

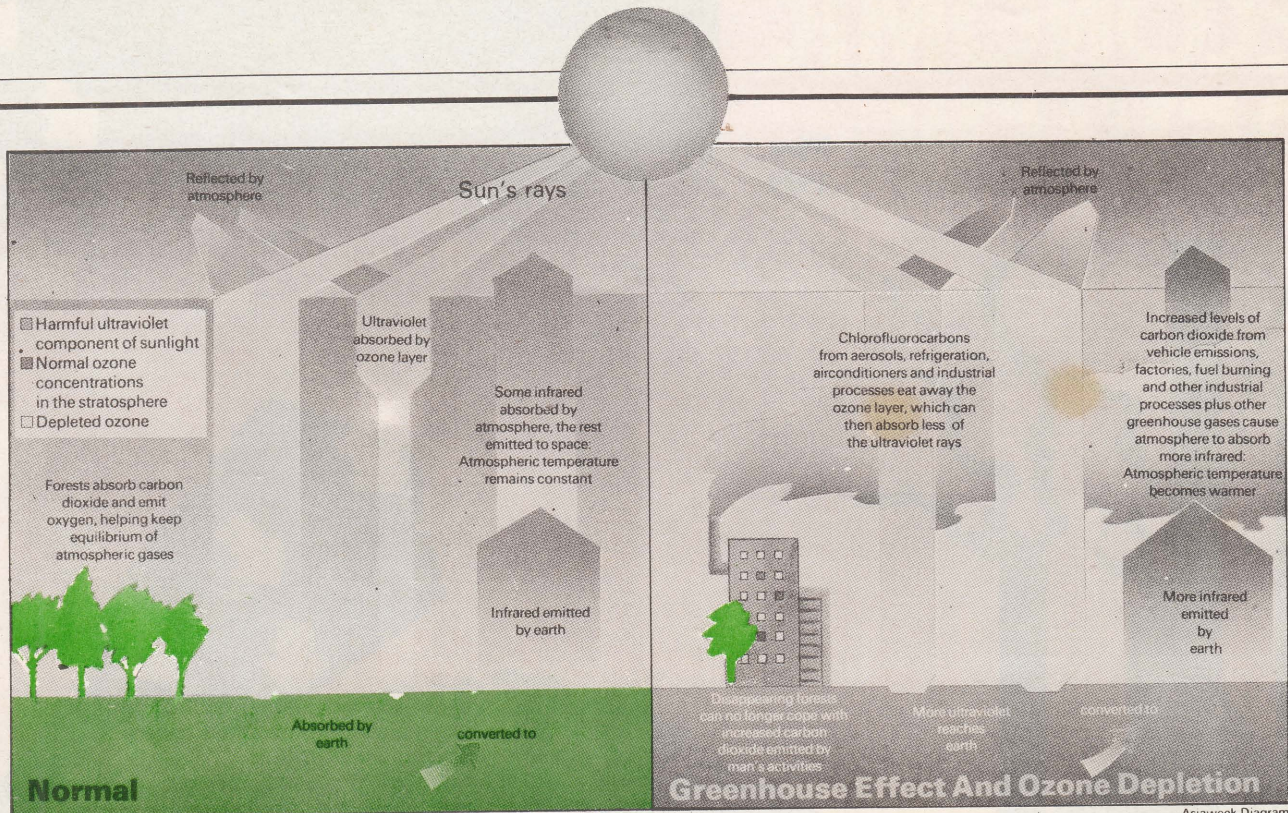
# ECONOMIC REVIEW

May  
1989



## ENVIRONMENT ENDANGERED

A People's Bank Publication



## THE ATMOSPHERE

# A Threatened Balance

In a harsh climate, the protective atmosphere of a greenhouse can sustain life that would be unable to exist outside. The secret is in the glass panes. While they allow sunlight to enter, they also stop most of the heat given off by the ground and the plants from getting out. Thus, even when there is little sun, the inside of a greenhouse stays warm. The earth's atmosphere functions in a similar way. Without its protective blanket of gases, temperatures would be below freezing over most of the globe. Its components allow solar radiation to reach the earth's surface but, unlike a green house, they let out the infrared heat that the ground and the seas emit in turn. Usually, the amount of sunlight allowed into the atmosphere and the heat that escapes into space balance so that temperatures generally remain constant and bearable.

But many scientists now say that increasing levels of gases generated by humans are intensifying the atmosphere's role as a gigantic greenhouse pane. Although these gases are only a negligible fraction of the atmosphere — 99.1% of it is oxygen and nitrogen which do not cause heating — they absorb much of the infrared heat coming from earth. Their increase is causing air temperatures to rise (*see diagram*). This "greenhouse effect" means that the earth's surface and its oceans will eventually warm up too, but not at once, just as a kettle does not boil as soon as heat is turned on. According to the U.N. Environment Program (UNEP), some mathematical models suggest that average surface temperature will increase by between 3.5°C and 4.2°C by the year 2030. According to UNEP, the earth's average temperature has rarely varied by more than 1°C or 2°C during the past 10,000 years.

Carbon dioxide (CO<sub>2</sub>) accounts for 90% of the absorbed infrared. It used to be mostly turned into oxygen by plants, particularly trees. In recent years, however, burning of fossil fuels such as coal and oil in homes, factories and motor vehicles, has been producing much more of the gas. With forests disappearing, the CO<sub>2</sub>-oxygen conversion is slowing. UNEP esti-

mates that there is nearly 25% more carbon dioxide in the air today than before industrialisation began. Other greenhouse gases have increased since then, too. Methane, produced by rice fields and by farm animals, is thought to have doubled. Nitrous oxide from nitrogen fertilisers, natural microbial activity and timber burning is reckoned to have increased 34%. Chlorofluorocarbons (CFCs), used in refrigeration, airconditioning, aerosol sprays and in the production of plastics, are believed to be increasing by 3% annually.

Ozone also acts as a minor greenhouse gas and is itself affected by greenhouse temperature changes. But it has a larger function: it screens out the deadly ultraviolet component of sunlight (*see diagram*). CFCs destroy this protective ozone layer. They rise slowly to the stratosphere where ultraviolet rays turn them into free chlorine atoms, which eat up ozone. A catalyst, chlorine starts a chemical reaction but is itself unscathed. Ozone in the stratosphere is created by the reaction of ultraviolet light with oxygen, and breaks down again into oxygen when it absorbs ultraviolet, a sustaining cycle. Once the cycle stops, ozone supply cannot be topped up.

Scientists at New Zealand's Meteorological Service and Department of Scientific and Industrial Research (DSIR) have been documenting a worrying decrease in the ozone over the Antarctic since 1979. A "hole" the size of the U.S. mainland appears in the ozone layer over the region every September. "The layer is normally replenished in early summer," says DSIR director-general Jim Ellis, "but this year, for the first time, low ozone patches have been detected by our atmospheric observatory." UNEP says a 10% reduction in ozone would lead to a 20% increase in ultraviolet radiation reaching earth.

Many aspects of the greenhouse effect and ozone depletion are as yet imperfectly understood. Mathematical models created so far are thus conceded to be crude approximations of incredibly complex atmospheric processes. Nevertheless, scientists are convinced that the broad outlines are clear. Says Ellis: "Earth's atmosphere is thin and fragile, like a film of moisture on glass, and evidence of a serious threat to it is conclusive."

Courtesy: ASIaweek

Published by the People's Bank,  
Research Department,  
Head Office,  
Sir Chittampalam A. Gardinar Mawatha,  
Colombo 2,  
Sri Lanka.

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THE ECONOMIC REVIEW is intended to promote knowledge of and interest in the economy and economic development process by a many sided presentation of views & reportage, facts and debate.

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THE ECONOMIC REVIEW is published monthly and is available both on subscription and on direct sale.

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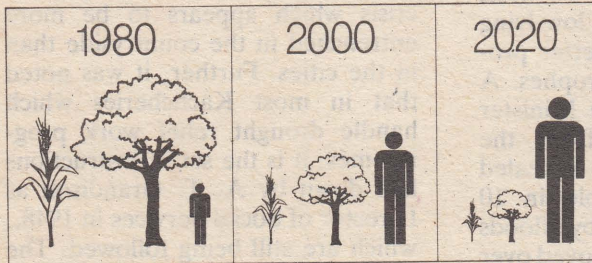
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**COVER ARTIST**  
**Madhavi Karunaratne**

## DIARY OF EVENTS

### April

- 1 The Colombo Consumer's Cost of Living Index for April 1989 was 797.05, the Department of Census and Statistics announced. In March 1989 it was 788.05 while in April 1988 it was 722.3. The average rate for the last 12 months was 758.8 as against 673.7 in the previous 12 month period, indicating a 85.1 point increase in the index over the last 12 months or a 7.1 average monthly increase.
- 3 The World Bank has agreed to provide a loan of \$ 42.79 million to India's Madhya Pradesh Electricity Board (MPEB) for rehabilitation and renovation of its thermal plants and modernisation of its computer equipment. Under this the MPEB would upgrade and modernise its data processing facilities, including development of software and purchase of necessary computer equipment.
- 9 The National Development Bank (NDB) has set a new record in the number of approvals of re-finance loans submitted to it under the Small and Medium Scale Industry (SMI) Project-3, starting from January this year. The NDB has begun approving such loans averaging Rs.30 million a month, which is an increase of about Rs.8 million since last year, according to an NDB spokesman.
- 10 A Consortium of 12 Japanese banks has extended credit worth \$ 200 million to the Indian Airlines for the purchase of 19 Airbus A-320 aircraft. The loan is repayable in 10 years and will carry an interest rate on par with LIBOR. This is the third major loan signed by the airlines for the purchase of aircraft and the first time that Indian Airlines is raising funds in Japan.
- 11 The International Development Agency (IDA) has pledged US\$ 41.5 million in loans to Nepal for town development and re-construction in regions hit by an earthquake last year. According to the Nepalese Finance Ministry this assistance would be used to extend credit for infrastructure development in towns and for re-construction of houses damaged by the August 21 earthquake which killed more than 750 people.
- 12 In an agreement signed in Bombay India granted Iraq a credit of US\$ 50 million, the Press Trust of India (PTI) said. The credit from the Export Import Bank of India to Rafida in Bank of Iraq is to be used to finance Iraqi purchases of Indian made goods, spare parts and consumer durables.
- 19 New Major trading opportunities were created for developing countries with the entry into force of the Agreement on the Global System of Trade Preferences (GSTP). The Agreement establishes a global framework and principles for the exchange of preferential trade concessions among developing countries on all types of products, whether manufactures or commodities in their raw, semi-processed and processed forms.
- 18 The Japanese Government will provide Yen 449 million (approx. Rs. 114 million) as grant aid for the Minipe-Nagadeepa Rural Development Project. Under this grant, Japan will provide water facilities for domestic purposes, by constructing 53 shallow wells and 44 deep tube wells. Sixty seven existing shallow wells too will be rehabilitated. The grant aid will also provide assistance to develop roads which are in very poor condition, enabling the people in the area to enjoy better bus services and transportation facilities. The exchange of notes was signed in Colombo between the Charge d'Affairs of the Japanese Embassy and the Secretary of the Ministry of Finance.
- 20 The average price of one kilo of Samba rice was Rs.13.90; and one kilo of Raw Red rice Rs.11.03; while Raw White rice was Rs.10.69, according to the Agrarian Research and Training Institute (ARTI). In April 1988 a kilo of Samba rice was Rs.6.50; and Raw Red rice Rs.4.49; while Raw Red White rice was Rs.4.23, according to the ARTI Food Commodities Bulletin.
- 20 Korea will improve its science and engineering education and expand technical services for small and medium industries (SMIs) through a project supported by a \$ 16.4 million World Bank loan. The project includes improving the quality of teaching and research at the Korea Institute of Technology, strengthening the Advisory Services that its Industrial Technology Centre provides to small and medium industries and increasing the capacity of the Korea Electro Technology Research Institute to carry out research and development activities that would help SMIs supply parts and other materials to Korea's larger manufacturers of export goods.
- 20 The Asian Development Bank (ADB) awarded a contract to the Development Bank of Singapore (DBS Bank) to provide consultancy assistance to the Development Finance Corporation of Ceylon (DFCC) which is acting as the executing agency on behalf of the Government for the setting up of a Unit-Trust Project in Sri Lanka. The cost of the foreign consultants will be met from an outright grant of nearly \$ 250,000 from the ADB to Sri Lanka. This technical assistance component constitutes an important element in the Industrial Development Project to be financed jointly by the World Bank (IDA) and the ADB, which became effective in March this year. The total financial assistance to the country under this project amounts to US \$ 84 million (Rs.2,920 million) the major portion of which will be for loans to be disbursed by DFCC and NDB to industrial projects.
- 25 The weekly gross sale average price at the Colombo Tea auctions was Rs. 49.99 per kg, as against Rs.40.05 per kg in April 1988 and Rs.39.82 per kg in April 1987. On the April 24, 1989 sale low grown teas fetched Rs.54.20 per kg, high grows Rs.49.34 per kg and medium grows Rs.44.96 per kg.



## Environment Endangered

There is a questioning today about the triumph and benefits of technology and the divorce between man and nature it has brought about. This division is gradually undermining everyday life and leading to a crisis between man and his environment. Some obvious symptoms of the change in the relationship between man and his environment are the various forms of pollution; poor management of the soil, forests and water; uncontrolled urbanization; destruction of existing life support systems; and the crushing of traditional cultures.

The environmental crisis, which is undermining physical and biolog-

ical surroundings, is a by-product of the accelerated expansion of man's domination of the planet and his exploitation of natural resources.

Several of these issues are also affecting Sri Lanka today. The continuous drought that affected the main agricultural areas over the last two to three years seems to be an outcome of the imbalances in the country's environmental situation. The coming up of several areas for land settlement and continuous deforestation is said to have affected rainfall patterns and also the soil.

Soil erosion and land slides have been another connected problem. With uprooting of trees on a large scale some areas have lost the natural protection of roots which hold the soil together, of leaves and branches which break the impact of rain drops on the soil and wash it away, and of allowing water to flow down instead of holding it to seep through the roots.

Increasing population is also making demands on the environment. Food production has to be stepped up to meet the growing needs of this population and invariably agro-chemicals are harnessed for this purpose. This in turn has given rise to problems of insecticide and pesticide poisoning and reduction of soil fertility.

Another problem, particularly in Sri Lanka, is that of meeting the fuel requirements of a growing population. It was found in the early 80's that as much as 95 percent of the population used fuel wood which means that there were severe pressures on existing forest resources in specific areas. In the name of development, industries also create problems of environment degradation. Disposal of industrial wastes have been a problem of urban areas in Sri Lanka too. For instance, aquatic life in rivers and lagoons are affected by industrial pollution while vegetable cultivation, particularly green leaves, a source of livelihood for the informal sector, has also been affected.

This is the second special issue of the 'Economic Review' on the environment. The first was in 1980, which brought in a major overview of the environment. Before that and since then, we have been publishing regular feature articles on the environment.

This special issue covers some major concerns on the environment in Sri Lanka and in the developing countries in general.

## RECENT NATURAL DISASTERS: WRATH OF GODS OR THE RESPONSIBILITY OF MAN?

C. M Madduma Bandara

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and Institute of Fundamental Studies*

Sri Lanka has experienced a series of natural calamities in recent months and many areas are still recovering from their devastating impacts. First came the widespread droughts in the Dry Zone where at least a quarter million families were seriously affected. The agricultural produce, particularly paddy production, fell drastically, compelling the Government to import rice in large quantities (some 500,000 tons – SUN of 20th July). In addition to these massive rice imports, against a background of near self-sufficiency in recent years, it has also been reported that some 3.6 million tons of wheat will have to be imported. The Government was compelled to provide immediate relief to an estimated population of over a million people who suffered from serious food shortages, and to seek foreign assistance in order to supplement its own efforts. Although the exact extent of human suffering is hard to quantify, the Red Cross (Japanese) which made a rapid appraisal of the ground situation in March reported that, unless urgent remedial measures are taken the food situation in the affected areas can deteriorate to something like what has been experienced in some parts of Africa. It must be mentioned that if not for the Mahaweli waters the life in the Dry Zone should have plunged into an even much worse crisis.

While the country was passing through the adverse impacts of the drought in Dry Zone on top of the continuing civil unrest, the Wet Zone experienced one of the most devastating episodes of floods and landslides in recent history. The

national news media carried banner headlines with horror stories of hundreds of people getting buried alive, and thousands of others becoming homeless and destitute by these events. This was to occur rather ironically, on the 5th of June – the much celebrated 'World Environment Day'! It has been reported that some 167 people were killed in one AGA Division alone (Galigamuwa) in the Kegalle District. The threat of floods was experienced even in the environs of Colombo in which low-lying areas were supposedly better protected against such catastrophes. A few days later the Prime Minister answering a question from the opposition in Parliament revealed that some 225,000 people in 10 districts were affected by floods and landslides which destroyed over 15,000 homes. Over 300 persons have died and 20,000 were still marooned by that time (Divayina June 8th). The amount of funds needed to rehabilitate the victims was estimated to be around 120 million rupees. The Government had to utilize all resources at its command in the affected districts to provide some immediate relief to the unfortunate victims – the large majority of whom were from the poorest segments of society. Furthermore, both landslides and floods recurred in many areas within a few weeks while some of the earlier victims were still in temporary shelters.

It is needless to mention that natural disasters such as droughts, floods and landslides are not new catastrophes in Sri Lanka. It is the extent of their damage to life and property that has been on the

increase over the years. The devastating floods of 1947 and 1957, the cyclones of 1978, droughts of the 1970s and early 1980s and the landslides of 1986 are still fresh in the minds of many people. In a study of the impact of the 1981 drought on the livelihood of peasant families in the Anuradhapura District, hardships experienced by the affected persons were brought to light by the writer (Madduma Bandara, 1982). It was reported that among a sample of nearly 500 families interviewed, a little over 1% did not receive at least one rice meal per day, and nearly 36% had only one meal per day. Among the painful actions resorted to by such families were withdrawal of children from schools and sending them out of homes as domestic servants to towns. It is in such situations that one can discern some of the root causes of the present crisis which appears to be more entrenched in the countryside than in the cities. Further, it was noted that in most Kachcheries which handle drought relief work programmes, it is the set of instructions laid down by A. T. Grandison as Director of Social Services in 1948, which are still being followed. The drought experienced this year is no exception and the general approach to drought relief is not fundamentally different from the old practice. An unfortunate feature of the State machinery in our country is the poor institutional memory of previous events, which results in the lack of long-term planning for sustainable development. There are many areas of the world which are drier and more drought prone than our so called Dry Zone. It is simply the failure to develop more drought enduring forms of agriculture which forms the underlying cause of such levels of human suffering than the mere vagaries of rainfall. If seasonal crops fail, a strategy of more drought resistant perennial crops should have been adopted, or at least grasslands may have been developed for livestock farming. But can such developments take place within the existing

techno-bureaucratic and socio-political setting? The recently concluded externally supported multi-million Dry Zone Agricultural Development Project at Anuradhapura amply demonstrates the failure of such attempts when considering the quantum of contribution it has made to the alleviation of poverty resulting from recurrent droughts in the area.

