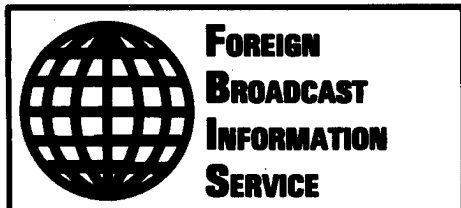
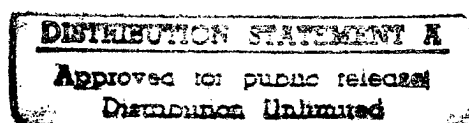


JPRS-TEN-92-020
28 October 1992



JPRS Report

Environmental Issues



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Environmental Issues

JPRS-TEN-92-020

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UN General Assembly Addresses Environmental Concerns

*OW2509004192 Beijing XINHUA in English
2304 GMT 24 Sep 92*

["Roundup" by Zhao Renfang]

[Text] United Nations, September 24 (XINHUA)—Delegates from the countries addressing the general debate of the 47th session of the UN Assembly up to now have been expressing great concerns over the ever important world environmental issues.

Since the current session of the U.N. Assembly was opened just three months after the Earth Summit in Rio de Janeiro, Brazil, such issues have naturally become a hot topic here.

Most of the countries speaking at the debate called on the General Assembly to implement follow-ups of the Earth Summit, officially called the U.N. Conference on Environment and Development (UNCED), and to establish the commission on sustainable development as UNCED required.

Brazilian Foreign Minister Celso Lafer, who started the floor at the general debate Monday, urged the developed countries to announce "initial plans to give effect to the goals of the (Rio) conference" while regarding as equally crucial the availability of technology to developing countries to ensure the feasibility of established programs.

Developing countries said during their speeches that they would like to see progress concerning funds for implementing "Agenda 21", a major document adopted at the UNCED.

Agenda 21, a comprehensive program for environment and sustainable development, calls for, in addition to the original official development assistance (ODA), an annual resource of 70 billion U.S. dollars from the developed countries.

The industrialized nations, though realizing the need for "new and additional" resources, are still to make concrete pledges.

Colombian President Cesar Gaviria, noted that the Earth Summit represented a milestone in the history of mankind. But unfortunately, there was dangerous trends in the industrialized countries threatening international cooperation on environmental problems. "Those trends include the unilateral imposition of barriers and environmental conditions for the developing countries," he added.

No Tae-u, president of the Republic of Korea deemed that it was not fair to impose "unreasonable environmental restrictions on those developing countries that began industrialization belately due to chronic poverty and underdevelopment as well as the lack of sufficient resources."

President Suharto of Indonesia, speaking on behalf of the 108- member Non-Aligned Movement this morning, said the results of the Rio conference confirmed the long-held conviction of the Non-Aligned Movement. The movement welcomed the establishment of the commission on sustainable development and the convening of a world summit on social development, he mentioned.

Delegates from the seven industrialized countries, except the United States, all expressed support for UNCED follow-ups.

Michio Watanabe, deputy prime minister and minister for foreign affairs of Japan confirmed his country's proposal to hold a special session of the U.N. General Assembly for environmental issues before 1997 as UNCED follow-ups. He said in the next five years, Japan's ODA will be between 7 and 7.7 billion dollars.

French Foreign Minister Roland Dumas noted that "the future of our planet requires ever closer solidarity between the North and South" and pledged to devote at least 0.7 percent GNP to ODA.

REGIONAL AFFAIRS

Franco-African Summit Held in Gabon

Gabon President Addresses Summit

AB0610155792 Libreville Africa No. 1 in French
1136 GMT 6 Oct 92

[Address by Gabonese President Omar Bongo at the opening session of the Franco-African summit in Libreville—live]

[Excerpts] Ladies and gentlemen: I am particularly happy to welcome you here today. On behalf of the Gabonese people and their government, and on my own behalf, I wish you a warm welcome and the best stay in Libreville. I express the most ardent hope that our conference will be successful. By placing this 17th conference under the theme of solidarity, we want to recall our long-standing bonds and show that the time has come for new efforts to come closer for mutual assistance. Mr. French Prime Minister, I wholeheartedly thank you for the friendly and promising statements that you have just made and the exemplary decisions that you have just announced. [passage omitted]

We know how relentless Mr. Mitterrand has been working to expand and strengthen Franco-African solidarity. For that we pay tribute to him, knowing how much we can rely on him, as well as on yourself, Mr. Prime Minister, on your government, and on the French people. Rest assured that France can rely on Africa and we want to reassure you of our willingness to march forward together with you in all fields—economic, social, cultural, and political—for the good of Africa and France, and of the whole of mankind.

The fate of Africa is swinging between hope and anguish. In southern Africa, we have eventually seen the beginning of the liquidation of the obnoxious apartheid system, but we are aware of the terrible difficulties which still lie ahead, as the blood of our brothers is still being shed. In the Horn of Africa and in other parts of our continent, bloody conflicts are going on, thus rendering ineffective all efforts to promote democracy and development and precipitating the countries affected in dramatic impasses.

However, most African countries, where peace has fortunately been safeguarded thanks to the wisdom of their people, their leaders, and their many politicians, are marching toward progress. These countries are, however, confronted now with serious financial, economic, and social difficulties. The scarcity of natural resources in certain cases and the low prices of mining or agricultural products in others are seriously curtailing their revenues. Furthermore, they spend an excessively large amount of the receipts from commodity exports on foreign debt servicing. As a result, we are facing a growing scarcity of funds needed to revive our economies, meet the increasing social demands made by our people, and strengthen through social and economic progress the

democratic process to which we are committed, a process which we continue to expand despite our continent's material difficulties. That is why we call for solidarity.

Mr. Prime Minister of France, as you have repeatedly said along with Mr. Mitterrand, we need understanding so that the structural adjustment program should better integrate the legitimate social aspirations of African people, aspirations which our governments want to meet as much as possible. It is a matter of justice and democracy. As we all see, there is the urgent need for a new approach to the debt problem. Traditional rescheduling now proves insufficient and it even ends up swelling the debt volume. Debt reductions are necessary for the revival of the financial and economic relations between the North and the South. In fact, such reductions will be mutually beneficial. In the increasingly tragic context resulting from the constant decline in terms of exchange between industrial and developing countries, our future and probably our relations with the countries from the North are conditional upon resolving the debt problem. France has understood this and set a good example. It set the pace in Dakar four years ago by canceling the debts of the least economically developed countries. At the La Baule conference, it reduced interest rates on French loans to our countries. Now it is initiating measures, at a bilateral level, in favor of the medium-income countries. It has thereby continued to demonstrate its profound generosity and understanding of the trend [word indistinct]. [passage omitted]

Without listing all the topics that we are going to examine, I will mention a few. We will examine regional integration, a question so important that I deem my colleague and brother President Abdou Diouf better placed to make a statement about it this afternoon or tomorrow. [passage omitted]

We have demonstrated long-standing, constant commitment to the Franc Zone as a major tool for integration and development. Indeed, regional integration cannot be seen as the primary response to the current difficulties. It is a long and exacting task. [passage omitted]

I would now like to stress that we are very much committed to stepping up our efforts to promote health care and environmental protection. With regard to health care, we realize that overall the economic and financial crisis has curtailed our resources, thus causing the deterioration of our health system and our equipment and jeopardizing our global effort. It is essential that our partners give more consideration, in their aid packages, to expenditures on all the aspects of health care—personnel, buildings, equipment, vehicles, drugs, and miscellaneous expenses.

It is also worth noting the importance we attach to the promotion of medical research in Africa. We can and must establish first-rate (?pools) at certain research centers dealing with the major problems of our continent and of other countries worldwide with identical climatic and developmental conditions. Moreover, with regard to

the environment, we would like to participate in concrete regional and continental action against the major scourges, which today include malaria and the Acquired Immune Deficiency Syndrome. [passage omitted]

Concerning environment, I would like to say that we are very much committed to the fight against desertification. [passage omitted]

Overall, Africa, which has not been confronted with major industrial ecological disasters, can—if assisted—contribute significantly to world environmental policy. In this connection, I am particularly happy about the holding in Libreville in April next year of the first African follow-up meeting on the UN conference. I would also like to solemnly evoke before you the need to develop solidarity among us for the promotion of African culture and the development of information coming from Africa. This is a vast subject—often debated upon and analyzed—but nothing much has been seriously done under international cooperation, and this insufficiency is most greatly felt, first in terms of asserting our identity even in our countries where our traditional values are very often lost. Much as there is a lot to be learned from outside, there is equally a lot that we can contribute ourselves in order to adapt and maintain, in all things, Africa's spirit—which gives top-most priority to human relations and brotherhood. We therefore place great hope in the International Center for Bantu Civilizations, which should be an ideal tool for cultural cooperation.

This assertion of our identity, while maintaining cordial relations with others, should be sustained by the development of information coming from here. The proliferation of press organs that goes with democratic pluralism in our countries promises a bright future in this regard. But African journalism must endeavor more to make Africa better known—its values, its aspects that are positive for itself and for the world, its potentials, the contribution of its people, and the nobleness of its ideals. Public sector cooperation with countries of the North is precious to us in this regard. It is particularly so useful and so justified that we note, alas, to what extent our continent is a victim of superficial visions, hasty judgments, and unequal treatment. It is the very spirit of North-South relations that is at stake in the arena of information. We all have our share of the responsibility. We all have something to do to remedy the situation. Mr. Prime Minister, I would like to pay tribute to what France has done in this area, citing as an example the (?longstanding) cooperation enjoyed by Africa No. 1 and the license that has just been given to this Gabonese radio—our aim is to make it a pan-African radio—to transmit on the FM band within the Paris region. We wish that culture and information benefit from a comprehensive program of new proportions in order to develop trade among us and enhance understanding among our peoples.

To conclude, I would like to stress that, all said and done, our prime concern is the upliftment of the human being.

The revival of economic and social development and the continued consolidation of the development of democracy in an atmosphere of civil peace and respect of persons and property go a long way to achieve just that. [passage omitted]

With this in mind, we attach a lot of importance to the role of women in the socioeconomic life and politics. This is inherent in the tradition of our countries, where women have always occupied a place of pride, and our aim is to facilitate the modern expression of this tradition. We also want youth to be given the best education possible, one that is most suited to active life in all its forms, in a context conducive to economic initiative and to the positive and fraternal assertion of independence. We want the aged, to whom we owe gratitude and respect, to enjoy not only the nation's material solidarity but also be able to put their experience and wisdom to the service of their countrymen at all levels of the organization of social and political life. How can we, at this juncture, not turn our eyes to one of the most eminent and illustrious of them and whose presence at this summit we specially hail. I am referring to President Felix Houphouet-Boigny. [passage omitted]

Mr. President, Mr. Prime Minister of the Republic of France, ladies and gentlemen, thank you for your attention and understanding. I am sincerely gladdened to see you in Gabon and I express once more before you and with you my best wishes for your happy stay in Gabon and for the success of our 17th Conference and its great mission of solidarity and progress. Long live Franco-African friendship.

