic interests of the native population.

One important area of Germany's cooperation with countries with tropical forests within their borders is the planning and technical and financial sponsorship of forest protection regions which, owing to their special ecological significance — such as a threatened wealth of species or forest bird life — must be left as unspoiled as possible.

In this way, support is given to forest reservations or national parks in such countries as Zaire, the Ivory Coast and Madagascar. There are plans for cooperation with Brazil, too, in this sector.

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A further area of sponsorship is the development and introduction of improved methods of controlled utilisation and management of forests, afforestation and agro-forestry management.

The aim is to create a firm basis for long-term economic security for the local populace and for viable regional forestry development. The purpose of projects of this type — for example in Indonesia, the Philippines, Malaysia and Mexico — goes beyond finding environmentally and socially compatible alternatives to indiscriminate exploitation.

Endeavours are also directed toward finding new means of extracting "by-products" from the forests, such as medicine and food to improve the immediate lot of the rural inhabitants. As an example of a wide-ranging, internationally coordinated programme of selected priorities, Spranger referred to the pilot programme initiated by Chancellor Kohl for the conservation of rain forests in Brazil.

duce the pace of destruction, safeguard the ecological importance of the forests and stimulate the economical utilisation of forest regions.

At the recommendation of the World Economic Summits held by the seven major western industrialised nations in Houston in 1990 and London in 1991, the World Bank and the Commission of the European Community have drafted a programme split into stages covering a period of six years. This covers forest protection measures in the Amazon region including conservation of the native regions of the Indo population and implementation of permanent forestry management schemes.

An important ancillary role

is to be played in this by efforts to improve the legal basis for forest conservation, to back up fire prevention systems and safeguards against illegal exploitation of the forests, and tropical forest research. So far, the German contribution to this pilot programme runs to 265 million DM.

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Research Minister Heinz Riesenhuber pointed out that, as the world's most complex and vulnerable ecological system, the tropical forests harbour a greater range of animal and plant life than any other.

He shares the view of scientists in regarding the tropical forests as a vital reservoir of genes for endangered species throughout the whole world. If man continues to

menace the special climate of the rain forests through the mass felling or incineration of trees, the thin layer of humus will be washed away, making it extremely difficult for regeneration of the forests.

The loss, says the German minister, will be permanent and the population there will be robbed of their means of existence.

As timber utilisation is an important factor in the tropical rain forests, several projects are directed toward meaningful forest management, regenerating and conserving. One scheme is devoted to studying industrial air pollution and related vegetation damage in 23 seriously affected regions in Cubatao in the state of Sao Paulo. On the upper Rio Paraguay, social scientists are exploring environmentally compatible regional development.

In Patanal, Mato Grosso and the surrounding region, numerous economic and social changes have caused severe incursions into the natural environment over the past two decades, such as widespread damage to the landscape by gold and diamond-digging operations and river pollution through industrial and municipal waste. Commercial poachers are a threat to wild life.

The joint tropical ecology research programme adds a new dimension to the successful German-Brazilian research and technology cooperation activities of the past 20 years and more; this also applies to development policy cooperation in meeting the threat to the rain forests.

Scientists and development experts in both countries face a remarkable task in regard to both the volume and complexity of projects and the pressure for swift and tangible results.

The joint aim is to arrive at solutions which are not only environmentally "friendly" but also assure the conservation of the unique wealth of the tropical rain forests. — IN-Press