### Soil Conservation

Landslides and floods caused mainly by excessive monsoonal rainfall are also not new phenomena in the Wet Zone of Sri Lanka. The Kotmale landslides of 1947 led to some positive thinking which culminated in the Soil Conservation Act of 1951. However, since then soil conservation has received only step-motherly treatment from the agricultural development authorities who were entrusted with the task of implementing the Soil Conservation Act. It is on record that in the early 1960s the Minister in-charge of the subject wanted the soil conservation regulations that had been tightened up two years earlier to be relaxed to encourage tobacco cultivation in the hill country. In 1986, landslides caused much death and destruction in the areas around Maturata where over 20 persons died and over 2500 families were made homeless. It was then learnt that the Soil Conservation Officer as far back as 1957 investigated those worst affected areas and recommended to the Government Agent that some of them be closed for residential purposes. If this advice was taken seriously, then much damage to life and property in the area could have been avoided. The landslides of 1986 which generated much public concern gave a fillip to landslide research and for seeking ways and means to minimize their damage. Thus the scientific community had many seminars and conferences and the district administration had set up many committees to monitor landslides. Unfortunately when the fair weather returned, enthusiasm fizzled out and the unpleasant memories of the past were soon forgotten.

The problem of poor institutional memories is further exemplified by the recurrence of landslides in the Kegalle District. An analysis of the records of the Social Services Department clearly indicates that Kegalle has experienced more damaging landslides than any district in the Island. The writer brought this up at a seminar in 1986 and attributed it to the spread of rural settlements over the area to unstable slopes as a result of increasing population and the demand for land. The problems of landlessness in the Kegalle district were highlighted as far back as 1943 by the then Minister of Finance in no uncertain terms. Nevertheless, it is common practice now that once the landslides occur a 'fire-brigade' approach is adopted by those responsible in providing immediate relief and they tend to be content with their own organizational skills at the end of the operations. Once the rains cease and the floods recede people gradually return to their homes on the same lands if they were not totally destroyed by the catastrophe. This year thanks to the Ministry of Plantation Industries alternative lands were provided for many affected families in several areas. However, even where this was possible in the past people were moved like furniture to tiny parcels of land as small as forty perches. The past experience shows that there were instances of such victims being moved from one earthslip prone area to another. An obvious question is why cannot this be done in a more systematic and organized manner? With the available technologies of aerial photography and mapping combined with detailed field investigations hazardous areas can be reasonably demarcated. Programmes can be formulated to relocate people resident in such areas for their own benefit and to create more viable and planned settlements. In this regard it is perhaps time to probe how much progress has been made in that direction by some organizations which took up this challenge after the 1986 slides.

### Land Degradation

The lack of progress in controlling land degradation in critical areas is often attributed to the multiplicity of institutions that characterize the State machinery. The multiplication of functions with hardly any attempt to rationalize these functions has been a common occurrence since Independence. It has been pointed out that there are over forty institutions and over 75 pieces of legislation which have some bearing on the environmental concerns under discussion. An effective coordination of functions among these institutions is almost non-existent and occasional attempts made to bring various organisations together at committees and seminars proved hardly anything more than 'talking shop'. Each agency appears to suffer from an inertia which resists change, however desirable it may be from an overall national point of view. As seen at a recent seminar on the Soil Conservation Act some soil scientists expressed the view that, in order to protect soils and arrest land degradation, 'we have enough institutions, enough laws and the existing provisions of the Soil Conservation Act are more than enough'. But then with all these we also have enough problems from soil erosion, and an ever increasing damage to life and property from landslides and floods. It appears as though such soil scientists who take a complacent attitude to this subject of great national concern are also part of the problem of soil conservation in Sri Lanka. Institutionally, what is urgently needed is an effective rationalization of functions and pooling of resources in which specific responsibilities must be assigned to each relevant institution depending on its specialization and competence. However bitter it may be, we have hardly any choice but to accept the fact that the existing institutions have failed to deliver the goods, whatever the reasons may have been. In this context if there are institutions which do not show enough progress, let them be closed down for good with due consider-

ation being paid to the interests of the employees.

It may be noted that these were some of the sentiments that the Land Commission of 1985 strived to stress in its First Interim Report. Having recognized the gravity of the problem of land degradation, and the urgent need to embark on an effective strategy the Commission proposed the establishment of a Watershed Management Authority along similar lines suggested by the TAMS consultants a few years earlier. Although the Land Commission had gone to the extent of proposing necessary legislative guidelines for this purpose, the response of the bureaucracy at its highest rungs had been lukewarm at best. It is an unfortunate constellation of factors in this country that, even recommendations of Presidential Commissions arrived at after painstaking deliberations have to be eventually ratified by the bureaucracy if they are to be implemented at all. If the danger signals given by the Land Commission in 1985 were taken seriously, at least there would have been a strong institutional foundation to cope with the problems of landslides and floods and to minimize their damage to life and property. Further, the bureaucracy has the habit of activating itself, only when widespread damage is caused to life and property, for which no one is held responsible except the weather gods.

#### National Land Use Plan an Urgent Need

Rather strangely, like the bureaucrats, the old villagers in the Dry Zone also prefer to believe that this year the rain gods (*vessa valahaka divyaputrayo*) were not merciful. In the hill country too the elderly villagers often say that landslides and floods are caused by the wrath of gods (*deva kopaya*). Some social anthropologists (Sandell, 1988) of course attempt to rationalize the role of such beliefs and attitudes towards nature among the people who live so close to nature and directly earn their living

from it. Even in this age of advanced science and technology, it is true that the fury of certain natural forces cannot be controlled by man. Then he should develop the wisdom and learn to live outside their path of destruction or pay dearly for his lack of vigilance. It is the poor adjustment to nature's ways that leads to such magnitudes of damage to life and property in most tropical countries. With the increasing pressures of poverty and unemployment, it appears that not only the average man in the village, but also the planner and administrator has forgotten to remember the ways of nature; that flood plains are the domains of rivers; coastlines are the domains of waves and currents; and high slopes on unstable material are the force fields of nature. The geomorphologist and the hydrologist can study the behaviour of these natural forces and develop predictive models and advise on how to avoid their paths of destruction. The engineers and technologists can develop structures that can withstand some of these forces, but often at great economic cost. For a developing country like Sri Lanka however, adoption of a rational land policy and sound land-use practices may provide a less expensive but a sustainable option. In this context the formulation of a national landuse plan which incorporates these needs is long overdue and deserves high priority.

It may also be mentioned that there is a popular belief that land-use solutions to the problem of floods and landslides is simple and straight forward. For some it is as simple as suggesting that the affected areas should be clothed with forests (Refer Editorial of Sun 12th June; Cartoon in the Island 5th June). There are certainly many strong reasons to arrest the rapid rate of deforestation and to enhance reforestation of at least the critical watersheds. But can the twin problems of floods and landslides be eliminated by forestry alone? The relationship between forestry and hydrology is an area where many imaginations have

wandered (Madduma Bandara (Ed.) 1989). The current thinking among many scientists in this field is that restoring forests need not necessarily result in preventing flood catastrophes (Hamilton, 1988). For some time many believed that deforestation of Nepalese Mountains is to be blamed for floods in Bangladesh. Now it is thought that even if entire river basins had been in forest cover, monsoons of the magnitude that occur in the South Asian region can still cause severe flooding. In our context many colonial provincial boundaries which we still carry, cut across natural river basins most haphazardly, as in the case of the Sabaragamuwa Province. This is a different resource management problem that should deserve separate attention. But then can we say that peasant farmers in the Sabaragamuwa Province are to be blamed for floods in the populous low-lying areas of the Western Province. The scientific basis of such possible accusations do not appear to be strong in the light of the results of recent research. Here again the solution appears to lie more in a better landuse and land settlement policy than on an over-reliance on forestry.

#### Balancing Environmental Concerns and Economic Development

Natural hazard management and natural resource planning should necessarily form an essential component of an overall national development strategy. Planning in Sri Lanka at the national level, however, had until recently been synonymous with economic development planning only. This can be seen from almost all planning documents since National Independence. Any references to environmental concerns have only been incidental to the main theme of economic growth with hardly any anticipation of a possible environmental backlash. Even recently the document on 'Public Investment 1985-1989' issued by the Ministry of Finance and Planning reflected this position. It states that



## NEW LINE ON SOIL EROSION

After the 'devastating' African drought of the early 1970s, thousands of food-for-work recipients were forced to build terraces and earth bunds. The reasoning was that if similar techniques had helped conserve water and soil in Saudi Arabia and Israel, they would also work in Africa.

They did not. Many of these structures were promptly destroyed, victims of the weather and poor maintenance. Now the centuries-old techniques of peasants are being tapped to find ways of stopping the devastating erosion of Africa's coarse soils

"For a developing country like Sri Lanka, complete eradication of poverty, malnutrition and unemployment are more important than pollution abatement, protection of natural resources or the conservation of the ecosystems'. In this context bringing the Central Environmental Authority under the Ministry of Policy Planning and Implementation is certainly a welcome development in the right direction. It is perhaps time that an environmental or a natural resources unit is established within the Planning Division of the Ministry in order to pave the way to achieve a reasonable balance between environmental concerns and economic development."

Natural resource management and disaster preparedness need longer planning horizons than what is normally adopted for planning purposes in Sri Lanka. In view of the pressing social and economic problems of poverty, unemployment and slow economic growth, the basic thinking behind national planning today is biased in favour of objectives which are essentially present oriented and short-term and therefore tends to discount the future at too high a rate. This is reflected again in the more recent 'Public Investment 1986-1990' document issued by the planning authorities. This stresses that "a judicious combination of investments which optimizes economic, social and political gains have a greater chance of success than those which, though rational and effective from a long-term perspective, are not feasible from the short-term

*A Mossi peasant farmer in Burkina Faso, Africa, lays out the stone rows preparing his plot for cultivation. These rings help crops to grow as soil is built up, since particles, seeds and dead leaves are washed down and collect behind the stones, raising the level by 15-20 centimetres a year.*



Ring in the new, Burkinese peasant farmer builds protective terrace

by tropical downpours. The UK charity Oxfam has developed a technique which not only conserves the soil and boosts crop yields but can also restore barren lands to production.

view of political stability". Here one can identify one of the fundamental problems of planning for environment and natural resources management in contemporary Sri Lanka. In this context news of the establishment of a disaster relief fund is a positive sign of some long-term thinking. Nevertheless, if the Fund is used to provide immediate relief without investment on long-term strategies to cope with natural disasters, its usefulness will be inevitably limited.

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In Burkina Faso, Mossi peasants have a traditional technique to reduce soil erosion. They place rows of heavy stones across the slopes, which slow down the water runoff from the land during the rainy season, and reduce topsoil erosion.

Oxfam's project director Peter Wright discovered that if the rows are exactly level with the contour of the slope they act as miniature dams. Rainwater is held back for 5 - 10m uphill and has time to sink into the soil instead of flooding away uselessly.

It has now been found that soil conservation may be one of the cheapest ways of increasing food production in Africa, and of cushioning the farmer against dry spells, because of the key role of its climate. The biggest cause of erosion in Africa is rain. Tropical storms wash away topsoil and its nutrients. Because soil conservation works by slowing down the rate at which raindrops hit the soil and run off the surface, the amount of soil washed away is reduced and the water takes longer to filter into the ground. More rainfall is then made available for crop roots, or stored in the soil against the dry periods.

In the drier areas, windbreaks also save water by protecting crops against hot, dry winds.

Mulching - spreading crop remains like stalks or weeding trash on the soil - can reduce erosion by up to 97 percent, and increases yields by 25-60 percent.

A new technique with a big future in Africa is minimum tillage, or no-plough farming. Research at the International Institute for Tropical Agriculture in Nigeria has shown that ploughing can speed up erosion in most of the wetter parts of Africa.

With minimum tillage, the weeds and stubble of previous crops are killed with a herbicide spray. This creates a thick mat of vegetation and roots which holds the soil in place and conserves moisture. The seeds of the next crop are then planted directly into holes in the mat.

Minimum tillage reduces erosion by 99 percent. Crop yields are 100-200 per cent higher than on ploughed plots.

# ENVIRONMENT AND DEVELOPMENT

## The World Commission's Findings

The present decade has been marked by a retreat from social concerns. Scientists bring to our attention urgent but complex problems bearing on our very survival: a warming globe, threats to the Earth's ozone layer, deserts consuming agricultural land. We respond by demanding more details, and by assinging the problems to institutions ill equipped to cope with them. Environmental degradation, first seen as mainly a problem of the rich nations and a side effect of industrial wealth, has become a survival issue for developing nations. It is part of the downward spiral of linked ecological and economic decline in which many of the poorest nations are trapped. Despite official hope expressed on all sides, on trends identifiable today, no programmes or policies, offer any real hope of narrowing the growing gap between rich and poor nations. And as part of our 'development', we have amassed weapons arsenals capable of diverting the paths that evolution has followed for millions of years and of creating a planet our ancestors would not recognize.

When the terms of reference of our Commission were originally being discussed in 1982, there were those who wanted its considerations to be limited to 'environmental issues' only. This would have been a grave mistake. The environment does not exist as a sphere separate from human actions, ambitions, and needs, and attempts to defend it in isolation from human concerns have given the very word 'environment' a connotation of naivety in some political circles. The word 'development' has also been narrowed by some into a very limited focus, along the lines of 'what poor

### OUR COMMON FUTURE

In 1983 the UN General Assembly decided to take up the issue of Environment and Development on a global scale. The next step was the setting up of a World Commission under the chairmanship of Gro-Harlem Brundtland, Prime Minister of Norway, with 20 other leading personalities from Sudan, Italy, Saudi Arabia, Zimbabwe, Ivory Coast, West Germany, Hungary, China, Colombia, India, Brazil, Japan, Guyana, USA, Algeria, Indonesia, Nigeria, USSR, Yugoslavia and Canada.

The pressing need for such a commission was a clear demonstration of the widespread feeling of frustration and inadequacy in the international community about its own ability to address vital global issues and deal effectively with them.

"A global agenda for change" — is what the World Commission on Environment and Development was asked to formulate. This was an urgent call by the General Assembly of the United Nations:

\* to propose long-term environmental strategies for achieving sustainable development by the year 2000 and beyond;

\* to recommend ways concern for the environment may be translated into greater co-operation among developing countries and between countries at different stages of economic and social development;

and

\* to consider ways and means by which the international community can deal more effectively with environmental concerns.

*Extracts from the Commission's report, aptly titled "Our Common Future", are carried here.*

nations should do to become richer', and thus again is automatically dismissed by many in the international arena as being a concern of specialists, of those involved in questions of 'development assistance'.

But the 'environment' is where we all live; and 'development' is what we all do in attempting to

improve our lot within that abode. The two are inseparable. Further, development issues must be seen as crucial by the political leaders who feel that their countries have reached a plateau towards which other nations must strive. Many of the development paths of the industrialised nations are clearly unsustainable. And the development decisions of these countries, because of their great economic and political power, will have a profound effect upon the ability of all peoples to sustain human progress for generations to come.

Many critical survival issues are related to uneven development, poverty, and population growth. They all place unprecedented pressures on the planet's lands, waters, forests, and other natural resources, not least in the developing countries. The downward spiral of poverty and environmental degradation is a waste of opportunities and of resources. In particular, it is a waste of human resources. These links between poverty, inequality, and environmental degradation formed a major theme in our analysis and recommendations. What is needed now is a new era of economic growth—growth that is forceful and at the same time socially and environmentally sustainable.

During the time we met as a Commission, tragedies such as the African famines, the leak at the pesticides factory at Bhopal, India, and the nuclear disaster at Chernobyl, USSR, appeared to justify the grave predictions about the human future that were becoming commonplace during the mid-1980s. But at public hearings we held on five continents, we also heard from the individual victims of more chronic, widespread disasters: the debt crisis, stagnating aid to and investment in developing countries, falling commodity prices and falling personal incomes. We became convinced that major changes were needed, both in attitudes and in the way our societies are organized.

## THE GLOBAL CHALLENGE

### Successes and Failures

Those looking for success and signs of hope can find many: Infant mortality is falling; human life expectancy is increasing; the proportion of the world's adults who can read and write is climbing; the proportion of children starting school is rising; and global food production increases faster than the population grows.

But the same processes that have produced these gains have given rise to trends that the planet and its people cannot long bear. These have traditionally been divided into failures of 'development' and failures in the management of our human environment. On the development side, in terms of absolute numbers there are more hungry people in the world than ever before, and their numbers are increasing. So are the numbers who cannot read or write, the numbers without safe water or safe and sound homes, and the numbers short of woodfuel with which to cook and warm themselves. The gap between rich and poor nations is widening—not shrinking—and there is little prospect, given present trends and institutional arrangements, that this process will be reversed.

There are also environmental trends that threaten to radically alter the planet, that threaten the lives of many species upon it, including the human species. Each year another 6 million hectares of productive dryland turns into worthless desert. Over three decades, this would amount to an area roughly as large as Saudi Arabia. More than 11 million hectares of forests are destroyed yearly, and this, over three decades, would equal an area about the size of India. Much of this forest is converted to low-grade farmland unable to support the farmers who settle it. In Europe, acid precipitation kills forests and lakes and damages the artistic and architectural heritage of nations; it may have acidified vast

tracts of soil beyond reasonable hope of repair. The burning of fossil fuels puts into the atmosphere carbon dioxide, which is causing gradual global warming. This 'greenhouse effect' may by early next century have increased average global temperatures enough to shift agricultural production areas, raise sea levels to flood coastal cities, and disrupt national economies. Other industrial gases threaten to deplete the planet's protective ozone shield to such an extent that the number of human and animal cancers would rise sharply and the oceans' food chain would be disrupted. Industry and agriculture put toxic substances into the human food chain and into underground water tables beyond reach of cleansing.