France Announces Debt Conversion Fund

AB0710221592 Libreville Africa No. 1 in French
1112 GMT 6 Oct 92

[Speech from French President Francois Mitterrand read by French Prime Minister Pierre Berezgouy at the opening session of the 17th Franco-African Summit in Libreville—live—broadcast in progress]

[Excerpt] [Passage omitted] President Francois Mitterrand has asked me to announce to you today a new initiative that consists in setting up a fund for converting development debts. This fund is meant for middle-income countries in sub-Saharan Africa. This fund will be endowed with 4 million French francs. Present debts will be converted and canceled to support development projects in as many areas as possible and connected with basic productive activities, human and social development, and the environment. The fund will be managed by the French Central Fund for Economic Cooperation. I asked the [French] minister of finance and cooperation to quickly set up this fund so that it can be operational before the end of this year. By doing so, France, in the respect of international regulations, hopes to contribute in a more efficient manner to the solution of problems connected with indebtedness and development. It is also

showing its determination to assist all countries in sub-Saharan Africa. Nobody can be excluded from solidarity. [passage omitted]

Participants Assess Summit Results

AB0810193592 Libreville Africa No. 1 in French
1230 GMT 8 Oct 92

[Excerpts] The three-day Franco-African summit has ended in Libreville, the Gabonese capital. The African heads of state and government took the opportunity of this meeting to discuss major issues confronting Franco-phone African countries such as the consolidation of the ongoing democratization process, the revamping of the economies of African countries, and the need to raise prices for their raw materials. On this subject, listen to Malian President Alpha Oumar Konare, in whose view democracy and development go together:

[Begin Konare recording] A particular emphasis was placed on the close link between democracy and development; the need to ensure social justice; the need to give particular attention to the most deprived people, to health, and to the environment; and the need to obtain a fairer remuneration for raw materials. These were all emphasized. In this connection, they expressed the wish that the current negotiations on coffee and cocoa be held in a spirit of solidarity, partnership, and flexibility so as to arrive at a quick conclusion that will be satisfactory for all parties involved. [end recording] [passage omitted covered by referent item]

Concerning that summit, one of the highlights was the announcement by the French prime minister about the creation of a fund for converting development debt for middle-income countries. Listen to the explanations given by Pierre Beregovoy:

[Begin Beregovoy recording] This fund is aimed at converting debts and this corresponds—permit me to point this out—to a cancellation, except that this cancellation must be used for development because the debt will be converted to finance a productive project. It is a measure of solidarity. It is not a lukewarm measure. It is warm and demonstrates the spirit that prevailed at this summit between African heads of state and government and the prime minister of the French Republic, who was representing the president of the Republic, Mr. Francois Mitterrand, and acting in full agreement with him. Placing emphasis on this measure alone, however, is not enough when considering the outcome of this summit. Several good reports were presented, and several programs were mapped out. [end recording]

Among the beneficiaries of this reconversion fund is Gabon, which hosted this 17th summit. Here is the feeling of the Gabonese president, Omar Bongo, who expressed satisfaction with the decision made by the French authorities:

[Begin Bongo recording] When we met at the La Baule summit [in 1990] with President Francois Mitterrand,

the decision was made to reduce the interest rate by 50 percent for middle-income countries. That was already something. This time, France has demonstrated generosity. I said generosity because I have always said that I was not in favor of the policy of much assistance, many donations, much of this and that, but I have always believed that we should have—between us and France—perhaps a very simple system, that is, a guarantee fund that will be put at the disposal of the states for the loan accords they have signed with France. This time, the measure has been taken. It is very important for the Gabonese Government. The assessment is yet to be made. I can only tell you that I am satisfied. [end recording] [passage omitted]

Still concerning the Franco-African summit, we should note the reaction of the ruling Gabonese Democratic Party whose general secretary, Jacques Adjahenot, held a news conference this morning during which he expressed satisfaction with the outcome of this summit. He remonstrated against the attitude of the party members of the Democratic Opposition Coordination which had called for boycotting this summit:

[Begin Adjahenot recording] We are in a democratic system. They are free to think that the summit would not take place, but I think that the results achieved have proved sufficiently that they were wrong and that we can see the results. They are all not perfect because we still have a long way to go. I think that this kind of meeting results in something positive for our economy but also helps to bolster democracy in our country. We should not forget that it was the La Baule Franco-African summit that launched the democratization process in Africa. [end recording] [passage omitted]

BOTSWANA

Tourism, Fences Threaten Okavango Wetlands

92WN0751A Johannesburg SUNDAY STAR in English
9 Aug 92 p 5

[Report by Hans-Peter Bakkar]

[Text] Botswana's Okavango Swamps are at the centre of a three-way clash between cattlemen, conservationists and tourism developers that is changing the whole character of the unique wetlands.

The large herd of buffalo whirl in confusion when they run up against the bright, new steel fence which cuts through their grazing veld. The sun-bleached bones of a hippo lie against another, earlier section of the fence. When the bulldozers and gangs of workers followed the brutally straight line on their maps in the northern reaches of the Okavango Delta, they drew the line between the hippos' waterhole and their grazing, leaving them to die a miserable death in the dry grass.

Further north, close to where the buffalo peer anxiously through the strands of wire, a herd of about 50 elephants

graze contently. They are more fortunate because they can step across or through the flimsy fence. Thousands of buffalo, wildebeest, and several species of antelope have been caught on the "wrong" side of what is called the northern buffalo fence, and face an uncertain future.

The fence begins in the waters of the Okavango panhandle and stretches more than 100 km east before turning north. It runs another 100 km until it stops—for now—about 80 km from the Caprivi Strip in Namibia.

The government and agriculturists claim that the fence was built to protect the wildlife of the Okavango from the pressure of cattle farmers. Conservationists point out that if the government was interested in preserving the environment it would not only have commissioned an independent environmental impact assessment, but would also have constructed the fence closer to the cattle posts, many kilometres to the west.

Botswana's wildlife director, Nigel Hunter, admitted that no formal, independent assessment was done, but insisted that the environmental consequences of the fence were taken into account. He also said that the fence was aligned as close as possible to the cattle settlements. "It was a compromise solution, and nobody is happy in a compromise."

The multi-million-rand fence is there to stay, but what will happen to game trapped on the "wrong" side of the fence? What line will the as yet uncompleted section of the fence follow to the Namibian border? How will it affect wildlife in the area?

Hunter claimed that there was very little game on the cattle side of the fence and that there were plans to herd the buffalo through the gap in the north before it was closed by the last stretch of fence.

He said the buffalo, as the carriers of foot-and-mouth disease, would be the only species that would "definitely not be allowed to stay there." He insisted that neither the buffalo nor any of the other species would be destroyed to make place for cattle.

But conservationists in Maun are not satisfied. Willie Phillips, a veteran hunter turned conservationist, said the area now secured for cattle-ranching was teeming with game. He laughed at the government's plans to herd the buffalo out of the area and said they would almost certainly be exterminated.

As for the elephant, they may be able to cross the fence, but the patience of the repair-teams will wear out and they are certain to turn to killing them instead, Phillips said.

The alignment of the as yet uncompleted section of the fence is still undecided but, on this issue at least, the antagonists agree. Melanie Oakes, secretary of the Tshomarelo Okavango Conservation Trust in Maun, said the conservationists' greatest frustration in the past

was the government's failure to commission independent environmental impact studies before undertaking such projects.

Hunter said his department would pay more attention to detailed assessments in future and that the fence would not be continued until such a study was done.

In the past decade the Okavango delta has come under increasing pressure.

The country's cattle barons have eagerly eyed what has become the country's last watering-hole after an extended drought.

Tour operators, hunters and adventurers have flocked to the swamps because of its unique wilderness and still prolific wildlife.

Maun has changed from a dusty frontier town to a small metropolis, increasing the demand to harness the waters of the giant Okavango, Africa's fourth largest river.

The cattle pressure is being dealt with by enclosing much of the delta with hundreds of kilometres of fences. A fence along the south and west of the delta has generally been praised as a saviour to wildlife in the delta, but the ire of conservationists has been raised by the northern fence.

Few people believe that the swamps themselves will be invaded by cattle, but some conservationists are concerned that the swamps will be unable to sustain the present numbers of wild animals if they are hemmed in by fences on all sides.

Dr Tony Farrar, director of the Southern African Wildlife Society, argued that wildlife which use its waters in the dry season actually lose condition because of the low nutrient level of the swamp grasses. For their long-term survival they need to be able to move into the richer grazing lands further away—much of which has now been fenced for cattle.

Few people believe that the swamps themselves will be invaded by cattle, but some conservationists are concerned that the swamps will be unable to sustain the present numbers of wild animals if they are hemmed in by fences on all sides.

But the effects of the fencing-in will remain a guessing game until an authoritative environmental-impact study is done.

Meanwhile, according to Hunter, "the greatest threat to the swamps is tourism."

A plan by the government to more than treble the number of concessionary areas in the swamps and to open them up to tendering is nearing completion. Despite some misgivings, the plan is generally supported by tour operators and conservationists.

By the end of the year the legal instruments will be in place and the tendering procedure will be under way so that operators can start at the beginning of next year, Hunter said.

According to the new scheme, the Moremi Wildlife Reserve will be enlarged to act as a core conservation area. It will be surrounded by smaller concessionary blocks which will be reserved for photographic safaris, community use, and hunting and fishing activities.

According to Peter Hancock of the World Conservation Union (IUCN) in Gaborone, the plan will encourage private operators to get more involved in protecting their areas, since it allows for a 15-year lease compared with the present system in which a concession has to be renewed every year.

MOZAMBIQUE

Poachers 'Wiping Out' Zambezia Province's Wildlife

MB2909092692 Maputo Radio Mozambique Network in Portuguese 0800 GMT 29 Sep 92

[Text] NOTICIAS reports that Zambezia Province's wildlife risks extinction due to poaching. NOTICIAS, which says that poaching in the province has reached alarming proportions, mentioned the Campo Administrative Region of Mopeia District where poachers are wiping out wild animals using AKM rifles.

Campo's administrator confirmed the report, and told NOTICIAS that members of the Zambezia Provincial Military Command and of the Mozambique People's Police have flocked to the region to hunt, though they do not report to the local authorities.