There has been a growing realization in national governments and multilateral institutions that it is impossible to separate economic development issues from environment issues; many forms of development erode the environment resources upon which they must be based, and environmental degradation can undermine economic development. Poverty is a major cause and effect of global environmental problems. It is therefore futile to attempt to deal with environmental problems without a broader perspective that encompasses the factors underlying world poverty and international inequality.

These concerns were behind the establishment in 1983 of the World Commission on Environment and Development by the UN General Assembly.

### The Interlocking Crises

Until recently, the planet was a large world in which human activities and their effects were neatly compartmentalized within nations, within sectors (energy, agriculture, trade), and within broad areas of concern (environmental, economic, social). These compartments have begun to dissolve. This applies in particular to the various global 'crises' that have seized public con-

cern, particularly over the past decade. These are not separate crises: an environmental crisis, a development crisis, an energy crisis. They are all one.

The planet is passing through a period of dramatic growth and fundamental change. Our human world of 5 billion must make room in a finite environment for another human world. The population could stabilize at between 8 billion and 14 billion sometime next century, according to UN projections. More than 90 per cent of the increase will occur in the poorest countries, and 90 per cent of that growth in already bursting cities.

Economic activity has multiplied to create a \$13 trillion world economy, and this could grow five or tenfold in the coming half-century. Industrial production has grown more than fifty-fold over the past century, four-fifths of this growth since 1950. Such figures reflect and presage profound impacts upon the biosphere, as the world invests in houses, transports, farms, and industries. Much of the economic growth pulls raw material from forests, soils, seas, and waterways.

A mainspring of economic growth is new technology, and while this technology offers the potential for slowing the dangerously rapid consumption of finite resources, it also entails high risks, including new forms of pollution and the introduction to the planet of new variations of life forms that could change evolutionary pathways. Meanwhile, the industries most heavily reliant on environmental resources and most heavily polluting are growing most rapidly in the developing world, where there is both more urgency for growth and less capacity to minimize damaging side effects.

These related changes have locked the global economy and global ecology together in new ways. We have in the past been concerned about the impacts of economic growth upon the environment. We

are now forced to concern ourselves with the impacts of ecological stress—degradation of soils, water regimes, atmosphere, and forests—upon our economic prospects. We have in the more recent past been forced to face up to a sharp increase in economic interdependence among nations. We are now forced to accustom ourselves to an accelerating ecological interdependence among nations. Ecology and economy are becoming ever more interwoven—locally, regionally, nationally, and globally—into a seamless net of causes and effects.

Impoverishing the local resource base can impoverish wider areas: Deforestation by highland farmers causes flooding on lowland farms; factory pollution robs local fisherman of their catch. Such grim local cycles now operate nationally and regionally. Dryland degradation sends environmental refugees in their millions across national borders. Deforestation in Latin America and Asia is causing more floods, and more destructive floods, in downhill, downstream nations. Acid precipitation and nuclear fallout have spread across the borders of Europe. Similar phenomena are emerging on a global scale, such as global warming and loss of ozone. Internationally traded hazardous chemicals entering foods are themselves internationally traded. In the next century, the environmental pressure causing population movements may increase sharply, while barriers to that movement may be even firmer than they are now.

Over the past few decades, life-threatening environmental concerns have surfaced in the developing world. Countrysides are coming under pressure from increasing numbers of farmers and the landless. Cities are filling with people, cars, and factories. Yet at the same time these developing countries must operate in a world in which the resources gap between most developing and industrial nations is widening, in which the industrial world dominates in the rule-making of some key international bodies, and

in which the industrial world has already used much of the planet's ecological capital. This inequality is the planet's main 'environmental' problem; it is also its main 'development' problem.

A majority of developing countries now have lower per capita incomes than when the decade began. Rising poverty and unemployment have increased pressure on environmental resources as more people have been forced to rely more directly upon them. Many governments have cut back efforts to protect the environment and to bring ecological considerations into development planning.

The deepening and widening environmental crisis presents a threat to national security—and even survival—that may be greater than well-armed, ill-disposed neighbours and unfriendly alliances. Already in parts of Latin America, Asia, the Middle East, and Africa, environmental decline is becoming a source of political unrest and international tension. The recent destruction of much of Africa's dryland agricultural production was more severe than if an invading army had pursued a scorched-earth policy. Yet most of the affected governments still spend far more to protect their people from invading armies than from the invading desert.

Globally, military expenditures total about \$1 trillion a year and continue to grow. In many countries, military spending consumes such a high proportion of gross national product that it itself does great damage to these societies' development efforts.

### **Sustainable Development**

Humanity has the ability to make development sustainable—to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits—not absolute limits but limitations imposed by the present state of

technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organization can be both managed and improved to make way for a new era of economic growth. The Commission believes that widespread poverty is no longer inevitable. Poverty is not only an evil in itself, but sustainable development requires meeting the basic needs of all and extending to all the opportunity to fulfil their aspirations for a better life. A world in which poverty is endemic will always be prone to ecological and other catastrophes.

Meeting essential needs requires not only a new era of economic growth for nations in which the majority are poor, but an assurance that those poor get their fair share of the resources required to sustain that growth. Such equity would be aided by political systems that secure effective citizen participation in decision making and by greater democracy in international decision making.

Sustainable global development requires that those who are more affluent adopt life-styles within the planet's ecological means—in their use of energy, for example. Further, rapidly growing populations can increase the pressure on resources and slow any rise in living standards; thus sustainable development can only be pursued if population size and growth are in harmony with the changing productive potential of the ecosystem.

Yet in the end, sustainable development is not a fixed state of harmony, but rather a process of change in which the exploitation of resources, the direction of investment in the orientation of technological development, and institutional change are made consistent with future as well as present needs. We do not pretend that the process is easy or straightforward. Painful choices have to be made. Thus, in the final analysis, sustainable development must rest on political will.

# Economic development and environmental conflicts in India

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*This paper about environmental conflicts in contemporary society relates to all human societies, but in particular it addresses the social contradictions of India related to conflicts over natural resources. Scientific knowledge has been used to considerably enlarge man's access to natural resources, on the one hand, and on the other, to consume the natural resources at extremely high rates of utilization. This period is also characterized by the emergence of ecology movements all over the world which are attempting to redesign the pattern and extent of natural resources utilization to ensure social equality and ecological sustainability. In this way, ecology movements have questioned the validity of the*

*dominant concepts and indicators of economic development whose ideology is thus faced with a major foundational challenge.*

*This paper attempts to analyze the relationship between economic development and conflicts over natural resources to trace the roots of the ecological movements. Further, in the light of the ecological perspective, it examines the fundamental assumptions and categories of development economics that are used to set the objectives of 'development' as well as the criteria for the choice of technologies that are used in the process of achieving these objectives.*

## Ecology movements and survival

The intensity and range of the ecology movements in independent India have kept on increasing as predatory exploitation of natural resources to feed the process of development has gone up in extent and intensity. This process has been characterized by the huge expansion of energy and resource intensive industrial activity and major projects like big dams, forest exploitation, mining, energy intensive agriculture, etc. The resource demand of development has led to the narrowing down of the natural resource base for the survival of the economically poor and powerless, either by direct transfer of resources away from basic needs or by destruction of the essential ecological processes that ensure renewability of the life supporting natural resources.

Against this background, the ecol-

ogy movements came up as the people's response to this new threat to their survival as a demand for the ecological conservation of the vital life support systems. The most significant life support systems beyond clean air are the common property resources of water, forests and land on which the majority of the poor people of India depend for survival. It is the threat to these resources that has been at the centre of the ecology movements in the last few decades.

Among the various ecology movements in India, the Chipko movement (embrace the trees to oppose fellings) is the most well known. It started as a movement of the hill people in the state of Uttar Pradesh to save the forest resources from exploitation by contractors from outside. It later evolved to an ecological movement that was aimed

at the maintenance of the ecological stability of the major upland watersheds in India.

Exploitation of mineral resources, in particular the opencast mining in the sensitive watersheds of the Himalayas Western Ghats and central India have also done a great deal of environmental damage. As a result environmental movements have come up in these regions to oppose the reckless operations of mining. Most successful among them is the movement against limestone quarrying in Doon Valley.

The large river valley projects, which are coming up in India at a very fast pace, is another group of development projects against which ecology movements of the people have come up. The large scale submersion of forest and agricultural lands, that is the prerequisite for the big river valley projects, always take a heavy toll of dense forests and the best food growing lands. These have been usually the material basis for the survival of a large number of people in India, specially the tribal people. The Silent Valley project in Kerala was opposed by the ecology movement on the ground of its being a threat, not directly to the survival of the people, but to the gene pool of the tropical rain forests threatened by submersion.

The ecological movement against the Tehri high dam in the UP Himalaya exposes the possible threat to the people living both above and below the dam-site through large-scale destabilisation of land by seepage and strong seismic movements that could be induced by impoundment. The Tehri Dam opposition committee has appealed to the Supreme Court against the proposed dam by identifying it as a threat to the survival of all people living near the river Ganga upto West Bengal. Most notable among the people's movements against dams on the issue of direct threat to survival from submersion are Bedthi, Inchampalli, Bhopalpat-

nam, Narmada, Koel-Karo, Bodhghat, etc. In the context of already overused land resources, the proper rehabilitation on a land-to-land basis of millions of people displaced through the construction of dams seems impossible.

### Development from the view point of the dispossessed

Though the ecology movements relate to issues that are geographically localized, like forests or water pollution, their reverberation is national and even global in import. This macro-micro dialectic is rooted in the cognitive gaps associated with development planning and this dichotomy has been analyzed politically as the result of the existence of the two Indias. Every development activity has a need for natural resources. In the context of limited natural resources, by either non-renewability or ecological limits to renewability, the resource needs of the two Indias are bound to compete with each other. In this unequal competition the survival of the less powerful but more populous micro-economy is directly threatened. This threat may come either by resource transfer or by ecological factors leading to resource degradation. Yet the significance of the ecology movements does not merely lie in the fact that they are voices of the dispossessed.

The positive feature of these movements lies in the manner in which they make visible the invisible externalities of development based on a particular economic ideology and reveal its inherent injustice and nonsustainability. The recognition of these inadequacies and the imperatives arising from the right to survival creates another ground and another direction for development which ensures justice with sustainability, equity with ecological stability.

The ecology movements can no longer be considered merely as specific and particular happenings. They are an expression of the univer-

ersal socio-ecological impacts of a narrowly conceived development based only on short-term commercial criteria. The impact of ecology movements cannot be assessed only in terms of the impact on particular projects they originate from. The impact, in the final analysis, is on the very fundamental categories of politics, economics, science and technology which together have created the classical paradigm of development and resource use. The emerging irreversible threat to survival arising from the development process requires a re-evaluation not just of some individual projects and programmes which have been shown to be ecologically destructive, but of the very conception and paradigm of development that generates such projects. The ecology movements are revealing how the resource intensive demands of current development have ecological destruction and economic deprivation built into them. They are also stressing that the issue is not merely of a trade off of costs and benefits because the cost of destruction of the conditions of life and well-being is not just a matter of money, it is a matter of life itself.

*Ecology movements are revealing how the resource intensive demands of current development have ecological destruction and economic deprivation built into them.*

The need for a development that will lead to improved standards of living, not undermine them, that will create ecological stability, not instabilities, is clear. The crises of market orientation of economic development has created responses from the local communities as well as from ecological movements. The contribution of international development aid and loans to the processes of ecological destruction of the resource base for survival in the Third World has provided the platform for a joint global response of the ecology movements in the North as well as in the South.

The ecology movements need to be analyzed against the background of the forces of economic development. The various dimensions of social movements, for survival, for democratic values, for decentralised decision-making at the local levels are all components of the ecology movements. While at the local level they may demand better management of forests in mountain catchments or better conservation of water in drought-prone areas, on the whole they are slowly progressing towards defining an alternative model for economic development, a new economics for a new civilization. That is how ecology movements all over the world are coming closer as an upcoming political force that will put its signature in the history of humankind in the coming few decades.

Under such pressures the agencies of classical models of development are also turning 'environmental' overnight, and a new co-option attempt has begun.

The ecology movements have raised issues that on the one hand, touch upon the question of activating micro-action plans to safeguard natural processes and survival; while on the other hand, providing the macro-concept of ecological development in the global, national and regional spaces. The issue is not simply of planting trees here or protecting a tiger there. The issue is related to a fundamental change in human concepts about life, about development, about civilization. They are related to the most central issues of ecological degradation of nature's productivity that is threatening human survival at a global level. After about four decades of development efforts if the Third World is still faced with hunger, it is time that the old development strategy be replaced by a new one that is based on a holistic understanding of the total situation. The ecology movements of the world have entrusted themselves with this most challenging task of evolving humane and sustainable development.

## Poverty Principal Source of Pollution

Norwegian Prime Minister Gro Harlem Brundtland, Chairman of the World Commission of Environment, was awarded the 1988 Third World Prize, which was handed over to her at a ceremony in April in Harare, by Zimbabwe's President Robert Mugabe. At this ceremony Brundtland initiated a discussion on links between poverty and environment pollution. Altaf Gauhar, editor of *South* recorded his impressions, as follows of the ceremony in a recent issue of his journal.

Brundtland called for a global perestroika: "We need to arrive at a broader international consensus if we are to address the mega-challenges facing us. As we approach the end of the millennium, we face the major challenge of overcoming the global development crisis. We must launch a victorious battle against poverty, which continues to tie hundreds of millions of people to an existence which cannot be reconciled with human dignity".

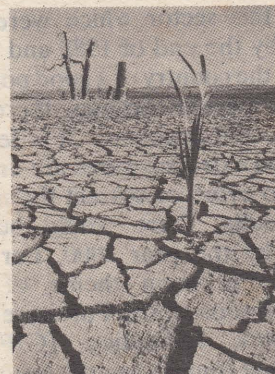
This was not rhetoric. Poverty is the principal source of pollution in the Third World. The problems of environment cannot be resolved without addressing those economic factors, national and international, that perpetuate large scale poverty. In Africa and Latin America, anyone concerned with environment can see how oppressive debt servicing and falling commodity prices have forced countries to over-exploit their natural resources to maintain export earnings.

Zimbabwe's Finance Minister, Bernard Chidzero, said that the twin aims of development and environment could be pursued only in "a rational international economic system". The present irrational economic order is the largest single source of pollution: it pollutes through hunger as it pollutes through the exploitation of the weak by the strong. It is only when the rich find environmental pollution could adversely affect their interests

that they talk about interdependence.

Chidzero identified the conflict between the need for development and the interests of the environment. While developing countries fully recognised the need for proper management of the environment, they could not even begin to undertake such management without additional resources. Clearly there was a contradiction between short-term costs and long-term benefits. The basic problem lay in establishing a clear relationship between environmental needs and development objectives, given limited resources. It was easy to say that promoting growth and protecting the environment were mutually supportive objectives in the long run but what mattered to the poor was short-term survival. These conflicting objectives presented the decision-makers with difficult choices, and in the end it was a question of competing for scarce resources. Many countries could not afford conservation measures.

There was also a danger that the environment issue would become a built-in element in adjustment programmes, said Chidzero. Emphasis on environmental considerations could divert resources from pressing national priorities, thus retarding the whole process of



development. The international community had to make more resources available to the developing countries on a concessional basis, which would enable them to pursue the twin objectives of ecology and economy.

Chidzero felt that the growing insistence by multilateral institutions like the World Bank on both environmental impact assessment and on open information on development projects was another area of potential conflict. Under pressure from domestic lobbies, industrialised countries were beginning to insist that environmental impact assessment should be made not only before a project was undertaken, but also during and after its execution. They also wanted such assessments to be made public. The danger was that this would shift the focus away from the environmental issues in general and on to environmental conditionality in projects in developing countries, Chidzero said.

## THE CASE OF GHANA

### Assessing Structural Adjustment Programmes

Ebenezer Mireku

#### The Costs and Benefits of a SAP — ECOLOGICAL

A healthy economic and social development is dependent on a healthy environment. Many measures taken within Structural Adjustment Programmes (SAP), however, rather lead to the destruction of the physi-

cal environment. For example, the timber industry in Ghana was identified as one of the areas which could respond quickly to measures of the SAP to earn foreign exchange. Under the auspices of the International Development Association of the World Bank (IDA), credits were therefore given to revive this sector. Apart from trade malpractices

within this sector which were detected by the end of 1988 and have robbed the country of a good portion of the expected earnings, there are other severe problems. It is feared that if no extra measures are undertaken to avoid or correct the negative results, there would be no forests by the year 2000. For this reason, the main theme of the Ghana International Furniture and Woodwork Exhibition (GIFEX) 1989 in the country was the country's deforestation. Apart from the danger of the extension of the savanna to the south, Ghana's forests are well-known for their different species of plants and animals. In addition, some of the methods used in felling timber are very dangerous to life.

We must however accept that no economic production takes place from 'nothing', but always from 'something', this 'something' is Nature in all its multiple forms. In any case the economic activity must take place in such a manner that the potential dangers to the environmental air, land and water do not increase. An environmental policy within a SAP can also be seen as a possibility of increasing economic development and a means of directly creating jobs. From the African point of view, a healthy Nature has another important meaning: harmony with Nature, to which s/he as a human being belongs, is one of the ultimate goals. For the African, therefore, the physical destruction of Nature is equally a psychological destruction of Nature and consequently of him/herself.

We must therefore assess how far the measures suggested under the SAP are environmentally compatible in the urban and rural areas. Finally, one must assess the protective programmes or at least the availability of steps to correct any environmental damages.

*(From a paper on "Assessing Structural Adjustment Programmes" in the IFDA Dossier No. 72. We reproduce Mireku's comments on the impact of SAPs on the environment)*

## Environmental Damage Seeps Into Central Soviet Union

*Excessive farming, pesticide use*

### The Shrinking Aral Sea

Paul Quinn-Judge

*Staff writer of The Christian Science Monitor*

NUKUS, SOVIET UNION

Salt is slowly taking over the land here

It covers sun-baked fields in a light crust. It is smeared over the ground in Nukus, the capital of the oasis Karakalpak Autonomous Republic of 1.2 million. And when hosts in Karakalpak serve a guest tea, they apologize for its taste: The drinking water here is salty, they explain.

The salt comes from 200 miles north. It is part of the 75,000 tons of salt and dust that are sucked up annually from the dry bed of the Aral sea and spread across Central Asia. Once the world's fourth-largest inland sea, a prosperous and important fishing area, the Aral has already lost 60 percent of its water and most of its fish.

Karakalpakia is an oasis between two deserts: the Karakum and the Kyzylkum. Soon, people here say, Karakalpakia will itself become a desert—the Aralkum, formed in the death throes of the Aral Sea.

The area should be declared an ecological disaster area, says Sabir Kamalov, who heads the Academy of Sciences outpost in Nukus. The disaster's implications go far beyond Karakalpakia, he says. The shrinking of the sea has already damaged much of the farm land in Karakalpakia and two other populous, poor, and largely agricultural republics in Central Asia—Uzbekistan and Turkmenia.

It will require vast amounts of money—by some estimates \$88 billion to \$96 billion—to remedy. It could cause further ethnic tensions



in an already restless part of the Soviet Union. (In the month of June 1989 there have been violent disturbances in Fergana and Novy Uzen.) It could have incalculable consequences for the climate in Central Asia. And it further aggravates the damage done by the massive use of pesticides, he says.

The Aral started to shrink when water from the Amu-Darya and Syr-Darya rivers was diverted to irrigate Uzbekistan's cotton fields. The risks entailed in draining the Aral were well known, Professor Kamalov says. An academic meeting in 1962 warned of serious agricultural and climactic damage if the Aral's level dropped.

But cotton took priority. From the mid-1960s to about the mid-80s it provided the cover for one of the greatest rip-offs in Soviet history. Government and party officials of all levels exaggerated the cotton crop by anything from 15-30 percent, were paid by Moscow for the fictitious amount, and pocketed hundreds of millions of rubles yearly.

The massive use of pesticides on the cotton fields also had a disastrous effect on the health of those living around the Amu-Darya and Syr-Darya rivers. The Aral expedition, organized last fall by the journal *Novy Mir*, reported a dramatically high incidence of child mortality in Karakalpakia. The area's water was polluted by "lethal doses" of pesticides, salt and sewage, the expedition reported.

By the start of this decade the extent of the disaster was becoming clear.

Fishermen in the town of Muynak gave up trying to work the sea in 1980, Orazbay says. By then 20 miles of sand-dunes separated the former



# PESTICIDE POISONING IN SRI LANKA

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Statistics reveal that about 1,000 workers are poisoned each year from poisonous chemicals in Sri Lanka. A survey in 1983 showed that out of 407 pesticide poisonings, 373 were suicidal and 29 were from occupational exposure.

In Sri Lanka, about 10,000 workers are exposed to pesticides in antimalaria and antifilaria operations. A study revealed that workers spraying Fenthion for filariasis control frequently suffered from pesticide poisoning.

Such cases of poisoning happen because of the way pesticides are

Every year pesticides kill nearly 2,000 people in Sri Lanka. Deaths from pesticide poisoning can be the most agonising and painful.

Pesticides are safe if used correctly and stored properly. Misuse can lead to accidental poisoning of family members especially children, workers and animals.

distributed in this country. Distributors who trade in pesticides also sell items like cigarettes, flour, oil and even baby food. Therefore, it is not surprising that mass food poisoning cases have occurred.

Most occupational poisonings in Sri Lanka seem to affect cultivators of rice and vegetables, and it is

among the mass of poor farmers that pesticides take their toll.

## Pesticides and the Environment

Improper use of pesticides may be unprofitable, ineffective or even counter productive at least in the long run, if not immediately. The pests natural enemies are killed by the pesticide and the pests themselves may develop the ability to resist the action of the chemicals, as was the case with DDT. Thus a kind of addiction can set in, where the farmer finds that he must apply more and more powerful insecticides, to prevent devastating crop losses. So, a "pesticide treadmill" is created. Pesticides like Chordane, Endrin and Hepatachl are very toxic to earthworms who play an important part in circulating and aerating the soil.

In the ecosystem, through the food chain, pesticides often bioaccumulate due to their water insolubility and fat solubility, especially in the case of Organochlorines. So when these are ingested directly, or when it is a part of another animal or plant, this goes up the food chain. Studies have shown that birds of prey and other organisms high in this food chain have concentrations of DDT ten million times greater than those in the water or air environment. Pollination and the reproductive processes of birds and other animals are also affected as a result of this bio accumulation.

Pesticides washed into rivers get rapidly absorbed by sedimentation, and the aquatic species therein. In small concentrations, pesticides are fatal to the fish.

It is obvious that careful control and use of pesticides is essential to avoid all kinds of hazards to animals and even to human life, thus ensuring maximum benefits.?

port from the sea. The sea is now 45 miles from Muynak.

The last fish in the Aral died out around 1983, officials say. Muynak's cannery now processes fish brought all the way from the Atlantic and the Pacific Oceans, and the town's population has dropped by half. But it still has a harbor master.

The destruction of the Aral Sea was the handiwork of the Ministry of Land Reclamation and Water Resources, usually known by its Russian acronym Minvodkhoz.

Minvodkhoz has been put in charge of rectifying the situation. The ministry has proposed a preliminary budget of 35-37 billion rubles (\$56-59 billion). This includes 920 million rubles (\$1.5 billion) for developing the Aral area as a resort.

Vasily Selyunin, a writer and member of the Aral expedition with a remarkable track record of revealing what lies behind official statistics, suggests that the government plan will run between 55 billion and 60 billion rubles. (By contrast Chernobyl cost 8.5 billion rubles, the Afghan war 5 billion a year).

A large part of the outlay will go into the construction of two major canals that will channel water into the Aral. Another chunk will be spent on a massive system of water pipelines.

"They plan to build as many kilometers of pipelines every year as

have been built here in the whole 70 years of Soviet power," says Kamalov in disbelief.

Despite its cost the plan will not restore the Aral. Nukus officials say it will at best stop the sea from shrinking further. Thirty-two million acre/feet of water a year are needed to maintain the sea at its present size, Selyunin says. (An acre/foot is the amount needed to cover an acre of water to the depth of one foot). The official program envisages gradually increasing the water that runs into the Aral to 17 million acre/feet by the year 2005. By then there will not be much sea left.

Many Karakalpakis see in the drying up of the sea a symbol of their own fate. Some blame Uzbekistan, which administers the autonomous republic. The Uzbeks want to empty the land and then settle it with their own people, says a woman writer in Nukus.

Others blame the economic system: "The annihilation of the Karakalpak people and the Aral was built into the state (development) plan," Orazbay claims.

Residents of the area say their standard of living has dropped in the last few years, and their enthusiasm for reforms is apparently wearing thin. Pesticides and salt could combine with economic discontent to turn quiet resentment into open anger.

Courtesy: The Christian Science Monitor

# Invasion of Chemicals in Third World

## Greater emphasis on strategies and techniques that reduce opportunities for the invasion

S. N. de S. Seneviratne

Dr. Seneviratne is a former Deputy Director of the CARI, Gannoruwa. These extracts are from a paper in the Friedrich - Ebert - Stiftung publication "Use of Pesticides and Health Hazards in the Plantation Sector."

There was once a balance in nature until man, (the most arrogant animal to colonize the earth) tampered with the systems that nature had ordained. Yet even in relatively recent times the farmer in this country had recognised ways and means of overcoming the consequences of tampering with nature, when his food production activities compelled him to adopt practices of monoculture. Let me illustrate: We, in the Division of Plant Pathology at the Central Agricultural Research Institute, research on plant diseases. One of my younger colleagues has obtained some interesting results in recent work. The older generation of farmers (they were wiser too), traditionally used specific plants as green manure for particular crops. We have now discovered that some principle in *Adhatoda vasica*, a plant used as a green manure, inhibits the growth of a seed and soil-borne pathogen, *Phytophthora vignae*, and suppresses the reproductive activity of another pathogen, *Pythium butleri*, which causes damping-off of many plant species. In other studies, it has been observed, that soil-inhabiting saprophytic fungi such as species of *Aspergillus*, *Penicillium* and *Trichoderma* have an inhibiting effect on species of seed-borne and soil surviving *Alternaria*, a pathogen which attacks crucifer vegetables and other crops. An investigation into the death of onion seedlings in nurseries yielded some very interesting information. The affected seedlings were heavily colonised by the soil-dwelling fungus, *Pythium*. In the preparation of the nursery beds, a fungicide, Morut, had been applied to control diseases that might occur in nurseries. It did not. On the contrary, it induced a problem. Morut contains two

chemicals, fenaminosulf and quintozene. The former is effective against *Pythium* but is a rather unstable chemical. The latter is ineffective against *Pythium* but kills other organisms in the soil microflora. *Pythium* was one of several fungi in the soil of the nursery beds, which interacted one with another. There were competitive and antagonistic effects among them. The effective chemical in Morut, quintozene, had eliminated or reduced the population of the competitors and antagonists from the microflora. Fenaminosulf, rendered ineffective by instability, had not been able to check the *Pythium* in the soil. Instead, more favourable conditions were created for the rapid increase of the *Pythium* population. This pathogen was produced in abundance as a consequence of the application of Morut and attacked the onion seedlings in the nurseries. So a chemical treatment, instead of controlling a disease, actually precipitated it. What holds true for the inter-relationships between pathogenic fungi and non-Pathogens, holds true for pests too. Indeed, with insect pests, the situation is expressed more dramatically as the widespread and indiscriminate application of pesticides destroys natural enemies such as predators and parasites, which check the population of pests damaging to cultivated crops, and stimulates the development of pesticide resistant forms. So the prescription, the use of more deadly pesticides and greater frequencies of application do not cure the ills. Instead, they put up costs of crop production, increase environmental pollution, and may even cause effects to destroy an industry, as happened with cotton in northeastern Mexico.

Intensive research must therefore, be directed towards the development of alternate systems of crop protection that take into account aspects which chemical control methods largely ignore the killing of non-target species, disruption of any possible biological balance in nature, the pollution of the environment, health hazards to agricultural workers as well as consumers, and also, costs of production.

### Preventing situations leading to chemical invasions

When a pest or disease strikes, the immediate reaction is to reach for the chemical that might "control" the causal agent - curing the ills if indeed they can be cured. But why is it that the prevention of such ills is played on a very low key? Right now, rubber is being devastated by a leaf disease caused by the fungus *Corynespora cassiicola*. It is a worrying thought as to whether this fungal strain is a variant that arose in this country or whether it has been introduced from elsewhere. If South American leaf blight were to be introduced here, the rubber industry will probably be doomed not only in Sri Lanka but in the Southeast Asian region as well. The agro-chemical lobby might come up with a bright idea - fungicides might be sprayed to control the fungus. Why not modernize plant protection by securing aircraft for the purpose? Why not indeed! Another private enterprise can be born! But such a course is simply not a practical proposition.

At Batalagoda, the country's premier rice breeding station, a bacterial disease, bacterial leaf blight caused by *Xanthomonas oryzae*, has broken out in epidemic proportions. We have had this disease for a long time but our strains of this pathogen have not been damaging. The bacterium is seed-borne and easily spread in irrigation water. Has seed been introduced to Batalagoda carrying a bacterial strain which can cause serious dam-

age to local rice varieties? Rice blast, caused by the fungus *Pyricularia oryzae*, once caused serious damage to our rice crops. Although there are fungicides that can control the disease, adopting this option will be hopelessly unrealistic. A sustained programme to develop resistant varieties which can withstand the disease has resulted in the problem being brought well under control. The need for fungicides to combat the disease is minimal. But strains of the blast fungus present in Pakistan, if introduced to Sri Lanka, can dramatically change that situation with the introduced strains attacking the varieties locally cultivated. Fungicides to control the disease will then be sought. Such a situation will usher in a prosperous era for agro-chemical marketers but it will be a catastrophe for rice production.

#### Banning some weapons of the invasion

An invasion requires weapons. And there is a dazzling array of them now. The same principle, that not all deadly weapons invented are used, must be applied in selecting chemicals to combat pests, diseases and weeds. Some should not be used at all.

The International Pesticides Action Network (PAN) based in Malaysia composed of non-government groups from 16 countries have identified a "Dirty Dozen" of chemical pesticides. PAN International has called for a ban on "their manufacture, sales use or trade". These 12 pesticides have been selected "not only for their toxicity but also for the hazards they pose to people in Third World countries". The 12 are:

2,4,5 - T, Aldrin (including Dieldrin and Endrin), BHC/Lindane, Camphechlor, Chlordane (Heptachlor), Chlordimephorm, DBCP, DDT, Ethylene Dibromide, Paraquat, Parathion and Pentachlorophenol. Now some of these are known in the local scene - Aldrin, Dieldrin, Endrin, BHC, DDT, Paraquat, Parathion - although some of them are no longer recommended in Sri Lanka.

### LIST OF RESTRICTED AGRO - PESTICIDES 1987

HIGHLY TOXIC AGROCHEMICALS			Sold by Registered Dealers		Sold to Certified Applicators	
<b>A. Insecticides</b>						
Aldicarb	-	+				
Aldrin	+	-				
Aluminium phosphide	-	+				
BHC	+	-				
Chlordane	-	+				
1,2-Dichloropropane (plus)	+	-				
1,3-Dichloropropane	-	+				
Hydrocyanic Acid	-	+				
Magnesium Phosphide	-	+				
Methamidophos	+	-				
Methomyl	+	-				
Methyl Bromide	+	+				
Monocrotophos	+	-				
Omethoate	+	-				
Oxydimeton-Methyl	+	-				
<b>B. Herbicides</b>						
Paraquat	+	-				
POTENTIALLY CARCINOGENIC COMPOUNDS						
<b>A. Insecticides</b>						
Dimethoate	+	-				
<b>B. Fungicides</b>						
Benomyl	-	-				
Captafol	-	-				
Captan	+	-				
Mancozeb	+	-				
Metaxyl + Mancozeb	+	-				
Thiram	-	-				
<b>C. Herbicides</b>						
2, 4-D + Piperophos	-	-				
2, 4 D	-	-				
FOR OTHER TECHNICAL REASONS						
<b>A. Insecticides</b>						
Carbosulfan	-	-				
Cyfluthrin	-	-				
Deltamethrin	-	-				
Endosulfan	-	-				
Fenamiphos	-	-				
Fenvalerate	-	-				
Permethrin	-	-				
<b>B. Fungicides</b>						
PCNB (O, pintozene)	-	-				
TCMTB - MTC	-	-				
<b>C. Herbicides</b>						
Butralin	-	-				

Source: Use of Pesticides in the Plantation Sector. Friedrich-Ebert-Stiftung, Colombo 1988

However, Paraquat formulated as Grammaxone is used in the plantation sector and elsewhere. Just as much as it is standard practice in some places to dip vegetable in insecticide solutions before delivery to the mudalali, it is a practice adopted by some traders to treat green gram with the DDT formulation Gannaxene. Is it not time to slam the ban on them in Sri Lanka?

Even if properly used, according to instructions, pesticides are not without their hazards. The bottle glass on my spectacles, aids after two eye operations, may well be the demonstration of the hazards of pesticides encountered by research with chemicals. Some chemicals are particularly hazardous, the cumulative poisons, those that are carcinogenic or mutagenic. When mercury fungicides were manufactured in Japan and human contamination occurred, several years elapsed before the Minamata disease appeared in its terrible form. It may take 20 - 30 years before cancers appear in persons exposed to carcinogenic agents; mutations are detected generations after exposure to a mutagen. It is an inescapable responsibility to

arrive at decisions and implement schemes taking into account all the information available. Think also of the wretched of the agricultural earth, the plantation and estate labourers and the farm workers, lowly mortals, who will be most exposed to the chemical pesticides - whose task it is to apply them.

The consequences of the hazards they are exposed to may not be immediately felt; but they will be experienced years later in sickness, infirmity and premature death. There can be little solace for the bereaved in invoking the blessings of the Gods after the men are dead, whatever the cost of the ceremonial.

The perceived invasion demands the utmost commitment on the part of the potential victims - to hold the enemy at bay. This is true in the case of chemicals too - the invaders in the topic given to me for this address. And that invasion must also generate the response appropriate to the dangers implicit in an invasion, which more than all else must be determined by a commitment to humanity than by less honourable considerations, the huge profits that they generate for the barons in the pesticide industry.

# Coral and shell mining in the southern coasts of Sri Lanka

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The submerged reefs and living corals on the continental shelf are now being destroyed for the illicit production of lime. Tourism fishing and navigation are also responsible for destroying these resources. Illicit quarrying of buried corals and shells in the interior is also done on a large scale for production of lime and chicken grit. This continued destruction of valuable resources has created a number of ecological and socio-economic problems. This paper focuses attention on such problems and emphasizes the need for management of these resources with a view to protecting the natural heritage as well as to providing a means of livelihood to those engaged in these activities.

## The Study Area

In the western and southern coastal zone submerged channels of some larger rivers, well-marked troughs and terraces which are covered by coralline algae, limestone and calcareous sandstone and submerged forests are the main physiographic features on the continental shelf. The coastal lowlands consist of barrier beaches, barrier islands, buried and emerged coral reef patches, lagoon and lakes, marshes, mangrove swamps and beach-rock shoals. All these landforms have formed due to the post-glacial transgression (Katupotha 1988c, 1988d, 1988e). The coral reefs in Sri Lanka are predominantly of the fringing and barrier like types. They occur in many places around the island as dead and living coral reefs, buried corals as well as emerged reef patches. The emerged coral patches are scattered in small headlands a few centimeters above MHWS level (Katupotha and Fujiwara 1988). These coral patches have cemented with beachrock in many localities.