NIGERIA

New Regulations for Importing Chemicals

AB0210150992 Kaduna Radio Nigeria in English 1700 GMT 1 Oct 92

[Text] It is now mandatory for people importing chemicals and allied substances to obtain licenses from the Federal Environmental Protection Agency, FEPA. The director of the Agency, Dr. Evans Ayana, explained in Lagos yesterday that the move was to prevent Nigeria from becoming a dumping ground for such chemicals.

He said ships and aircraft will henceforth be thoroughly inspected at various posts to ensure that such restricted chemicals were not imported without meeting necessary regulatory requirements in international trade.

SOMALIA

UNEP Plays Role in Stopping Toxic Waste Shipment Deal

AB0810135092 Paris AFP in English 1516 GMT 6 Oct 92

[Excerpts] Nairobi, Oct 6 (AFP) - A deal between two European firms and a Somali national to ship 500,000 tonnes of toxic waste to Somalia has been aborted, U.N. Environment Programme (UNEP) Executive Director Mostapha Tolba said here on Tuesday [6 October].

"UNEP is pleased to have played a role in heading off an environmental tragedy in Somalia," the statement quoted Tolba as saying. [passage omitted]

He said UNEP was able to follow up quickly with the government of Switzerland, where a firm was reportedly involved in the deal, when it became obvious that the shipment had to be stopped.

Switzerland is a signatory to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, whereas Italy, the country of the other firm alleged to be involved in the deal, and Somalia are not.

UNEP recently sent an investigative mission to war-torn Somalia to verify the dumping reports, but after conferring with Somali authorities and U.N. staff in Mogadishu, found no conclusive evidence that the toxic waste had actually been dumped in the country.

But a planned visit to northern Somalia, close to Djibouti, where a warehouse containing pesticides used against locusts was set ablaze earlier this year, threatening one of the area's water supplies, was impossible to undertake as the area is inaccessible due to ongoing clan fighting, Tolba said. [passage omitted]

SOUTH AFRICA

Locally Manufactured Filter Panels Reduce Power Station Emissions

92WN0750B Johannesburg ENGINEERING NEWS in English 7 Aug 92 p 33

[Article by Bernie van Niekerk]

[Text] Locally designed and manufactured filter panels used to reduce stack emissions at power stations, are claimed to cost a fraction of the cost of current filtration systems while maintaining high efficiency.

Ian Kelfkins, MD of Ian Kelfkins Enterprises, is currently installing Flosep Vortex filter panels at Pretoria power station.

These self-cleaning filters, at R361,000, cost substantially less than electrostatic precipitators, which would, for this size application, cost about R2-million, says Kelfkin.

A reduction in particulate emissions from 4,000 to 400mg/m is expected, he says.

This is under the 450 mg/m required for this specific installation, and equals 90 percent collection efficiency.

Efficiencies of up to 97 percent can be obtained, he says.

The filter construction consists of 100mm diameter cast iron vortexes in a mild steel surround frame.

As part of Pretoria City Council's environmental consciousness campaign Flosep Vortex filters are replacing existing dust extraction equipment at number 8 boiler.

The Flosep Vortex tubes separate particulate matter from air and gas streams by centrifugal action and 20 years of research has resulted in the perfection of the uni-directional tube, which collects, light to extremely heavy, dust particulates.

The design, by Flosep—a division of the Atomic Energy Corporation (AEC), has been used for the separation of isotopes in uranium enrichment applications and has a 100-percent local content.

"This is the first of its kind in South Africa," says Kelfkins, "and although it won't revolutionise the huge filtering applications at bigger power stations, it will do away with a lot of pre-filtering."

At Lethabo power station, savings of R350,000 a year have been made by retrofitting the mill seal fans, which previously used conventional pleated fabric filters, with Flosep panels, he says.

This upgrade cost R330,000.

The economy lies in the fact that the units need very little maintenance, use no electricity and generally do not require scavenging whilst the pressure drop across the filter bank remains constant.

Decline in Water Resources Examined

*92WN0764A Cape Town SOUTH AFRICAN
PANORAMA in English July/August 92 pp 47-51*

[Article by Anna-Marie Burger]

[Text] South Africa's average rainfall of about 500 mm per annum, is almost half the world average and varies between the extremes of less than 50 to more than 3,000 mm. However, a large part of the country (65 percent) gets less than 500 mm, the minimum for successful dryland farming, while 21 percent gets less than 200 mm.

Only approximately nine percent of the annual rainfall is available as river run-off. The rest is lost through evaporation, transpiration by plants or seepage into underground reservoirs.

It is expected that the demand for water will surpass the available supply by early next century. The total possible amount of utilisable water in the country is about 35,000 million m³ per annum. Urbanisation and increasing industrialisation, however, put a great strain on available sources and consumption could increase to 25,900 million m³ by the year 2010. This means that the water supply will soon have to be replenished by:

- more effective use of rivers and storage, agricultural and ground water
- purification and recirculation of industrial and urban effluents
- desalination of sea water or inland brackish water
- the augmentation of run-off by stimulating rainfall
- continued negotiations with neighbouring countries concerning the most beneficial communal utilisation of rivers
- reduction of evaporation losses
- abstraction of moisture from the atmosphere
- the possible exploitation of icebergs
- the use of impervious surfaces, such as concrete and plastic sheeting to harvest rain for storage under ground.

The development of the water supply and the protection of the water quality are dealt with on a regional basis by water and irrigation boards, regional services and local authorities, and on a national level by the Department of Water Affairs and Forestry.

The basis for a comprehensive irrigation and water control organisation was laid as far back as 1875 with the establishment of a hydraulic division under the Commissioner of Public Works in the Cape Colony. After unification the Union Irrigation Department formally came into being in 1912. Since 1945, the emphasis in water policy gradually moved from provision mainly for agricultural purposes, to provision of water for an increasingly industrialised and urbanised country. It was then also realised that the country's limited water resources would have to be managed carefully to provide in the needs of a growing nation. In 1956, the Water Act (Act 54 of 1956) replaced the 1912 legislation and still serves as the basis of all water legislation. The Act also occasioned the change of name from the Department of Irrigation to the Department of Water Affairs.

About 29,000 million m³ (54 percent of the total average run-off from all rivers in South Africa) is stored in dams. There are 180 dams in the country with a capacity of more than five million m³ and 84 dams containing between 0.25 and five million m³ of water. Then there are also some 250,000 smaller dams with an average capacity of 5,000 m³.

Only about 12 percent of South Africa's estimated available 5,500 million m³ groundwater is utilised annually,

mainly due to the nature of geological formations present. A project was recently launched by the Water Research Council to chart the country's groundwater sources. It should save the farmers millions of rands because they will not have to sink dry boreholes anymore. The maps will be based on geological data about rock formation and information on other underground water resources.

South Africa is, due to its low rainfall, extremely sensitive to water pollution, which is defined by the Water Act of 1956 as the deterioration in the quality of water to such an extent that it is less suitable for rightful utilisation.

In the past, water pollution was combatted by the control of effluents. This approach has, however, now been replaced by quality management of the water resource, protecting both man and the ecology, by laying down the maximum pollution load each area can handle. A distinction is also made between toxic and non-toxic effluents.

Water pollution is not just the visible harm to the water environment. It is anything that can obviously or subtly change the water environment for the worse, or reduces the value of the water for its usual purposes. All forms of water pollution are interrelated through the action of the water cycle: rainfall causes the leaching of pollutants from solid waste into rivers, which in turn flow into the sea. Evaporation of sea water returns to the atmosphere, which, in time, produces rainfall and subsequently causes the leaching of pollutants.

Some of the most important natural sources of pollutants are waste products resulting from decomposed plant and animal residue carried by rain water to water resources. Soil erosion and salts from geological origin also contribute to this process. Agricultural activities (natural and artificial fertilisation, and pesticides), industries, mining, urbanisation and atmospheric dross are artificial sources of pollutants.

Water does not change as element when other material is dissolved in it and can be reclaimed by removing the polluting ingredients. The purification of especially industrial water is, however, an expensive and technically difficult process. However, through intensive research it is aimed to purify about 70 percent of all industrial water eventually. South Africa's highly developed technology and scientific expertise makes the country a world leader in the field of the dilution and biological purification of sewage from residential areas.

Purified sewage as a supplementary water resource in agriculture, plays an increasingly important role in the optimal utilisation of South Africa's water resources. The health aspects and interaction between the purified effluent and the soil and the vegetation concerned must, however, be heeded. In 1990, some 1,704 million m³ sewage effluent was reused and this figure is expected to rise to 2,440 million m³ in the year 2000 and to 3,274

million m³ in 2010. Sewage effluent is also increasingly used for household and industrial purposes.

The (Council for Scientific and Industrial Research) CSIR's Division for Water Technology recently obtained promising results in a study on the use of artificial marshes to purify effluents. Different kinds of marsh plants and effluents were used in the experiments, and it was found that artificial marshes remove bacteria and nutrients effectively. Such marshes are aesthetically acceptable and the running costs are low. It also offers a valuable by-product: marsh plant material can be utilised as building and handicraft material.

Mr. Tinus Erasmus, deputy director-general of the Department of Water Affairs attributes the deterioration of the country's water resources to salination due to the intensive re-use of limited water supplies as a result of urbanisation, increasing industrialisation, irrigation and the use of fertilisers and pesticides. Natural salination of rivers in the barren and half-barren areas is especially detrimental to agriculture because a too-high salt content in irrigation water has a negative influence on various crops.

As the demand for water increases, salination is researched, in order to produce drinking water from sea or brackish water; to prevent pollution of industrial and mining effluents, and to recover this water for reuse.

Desalination processes deliver fresh water and a pickle waste product which has to be done away with in an environment-friendly way so as not to pollute fresh water resources. It can be dumped in the sea or in wells deeper than any water resource, processed into a dry product through evaporation, or salt water environments can be transformed into salt pans.

Standards for drinking water are used as directives when researching water quality. The recommended limit for chloride is 250 mg/l; aluminium 0.15 mg/l; and brackish water 500 to 2,000 mg/l.

The Chief Director: Forensic and Research Services of the Department of National Health and Population Development, Dr. Kobus Aucamp, says despite the many complaints and uncertainties concerning the danger of chlorine in drinking water, it is still the best way to purify water. Only minute quantities of chlorine are still present in the water by the time it reaches the consumer. The big objection against chlorine is that it causes the chemical compound trihalomethane (THM) when it comes into contact with organic material. This compound is carcinogenic. A restriction is placed on the amount of THM in South African drinking water and it is substantially less than in other countries. Dr. Aucamp says the danger of cholera, which is caused by impure drinking water, is much greater than the possibility of obtaining cancer from THM.