The best examples of buried coral deposits extend at Akurala and Hikkaduwa on the southwest coast and at Dodanduwa, Mihiripenna, Walpola and Madihe on the south coast from the present shore to 250 m and sometimes up to several kilometers towards the interior. The coral deposits lay on weathered charnockite and charnockitic gneiss bed rock. These corals were buried in muddy silt which was washed down to the coral areas by terrestrial waters. Moreover, they were intermittently covered by vast quantities of coral sands and various types of debris move from storm waves. This has been influential in tilting the coral from their position of growth. The coral mining practice for a long time has left many open pits now seen as swamps, mangrove swamps, ponds and ditches at many locations between Ambalangoda and Matara.

Along the southern coast, lagoons are irregular basins bounded on the land side by low bluffs of decomposed gneissic rocks. On the sea-side wide beaches are capped by blown sand (Coates 1935). The coastline exhibits a somewhat 'scaloped' pattern with points on the headlands and curves with continuous sand beaches between the embayments (Katz and Comenar 1975). Dunes are usually aligned in a NE - SW direction according to the prevailing winds during the NE monsoon. Lagoons form a prominent feature in the area. Several are lewayas (salt pans), others are marshy wetlands which were former lagoons. Some have been modified into water storage tanks for paddy cultivation. Estuaries of the present lagoons have been blocked by beach deposits during the dry season. Extensive molluscan shell deposits particularly Veneridae, Cerithidae

and Nasseridae are found along the rims of lagoon floors on the southern coast (Katupotha and Wijayananda 1989). These shell deposits also can be seen a few centimetres above MHWS level.

(Mean High Water Spring level)

Around 10,000 people are engaged directly or indirectly in the exploitation of these resources. Breaking of coral reefs on the southwest coast has resulted in coast erosion due to changes in the existing bottom conditions in the nearshore zone. Therefore, hundreds of lime kilns and piles of lime are lined up on both sides of the main road along the SW and south coasts. Polluted stagnant water holes and ditches are found where the buried corals and shells have been quarried and air pollution occurs around lime kilns.

## Discussion

Living corals of the lagoon reefs in the nearshore consist of branching (Acropora) and massive corals (Porites, Favites and Goniopora etc.). They thrive from mean low water spring (MLWS) level to 4 m depth in lagoon reef areas and to 8 m in fringing reef areas (Mergner and Scheer 1974). These lagoon reefs, limestone and calcareous sandstone reefs protect the coast from high waves during the Southwest Monsoon period. Yet high explosive and crowbars are used by local people to break these corals for production of lime and for navigation and fishery. It is estimated that about 7,000 tons of coral are broken and collected from nearshore annually (Amarasinghe and de Alwis 1979). Many glass bottomed boats are operated by local people which offer to tourists an opportunity to enjoy the reef. These boats, when driven across the shallow coral colonies break the coral rocks and sandstone reefs. These activities have resulted in coast erosion due to changes in the bottom conditions. Undamaged corals have a beautiful appearance and are collected as souvenirs and to produce ornaments for tourists. Furthermore, coral reefs are very high primary productivity habitats for living species of several groups viz;

Serranidae, Scaridae, Labridae, Pomacentridae, Pomacanthidae, and Chaetodontidae (ESCAP 1985). Some of these species bring considerable foreign exchange. Thus, the use of explosives to break coral reefs, operation of glass bottomed boats to show the coral habitats and collect living corals as souvenirs and ornaments for tourists, disposal of sewage directly into the coastal areas from tourist resorts and oil pollution from fisheries harbours have evidently caused much damage to the coral reef habitats.

14C dates record that the deposits at Akurala had been thriving during the 6,110±80 yr B.P. Similar records are seen in the areas of Dōdanduwa and Mihiripenna (Katupotha 1988a; 1988b; Katupotha and Fujiwara 1988). People in these areas remove the top-soil of marshy areas to excavate buried corals. Although they are required to fill-up the pits after mining, in practice this has not been done. The open coral pits get filled with polluted stagnant water-holes and ditches environmental damage such as the increasing of salinity in the adjoining cultivated lands and the degradation of marshes and mangrove swamps. This has given rise to a number of problems in the densely populated area from Ambalangoda to Matara.

The emerged coastal embayments and lagoon floors on the southern coast encompass marshy lands, wastelands and scrub lands. Fossil are mainly concentrated between Rakawa Kalapuwa and Bundala Lewaya. The thickness of the shell layers is locally variable, usually up to 1 m (Katupotha and Wijayananda 1989). These shells perhaps live in an intertidal zone of palaeo embayments and lagoons that extend about 3 km or more from the present shore in the mid-Holocene. These shell deposits are also used for production of lime and chicken grit. Due to seasonal rainfall, mainly NE Monsoon period, the open shell pits become polluted water-holes and ditches. Water and air pollution in shell

resource areas also will undoubtedly cause much damage to the environment.

The desultory usage and over-exploitation of these resources has given rise to a number of ecological and socio-economic problems viz; (a) The destruction of coral reefs in the near shore zone using explosives and heavy instruments has a negative impact on the growth of coral, coral reef organisms and other marine fauna and flora. The loss of habitat also will evidently influence the earning of foreign exchange. (b) Destruction of coral reefs which protect the coast can increase the speed of the swells and high waves and bring about coast erosion. The results of this action cannot be seen and assessed easily in the field within a short time. (c) Polluted stagnant water-holes and ditches where the buried corals and shells are mined provide breeding grounds for various types of mosquitoes who threaten the health of human beings. It has resulted in other environmental changes such as increasing salinity in water and soil in the cultivated lands and the degradation of mangrove swamps and marshes, mainly in the buried coral areas. (d) Air pollution occurs from lime-kilns that are highly concentrated along the SW and south coasts. (e) Increased earnings from mining of buried corals and collection of nearshore corals by school children have encouraged them to discontinue their studies.

For effective management and conservation of these resources the following preventive and remedial measures are considered essential for their optimum utilization: (a) Detailed surveying and mapping of marine features on the continental shelf and the coastal lowlands using as far as possible remote sensing techniques. (b) Removal of living corals and coral rocks in the near-shore zone should not exceed sustainable level. Conservation measures should be adopted to protect coastal habitats as a national heritage and as a buffer against coast erosion, to promote tourism and for bringing foreign exchange. (c) Identification of areas suitable

to be declared as marine parks for palaeo-ecological, educational and other scientific research. (d) Identification of the socio-economic problems of the people who are engaged directly and indirectly in the utilization of these resources in order to introduce alternative means of livelihood. The introduction of mariculture (inland fish, prawns and sea-weeds etc.) to the water holes, ditches and mangrove swamps as alternative employment sources would be of great importance to earn foreign exchange. Recently, NARA and CCd have launched several inland fish projects along the SW coast and provided several facilities to encourage inland fisheries. These projects and the resettlement of people who are directly and indirectly involved in the exploitation of corals in the major irrigation schemes, have not been a success. Therefore, more information about the inter-relationship between ecological and socio-economic aspects is needed for the effective management of these invaluable resources.

### Conclusions

Living corals and coral reefs on the continental shelf, buried corals and shell deposits on the coastal lowlands have a national significance for the researches of the Late Quaternary period of Sri Lanka. They are a source for the supply of lime and employment opportunities. But, desultory usage and over-exploitation of these living corals, coral rocks and sandstone reefs, buried corals and shell deposits have caused serious damage to the environment and created a number of socio-economic problems. This destruction has caused the reduction of tourist potential, depletion of marine life, creation of polluted water-holes and ditches and degradation of marshes and mangrove swamps. Some preventive and remedial measures introduced to solve these problems appear to have failed. Therefore, more research should be undertaken on the inter-relationship that exist between ecological and socio-economic aspects for the effective management of these resources.

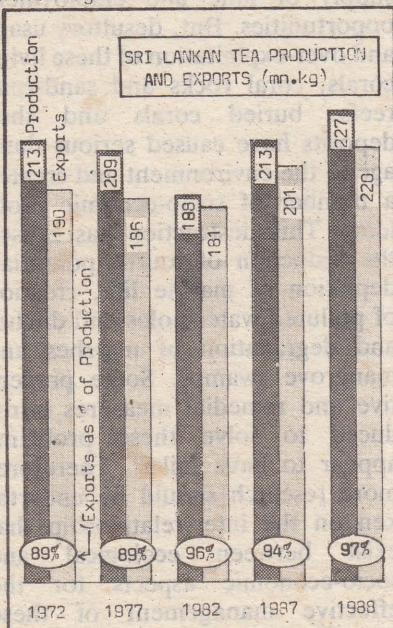
## COMMODITIES

### TEA

#### Increased Production to Diversified Markets

Sri Lanka's tea exports went up to 219.9 million kgs in 1988, exceeding previous year's exports by nearly 19 million kgs and surpassing the 1975 figure of 212.7 million kgs. Average FOB prices also reached a high of Rs.55.95 per kg as against Rs.52.97 per kg the previous year. The end result was that foreign exchange receipts from sales of tea went up to Rs.12.3 billion in 1988 as against Rs. 10.6 billion the previous year. Although real earnings from tea exports may not be as big as they appear the upward movement in unit FOB value is significant.

A noteworthy feature is that production last year was 1.36 million kgs in excess of the previous year's production, despite serious disruptions on many tea estates in the latter part of 1988. From a production of 213,003 million kgs in 1987 production went up to 213,900 million kgs in 1988 and nearly 97 percent of the total crop was successfully shipped out. This also enabled Sri Lanka to emerge as the most significant exporter of tea in the world with about 21 percent of a total market share. While over 95 percent of Sri Lanka's crop is for export markets, in India only about 30 percent was exported. The comparative proportions of exports to production for Sri Lanka and India are shown in the diagrams.



There was no great difficulty in shipping the increased production in 1988 because, unlike most other producer countries, Sri Lanka has broadbased its export markets and also has a comparatively large number of shippers to handle these exports to over 50 different countries.

35.4 million kgs by 1988. This takes up almost 60 percent of Egypt's market over 16 percent of Sri Lanka's export volume and greater demand still exists for Sri Lankan tea according to market analysts. Egypt remains the largest buyer of Sri Lanka tea both in bulk and in value added form.

#### SHARES OF MAJOR PRODUCING COUNTRIES IN WORLD TEA EXPORTS

	1975	1980	1983	1984	1985
Sri Lanka	28.3	21.4	18.1	22.1	20.3
India	29.2	26.0	23.9	23.4	22.9
Bangladesh	3.2	3.6	3.4	2.5	3.1
Indonesia	6.1	7.9	7.9	9.2	9.3
China	8.2	12.5	14.3	13.8	14.4
Kenya	7.0	8.7	11.5	9.8	13.0
Malawi	3.2	3.6	1.1	4.0	3.8
Others	14.8	16.3	16.8	15.2	13.2
	100.0	100.0	100.0	100.0	100.0
Total Exports from Producing Countries (MT)	751,420	858,970	871,598	925,833	973,017

Source: International Tea Committee, Annual Bulletin of Statistics 1985.

#### Egypt

Egypt once again emerged as Sri Lanka's largest buyer of tea and this leading position was maintained for the 4th consecutive year. Only 10 years earlier the Egyptian market was dominated by Indian teas; but preference for Sri Lankan teas strengthened from the early 1980's, while Egyptian imports moved up from 17.3 million kgs in 1981 to

#### Iraq

Iraq has for the past two decades been one of the main consumers of Sri Lankan tea and in 1988 its imports reached 33.9 million kgs, taking as much as 15.4 percent of total exports. Iraq has remained at the top, among the first three major buyers of Sri Lankan tea, for several decades. In 1984 Iraq was Sri Lanka's largest buyer and in 1988 took 15.4 percent of total exports. Sri Lanka held 70.8 percent of the Iraqi market in 1987.

#### Pakistan

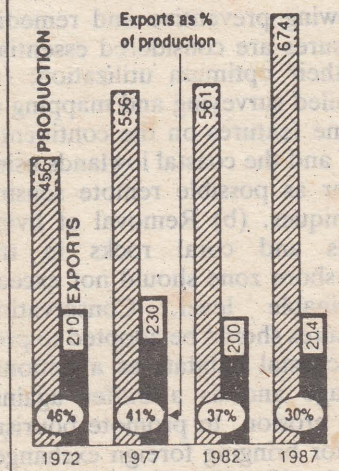
Pakistan took as much as 19.6 million kgs of Sri Lanka's exports last year and was the third largest buyer of Sri Lanka teas in 1988. In the mid 1970's, when purchases from India were restricted, Pakistan emerged as the leading buyer of Sri Lankan teas. This position changed considerably from around 1978. Pakistan was the second largest purchaser of Sri Lankan tea in bulk form, but continued success in this market depends on the extent to which purchases of goods and services are made by Sri Lanka from Pakistan.

#### Saudi Arabia

In 1988 too Saudi Arabia continued to be the fourth largest importer of Sri Lankan teas. About 70 percent of the Saudi tea market is supplied with Sri

#### Exports static as production rises

Indian tea production and exports ('000 tonnes)



Lankan teas, which takes large quantities of Sri Lanka's packeted teas and tea bags. This has continued to be an import market for Sri Lanka from the early 1970's and around 6 percent of total exports have been shipped to this destination over the last two decades.

#### UK

UK has dropped to position of fifth largest buyer of Sri Lanka's teas, and has remained in this position over the last two years. A major portion of these teas are exported in bulk form. Sri Lanka's share of the UK market has dwindled consistently from after the 1960's when over 30 percent of the share of this market was taken by Sri Lanka's tea. By 1974 this share was down to 15.2 percent and by 1988 to 6.8 percent. India's share of the UK market had also come down from 33 percent in 1974 to 16 percent in 1988. Meanwhile, Kenya's share of the UK market moved up from 10.7 percent in 1974 to 47.3 percent in 1988. Kenya's exports of 90.6 million kgs are more than doubled its exports to UK ten years earlier. Disturbed at loss of its share to Kenya, India has now decided on a major promotion campaign in this traditional market. There are possibilities for Sri Lanka too to regain part of this market.

By the end of February 1988 Kenya with a production of 30.7 million kgs was for the first time leading Sri Lanka as a producer, with local production down to 26.4 million kgs in January and February this year. The pact at which Kenya and China have captured a larger share of the world market is seen clearly in the Table. Other major markets for Sri Lankan teas in 1988 were Iran (12.2 million), USA (6.2 million) and China (5.5 million). Together these first eight importers were responsible for about 65 percent of Sri Lanka's export market; with the five largest importers purchasing 116.7 million kgs or 47 percent of total exports. As a leading broker has pointed out "In a situation such as this any inactivity on the part of a single buyer cannot totally alter the market structure in the long run, and all efforts must be made to maintain the system as it exists today. Similarly no single buyer is large enough in Colombo to be in a position to manoeuvre the market to his advantage as the largest shippers for last year were only responsible for 9.3 percent of our total exports. Under these circumstances, the credibility of the Colombo auction centre is well established".

#### HEAVY SHORTFALL PREDICTED IN TEA CROP

Sri Lanka's tea crop which came close to a new production record in 1988 appeared to be heading for a substantial shortfall in 1989. By the end of April this year the production shortfall, over that of the same period in 1988, was as much as 22.3 million

kgs (Jan-April 1988 being 79.7mn kgs as against a Jan-April 1989 crop of 57.4mn kgs). The shortfall was expected to widen over the second quarter of the year although generally these are the heaviest cropping months for the year. More details will be carried in our next issue.

#### RUBBER Declining trends in rubber prices

Rubber prices which showed a decline in the first three months of this year compared with those of 1988, continued to fall in the second quarter of 1989 as well.

In 1988 the average price of RSS 1 at the Colombo auctions increased by 23 percent to Rs. 24.40 per kg over the 1987 price of Rs. 19.87 per kg. Latex crepe IX also rose by more than 50 percent to Rs. 32.80 per kg. from Rs. 16.30 per kg. in the previous year.

The situation has changed in 1989 with RSS 1 dropping to Rs. 22.56 per kg in the first six months of 1989. Meanwhile, Latex crepe also recorded a drop in the 1989 period to Rs. 25.08 per kg. Scrap crepe too had fallen from around Rs. 24.35 per kg in 1988 to Rs. 19.87 per kg in 1989, comparing the first and second quarters of 1989.

As seen in the table below there has been a decline of 20 percent for RSS 1, 31 percent for Latex crepe, and 16 percent for Scrap Crepe. This decline, however, has set in from as far back as June last year when Latex crepe averaged Rs. 53.44 per kg, RSS No. 1 Rs. 33 per kg and Scrap crepe Rs. 31.22 per kg.

The main contributory factors for the declining price were the fall in demand in the international market, while world rubber supplies increased. Sri Lanka's prices were determined by the Singapore market price which recorded similar trends. Another factor for the downward trend in local prices was that trading activities were hampered by the distributed civil conditions and buyers were reluctant to make their usual purchases resulting in a price decline with weakening demand.

Aggravating the falling prices of rubber situation were the rising costs of production. The result was that the cost of rubber production increased over current average market prices. While the estimated cost of production was Rs. 29 - 30 per kg, market prices were around Rs. 26 - 28 per kg. By June this year the average price of scrap crepe (IX BR) had reached Rs. 20.17 per kg. A major contributory factor was that of rising input prices, particularly imported chemicals and fertilizer, following the declining value of the rupee. Brokers indicated that there was a drop in rubber production, particularly in the latex and scrap categories, due to the high production costs.

Colombo Market Price  
(Rs. per kilogram)

Period	RSS No. 1	Latex Crepe IX	Scrap Crepe LX BR
<b>1988</b>			
1st Quarter	21.94	42.45	26.91
2nd Quarter	28.06	37.34	23.96
<b>1989</b>			
1st Quarter	22.73	24.56	19.50
2nd quarter	22.39	25.60	20.23

# THE POOREST OF THE POOR IN SRI LANKA

**Assessment of some Strategies for Poverty Alleviation tried in Sri Lanka; and Policy Implications and Future Strategies to Alleviate this Problem**

**Leslie Gunaratne**

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We reproduce here the two final sections of a larger paper presented by Dr. Leslie Gunaratne, at a UNICEF/Central Bank Symposium on the Alleviation of Poverty in Sri Lanka, held in May 1987. His paper which is of relevance in the current context emphasised at the outset that poverty is recognised as a pressing problem of our society, and that there is a near-unanimous commitment to have it eradicated as soon as possible. He raised questions on the fundamental nature of the problem and on what had been done in the past to fight poverty and with what results. His paper attempts to address these questions with a view to identifying specific areas crucial for formulating a Poverty Alleviation Programme to assist the poorest of the poor in Sri Lanka. The first 4 Sections of the paper presented an analytical and descriptive examination of poverty in Sri Lanka and socioeconomic characteristics of the

poor. Reproduced below are Section 5, devoted to an assessment of some of the strategies for poverty alleviation that have been tried in Sri Lanka; and Section 6, which concludes the paper with a discussion on policy implications and future strategies to alleviate poverty in Sri Lanka. (Since 1987 some changes have been made in areas such as the Food Stamp Scheme and other social sector programmes though the basic issues have yet to be tackled).

Of the 14 tables he uses in the paper we reproduce 2 (Tables A6 and A7) and relevant extracts from the commentary which give an indicator of the incidence of poverty by Sectors and socio-economic groups of main income earners, and by Zones and socio-economic groups of main income earners. The manner in which the poverty situation kept changing in particular zones and groups over this 3 year period is of significance.

## AN ASSESSMENT IN RETROSPECT OF STRATEGIES TO ALLEVIATE POVERTY

This section presents an assessment in retrospect of some selected strategies for alleviation of poverty in Sri Lanka. Alleviation of poverty connotes a process of ensuring access of the poor to a minimum bundle of goods and services. The strategies for alleviation of poverty

can be classified into two broad categories, (i) those that affect production and thus income generation, and (ii) those that influence the flow of income or consumption to individuals or households. The first category involves a redistribution of the means of production, for instance, productive assets such as land, in favour of the poor or the creation/expansion of the non-land asset base through prog-

rammes such as the Integrated Rural Development Programme, to increase the productivity of the poor. The second set of policies relates to measures guaranteeing employment at a reasonable wage rate and target oriented policies which are of direct benefit to the poor. These include special employment creation schemes undertaken for the poor, food subsidy programmes, income support programmes and state sponsored health care and education programmes.

## Land Reforms

The first major institutional reform with respect to land was the Paddy Lands Act of 1958 which was designed to ensure greater equity and productivity by giving tenant farmers security of tenure and protection from excessive rents. The implementation of the Act has, however, met with limited success. It failed to bring about a structural change in the tenure system in the paddy sector. The efficacy of this legislation amidst large scale eviction of tenants, continuation of high rents and unregistered tenancies had been questioned.

Land reform of the 1970s was probably the most far reaching policy measure intended to change the economic structure of the country. This exercise was launched in two stages in 1972 and 1975, against a background of falling paddy holding sizes, increasing unemployment and stagnation in the estate sector and in the backdrop of the 1971 insurrection. Under the first stage of the land reform, holdings of over 25 acres of paddy or 50 acres of other land owned by private owners were appropriated by the State and vested in the Land Reform Commission. All plantations owned by public companies were vested in the State in the second round of the land reform exercise in 1975.

The potential beneficiaries of this land reform were the rural poor



and the estate workers. The former comprising mostly tenant farmers, agricultural labourers and marginal farmers would have benefited in a re-distribution of land. Both categories would have benefitted from greater employment opportunities expected from better management of the estates after the take over. But the realizations were rather below expectations.

The impact of the land reform on the peasant economy was marginal owing to the high ceiling of paddy land (25 acres), compared to average farm size, and the slow progress in the redistribution of acquired land. The extent of paddy land acquired was a little over one per cent of the total land in the country. Most of this land was tenanted and possibly the conditions of the tenants improved. The acquisition of the large plantations by the State did not benefit the rural poor much, as only 12 per cent of the land taken over was distributed to the peasantry and these constituted marginal lands. The balance was vested in the State owned corporations. The expected expansion in productive employment opportunities or the improvement in real wages did not take place due to the continuous fall in output levels and re-investment in the plantations after the take-over. The general mismanagement of the plantations and political interference were blamed for this dismal performance.

#### **Irrigation Development and Land Settlement in the Dry Zone**

State sponsored irrigation development and settlement programmes in Sri Lanka have a history of over 50 years. The objectives of these programmes were manifold. Foremost amongst them were the preservation of the peasantry as a social class, easing population pressure and landlessness by shifting the population from the densely populated areas of the Wet Zone to the sparsely populated Dry Zone and stimulating food production.

Under these schemes, designed primarily to provide irrigation water, the necessary economic and social infra-structure and supporting services such as the restoration, construction and maintenance of tanks and channels, roads, the provision of medical and educational facilities, maintenance of nurseries, organization of markets and provision of credit were the responsibilities of the Government. Settlers were given a unit of land sufficient to make them economically independent. Each settler was also provided with a homestead. During the 1930-1980 period, more than 750,000 acres have been allotted to about 100,000 settler families under various settlement schemes.

The settlement phase was heightened with the implementation of the Accelerated Mahaweli Programme. Under the Mahaweli Development Programme alone, over 50,000 families have been settled by end of June 1986.

The greatest contribution of settlement programmes has been the increased food production. However, doubts have been cast upon the contribution of these programmes to employment and income generation of the settler population. A major short coming in the settlement programmes was the over-riding importance attached to agricultural development *per se*. The over-all development strategy lacked an integrated approach predicated to balanced development involving both agricultural, manufacturing and tertiary sectors capable of employment and income generation on a wider scale. The members of the settler families were expected to provide farm labour to develop their 'family farms'. The tenurial condition also favoured the perpetuation of the family farm and the near subsistence living standards associated with miniscular farms. Non-farm activities and employment tended to get neglected. (Wimaladharmasiri, ed. (1982)).

There are also problems con-

nected with the tenurial structure of the alienated land which has numerous social and economic implications. Despite the legal restrictions on subdivision, sale, mortgage and lease of land, there are de facto sub-divisions. The cultivators of these sub-divided extents often resort to obtaining credit from non-institutional sources owing to their ineligibility to receive cultivation on loans from institutional sources. The credit is obtained by illegal mortgage or lease of their paddy land which makes their plight even worse. This system has led to an inequitable distribution of land and exacerbation of poverty among settlers.

#### **The Integrated Rural Development Programme (IRDP)**

The District Integrated Rural Development Programme which was initiated in 1979 is conceived as a major programme to reach the rural poor in Sri Lanka. It is now implemented in 13 administrative districts. The IRD Programme is intended to strengthen the pace of rural development by a process of greater allocation of resources to the Rural Sector within a system of decentralised planning aimed at increasing employment opportunities; incomes and better living standards for the rural population. The major part of the funds came from external sources such as the World Bank (IDA), SIDA and NORAD.

The IRD Programme whose emphasis is on decentralized planning and a target area or group oriented development strategy marked a distinct departure from the traditional approach in which the benefits of overall growth was expected to trickle down to the poor. Formulation and implementation of the development activities are undertaken at the district level with the participation of various programme and line department personnel at the district level and local-level organizations of the rural people. Each district IRD Programme takes the form of a five-year

(Contd. P. 26)

## POVERTY INCIDENCE INDICATORS

### Incidence of Poverty by Sectors and Socio-Economic Group of Main Income Earner

(For the purpose of this study main income earner is considered to be the head of the household.)

Table A.6 which presents estimates of incidence of poverty for households belonging to different socio-economic groups as well as sector of residence, show that the poor are disproportionately located in the rural areas and are engaged in agriculture or allied rural occupations. In 1981/82, over a third of poor households were headed by Agricultural, Forestry and Fishing workers, whose incidence was highest (28 per cent: 40 per cent higher than the National Average). This category included mostly landless agricultural labourers and persons engaged in fishing and related activities. Heads of poor households engaged in Production and Related work accounted for 28 per cent of the total poor households. The incidence of poverty in this category was also high (25 per cent). By far the lowest incidence was found among the Professional, Technical, Administrative and Managerial Staff and Clerical, Sales and Service worker categories, which accounted for less than 15 per cent of the poor households. The incidence among households headed by farmers (which was a sizeable group) was relatively high. By all probability, this category included small farmers who operate on marginal and uneconomical land and also tenant farmers.

Both in the Urban and Rural Sectors, more or less the same pattern in the incidence of poverty was discernible. In the Estate Sector, the incidence among households whose heads belong to the Residual category was highest.

### Incidence of Poverty by Zones and Socio-Economic Group of Main Income Earner

The estimates of incidence of poverty by Zones (Regions) and

socio-economic groups are given in Table A.7. The overwhelming majority of the poor are to be found in the rural districts. Zones

2 and 3 which are typically Dry Zone rural districts and Zone 4 consisting of hill country districts

Sector	SEG. Code	1978/79		1981/82	
		As a Percentage of Total in Poverty Households	Percentage in Poverty Households	As a Percentage of Total in Poverty Households	Percentage in Poverty Households
Urban		18.96	14.36	13.25	14.56
	11	0.43	3.39	0.38	3.39
	21	8.19	20.14	5.59	20.84
	31	0.21	5.88	0.44	11.48
	61	2.70	22.33	2.07	28.21
	71	5.69	14.06	3.89	12.84
Rural	91	1.64	11.86	0.88	7.61
		77.21	22.24	83.17	22.41
	11	1.35	6.01	1.19	4.86
	21	22.28	24.63	22.74	25.94
	31	16.73	16.71	16.77	18.54
	61	23.49	35.29	28.83	34.96
Estate	71	3.19	13.08	8.29	13.88
	91	5.91	23.85	5.35	20.38
		3.20	5.95	3.58	10.00
	11	0.07	5.26	0.06	12.50
	21	0.21	10.34	-	-
	31	-	-	0.13	12.50
All Sectors	61	2.78	5.78	3.08	10.02
	71	2.14	7.69	0.25	12.12
	91	-	-	0.06	25.00
		100	18.52	100	20.08
All Sectors	11	1.85	5.08	1.63	4.51
	21	30.68	23.04	28.33	24.47
	31	16.94	16.32	17.34	18.19
	61	28.97	23.61	33.98	28.19
	71	14.02	13.36	12.44	13.50
ALL SEGS.	91	7.54	19.34	6.28	16.53
		100.00	18.52	100.00	20.08

### SECTORS

All households in the country are grouped into three sectors-Urban, Rural and Estate. The Urban Sector consists of all households in the Municipal, Urban and Town Council areas. The Estate Sector consists of all households in Tea, Rubber and Coconut estates with 20 or more acres and with 10 or more resident workers. The Rural Sector consists of all households not included in the Urban and Estate Sectors.

### SOCIO-ECONOMIC GROUPS (SEG)

SOCIO-ECONOMIC GROUPS (SEG)	SEG. CODE
Professional, Technical, Administration and Managerial Staff	11
Production and Related Workers	21
Farmers	31
Agriculture, Forestry & Fishing Workers	61
Clerical, Sales and Service Workers	71
Residual Category	91

together accounted for 75 per cent of the poor in 1981/82. The majority of the Zone 4, consisting of almost the entirety of the estate population, are households from villages surrounded by the plantations. As

the proportion of poor households and the incidence of poverty in the Estate Sector are very low, the regional distribution of the poor confirms that poverty in Sri Lanka is essentially a rural phenomenon.

The incidence of poverty was also high in these Zones, with the exception of Zone 3 which has recorded a somewhat low incidence compared to the other Zones. The incidence of poverty in the relatively urban maritime Zones, Zones 1 and 5, was low.

Table A.7 Incidence of Poverty by Zones and Socio-Economic Group of Main Income Earner 1978/79 and 1981/82

ZONES	SEG. CODE	1978/79		1981/82	
		As a Percentage of Total in Poverty Households	Percentage in Poverty Households	As a Percentage of Total in Poverty Households	Percentage in Poverty Households
Zone 1		34.4	18.4	25.8	16.7
	11	0.8	5.9	0.4	2.7
	21	14.4	22.1	11.0	21.7
	31	2.7	14.9	1.4	8.5
	61	7.5	29.0	7.4	27.4
	71	6.1	13.3	4.0	12.0
ZONE 2	91	2.9	17.1	1.6	11.9
		10.4	16.8	19.3	23.1
	11	0.1	2.4	0.3	5.7
	21	2.8	20.9	4.1	25.1
	31	4.2	16.3	5.5	19.7
	61	2.0	24.3	7.0	37.7
Zone 3	71	0.9	9.7	1.5	12.1
	91	0.4	17.6	0.9	22.1
		4.8	9.4	9.2	14.1
	11	0.1	2.3	0.3	5.4
	21	1.2	13.9	1.5	19.8
	31	0.5	3.9	1.5	12.8
Zone 4	61	1.8	14.4	4.5	27.0
	71	0.6	7.1	1.0	10.6
	91	0.6	10.9	0.4	7.3
		48.0	22.0	43.5	23.2
	11	0.9	5.9	0.7	5.7
	21	11.2	28.9	11.1	30.2
Zone 5	31	9.5	20.4	8.9	22.8
	61	17.6	23.2	15.1	25.9
	71	5.4	16.9	4.6	18.7
	91	3.4	29.1	3.1	26.3
		2.4	10.8	2.2	13.6
	11	0.1	2.7	0.1	4.2
Zone 5	21	1.1	14.7	0.6	14.7
	31	—	—	—	—
	61	—	—	—	—
	71	1.0	10.9	1.3	17.2
	91	0.2	8.3	0.2	7.9

#### ZONES

The 24 Administrative Districts excluding the area covered by the Colombo Municipality are divided into 4 zones.

**Zone 1** consists of households in the districts of Colombo (excluding households in the Colombo Municipality), Gampaha, Kalutara, Galle and Matara.

**Zone 2** consists of households in the districts of Hambantota, Monaragala, Amparai, Polonnaruwa, Anuradhapura and Puttalam.

**Zone 3** consists of households in the districts of Jaffna, Mannar, Vavuniya, Mullaitive, Trincomalee and Batticaloa.

**Zone 4** consists of households in the districts of Kandy, Matale, Nuwara Eliya, Badulla, Ratnapura, Kegalle and Kurunegala.

**Zone 5** consists of households in the Colombo Municipality.

The rural Zones (Zones 2, 3 and 4) followed closely, the pattern of distribution and incidence of poverty for the whole country. As for the whole country, the incidence of poverty was highest among households by Agricultural, Forestry and Fishing workers. A minor exception was Zone 4, where the incidence among households headed by Production and Related Workers was highest. In more Urban Zone 1, the Production and Related worker category which was the dominant category, also faced the second highest incidence of poverty. In Zone 5, (Colombo Municipal Region) where the majority poverty group was the Clerical, Sales and Service worker category, the Production and Related Worker category occupied the second position. The bulk of the urban poor presumably included the unskilled workers employed in the Manufacturing, Construction, or Service Sectors and the self-employed skilled workers such as carpenters and artisans who operate on a very small scale and the self-employed in small scale household enterprises.

A generalization emerging from the data is that the proportion and incidence of poverty in the Dry Zone districts (Zones 2 and 3) have substantially increased over the years. A striking feature is the substantial increase in both the proportion and incidence of poverty among households headed by Agricultural, Forestry and Fishing workers in these Zones. This may be partly due to the influx of recent migrants into the Major Development Project areas located in the Dry Zone. It is possible that these persons would have taken on casual marginal employment as agricultural workers.

plan, with annual targets for expenditure and achievement specified by sectors.

There has not been any serious attempt to assess the development impact of various IRD Programmes, particularly the success of those programmes in raising the level of income of the rural poor. However, a broad generalization emerges on some aspects. Firstly, the scale of expenditure committed to these programmes appears to be quite modest from the point of view of achieving the desired targets. Secondly, the dependence of the IRD Programmes on external financing agencies with divergent perspectives of the development problem has pointed to the need of a unified approach to decentralized planning subject only to the over-riding priorities of the particular district or the target group. This helps the IRD Programmes to remain linked with the larger economy.

The projects undertaken by the IRD Programmes emphasize low-cost, quick yielding, labour intensive investments aimed at better utilization of existing infrastructure and potentials. These projects benefit the rural poor in general. While this is so, a serious attempt should also be made to improve the conditions and status of various target groups by providing opportunities for them to acquire assets and skills. There is also a lack of systematic planning for employment generation which involves attention and action at both the district and national level.

### The Food Subsidy Scheme

State interventions to guarantee minimum consumption levels have been a significant feature of the overall social welfare package in Sri Lanka since the 1940s. The Food Subsidy Scheme which was replaced by the Food Stamp Scheme in September 1979 formed the cornerstone of this policy package for more than three decades. Under this Scheme, rice which is

the staple food of the Sri Lankan population, and a few other food items were made available to the consumers at heavily subsidized prices. The Scheme which had universal coverage at the inception underwent several minor modifications, until the first attempt to targetting in February 1978 so as to eliminate the non-poor from the receipt of rice ration. Around 50 per cent of the households continued to receive the rice subsidy after this change.

With the population growth and rapidly increasing costs of food imports, the rice subsidy scheme exerted excessive pressure on the Government's budget and country's balance of payments. This means that less resources were available for development. The programme could not be continued on a sustainable basis as a result. There was indeed a case for subsidizing the poor, but the Food Subsidy Scheme was found to be an inefficient and indiscriminate means to achieving this end. Furthermore, it had disincentive effects on food production due to the artificially low prices paid to the producers.

### The Food Stamp Scheme

The Food Stamp which was introduced in September 1979 replaced the Food Subsidy Scheme. This marked a fundamental change in the state intervention policy in the provision of minimum consumption levels to the population; a commodity specific price subsidy to a direct income transfer programme (income support programme) aimed at a target population. With this change, all price subsidies on food were removed. This means the virtual elimination of the rice subsidy which was targeted in September, 1978 and the universal price subsidies on certain other food items. Food stamps which have a fixed cash value are encashable against a specified basket of commodities.

The rationale for the shift in policy stance was less government intervention in the market place

and shifting of resources for development purposes in keeping with the growth oriented liberalization policies of the new regime, while at the same time safeguarding the nutritionally vulnerable groups. These policies that enabled people to better meet their dietary needs by growing more food would increase both income and output. Under the rationalization of the food subsidy programme the government intervention in the rice market was confined to the operations of floor prices which were increased substantially to boost production. The share of food subsidies which was around 10-15 per cent of the total government expenditure in the mid seventies (See Edirisinghe (1985)) was brought down thereby releasing savings to investment activity. The vulnerable groups were supported by direct income transfers through food stamps.

The non-indexation of the food stamp values to account for cost of living increases confers obvious fiscal advantages. To the recipients of Food Stamps, however, this represented an erosion of the real value of food stamps. The Government has succeeded in curtailing the cost of the Food Stamp Scheme to about 7 per cent of public expenditure (See Wickremasekera (1985)).