Planning for the optimal development and utilisation of water resources is an interdisciplinary task. To ensure

that the planning of the country's water resources coincides with other planning actions, it is done according to catchment areas. The studies offer a comprehensive picture of the water situation and indicate where possible future problems can be expected, and also how to counter them.

Positive Effects of Drought at Kruger Noted

92WN0750C Johannesburg *THE STAR* in English
17 Aug 92 p 3

[Article by Clyde Johnson]

[Text] Shingwedzi—Although the Kruger National Park was experiencing the worst drought in recorded history, the reserve had not been turned into a desert with scores of dying animals, Park director Dr Salmon Joubert said at the weekend.

Speaking at a press conference in Shingwedzi in the northern part of the reserve, Dr Joubert said: "Rivers may have ceased to flow, grazing in certain areas has been severely affected and water is scarce, but many animals are still in good condition, there are no rotting carcasses and generally life goes on according to natural conditions."

Culling

Nobody, he added, enjoyed drought but there was no point in being negative and it was best to learn as much as possible about the drought's effects.

"Drought is a natural phenomenon and plays the same role as a flood cycle. We consider it nature's way of culling and once the rains come, stronger strains will perpetuate," he said.

The drought was a unique opportunity for researchers to study and determine the drought's influence on animals and plants—and offered tourists and visitors a once-in-a-life-time chance of seeing how animals and trees looked after themselves in times of stress.

Dr Joubert said the reserve had survived well but the next weeks could prove the worst as temperatures started rising.

Unless good rains come soon, many animals could die in the weeks ahead.

"Hippo are particularly susceptible to drought and many are bound to die. But after the rains come, hippo will return to traditional water holes and re-establish themselves."

Because of the drought, this year's buffalo culling programme had been waived.

Dr Joubert said this was an ideal time to visit the park from the tourist point of view.

Limited plant growth enabled visitors to a better sight of animals. Larger concentrations of game were gathering

at the park's water holes and, with predators having a field day, the chances of viewing kills daily were excellent.

Dr Joubert stressed there was no water shortage at any camps in the park.

Drought studies, he pointed out, were not limited to buck and larger animal species.

"Researchers have grasped this opportunity to study and record the effect the drought is having on bird life, insects, water resources, plant life and grazing," he said.

"Although man should never intervene with nature, all information gathered during this drought period will enable future generations to cope even better in waterless years ahead," Dr Joubert added.

Progress of Lesotho Highlands Water Project

92WN0780D Johannesburg *THE STAR* in English
19 Aug 92 p 19

[Text] The Lesotho Highlands Water Project (LHWP) is one of the most ambitious multi-purpose water schemes under development worldwide.

When fully completed, the joint Lesotho-South African project will have tremendous benefit for both countries, supplying much-needed water to South Africa and hydro-electricity to Lesotho.

As long ago as the 1950s, proposals were made to transfer Lesotho's abundant water to South Africa and studies were undertaken on the feasibility of diverting the headwaters of the Orange River in Lesotho to the Vaal River in South Africa. However, the plans for the Oxbow scheme never came to fruition.

In the 1970s the proposals were reviewed. In 1978 Lesotho and South Africa launched a joint feasibility study into what was to become known as the Lesotho Highlands Water Project.

More than 2,000 variants were evaluated before the final proposals were made and it was not until 1986 that Lesotho and South Africa signed the treaty approving the water scheme and the binational Joint Permanent Technical Commission was established.

The commission, equally represented by both countries has monitoring and advisory powers with regard to operation plans, calculation and allocation of costs, funding, design and tendering.

The LHWP will be developed in four phases over 30 years. When complete it will deliver 70/cu m of water a second to South Africa and will generate 1,304 GWh of hydro-electric power a year to Lesotho.

When fully developed, the project will consist of five major storage dams, a power station with a total installed capacity of about 110 MW, a smaller dam to create the tailpond of the hydro-electric scheme, a total of 225 km

of tunnels, three pumping stations and 650 km of access roads. Work is already progressing on Phase 1A which involves construction of the 180 m high 1,950 million/cu m Katse Dam, the Muela Dam and power station two lengths of transfer tunnel and three lengths of delivery tunnel totalling 81 km. Phase 1B will see the construction of the 958 million cu m Mohale Dam, the Matsoko Diversion and 6.4 km tunnel from the diversion to the Katse Dam and capacity of the Muela Dam increased to 10 MW.

Phase II includes the construction of the 3,306 million/cu m Mashai Dam, pumping stations connecting Mashai and Katse dams, a second transfer tunnel from Katse Dam to Muela power station; or from Mashai Dam to Muela power station and a second delivery tunnel from Katse Dam to the Axle River outlet.

IAEA Inspectors Investigate Toxic Dumping Sites

*MB2309195792 Johannesburg Radio RSA in English
1100 GMT 23 Sep 92*

[Text] The Namibian prime minister, Mr. Hage Geingob, says inspectors from the International Atomic Energy Agency are investigating possible toxic dumping in Namibia. He told a Namibian newspaper in an interview published this morning that a team of three had arrived in Namibia over the weekend, and that they would be spending a week in the country investigating possible dumping sites. A report from Windhoek says Namibia is known to be attractive to Western firms with waste to dump with just 1.5 million people scattered across vast desert tracts in a territory covering about 800,000 sq. kms.

ZIMBABWE

Energy Crisis Threatens To Cripple Economy

*MB2809202292 Johannesburg SAPA in English
1831 GMT 28 Sep 92*

[By Sean Feely]

[Text] Johannesburg, Sept 28 (SAPA)—Zimbabwe's commercial farmers and industrialists have proposed power-cutting plans to help alleviate the current energy crisis which threatens to cripple the country's tottering economy.

Zimbabwe is being ravaged by the worst drought in living-memory in the southern African region, its massive water reserves at Lake Kariba needed to generate electricity are drying up and major crop production is expected to fall by between 50 and 75 percent.

The country's farmers have been unable to plant sizeable winter crops and the unscheduled power black-outs, because of Zimbabwe's reduced hydro-electric capacity, are playing havoc with irrigation systems and refrigeration facilities needed for milk and horticultural products.

There have also been repeated operational problems at the coal-fired hwange power station and it is estimated to only be generating electricity at half of its design capacity.

The country's gross domestic product is expected to contract by nine percent this year but power disruptions to industry and agriculture could cause gdp to shrink by between 14 and 20 percent, economists say.

Commercial Farmers Union [CFU] President Peter MacSporran called on Monday for a rotational one-day-a-week cut in power supplies to farming areas. The plan could result in a 15 percent reduction in power consumption on farms.

The state-run Zimbabwe electricity supply authority is contemplating a 30 percent cut in power to commercial farmers. But, Mr MacSporran said agriculture's electricity consumption was already down by 40 percent as the drought had made it difficult to increase the area planted with winter crops.

ZESA [Zimbabwe Electricity Supply Authorities] Chairman Solomon Tavengwa has yet to comment on the CFU's plan but told SAPA from Harare in a telephone interview that the country's productive sectors would "receive preference" over ordinary consumers when it came to making a decision on power cuts.

The Zimbabwean association of business organisations, representing the country's industries, has also proposed power saving measures.

It suggested that a big fertiliser and electrolysis company, Sable Chemicals, which consumes about 10 per cent of Zimbabwe's electricity be closed down.

While this move could avoid an estimated 64,000 workers being added to Zimbabwe's 2-million jobless and save the country about ZD [Zimbabwe dollars] 7-million in foreign exchange losses, Sable Chemicals said its closure would cripple agriculture.

The Zimbabwean Government has done little so far to concretely tackle the energy crisis. But over the week-end an exasperated President Robert Mugabe, who declared the electricity supply authority was in a mess, appointed the new Energy Minister Denis Norman to sort the crisis out.

Mr Norman has not made his intentions on resolving the crisis clear yet, but he is expected to be galvanised by recent estimations by the farmers that over Zd 450-million could be lost in immediate production and the industrialists' warning ZD 2-billion could be forfeited in foreign exchange reserves over the next 18 months.

However, the ZESA chairman clearly believes the problem does not lie with the supply authority.

"The facts are, firstly, that Kariba's generation is down because of the drought and we have an agreement with Zambia to conserve energy from the lake, and secondly,

the problems at Hwange are pronounced because of our reliance on hydro-electric power," Mr Tavengwa said.

He said ordinary consumers had to be persuaded to reduce their power consumption and over the week-end there had been a noticeable drop in electricity utilisation.

"The message is getting across that we have to reduce power consumption, and in that way avoid the black-outs," he said.

A project to import electricity from South Africa in conjunction with Eskom [Electricity Supply

Commission], which has a surplus of power, is underway. But the Beit Bridge border power connection expected to be operational by mid-November will only supply an additional 40 megawatts.

The relief will be marginal as Zimbabwe normally needs 1,400 mw each day and is currently struggling by on 1,000 mw.

Another Eskom plan to direct power to Zimbabwe via Botswana which could supply 140 mw still has to get the Zimbabwean government's rubber stamp.

Shanghai Hosts Symposium on Environmental Protection

OW2309215792 Beijing XINHUA in English
1538 GMT 23 Sep 92

[Text] Shanghai, September 23 (XINHUA)—The first symposium on environmental protection of the two sides across the Taiwan Straits was opened today in Shanghai.

About 120 experts from the Chinese Mainland, Taiwan, Hong Kong, Macao and the United States will attend the three-day meeting.

At the seminar, which has received 100 academic papers, the participants will share their views on the development of the environmental protection undertakings and laws as well as the development of environmental protection technology and education on the two sides.

According to Zhang Kunmin, deputy director of the National Environmental Protection Agency, noted achievements have been made in environmental protection on the mainland in the past decade due to the efforts by the central government, which has made the issue a priority in the country.

Zhang noted that in the past ten years the central government has issued 12 such laws and has launched special educational programs on the issue.

At present, 71 colleges on the mainland have departments on environmental protection while the number of research units concerned has surpassed 200, with a total staff of over 20,000, according to Zhang.

In 1991, China invested 14 billion yuan (about 2.35 billion U.S. dollars) in environmental protection compared with merely over one billion yuan (about 200 million U.S. dollars) in the early 1980s.

During the Eighth Five-Year Plan period (1991-1995), the investment will reach 80 billion yuan (about 15 billion U.S. dollars).

Zhang stressed that China must draw lessons from the industrialized countries on environmental protection and try not to repeat their old ways.

Minister Urges Developed Countries To Narrow North-South Gap

OW2309171092 Beijing XINHUA in English
1648 GMT 23 Sep 92

[Text] United Nations, September 23 (XINHUA)—China urged developed countries here today to take effective measures to change the unfair international economic order so as to help developing countries in their cause of getting rid of poverty and backwardness.