Quite interestingly, the incidence of recipients of Food Stamps was same as the incidence of recipients of targeted rice rations (around 50 per cent at the inception of the Food Stamp Scheme). But the attempts to target the income transfers only to the really needy have been only partially successful. About 30 per cent of the households in the lower half of the population appears not to have received the transfer benefits while a similar percentage in the upper half of the population appears to have enjoyed the benefits. The bottom 20 per cent received only 38 per cent of the Food Stamp outlay of Rs. 1.6 billion in 1981/82. If the intended beneficiaries are those in the bot-

tom 20 per cent of the income distribution, the "leakage" to unintended beneficiaries amounted to 62 per cent of the subsidy (Edirishinghe (1985).

Food stamps were revalidated in 1986 with the intention of eliminating the non-qualified recipients from the scheme and correcting for the erosion of purchasing power of food stamps with the sharp increases in food prices over the years. In this exercise, the value of food stamps was doubled while targeting was halved.

#### Other Social Sector Programmes

Sri Lanka's high level of achievement in terms of social indicators is considered to be the result of effective government intervention on supply through universal health and education programmes and on incomes through food subsidies or income support programmes such as the food Stamp Scheme. The country has achieved a widespread health coverage. Educational facilities too are widely distributed. There is little doubt that these social welfare programmes strengthen the country's efforts to alleviate poverty.

A major criticism of the high levels of social sector expenditure is that these levels cannot be sustained in the long run and are damaging to country's growth. It is argued that the rate of investment in the economy very likely would have been higher if these programmes were abandoned since they absorbed a significant proportion of government expenditure and of GDP. With economic reforms and more selective programmes aimed at vulnerable groups, the level of social expenditure as a percentage of government expenditure and as a percentage of GDP has declined over the years since 1977. The rationale for this policy is that a successful performance on the basic needs front could be expected with sustained growth coupled with state interventions to guarantee the access

of the poor to a minimum basket of goods and services.

#### POLICY IMPLICATIONS AND FUTURE STRATEGIES

This concluding section is devoted to a discussion on policy implications and future strategies to alleviate poverty in Sri Lanka. The policy implications of the findings of this study for poverty alleviation are clear. Poverty alleviation programmes must be largely oriented to rural farming and fisher households. About 83 per cent of the poor are to be found in the villages. 29 per cent of them are landless agricultural labourers and fishermen; 17 per cent are small farmers who operate on marginal uneconomical land and tenant farmers. About 28 per cent of the poor are unskilled workers employed in manufacturing, self-employed skilled workers such as carpenters and artisans who operate on a very small scale and the self-employed in the small scale household enterprises. Any governmental effort which is concentrated on rural households in the Dry Zone districts and hill country districts has the potential to reach nearly three quarters of the poor in the country.

Poverty alleviation is concerned with removing mass deprivation. This can be achieved by improving income earning opportunities for the poor and the provision of public services that reach the poor.

The only way that absolute poverty can be eliminated on a permanent and sustainable basis is to increase productivity of the poor. In formulating policies aimed at eliminating poverty, attention must be paid to restructuring patterns of production and income so that they benefit the poor. While rapid growth is desirable, it should be labour-intensive and employment generating with emphasis on human capital.

The efforts to expand productive

employment might include policies that lead to changes in access to the existing stock of productive assets. Since most of the poor are located in rural areas and bulk of them work in agriculture, increased access to land and water merits consideration. This can be achieved through further development and settlement of new land under various settlement schemes. For these efforts to be successful, a necessary condition is the availability of complementary inputs including seed and fertilizers, access to credit and technical advice, marketing and storage and other supporting services.

The poor would benefit more from the assets created or from the work provided. This is one of the main channels for the "trickle down" of the benefits of growth. The policies in this direction might involve widened access to tools or equipment for the self-employed poor. The Regional Rural Development Banks (RRDBs) can go a long way in the mobilization of savings and provision of credit to the small industrialists and farmers. The District IRD programmes should also strive to strengthen the asset-base of the poor paying particular attention to small projects capable of generating employment and income opportunities for them, as generation of employment plays a key role in poverty alleviation programmes. This points to a greater priority on labour-intensive structure of production.

Policies aimed at increasing productivity of the poor must be supplemented by social sector programmes in the provision of basic needs such as health and education. Basic needs is not exclusively a welfare concept. Improved education and health often make a major contribution to increased productivity.

The ultimate goal of an alleviation of poverty programme is indeed the improvement of quality of life of the poor in this country.

# INDO-NEPALESE STALEMATE

Laya Prasad Uprety

When one starts to muse about the Indo-Nepalese stalemate, he or she is generally reminded of Prithivi Narayan Shaha's aphorism which has aptly described Nepal's geopolitical location as a "yam between two boulders". Nepal's sandwiched position between India in the south and China in the north has historically conditioned Nepal's foreign policy as inherently non-aligned. Nepalese and Indian people have maintained strong amicable ties from time immemorial because of geographic contiguity and cultural similarity. The open border system existing between Nepal and India has historically promoted the socio-cultural and economic exchanges between the people of these two neighbouring countries. The traditional Indo-Nepalese friendship and economic relationship are now facing a critical juncture.

Indo-Nepal relations have considerably worsened since the sudden, unexpected and unilateral abrogation of the trade and transit treaties by India since 23 March, 1989. Ever since India has closed all but two of the fifteen transit points, Nepal has experienced the severest shortages of essential supplies such as petroleum, diesel, kerosene, medicines, salt, baby food, etc. in the urban and rural areas of Nepal. The Indian economic blockade has caused unbearable hardship among the Nepalese people. However, India has repeatedly claimed that it has regularly allowed the entry of essential supplies into Nepal and insists on saying that the Nepalese people have not had any severe shortage.

India wants only a single unified treaty covering both trade and transit. In 1978, Nepalese and Indian governments had concluded two separate treaties of trade and transit. Now India does not clearly spell out why she wants to conclude only a single unified treaty. In

providing the counter argument regarding the Indian stance, Nepal has emphatically said that trade is a periodic arrangement between two parties and claimed on the basis of international law that transit is a necessary permanent condition for any landlocked country. Therefore, Nepal wants to conclude two separate treaties of trade and transit. Nepal has also repeatedly told India that her insistence on the conclusion of a single unified treaty would be totally unacceptable. The United Nations Conference on Trade and Development (UNCTAD), the Convention on the Law of the Sea, 1982 (LOSC), and the General Agreement on Tariffs and Trade (GATT) have all strongly advocated for landlocked countries' legitimate right of transit and access to the sea. Article 125 (1) of UN Convention of the Law of the Sea clearly spells out that, "Landlocked states shall have the right of access to and from the sea for the purpose of exercising the rights... including those relating to the freedom of the high seas and common heritage of mankind. To this end, landlocked states shall enjoy freedom of transit through the territory of the transit states by all means of transport". It thus clearly shows that transit is the legitimate right of landlocked Nepal.

The trade embargo that India has imposed on landlocked Nepal is reported to have been carried out because of security considerations. India has often accused Nepal of violating the 1950 treaty of peace and friendship. The Indo-Nepalese impasse has come to the forefront since Nepal obtained one consignment of weapons including an anti-aircraft battery from China. The importation of Chinese weaponry has been done with the objective of modernizing the Nepalese army. According to the letters exchanged along with the 1950 treaty, India was required to

provide the facility of transit through her territory for hardware imported with her assistance and agreement. In 1965, Nepal and India arrived at an agreement of arms assistance according to which India undertook the responsibilities in reorganising and equipping the Nepalese army. The agreement stated that all the hardware requirements were to be met by India. It further stated that if India was not in a position to meet the hardware requirements of the Nepalese army, the United Kingdom and the United States of America would fulfil these gaps. Now India feels that the one consignment of Chinese weaponry Nepal obtained in the Summer of 1988 is contrary to the letter and spirit of the 1950 and the 1965 treaty and agreement, respectively.

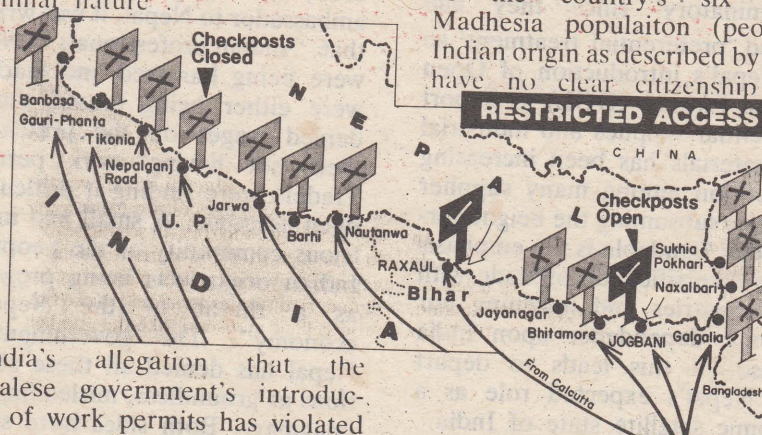
Regarding the 1950 treaty, India must not be oblivious to the change of the geopolitical circumstances in a span of 40 years' time. The 1950 treaty was concluded during a period when India had obtained independence from the British on the one hand, and a communist regime had appeared in China, on the other. During that time, India was very scrupulously watching the political developments in China and considered the Chinese communist activity as a treat to her security. Therefore, Jawaharlal Nehru, the then Prime Minister of India, considered that Indian security consideration extends to the frontiers of the Himalayas (Nepal, Sikkim and Bhutan). Besides this, the 1950 treaty was signed by the autocratic Rana regime whose main intention was to please the then Indian government and thereby obtain all possible help to crush the fledgling democratic forces fighting against the Rana autocracy. However, this dream of Rana autocratic regime never materialized because its termite-eaten ruling base was toppled seven months after the conclusion of the 1950 treaty. This treaty can be labelled as unequal from the Nepalese side since it is not based on equality and mutual respect. Rather, it tends to undermine our sovereignty and independence.

Therefore, this anachronistic 1950 treaty must be reviewed on the basis of equality and mutual respect without undermining the sovereignty and independence of either party.

Nepal has not violated the 1950 treaty so far as the importation of Chinese weapons is concerned because these supplies came to Nepal via Tibet and therefore, there is no reason for any prior notice to, or agreement with India regarding this issue. Then, on what ground does India say that Nepal has violated the 1950 treaty? It seems ludicrous and entirely baseless. According to the Nepalese government, it had requested India to supply hardware such as anti-aircraft guns in the 1970's but the latter refused to do so and therefore, Nepal was left no choice but to seek Chinese help. Besides this, Nepal has always been an independent country and is not to be dictated to by anybody else in its foreign policy matters. Being a sovereign and independent country, Nepal has the right to import weapons from any foreign country and modernize its army for its national security in view of the kaleidoscopic political reality. Jawaharlal Nehru had a doctrine of "limited sovereignty" for India's smaller neighbouring states. Speaking in the Indian parliament on December 6, 1950, he declared with specific reference to Nepal. "... much as we appreciate the independence of Nepal, we cannot allow anything to go wrong in Nepal...". This so-called anachronistic Nehruvian tradition of undermining the sovereignty of Nepal can no longer be accepted.

Other issues that India has raised regarding the current Indo-Nepalese impasse are questions of citizenship and work permits. The Nepalese government has introduced the system of work permits for any foreigner in the organised sector in three districts of the Kathmandu valley. India found this highly objectionable and repeatedly issued allegations against Nepal stating that the work

permit has violated articles VI and VII of the 1950 treaty. Article VI of the 1950 treaty reads: "Each government undertakes, in token of the neighbourly friendship between India and Nepal to give to the nationals of the other, in its territory, national treatment with regard to participation in industrial and economic development of such territory and to the grant of concessions and contracts relating to such development". Similarly, article VII further reads: "The governments of India and Nepal agree to grant, on a reciprocal basis, to the nationals of one country in the territories of the other the same privileges in the matter of residence, ownership of property, participation in trade and commerce, movement and other privileges of a similar nature".



India's allegation that the Nepalese government's introduction of work permits has violated the 1950 treaty is totally unacceptable since it does not deprive any Indians of the opportunity to work in Nepal. The Nepalese government has already made it clear that not a single Indian national has been deprived of a job in the organised sector ever since the work permit system was introduced. Work permits as the Nepalese government has clarified, have been introduced to serve the needs of modern management and planning for the organised sector. In reality, the introduction of work permits is worth welcoming because during the past few years, Indian immigrants have multiplied. Such an influx of Indian immigrants might, in the long run, pose a serious threat to the national interest of small Nepal. At this point, one must not be oblivious to what is

happening in Sri Lanka. If the influx of Indian immigrants is not timely checked, even the slogan of the family planning scheme of Nepal becomes virtually meaningless since the population will continue to increase due to the regular influx of Indian immigrants. With regard to this, Nepal must not object if India also introduces similar measures for her own interest. Conclusively, India has no right to object to the work permit system introduced by the Nepalese government since no discrimination is made against Indian nationals regarding employment in the organised sector.

Equally important is the issue of citizenship raised by India. According to the Indian media, about half of the country's six million Madhesia population (people of Indian origin as described by India), have no clear citizenship status

despite their stay in Nepal for generations and this innocuous work permit, once extended to all parts of Nepal, will deprive them of their criteria or rules and regulations for the acquisition of citizenship. Those who qualify can acquire the certificate of citizenship and those who do not qualify cannot. The Indian media has tried its level best to split the Nepalese by distinguishing between the 'people of Indian origin' and the 'people of Nepalese origin'. This is both detestable and futile. All people living in the territory of Nepal, whether in the mountains, hills or Terai, are Nepali. All Nepali people have a contribution to make in the shaping of modern Nepal. Hence, Prithivi Narayan Shaha, the founder of modern Nepal, has aptly described his hard-earned kingdom as "a gar-

den of four castes and thirty-six sub-castes”.

Nepal and India have also departed from the preferential trading regime and both have aspired to treat each other on the most favored nation basis (MFN). The increasing Indian domination over the Nepalese economy has resulted in an increasing trade deficit (more than Rs. 300 crore every year) for Nepal. The Nepalese government had frequently requested India to introduce a reasonable balance between imports and exports. In order to lessen the dependence on India, the government of Nepal has already made changes in the additional custom duties against Indian goods which India has labelled as ‘discriminatory’ since they had enjoyed ‘preferential treatment’ so far. Nepal’s introduction of Open General License (OGL) to import its essential supplies and industrial raw materials has been increasing competition among many supplier countries subsuming the neighbouring India. Laudable is the emphasis on the diversification of trade with third countries and lessening our economic dependence upon India because all this leads to depart from Nepal’s expected role as a economic satellite state of India.

India’s current trade embargo has had severest effects on agriculture, industry, domestic transportation, and tourism, the mainstays of our economy. The current crisis is estimated to cost the economy about two billion rupees in loss of output and value added for this current fiscal year. According to the Finance Minister, Bharat Bahadur Pradhan, the Gross Domestic Product (GDP) growth which had been estimated to exceed 5 per cent this year is now likely to decline to 1.6 per cent. This negative trend can be expected to continue if the current Indo-Nepalese stalemate remains. The severe shortage of fuel (kerosene and gas) in the urban areas has had adverse and irreversible affects on the fragile

himalayan ecology of Nepal because fuelwood has to be extracted for energy which means an increase in deforestation and an acceleration of soil erosion. The increased deforestation in this country will affect not only Nepal but also India and Bangladesh. All this demonstrates how vulnerable the Nepalese economy is.

Instead of making efforts for rapprochement, the media war between Nepal and India has been further intensified. India has brought many groundless, misleading and imaginary news into publicity through the manipulation of the media, i.e. radio, television and newspapers. Take, for instance, **The Times of India** of May 12, 1989, where, quoting the Indian ambassador to Nepal, it was written that, “Indian professionals in Nepal were being harassed and teachers were either being erased out or denied wages on the pretext of their not having work permits. Traders were finding it difficult to open accounts. A small and industrious community of the people of Indian origin was being projected as a threat to the Nepalese economy”. The government of Nepal has denied all these allegations as groundless, misleading and imaginary. Both sides have stated through media that they are ever willing to have talks for detente. In fact, both Nepal and India signed a draft agreement at the secretarial level last October, 1988. Now Nepal has asked India to name the agenda, date, venue and level for talks and is waiting for the Indian response. Nepal is ready to review the whole gamut of the Indo-Nepalese relationship including the 1950 treaty. However, Nepal has not received any official communication so far, despite Indian Prime Minister, Rajiv Gandhi’s thrice repeated readiness for talks. People of both countries have been misled by the media war.

So far, the Nepalese people have fully co-operated with the government by demonstrating unpre-

cedented patience even though they have to stand in queues to get two liters of kerosene from 9 in the morning to 9 in the evening, many times returning empty-handed. Similarly, the government stance to conclude two separate treaties of trade and transit is unequivocally supported. Therefore, the government of Nepal must never kneel down before hegemonistic India by accepting one single unified treaty of trade and transit. This would be very frustrating for the people. In case Nepal has to conclude only one treaty, it must be a treaty of transit only, the legitimate right of a landlocked country. People have also supported the austere measures devised to face the current economic challenges.

Introduction of the Open General Licence (OGL) and trade diversification with third countries can only be a temporary palliative of the present crisis of our economy. If we merely depend on them, our economic dependence will never be lessened. The more we become economically dependent on others, the more we lose our power to make our own decisions. Taking this into due consideration, the government must formulate suitable economic policies and implement economic programs to build a self-reliant economy by encouraging and prioritizing agro-based labour intensive industries, promoting traditional handicraft production for export to earn hard currency needed to maintain the trade balance and building the transportation infrastructure throughout the country. The government must always be committed to finding long-term solutions for our economic problems rather than simply adopting a ‘crisis management approach’. Lastly, the sooner both countries come closer for rapprochement, the better will it be for the peace, harmony and prosperity of South Asia.

*Courtesy: “Network”, Publication of Nepal’s Centre for Women and Development.*



## TRADE FOLLOWS THE FLAG

### Nature of Indian Expansion

DN

*Indian expansionism is at the stage where the export of goods rather than export of capital is its primary characteristic. It uses political privilege to acquire commercial supremacy which helps support an industrial structure that is not on the way to establishing relative supremacy.*

Tamils in the north-east speak of "IPKF" shops in Batticaloa, Trincomalee and Jaffna where Indian goods are available aplenty.....(*The Sunday Observer, January 8, 1989*).

The Indian state and business are using economic, military and other political means to fashion for themselves a captive market in South Asia, a market in which they would be able to operate on almost the same terms on which they operate in India itself. While the Tamil areas of Sri Lanka have been virtually turned into captive markets and even rupee payment areas, in Nepal where Indian goods so far had preferential treatment, they have recently (July 1988 budget) been subjected to a 250 percent duty (*Commerce, March 10, 1989*). The Indian government has objected to this levy and demanded that Nepal restore the earlier position of preferential treatment for Indian goods. Obviously, the Indian government does not want to allow the neighbouring countries to follow the very tariff policies that India has followed.

The extent to which the Indian government can go to secure preferential access can be seen in the virtual economic blockade of Nepal in the last few weeks. The blockade is meant to force Nepal to its knees so that its weakness in the question of transit can be used to wrest concessions for Indian manufactures. That is why the Indian government is insisting on the pre-1978 position of transit and trade treaties being clubbed together, while Nepal is attempting to preserve its gains in having the two issues of transit and trade being decided separately.

What is the nature of this Indian expansion? How can it be identified in terms of its relation to the development of capitalism?

The exploitation, or super-exploitation of colonies and other such areas of political-military domination has been a feature of capitalism through the many stages of its development. In fact, even pre-capitalist systems have at times been of an imperial type; but capitalism, unlike pre-capitalist systems cannot go on reproducing on the same scale, and, consequently, capitalism is characterised by an inherent expansionary tendency. But it will not be enough to refer to the inherent expansionary tendency of capitalism as the meaning of colo-

onialism or imperialism. Such a general characterisation would not help understand the specific features of the various stages of capitalist expansion.

#### INDIAN EXPANSIONISM USES POLITICAL PRIVILEGE TO ACQUIRE COMMERCIAL SUPREMACY

The origins of capitalism in the world were themselves bound up with the plunder of colonies, which provided substantial amounts of the initial (i.e. pre-capitalist) accumulation of money hoards, that were transformed into capital proper in the course of the industrial revolution. The loot of India after the Battle of Plassey, for instance, provided a large part of the capital for Britain's industrial revolution. The first phase of capitalist expansion was then characterised by the political-military loot of colonies as a basis for primitive accumulation. "The discovery of gold and silver in America the extirpation, enslavement and entombment in mines of the aboriginal population, the beginning of the conquest and looting of the East Indies, the turning of Africa into a warren for the commercial hunting of blackskins, signalled the rosy dawn of the era of capitalist production. These idyllic proceedings are the chief moments of primitive accumulation." (*Marx, Capital, 1, 292*).

The role of colonies did not end with primitive accumulation. Trade monopoly in the colonies helped establish industrial supremacy and, in turn, resulted from industrial supremacy (*Marx, Capital, 1, 195*). Continuing capitalist production faced problems of accumulation. On the one hand, the relatively slower growth of capitalist agriculture and the imbalance of production resulted in some branches of production growing relatively faster and needing to find new markets. Along with imbalances in the production of different branches of production, there was the periodic imbalance between production and consumption. Overall, there were two ways in which such problems of accumulation could be met. First, development of capitalism in depth - the further growth of capitalist agriculture, technical transformation of production and the associated rise in wage rates and other such consumed incomes. Second, the development of capitalism in breadth - the extension of the sphere of capitalist penetration into new areas, a penetration

that while drawing these areas into the sphere of exchange did not, however, necessarily mean the growth of capitalist relations of production in those areas. We need not hold to Rosa Luxemburg's analysis (*The Accumulation of Capital, Monthly Review, 1968*), that capitalist accumulation is impossible without this relation between capitalist and non-capitalist systems, but it is certainly true that the extension in breadth has always been a feature of capitalism's attempts to overcome its accumulation crises.

In this phase of expanding capitalism the basic feature of the colony was some form of monopolistically-regulated trade. The aspects of monopolistic trade, including the use of various political instruments and concessions, were particularly pronounced in the first phase of the development of industry, before the economy concerned established industrial supremacy; and once again, in the phase of an industrial economy declining in competitiveness. In the former phase, commercial advantage established through political means acted as an aid to industrial predominance; in the latter phase, commercial advantage helped overcome the decline of competitiveness. In between the two, with industrial supremacy the feature of the economy, the more has been the clamour for 'free trade'.

The colony fulfilled yet another function - that of cheapening the elements of capital, chiefly primary products (either industrial raw materials or foodstuffs). This two-fold relation gave the classic colonial relation of an exchange of industrial commodities from the metropolis for agricultural and other primary commodities from the colonies. In terms of the internal structure of the metropolitan country, this was the period of industrial capital.

The transformation of industrial capital into monopoly capital led to the features of expansion that Lenin called imperialism in the modern sense. "In its essence imperialism is monopoly capitalism." (*Lenin, Imperialism, the Highest Stage of Capitalism, Progress Publishers, 1978, 115*). Though Lenin did not analyse the features of earlier imperialist policy, he emphasised the specificity of the features of imperialism he analysed as belonging to the monopoly stage of capitalism. "Even the capitalist colonial policy of previous stages of capitalism is essentially different from the colonial policy of finance capital" (78, emphasis in original). The growth of monopoly internally manifested itself in a tendency to monopoly on an international scale, to monopolise markets, sources of raw materials, avenues of investment. The characteristic feature of the monopoly capital stage of colonialism Lenin identified as the export of goods which characterised the industrial capital stage of colonialism.

While specifying the different features that

characterise the various stages of capitalist colonial policy (the primitive accumulation, industrial capital and the monopoly capital stages) it must be emphasised that the characteristic feature of any stage of colonial policy is not its only features. All the various features may exist together, but it is one of them that is characteristic. For instance, plunder of the primitive accumulation type, export of goods and export of capital may all exist together in the imperialism of monopoly capitalism. But of these, it is the export of capital that is the characteristic feature of monopoly capital, this export of capital itself being an indicator of the 'over-ripeness' of capital in the sense that "capital lacks opportunities for profitable investment".

Coming now to the question of Indian expansionism, we should first note that both deepening and broadening of the capitalist sphere are available as ways of continuing and overcoming the periodic problems of accumulation. Technical change and the deepening of the market are, however, dependent on the Indian big bourgeoisie's links with imperialist capital and have been subordinated to the requirements of the various imperialist capitals. Competition among these imperialist capitals and their search for ways to establish or break monopolies are key factors determining the transmission of technical change from the imperialist countries to India. Deepening does not have its own technological and financial base in the Indian big bourgeoisie and is thus not something the Indian big bourgeoisie can initiate on its own, in response to internal market forces and problems of accumulation.

As far as broadening is concerned, there are considerable internal reserves of as yet pre-capitalist areas that can be the targets of an expanding capitalist system. But these pre-capitalist areas also play a role in the economic-political system, a role that constrains the possibility of a more vigorous expansion into these areas. The pre-capitalist areas are of two kinds; the semi-feudal agricultural areas and the so-called tribal areas, with a mix of production and gathering systems. Both of these are subordinated to the growing capitalist system. But they also have their own specific roles. They serve as reserves of cheap labour and cheap raw materials, including agricultural products, thus contributing to the super-profits earned in imperialist-connected monopoly capital. This economic role and the political alliance with the landlords, together restrict the liquidation of these pre-capitalist reserves in the Indian economy. Consequently, though the economy contains within it vast areas of such pre-capitalist reserves, Indian

capital has to restrict its rate of expansion into these areas and has to seek outlets in other economies.

## OUTLETS FOR INDIAN CAPITAL

what is the nature of the outlets Indian capital seeks? It has already been noted that while export of capital by Indian firms has been mainly to south-east Asia and east Africa, the important areas of Indian expansion are the adjoining economies of south Asia and with regard to these economies, Indian capital is interested in them not as areas of investment of capital but as areas in which to sell industrial goods. The export of capital to south-east Asia and Africa does not now have much political significance. As a proportion of foreign investment in these countries it is not so important and the Indian state's intervention in these countries is not of much consequence. Politically it is south Asia that is the focus of Indian expansionism and it is export of goods and not of capital that is its characteristic feature. In fact, the continuing and growing trade imbalance between India and its neighbours shows that even buying from these countries is not important for the Indian big bourgeoisie; they attract attention as avenues for sale of manufactured goods.

This sale of industrial goods is not based on an established Indian industrial supremacy. Far from it, Indian industrial goods are hardly able to compete in the open market in quality or price. In the case of technologically sophisticated goods, produced in India in collaboration with some TNC or the other, the south Asia markets have themselves been ceded to the Indian joint enterprises by the collaborators, but these joint ventures have to compete with other TNCs that do not have joint ventures in India. Further the standardised products that India sells also have to outsell their competitors. As a result, Indian expansionist policy has been geared to securing commercial supremacy not as a consequence of industrial structure and overcome its weaknesses. Political privilege, unequal relations, customs union, payments area, tied 'aid', outright bullying and military force - all these have been weapons of Indian expansionist policy. The attempt has been to get privileges so that the Indian bourgeoisie may be able to operate in those countries on almost the same terms on which they operate in India. There has been a sustained attempt to get these countries to open up their markets to Indian industry and give it the same protection it gets in India itself. If Pakistan were agreeable to opening up its economy to Indian trade, the Indian state would be quite ready to make peace, at least temporarily. Indian industry can certainly compete and outsell the even more backward industries of Pakistan, not to talk of Bangladesh or Sri Lanka. But in these countries too it would require the same protection that it gets in India itself. Political privilege and force are the instruments being used to bring out the required 'harmonisation' of trade policies.

The fact that India very much depends on political privilege in order to establish commercial supremacy is clearly seen in the case of Bangladesh, where the sharp decline of political influence after the fall of Mujibur. Rahman led to a set-back to Indian industry's penetration of Bangladesh. On the other hand, in the case of Sri Lanka politico-military advance has been followed by a renewed commercial drive on the part of Indian business. There are expectations that the recent 'help' given to shore up the Gayoom regime in Maldives may also result in commercial benefits to Indian business.

Dobb had pointed out with regard to the formation of such colonies: "The number and extent of such privileged spheres which a national capitalism can enjoy will significantly determine the rate of profit which it can earn and the place it can hold in world economy. In this sense, the 'search for markets' to which the under-consumptionists refer, will have an independent meaning; namely, the search for extended opportunities of deriving monopoly profit by exploitation through trade, as distinct from the extraction of 'normal' surplus value." (Maurice Dobb, *Political Economy of Capitalism*, Routledge and Kegan Paul, 1940, 240).

Political privilege used in order to earn monopoly profits through trade - that is the meaning of Indian expansionism. And not the use of political privilege in order to be able to undertake the characteristic finance capital activity of investing capital. It is for this reason that Indian expansionism should be identified as being of the pre-monopoly capitalist type. The typical monopoly capital features of imperialist monopoly based on control of technology, raw materials, finance, and the market chiefly for means of production are absent in the case of Indian expansionism. Since the term imperialism in present-day usage has the meaning given to it by Lenin, i.e. of the external policy of monopoly capital, the term 'proto-imperialism' (as used by Srikant Dutt, *India and the Third World*, Zed Press, 1984) would be misleading, as it would convey the existence of a 'proto-monopoly capitalist' external policy and also imply the existence of a 'proto-monopoly capitalist' structure at home. In a sense, any capitalist class is a 'proto-monopoly' capitalist class, since the development of monopoly is an inevitable feature of the development of a capitalist class.

Indian big business is, however, not at the stage of monopoly capital. Big businesses owe their relative size and position in the economy not to the processes of concentration and centralisation of capital, but to their connections with imperialism and the bureaucratic state machinery. Their 'monopoly' depends on their ability to acquire foreign collaborations for technology. Neither their process of growth nor their present activities do not show any signs of the technological dynamism that has

been characteristic of capitalist growth, even the capitalist growth of, say, South Korea or Taiwan. Besides imperialist connections, the other key factor is acquiring monopoly positions in government-bureaucratic connections to secure licences and finance. Rather than industrial tycoons turning into a financial oligarchy, what we have is the growth of a comprador-bureaucratic big business class. Instead of expansion being a result of dynamism at home, expansion is a substitute for such dynamism.

## CONCLUSION

To sum up the main features of Indian expansionism:

1 It is at the pre-monopoly capital stage of imperialism where export of goods rather than export of capital is the primary characteristic of expansion;

2 Rather than commercial supremacy being the result of industrial supremacy, Indian expansionism uses political privilege to acquire commercial supremacy, which helps support an industrial structure that is not on the way to establishing its relative supremacy;

3 Indian expansionism is not aimed at freeing either India itself or south Asia as a whole from imperialist domination, it is subordinate to imperialism as a whole; and, in particular,

4 There is a military-strategic alliance between Indian expansion and the Russian imperialism's global strategy.

Noting the above features and keeping in mind the fact that terminology is not the most important part of analysis, the major objection to the use of the term 'proto-imperialism' is the suggestion that it is merely a question of further development of already existing features of Indian expansion for it to turn into a full-fledged imperialism. That is not the case. In fact, even from a capitalist point of view it would require some fundamental changes in order for Indian expansionism to become a monopoly capitalist imperialism. In brief, the liquidation of the semi-feudal and other pre-capitalist reserves, rather than their present amalgamation into the capitalist set-up; even the liquidation of the above together instead of promoting reform of a capitalist type (technical change) only help the continuation of Indian big capital's subordinated relation, depending on imperialism for technological and capital purposes. Other changes in the very nature of this big capitalist class, from its present comprador-bureaucratic nature would be required. But it is not the purpose of this analysis to propose necessary reforms to the ruling classes. On the contrary, the purpose of this analysis is to draw the necessary political conclusions for the toilers and other democratic people to be able to deal with the phenomenon of expansionism.

Indian sub-imperialism, like any new imperi-

alism, invariably portrays itself as a liberator of backward and oppressed peoples. In the case of Bangladesh, the Indian state pretended to be the liberator of the oppressed Bangladeshis, suffering under the yoke of Pakistan. In Sri Lanka it first played the role of protector of the Tamils and then switched to being the upholder of Sri Lanka's integrity. At other times it has been the supporter of democracy against feudal autocracy (Sikkim); or even, as in the most recent case of the Maldives, the protector of an 'elected' government. The Indian state casts itself as the agent of 'progress' and 'democracy'.

Any imperialist power establishes moral justifications for its actions and advances its interests through supporting perfectly legitimate causes. American imperialism supported the cause of India's 'freedom', so as to be able to get rid of the British colonial state which was a stumbling block in its penetration of India. Soviet social imperialism has supported various 'liberation' movements, in order to be able to build its own spheres of influence.

The Indian state's moral strength derives from its seeming support of 'democracy' and the anti-imperialist liberation movement. Without negating this moral strength of the Indian ruling classes, the toilers and other democratic forces in India will never be able to shake off the yoke of the ruling classes and their state. Without opposing Indian expansionism there is no possibility of the Indian people going on to complete their own emancipation from imperialism and the Indian state. It is not as though the democratic movement will advance in the country, and that such advance will then end the oppression of the countries that are today the targets of Indian expansionism. Rather, it must be the other way around. Any advance of the democratic movement in India will only be possible if the democratic forces stand in clear opposition to the expansionism of the Indian state. Any other policy, any kind of support, whether full-fledged or half-hearted, will only mean the continuation of the present state and socio-economic system.

Democrats in India would do well to remember Marx's writings on Ireland, particularly those towards the end of his life. In 1869 he wrote: "For a long time I believed that it would be possible to overthrow the Irish regime by English working class ascendancy. I always expressed this point of view in the *New York Tribune*. Deeper study has now convinced me of the opposite. The English working class will never accomplish anything until it has got rid of Ireland" (emphasis in original, Marx, *On Colonialism*, Progress Publishers, 1978, 332). [Incidentally, the readiness with which Marx acknowledges that 'deeper study' has convinced him of the 'opposite' of what he had been writing in the *New York Tribune* should be an object lesson to those who swear by everything that Marx wrote.]

Again, it is necessary to remember that the Czar's autocracy could only be destroyed by the Bolsheviks' steadfast opposition to their country's imperialist war combined, of course, with support for other demands like, that of the peasants for 'land to the tiller'. The question of opposition to Indian expansionism stands on its own, even irrespective of one's position on whether the Soviet Union is an imperialist power or not. Of course, given the close alliance between Indian expansion and Russian imperialism, it is no surprise that the supporters of 'socialist' advance by the Soviet Union are also ardent supporters of 'anti-imperialist' Indian expansion. In the Indian case, one of the strengths of the Soviet Union is precisely its support to Indian expansion, so that the ruling classes and other supporters of Indian people too largely accept it, as a 'friend' of India, one that wants India to take its due place in the world of nations.

It is ironic that without even completing liberation from imperialism, the Indian ruling classes and state are engaged in expansionist moves. But this expansionism, depending as it does on the support of some imperialist power or the other, is just as incomplete as the original 'independence' itself. Instead of becoming accomplices of the Indian ruling classes in their attempts to set themselves up as the only brokers of south Asia, and pass off this debased, immoral crown as the achievement of India's place in the world, it is necessary that democratic forces move forward to destroy roots of the present oppressive system, and for that purpose stand clearly in opposition to Indian expansionism in every form.

Opposition to Indian expansion is important for more than one reason. Expansion helps the Indian ruling classes find ways out of their own economic and political crises and thus postpones the necessary resolution of the contradictions in Indian society. Besides, expansion increases India's subordination to imperialism and, at present, ties India firmly to a strategic alliance with Russian imperialism—consequently threatening even the limited independence that exists. In a double sense then, Marx's words apply to India - a nation that oppresses others, cannot itself be free.

With the Indian union itself a 'prison house of nations', the Indian state, by every act of expansion, only adds to the existing inflammable material. Temporary successes themselves carry the seeds of subsequent defeats. The capitulation by the Jayawardene regime, which the Indian state counts as a success, has been followed by the opposition of Tamils and Sinhalese alike to India's regional hegemonism, an opposition that has spread even to the Tamils of India. Indian expansion is itself arousing the enemies who will put an end to it. The more it 'helps' regimes and other forces in the region, the more surely it pushes the people of the region into opposition to Indian expansion.

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