Speaking at the 47th UN General Assembly, Chinese Foreign Minister Qian Qichen said that the old international economic order is "an important external cause for the poverty and backwardness of developing countries."

Qian appealed to the Western countries to dismantle discriminatory trade barriers, further open their market to developing countries and endeavor to keep the prices of primary products at a rational level.

The Chinese minister also said that the developed countries should take their responsibility and obligation according to the UN resolution of setting aside 0.7 percent of their GNP for assistance to developing countries.

"Establishing an equitable and rational new international economic order based on equality and mutual benefit is a reliable guarantee for a balanced, healthy and sustained growth of world economy, and an important precondition for gradually narrowing the North-South gap as well," Qian said.

Developing countries should rely mainly on themselves for achieving a real economic growth. However, despite the painstaking efforts by the developing nations in economic development, the unfair economic order and the crushing debt burdens have not only prevented them from narrowing the gap with their developed counterparts, but also rendered the gap to become even wider.

Qian pointed out that the income gap between the people of the richest countries and those of the poorest countries has grown from the 30 times of 1960s to the 90 times of the 1990s.

Stressing that peace and development are mutually supportive, the Chinese foreign minister said there can hardly be durable stability and prosperity in the world in the absence of the economic development and social progress of the developing countries.

He also warned that assistance for the purpose of applying pressure on the receiving countries "will cause turbulence and instability" in those countries and will be even more detrimental to their economic development.

Qian also said, "It is obviously one-sided and harmful to make irresponsible comments about the human rights situation in developing countries in disregard of the difference in historical background and cultural tradition as well as the actual conditions in these countries."

"For the people of developing countries, the right to subsistence and the right to development are undoubtedly the fundamental and the most important human rights of all," he said.

On the documents adopted at the UN Conference on Environment and Development, Qian said that China hopes that the obligations and rights pertinent to environmental protection will be fulfilled or exercised fully

and that global cooperation in this field will afford a scope for improved North-South relations.

Apple Orchards Established To Control Erosion in Loess Plateau

OW2409131492 Beijing XINHUA in English
1237 GMT 24 Sep 92

[Text] Zhengzhou, September 24 (XINHUA)—The Loess Plateau in China, an area notorious for water and soil erosion, now has five apple production bases as a result of the efforts of the central government and local people for erosion control.

The apple production bases are expected to reap a good harvest this year, following a total output of 500 million kg of apples last year.

The five bases are located in western Henan, northern Shaanxi, and southeastern Gansu Provinces as well as in the Sanchuanhe River valley.

The Loess Plateau covers an area of 640,000 square kilometers, ranging from Longyangxia in Qinghai Province to Taohuayu in Zhengzhou, capital city of central China's Henan Province. It stretches through five provinces and the Ningxia Hui and Inner Mongolia Autonomous Regions with a population of 72.69 million.

In the past, 1.6 billion tons of silt per year washed into the Yellow River due to serious deterioration of vegetation in the area. As a result, the Loess Plateau remained poor.

Since the 1980s, the central government has invested heavily in the area to reclaim mountains, rivers, farmland, forests and roads.

Meanwhile, technical personnel found the area to be suitable for growing apples as it enjoys bright sunshine with varying temperatures between day and night. Some locales receive 2000-3000 hours of sunshine per year.

Apples produced by the five production bases are sold to 22 provinces, as well as Hong Kong, Macao, Taiwan, Eastern Europe and Southeast Asia.

Western Henan Province's Sanmenxia city now lists fruit orchards as its primary industry. Last year, the city devoted 52,000 hectares of farmland to growing apples, with output standing at 210 million kg. Orchards in the city reached an area of 81,000 hectares. Fruit products accounted for 21.4 percent of the city's total agricultural output value.

Recently, the city has concentrated on introducing advanced techniques and improved apple seeds from abroad.

Asian Bank Approves Loan for Energy, Environment Projects

OW2409093892 Beijing XINHUA in English
0723 GMT 24 Sep 92

[Text] Manila, September 24 (XINHUA)—The Asian Development Bank (ADB) approved today a loan of 107 million U.S. dollars and a technical assistance grant of 600,000 U.S. dollars to China for an industrial energy conservation and environment improvement project.

The loan has a repayment period of 20 years, including a five-year grace period, with interest rate to be set in accordance with the bank's pool-based variable lending rate system.

The project to be financed consists of two fertilizer plants in Guizhou and Hebei Provinces, three cement plants in Sichuan, Hunan and Guangdong Provinces, and two large-scale iron and steel industries in Sichuan and Jilin Provinces.

The project will introduce modern systems for energy conservation and environmental management, install energy-saving equipment, modify production processes for more energy efficiency, protect environment by eliminating hazardous substances from wastes and provide training for managerial and technical personnel.

The project will reduce unit energy consumption, leading to efficiency gains and cost effectiveness and the environment will also benefit from the control of gaseous emissions and liquid effluents discharged by these plants, the ADB said.

The technical assistance grant of 600,000 U.S. dollars was to assist the Chinese Government in managing and accelerating the implementation of its energy conservation program, the bank said.

Symposium Views Effects of Three Gorges Project

OW2709132192 Beijing XINHUA in English
1236 GMT 27 Sep 92

[Text] Chongqing, September 27 (XINHUA)—About 100 specialists attended a symposium in Chongqing to discuss the effects of the Three Gorges project of the Yangtze River on Chongqing city, one of the largest cities in southwestern China's Sichuan Province.

Jointly sponsored by the leading group of the feasibility study of the Three Gorges project, China's largest water conservancy project to be built, and Chongqing Municipal Government, the symposium was held from September 21 to 26.

Qian Zhengying, vice chairman of the National Committee of the Chinese People's Political Consultative Conference, attended the symposium.

During the symposium, Qian, who is also the head of the feasibility study of the Three Gorges project, listened to the report from the experts from the Ministry of Water

Conservancy, Ministry of Energy, Ministry of Communication, the State Bureau of Environmental Protection, the Chinese Academy of Sciences, Qinghua University and Chongqing city.

The experts voiced their opinions on the flood-control of Chongqing city and the Three Gorges project's effect on the ecology and environment of Chongqing city.

Qian said that the effects of the Three Gorges project will mainly be seen at the second phase of the project since the water level at the first phase of the project is relatively low.

She urged the specialists to continue their research on the effects and she said the accurate conclusion will result from the experiment on water storage at the first phase of the project.

She noted that the projects on the upper reaches of the Yangtze River and upper subreaches of the river will play a significant role in reducing the unfavorable effects of the Three Gorges project on Chongqing city.

Sun Tongchuan, mayor of Chongqing, said that as one of the major industrial bases on the upper reaches of the Yangtze River, Chongqing will tap its potential to contribute to the construction of the Three Gorges project and development of the reservoir areas.

Clean Environment Efforts Gather Momentum

OW0210143292 Beijing XINHUA in English
1337 GMT 2 Oct 92

["Feature" by correspondent Xu Yihe: "China Battles for Clean Environment"]

[Text] Beijing, October 2 (XINHUA)—As China's economy gathers new momentum, so does the striving for a clean environment.

Big money, legislation backed by stiff penalties, and a massive greening of the land feature among government moves. Environmental protection has been a basic policy since the heady days of development in the 1980s.

But since then the screws have been tightened further. Four laws and more than 20 regulations now form the basic legal frame for China's environmental protection.

A law stimulates that any new or renovated plant must install anti-pollution devices.

Polluters face closure or a fine of between 5,000 and 20,000 yuan (926 to 3,700 U.S. dollars), and must remedy the problem by a certain deadline.

Meanwhile, the country digs deep into the pocket to finance the clean up.

In the present Eighth Five-Year Plan period (1991-1995), China, despite its tight budget, plans to spend 80

billion yuan (15 billion U.S. dollars) on environmental protection, nearly double the amount for the previous five-year period.

Qu Geping, director of the State Environmental Protection Agency, said most of the money is being used to create more clean energy to replace coal, a major source of air pollution.

Coal makes up 74 percent of China's total energy. Seventy percent of dust emissions and 90 percent of discharged sulphur dioxide come from coal burning.

China uses three-fourths of its 1 billion tons of annual coal production for heat.

As a result, its industry discharges a yearly average of 13.14 million tons of soot and 16.22 million tons of sulphur dioxide.

To reduce pollution caused by burning coal, environmental protectionists plan to renovate the country's tens of thousands of industrial boilers and build more central heating facilities to replace scattered coal-fired boilers.

In Beijing, for example, where air pollution is mostly caused by burning coal in boilers and furnaces for heating, the city planners have shut down about 3,500 boilers over the past few years.

The city's central heating system has increased its supply by 85,000 households. And 90 percent of Beijing dwellings now have piped gas.

In another development, the city is building a 32-km-long heat transmission pipeline from an outlying power plant to the western part of the city.

When completed in 1996, the World Bank-funded project, costing 132 million U.S. dollars, will provide heat and hot water to about 800,000 people, further reducing air pollution from burning coal.

China also plans to create more clean energy such as hydropower and nuclear energy.

By 2000, the installed capacity of China's nuclear power is expected to reach 6,000 MW and that of hydropower, 80,000 MW, double the present figure.

Last year China generated 123 billion kwh of hydropower electricity, about one-sixth of the total.

The country is also pooling international funds to reduce air pollution. The United Nations Development Program (UNDP) and the Global Environment Facility (GEF) are funding a 25 million U.S. dollar study on the environmental aspects of coal mining.

The project is designed to reduce the emission of methane into the atmosphere and to promote the use of methane gas as a high quality energy resource.

While China is one of the largest emitters of coal-associated methane, which is much more toxic than carbon dioxide, only a few state-run mines are equipped to recover methane.

The government will work out detailed plans for the project in the next few months.

Meanwhile, rural China is sowing seeds for a better environment.

Since 1985, it has continued a massive campaign to improve soil conditions and environment. The campaign includes planting more trees across northern China, on the flanks of the middle and upper reaches of the Yangtze River, in coastal areas, and around agricultural areas on the plains.

These areas have long suffered soil erosion, and are frequently hit by sandstorms and typhoons.

The northern China greening project, also called the "green great wall," aims at planting a vast shelter belt of trees that runs across northern China and covers about one-third of the country's total land mass.

The project started in 1978 and will last till 2050.

To date, trees and bushes have been planted on 7.3 million hectares of barren land, protecting 11 million hectares of farmland.

Afforestation along the upper and middle reaches of the Yangtze started in 1989 and covers nine provinces. The ongoing program has helped reduce an estimated 200 million tons of topsoil from being washed annually into the river.

Construction of the coastal shelterbelt started in the late 1950s. Now more than half of China's 18,000 km coast is lined with trees. The shelterbelt protects some 2.47 million hectares of arable land against typhoons.

In China's areas of plain, checkerboard-shaped tree belts in 508 counties protect more than 28 million hectares of farmland.

Gao Dezhan, the minister of forestry, said that because of the tree network, wind speed over the farmland is 30 to 40 percent slower, humidity five to 15 percent more, and grain output generally 10-20 percent higher.

China has also established 420 nature reserves, whose combined area makes up 4.5 percent of the country's total.

More than 200 animals and 350 rare plants have been designated as "endangered species" and protected. Among them are the giant panda and the ginkgo tree.

Despite some headway made in the right direction, the overall environmental challenge remains great. The nationwide waste water discharge is now 33.6 billion tons a year; acid rain has begun to wreak havoc in southwestern provinces, and air pollution remains serious in northeastern China with concentrated heavy industries.

The booming township enterprises, more conscious about immediate turnovers, are prone to taking liberties in discharging industrial waste without care for the environment.

The government is to enact special rules to tackle pollution by township enterprises. Additional economic incentives will also be introduced to promote environmentally sound township industries.

Chinese Premier Li Peng signed the biodiversity convention at the recent Earth Summit in Rio de Janeiro on June 11, pledging China's commitment to worldwide cooperation in environmental protection.

Popular action born of an enhanced environmental awareness and continued efforts by the government are expected to stop further deterioration of the environment in China.

Vice Premier Introduces Energy Conservation Week

*OW0710115792 Beijing Central Television Program
One Network in Mandarin 1100 GMT 4 Oct 92*

[Speech by Vice Premier Zou Jiahua on the National Energy Conservation Propaganda Week; From the "National News Hookup" program—date and place not given]

[Text] On the eve of the national energy conservation propaganda week, Vice Premier Zou Jiahua delivered a televised speech. [Video shows Zou Jiahua seated at a desk in an office, reading from a script]

Comrades, the 1992 national energy conservation propaganda week will formally begin tomorrow. This year's energy conservation week, which will unfold under the new situation in which the pace of economic development, reform, and opening up is being accelerated, is therefore of great significance. Since this year, people throughout the country have earnestly implemented the guidelines of Comrade Deng Xiaoping's southern-tour speech and the plenary meeting of the Political Bureau of the CPC Central Committee by deepening the reform and opening up wider to the outside world. The enthusiasm of all sectors has been further mobilized to speed up economic development. Under the new situation, energy consumption either by industry or for daily life is increasing sharply, causing severe strains to such basic industries as energy and communications. Energy is a critical, strategic problem that must be solved if we are to raise our economy to a new level. To solve the problem of energy supply for China's economic construction, it is necessary to persist in both exploitation and conservation, give priority to conservation in energy industrial development policy, and pay equal attention to both exploitation and conservation, with special emphasis on conservation.

The UN meeting on environment and development in Brazil last June set new demands on the world. China,

which is in a new phase of accelerated economic development will face more pressure in the environmental sector and must successfully deal with the relations between environment and development. Conserving energy and reducing consumption is one of the most effective measures for bringing about China's economic transformation and protecting its environment; it is also the right choice for fulfilling international conventions relevant to environmental protection and for quickening China's economic development.

The emphasis of this year's energy conservation propaganda week is on grass-roots units and enterprises. Dealing with practical problems and producing real results are among the objectives of the propaganda week. It is hoped that every department, unit, and enterprise will take part. They should fully mobilize the masses, widely soliciting rationalization suggestions from them, solving existing problems and weak links in energy use in enterprises, and enlisting their participation in technical renovation and upgrading aimed at improving energy efficiency so they all will contribute to energy conservation. I wish the 1992 national energy conservation propaganda week complete success.

UNCTAD Delegate on Sustainable Development in Poor Countries

*OW0610005592 Beijing XINHUA in English
1858 GMT 5 Oct 92*

[Text] Geneva, October 5 (XINHUA)—The promotion of the economic development of the developing countries is the key to the solution of the environmental problems and to sustainable development, said a Chinese delegate here today.

"Accordingly, a wide scope of international cooperation should be carried out, policies and measures should be elaborated and effective mechanisms established," the representative urged.

To protect and improve environment and to realize sustainable development are the common obligation of the international community, said Tang Kefen, a Chinese representative, at a meeting of the United Nations Conference on Trade and Development (UNCTAD).

However, the developed countries bear greater responsibility in this regard, she told participants of the first part of the 39th session of the Trade and Development Board (TDB) of the UNCTAD.

This should be one of the basic principles for the UNCTAD to continue to act in the field of sustainable development, she noted.

She explained, the production and consumption patterns of the developed countries constitute the main reason for the consumption and waste of natural resources and the global environment degradation.

"Therefore, these countries should undertake corresponding obligations in maintaining and improving global environment,".

On the other hand, she noted that developed nations possess the economic strength and advanced technology for the protection of environment.

Another principle, the Chinese representative indicated, is the environment protection and economic development must complement and promote each other in a harmonized way.

A sound environment will be conducive to sustainable development while economic development is both necessities for survival and progress of mankind and the material guarantee for the protection and improvement of environment, she said.

"As far as most developing countries are concerned, economic development and poverty elimination is the only effective way of protecting environment and achieving sustainable development."

International Packaging Symposium Held in Beijing

*OW0810144192 Beijing XINHUA Domestic Service
in Chinese 1259 GMT 6 Oct 92*

[Text] Beijing, 6 October (XINHUA)—The Third International Academic Symposium on Packaging, focusing on the theme of the disposal of packaging waste and environmental protection, opened today in Beijing. Some 100 experts and scholars from over 10 countries, including China, the United States, France, Japan, and France, attended the meeting.

Premier of the State Council Li Peng sent a congratulatory message to the meeting. The message reads: China's packaging industry has made remarkable progress during reform and opening. Nevertheless, when compared with the progress made by other developed countries in the area of packaging, China still has a long way to go. It is hoped that comrades involved in the packaging industry will, encouraged by Comrade Deng Xiaoping's remarks during his south China trip, promote scientific and technological progress, accelerate the pace of reform and development, enhance exchanges and cooperation with foreign counterparts, learn from each other, and make persistent efforts to rapidly raise China's packaging industry to new heights. Gu Mu, vice chairman of the National Committee of the Chinese People's Political Consultative Conference, also sent a congratulatory message to the symposium.

Some 10 experts presented theses at the symposium. Experts at the meeting contended that the current meeting will promote the disposal of packaging waste and environmental protection in the world.

The State Planning Commission, the State Environmental Protection Bureau, and China Association for Packaging Technology jointly sponsored this international academic symposium on packaging.

CAMBODIA

Khmer Rouge Say Timber Profits Small

BK2309112992 Hong Kong AFP in English 1100 GMT
23 Sep 92

[Text] Phnom Penh, Sept 23 (AFP)—The Khmer Rouge said Wednesday that their profits from logging in the forested zones of Cambodia they control bring in less than one million dollars per month.

"It's not as much as people believe," Khmer Rouge spokesman Mak Ben said at a weekly press conference.

"It's very general business between people along the border (with Thailand)," he said. "We support free markets."

Asked whether profits accounted for more than one million dollars per month, he said, "not as much as that."

The radical faction on Tuesday opposed a Cambodia-wide ban on the export of raw logs, which was adopted by Cambodian factions' leaders meeting under UN supervision.

Mak Ben said the Khmer Rouge objected "not because we refuse the moratorium, but rather because we believe that so long as the Cambodian parties cannot join in the control process, those suggested measures, however reasonable they may be, could not be carried out effectively."

"And the Phnom Penh Party and Vietnam will continue to cut and export logs as before," he said.

He also reiterated the Khmer Rouge position that all parties and the United Nations accept the faction's latest proposal to set up administrative consultative bodies (ACBs) and consultative committees in the heart of the Phnom Penh Government's key ministries.

The two bodies, in the eyes of the Khmer Rouge, would give the faction more power in helping the Supreme National Council (SNC) carry out its role in administrative matters.

Phnom Penh Prime Minister Hor Namhong said Tuesday that his government was prepared to accept ACBs but not the committees.

Mak Ben, however, said the point was not negotiable.

"It's our minimum," he said. "It's not an ultimatum. We strongly believe UNTAC alone cannot fulfill its mandate."

UN Transitional Authority in Cambodia (UNTAC) chief Yasushi Akashi at the SNC meeting proposed that a form of the consultative committee be used to supervise the country's relations with the World Bank and International Monetary Fund (IMF).

But the faction also objected to that proposal, and Mak Ben explained that for his faction it was all or nothing.

"Selective implementation could not be effective," he said. "The SNC is an empty shell, no power."

Therefore, he said, only one consultative committee would benefit, only the Phnom Penh Government, he said.

JAPAN

Toshiba Introduces New Power Devices for Electric Cars

OW2509041192 Tokyo KYODO in English 0310 GMT
25 Sep 92

[Text] Tokyo, Sept. 25 (KYODO)—Toshiba Corp. said Friday [25 September] it will start commercial sample shipments in October of two types of newly developed power devices for electric cars.

The devices, called insulated gate bipolar transistors, are designed to be more efficient than existing types by reducing power loss during the process of converting direct current into alternating current for electric car engines, Toshiba said. The new models are dual type, consisting of two modules which are able to handle up to 600 volts and 400 amps.

The price for commercial samples is 30,000 yen for each model. Toshiba is one of the leading manufacturers in the world in this type of electric car power device.

Tokyo Offers Mexico Loans To Fight Air Pollution

OW2609005192 Tokyo KYODO in English 2310 GMT
25 Sep 92

[Text] Tokyo, Sept. 26 (KYODO)—Japan will provide up to 10.4 billion yen in loans to Mexico to help it combat the colossal air pollution problem in its capital, Mexico City, the Foreign Ministry announced Saturday [26 Saturday]. Diplomatic notes concerning the loan offer were exchanged between representatives of the two countries in Mexico City on Friday.

The loans represent the first portion of the 900 billion yen to 1 trillion yen in Official Development Assistance (ODA) pledged by Japan toward environmental pursuits at last June's United Nations Summit Conference on the Environment and Development in Rio de Janeiro. The loans will help fund an ambitious program by the Mexican Government to plant 110 million trees on denuded land around the capital city. The trees are expected to have the effect of decreasing the amount of particulate matter in the city's air, which is believed to lie partly at the root of the breathing difficulties and coughing suffered by residents.

The generally untied Overseas Economic Cooperation Fund (OECF) loans will carry an annual interest rate of

5 percent and will be repayable over 25 years, including a seven-year grace period. Any portion of the loans expended for consulting services, however, will carry an interest rate of only 3.5 percent.

MITI Considering Study on Recycling Incentives

OW2809034992 Tokyo KYODO in English 0322 GMT 28 Sep 92

[Text] Tokyo, Sept. 28 (KYODO)—The Ministry of International Trade and Industry (MITI) is considering a study on the propriety of introducing nationwide incentives for the collection of recyclable products as part of efforts to reduce industrial waste and promote recycling, MITI officials said Monday.

The ministry reported to an advisory body to the MITI minister its intention to investigate examples at home and abroad and to weigh the merits and demerits of the so-called "deposit" system, under which consumers are given back a portion of the purchasing price for returning containers like bottles, the officials said.

At its seventh study meeting, the Committee on the Disposal of Industrial Waste and Recycling under the Industrial Structure Council heard the ministry's plan to entrust the survey to its affiliated organization, the Clean Japan Center, which is expected to report the results by the end of this year, the officials said.

The 26-member committee also discussed the ministry's idea to apply the Japan Industrial Standards (JIS) to recyclable goods in order to facilitate recycling, they said.

In addition, the committee assessed progress on guidelines it proposed in December 1990 for voluntary efforts by industry to cut industrial waste and to promote recycling, the officials said.

Committee members from the industries concerned reported that recycling and the use of recycled products have steadily increased.

The rate of recycling of paper, for example, rose to 52.3 percent in fiscal 1991 from 50.3 percent for fiscal 1989, compared with a target of 55 percent for fiscal 1994, they said.

The rate of recycling of steel cans also increased to 50.1 percent in 1991 from 43.6 percent in 1989, compared with a target of more than 60 percent by 1995, they said.

Meanwhile, the ministry presented its plan to add nickel-cadmium batteries and polyethylene terephthalate resin (PET) bottles to the recycling law, which was proclaimed in April 1991 in response to a committee proposal, they said.

The ministry expects to revise the relevant government decrees by next spring, they said.

Keidanren Establishes Environment Fund Council

OW2909144092 Tokyo KYODO in English 1237 GMT 29 Sep 92

[Text] Tokyo, Sept. 29 (KYODO)—The powerful Federation of Economic Organizations (Keidanren) inaugurated a fund council on Tuesday to promote environment protection activities in developing countries, federation officials said.

The council, chaired by Yasuo Goto, president of Yasuda Mutual Life Insurance Co., plans to collect 300 million yen for the fund from corporations and individuals in Japan.

The fund will be used for environmental protection activities in such countries as Brazil, Panama, China, and Indonesia, in cooperation with nongovernmental organizations in the United States and Europe, the officials said.

Government Signs Treaty To Protect Antarctic Environment

OW3009023892 Tokyo KYODO in English 2315 GMT 29 Sep 92

[Excerpt] Tokyo, Sept. 30 (KYODO)—Japan has signed an international protocol in Washington committing it to the comprehensive protection of the environment in the Antarctic, the Foreign Ministry said Wednesday.

Japanese Ambassador to the United States Takakazu Kuriyama signed the protocol on environmental protection to the Antarctic treaty on Tuesday. It designates Antarctica as a natural reserve devoted to peace and science, and to research essential to understanding the global environment.

The protocol, which supplements the December 1959 Antarctic treaty, was worked out at last October's consultative meeting in Madrid of the treaty's 40 contracting parties.

It establishes a committee for environmental protection for Antarctica, calls for contingency plans to respond to environmental emergencies, and provides a guide for the settlement of disputes.

The protocol also requires environmental impact assessments of proposed activities in Antarctica, regulates waste disposal, provides for the protection of native fauna and flora, prohibits the introduction of nonnative species, and requires the removal of dogs. [passage omitted]

Finance Ministry Reluctant To Boost Global Environmental Fund

OW0210134292 Tokyo KYODO in English 1153 GMT 2 Oct 92

[Text] Tokyo, Oct. 2 (KYODO)—The Finance Ministry has turned down a budgetary request for a supplementary budget from the Environment Agency and the ruling

Liberal Democratic Party to create the global environment fund, agency sources said Friday.

The ministry has rejected the request, saying it is placing priority on measures to prop up economy.

Former Prime Minister Noboru Takeshita proposed the fund at the eminent persons' meeting on the environment and development held in Tokyo in April.

The fund is to provide financial assistance to nongovernmental organizations at home and abroad engaged in environmental protection.

The LDP decided in June to seek 200 billion yen for the supplementary budget.

International Conservationists Urge Halt to Nagara Dam Project

OW0310145492 Tokyo KYODO in English 1350 GMT 3 Oct 92

[Text] Tsu, Oct. 3 (KYODO)—International conservationists at a conference called on the Japanese Government Saturday to review a dam construction project on the Nagara River in Mie Prefecture in central Japan.

About 200 Japanese and foreign conservationists voiced concerns about the government project meant to prevent flooding and supply water to neighboring prefectures.

The government should consult citizens before it decides to enforce the further construction, said Robert Herbst, an American conservationist who represents a local branch of the Tennessee Valley Authority.

In the United States, the Nagara Dam plan would have been suspended, Herbst said, arguing that water demand will not increase. He also said the project will deteriorate fishing grounds and make the riverbanks more dangerous.

Roberto Epple of the World Wildlife Fund reported situations in Europe where an overabundance of dam construction had harmful environmental effects, such as water pollution.

The Nagara River does not need a dam, said U.S. conservationist David Brower. He delivered a speech saying that as an advanced country, Japan has a responsibility to protect its only major undammed river.

After a 1964-1968 environmental impact study, the construction ministry began constructing the dam in July 1988 despite opposition from conservationists.

The Nagara, one of Japan's largest rivers, is rich in fish and plant life, some of which is regarded as rare or precious.

Agency Launches Study Group for 'Clean Energy' Stations

OW0610102392 Tokyo KYODO in English 0959 GMT 6 Oct 92

[Text] Tokyo, Oct. 6 (KYODO)—The Agency of Natural Resources and Energy on Tuesday launched a 21-member study group for a clean energy service station project aimed at promoting the spread of environmentally friendly vehicles like electric cars, agency officials said.

Under the project, dubbed "Eco Station 2000," the agency plans to set up 2,000 service stations which can supply alternative energies like electricity for battery recharging, compressed natural gas (CNG), and methanol, in addition to gasoline and gas oil, by the year 2000, the officials said.

The project's target is to increase the number of "environmentally friendly" vehicles on the road to 2 million units by the year 2000, they said.

In fiscal 1993 starting next April, the agency intends to remodel 20 existing gas stations into clean energy stations, and has made a budgetary request of 1.8 billion yen for the purpose, they said.

The group, consisting of 21 members representing the service station, automobile, electric power, gas and oil wholesaling, end-user and local government sectors, will work out specific implementation plans for fiscal 1993 and make a concrete proposal by next March, they said.

The group will also discuss legal and technical aspects of the project, while making a feasibility study on the selection of candidate service stations, they said.

International Construction, Environment Forum Inaugurated

OW0610110492 Tokyo KYODO in English 1046 GMT 6 Oct 92

[Text] Tokyo, Oct. 6 (KYODO)—An international forum to promote global cooperation in construction and preservation of the environment was inaugurated in Tokyo on Tuesday.

The forum, established in response to an appeal by the Construction Ministry, consists of diplomatic personnel stationed in Tokyo, representatives of the World Bank and Japanese public corporations.

The group will hold symposia on construction and discuss problems related to Japan's Official Development Assistance to developing nations.

About 50 diplomats from 38 developing countries in Asia and Africa attended the inaugural meeting.

Ministry Plans Atmospheric Checks With Indonesia, Thailand

OW0710091392 Tokyo KYODO in English 0855 GMT 7 Oct 92

[Text] Tokyo, Oct. 7 (KYODO)—The Posts and Telecommunications Ministry said Wednesday it plans to launch joint atmospheric observation with Thailand and Indonesia next fall to collect data on pollution.

Ministry officials said the project is a response to growing concern over air pollution by harmful gases discharged by factories in Asian countries, including members of the Association of Southeast Asian nations, which includes Thailand and Indonesia.

Data collected in the joint undertaking will be used for measures to preserve the global environment and prevent global warming, the officials said.

Japan will provide atmospheric observation technology for the project, in which scientists will use laser beams and magnetic waves to study how harmful gases such as sulfuric and nitric oxide spread in the atmosphere, they said.

Acid Rain in Western Japan Attributed to Asian Air Pollution

OW0810041892 Tokyo KYODO in English 0339 GMT 8 Oct 92

[Text] Sapporo, Oct. 8 (KYODO)—Air pollution from the Asian continent carried by winter's northwesterly winds may be the primary cause of acid rain in western Japan, a Ministry of International Trade and Industry (MITI) research team said Thursday.

Air samples taken over the Japan Sea and East China Sea last January revealed high concentrations of sulfuric acid and unusually large particles of soot, leading researchers to suggest that the cause of acid rain in Japan may be unbridled industrialization on the continent.

The research team from MITI's National Institute for Resources and Environment, headed by Naoki Kaneyasu, will present the results of its study to a meeting of the Meteorological Society of Japan on Friday [9 October], the final day of the society's three-day symposium.

In January, the research team collected air samples at heights of 500 meters and 700 meters on two round-trip air journeys along Wakasa Bay off Japan's Fukui Prefecture to the southern edge of South Korea's Cheju Island, then on to Nagasaki, and back.

The samples revealed high concentrations of sulfuric acid—about 20 micrograms per cubic meter—which is comparable to the atmosphere surrounding Tokyo.

Further, researchers discovered a number of particles of soot measuring 0.4 microns, which suggested they were rather "old," since such particles at formation are only

0.1 micron in size but as time passes tend to cluster together and grow in size, the researchers said.

The apparent age and size of the particles led the team to assume that they came from further inside the Asian land mass than just from the Korean peninsula as had once been thought, the researchers said.

"The cause seems to be coal-burning furnaces which are used in industry and to generate electricity," said Kaneyasu.

"In the future, if industrialization continues without measures to check emissions, west Japan might expect damage from acid rain to grow worse," Kaneyasu forecast.

SOUTH KOREA

Ministry Plans To Reduce Oil Consumption, Imports

SK2709064092 Seoul THE KOREA HERALD in English 27 Sep 92 p 8

[Text] The government will push measures to reduce oil imports and to further strengthen its energy-saving efforts.

The Ministry of Energy and Resources will cut back oil-fueled power generation and put 44 energy-guzzling enterprises under special monitoring to lower imports of oil for domestic use, a ministry official said yesterday.

"Through these measures, we hope to curb the rate of increase in imports of oil for domestic consumption at 10-12 percent this year," said Chong Man-won, chief of the ministry's petroleum supply division.

The ministry initially predicted domestically used oil imports would increase by 19 percent in 1992.

The nation imported 525 million barrels of oil last year, with locally-used oil imports amounting to 350 million barrels.

To reduce oil demand for power generation, the ministry plans to bring nuclear, hydro and coal-fueled power plants up to their full generating capacity and slash oil stocks of the Korea Electric Power Corp. to a 10-day reserve from the current 24 days level.

It will also delay the regular repairs of two coal-fueled power stations in Poryong, South Chungchong Province, until late next year and start operation of the No. 3 until there this October, four months earlier than originally scheduled.

The ministry official said these efforts will be able to reduce oil demand for generation to 48 million barrels from the initially-estimated 65.7 million barrels this year, saving 270 billion won (\$340 million).

The amount of oil used to fuel power plants accounts for 9.8 percent of the nation's total petroleum imports.

The Korea Electric Power Corp., the nation's power monopoly, uses 140,000 barrels of oil per day (bpd) to fuel its power stations, of which 40,000 bpd is directly imported by the state corporation, and the remaining 100,000 bpd is provided by domestic oil refineries.

Methane Concentration Over Korea Highest in World

*SK0810050692 Seoul THE KOREA TIMES in English
8 Oct 92 p 3*

[Text] The concentration of methane, an agent identified as one of the major culprits of the greenhouse effect, in the atmosphere above the Korean peninsula is the highest in the world, a recent study showed.

According to Professor Chong Yong-sung of the Korea National University of Education, located in Chongju, Chungchong-pukto, the large amounts of methane are believed to be either drifting or blowing in from China.

There has been extensive study on the various environmental effects caused by pollution in China but this is the first time that concrete evidence has been found on the migration of methane to the peninsula.

The results were released in Chongju Monday jointly by Chong, also director of the university's Environmental Science Institute, and Edward Dlugokenky of the National Oceanic and Atmospheric Administration [NOAA] of the United States.

"We have been aware that there have been adverse environmental effects caused in this region by the migration of various polluting agents from China but the situation with the movement of methane is of serious concern," Chong said.

In the jointly-written paper, issued after 22 months of experimentation and field surveying, Chong said the average concentration of methane over the southern half of the peninsula was 1,823.3 ppb (parts per billion), considerably higher than the global average of 1,660 ppb.

The readings were obtained by establishing measuring devices at various locations in Taean, Chungchongnamdo. Readings were taken once a month throughout the 22-month period.

Corresponding measurements in areas located along Taean's latitudinal circumference are 1,670 ppb in Samoa and 1,720 ppb in Hawaii, said Dlugokenky who teaches at the University of Colorado.

The local reading is even higher than the estimated 1,800 ppb in Molbay, northern Canada where methane concentration was thought to be the heaviest, he added.

Methane, the environmental expert explained, is one of the major causes of global warming, or the greenhouse effect, along with carbon dioxide which has also been found to be drifting in from China.

NOAA, meanwhile, has been conducting tests on the migration of polluting agents from China to the western parts of Northeast Asia as well as the Pacific region since last year.

Dlugokenky said in the paper that the annual production of methane is estimated to be some 500 million tons and is growing at the alarming yearly rate of 10 percent.

Methane is a chemical that is largely produced during the disintegration of organic substances and the increase in population is generally correlated to the hike in the amount of methane.

Chong and Dlugokenky said greater regional cooperation, particularly in Northeast Asia, is desperately required to control the migration of polluting agents from China where industrialization is briskly under way.

LAOS

Conference Reviews Land Transfer, Farming Methods

*BK0310103392 Vientiane KPL in English 0912 GMT
3 Oct 92*

[Text] Vientiane, Oct 3 (KPL)—The Forestry-Environment Department, Ministry of Agriculture and Forestry, has recently held a recapitulatory conference on the allocation of fixed farming to seasonal peasants and the transfer of forest and land to local people under their management and for farming.

The conference chaired by Mr. Silavan Savatvong, vice director of the Forestry-Environment Department, was attended by over 40 technicians and officials of the department, and the Lao-Swedish Forestry Cooperation Project.

The recapitulation covered the implementation of the Government policy on some main objectives: rural development, encouragement of people to terminate slash-and-burn practice and take up fixed farming involving low land rice farming, animal husbandry, and the expansion of cash crop cultivation, and the allocation of forest and land in many provinces to local people to be under their management and use.

The allocation of forest and land in Sayaboury Province has been conducted at 113 villages. Each family of the villages has been allocated three to five hectares of land and forest for farming, forest protection, and afforestation.

In Luang Prabang Province, the Siang Ngeun Grazing Land Project in cooperation with the Lao-Swedish Project is implementing the allocation on 16,000 hectares forest land. And the project of slash-and-burn practice termination in rural areas has persuaded peasants of swidden farming to fixed rice farming on low land at five villages.

In Vientiane Province, the Government pilot project for the allocation of Nam Ngum basin has basically completed the transfer district [as received] and part of Hom District for farming, management, protection and afforestation.

The conference also heard a report on the allocation of fixed farming and the transfer of forest to local people for management and protection by some technicians who have gone on a study tour in Vietnam.

MALAYSIA

Polluting Factories To Have Contravention Licenses Withdrawn

BK2609123392 Kuala Lumpur NEW STRAITS TIMES in English 23 Sep 92 p 1

[By Annie Freeda Cruz]

[Text] Kuala Lumpur, Tues.—The Science, Technology and Environment Ministry has put the squeeze on factories and companies which are persistently violating environment-related laws by withdrawing their "licence to pollute".

Deputy Science, Technology and Environment Minister, Mr Peter Chin Fah Kui, said this was one of the stringent measures taken by the ministry to penalise errant companies and factories as other measures such as warnings and fines were not effective.

With the move to discontinue or withdraw the contravention licences, these companies and factories will not be able to emit any smoke or release any effluent from their premises, effectively closing down these operations.

A contravention licence allows the issuer to emit pollutants up to the permissible level.

Chin said so far, the ministry had discontinued issuing such licences to more than 10 companies and factories mainly in Selangor, and the recent one was an oil palm mill in Klang.

He said subsequent checks revealed these companies and factories had shut down.

Speaking to reporters after opening a three-day seminar on Total Quality Management in Manufacturing Enterprise here today, he said if these companies and factories continued operating their business without the licence and were found emitting smoke or releasing effluent, they would be issued with compound notices every day or taken to court.

Chin said this stringent measure was being taken following the complacent attitude of some companies and factories.

"The present penalty is too small. They can afford to pay off each time they are issued with compound notices or taken to court," he said.

The maximum fine for each offence compounded is [Malaysian dollar] \$500. The offender is liable to a fine of up to \$5,000 in court.

The ministry's Law Review Committee, he said was studying the possibility of increasing the present penalties imposed so that those caught flouting the law would have to pay a heavy fine.

He said the ministry was seriously looking into how it could educate factory and company owners on the need to comply with the laws.

Earlier, Chin said the government was committed to promoting quality not only in the public but the private sector as well.

"Many initiatives have been taken and mechanisms put in place to support the government's quality programmes such as financial incentives, training opportunities, and even regulations and directives to boost quality and productivity," he said.

He said with its intensive programmes, these efforts had slowly produced results in governmental bodies and institutions.

For the private sector, he said, quality was a market reality especially for developing countries like Malaysia, which at one time made inroads into the international markets because of its lower labour and overhead costs and government subsidies.

"Consumers have begun using a producer's reputation for quality as the deciding factor when choosing between similarly priced goods and services," he said.

He urged companies to look at the ISO [expansion unknown] 9000 Series as a series of minimum quality system requirements.

He said this would result in a total quality system that has ISO 9000 as a foundation upon which to build industry.

Malaysia's Options for Nuclear Power Examined

BK0210060392 Kuala Lumpur NEW STRAITS TIMES in English 30 Sep 92 p 10

[Editorial: "We've Got The Power... For Now"]

[Text] The recent brouhaha over the transportation of plutonium to Japan exemplifies the kind of problems which might emerge if the country decides to build its own nuclear generation plant in 10 years' time.

Waste disposal and, above all, safety will be the questions which will need to be seriously addressed. A possible nuclear holocaust is the sort of nightmare none of us needs, especially after a hard day's work developing the country. The Sungei-Buloh explosion would be like child's play compared to a nuclear accident.

Still, as the nuclear evangelists will tell us, nuclear plants are actually very safe. Perhaps, the Chernobyl experience was blown out of all proportions and the incident the result of extremely bad "feng shui" [Fate]?

They point to the statistics which show that there have been far more fatalities from burst hydro-electric dams than leaks from nuclear reactors. They say that nuclear energy is a cleaner form of fuel than fossil-fuel, coal, oil and gas and an increase in the world's nuclear capacity could help significantly to restrain carbon dioxide emissions. They imply that much of the garbage generated about the dangers of nuclear leaks are the work of uninformed people. That may be so. Public jitters about the presence of nuclear plants in the country need to be stilled well before we decide to opt for nuclear energy. Does Malaysia need nuclear power? Vigorous industrialisation as envisaged for the country and the region, saps energy. Malaysia's energy requirement in 2020 will be three times what it is today. Our electricity requirements, for example, will increase four to five-fold over the next 30 years.

Our proven reserves of gas currently stand at 57 trillion cubic ft while that of oil is a quarter of the value in terms of thermal equivalent. There is confidence that new strikes will extend Malaysia's oil depletion period well beyond the current 15 years. Prospects for additional oil and gas recovery are also bright. Malaysia, in fact, has a four-fuel option: hydropower, natural gas, oil and coal. We have them all, for a while at least.

We have numerous rivers, notably in Sabah and Sarawak, which can be harnessed to generate hydro-electricity. We have plenty of power... enough to become ASEAN's powerhouse. We have plenty of alternative sources of energy. The sun shines constantly in this part of the region. It has been said that Malaysia stands to save an estimated one billion dollars a year if 10 percent of its electricity needs were to be provided by solar energy. We can look into that. Then there still are alternatives like biomass and wind.

We can look into energy conservation. With energy conservation programmes, studies show that industries can save up to 40 percent in their energy consumption while households can save up to 30 percent. We can save \$500 million annually. And if all sectors convert to energy-saving devices, the nation's electricity consumption could be reduced by 15-20 percent annually. The moral is that there are other considerations like cost effectiveness and efficiency to help reduce the massive bill required to meet the nation's needs.

Economic development is according to mental concerns. Finding the right balance between economic development and environmental preservation and finding innovative solutions bearing in mind our indigenous resources is a challenge which we will have to confront.

Minister Urges U.S. To Stop 'Making Rules' for Others

BK0410094792 Kuala Lumpur NEW STRAITS TIMES
in English 2 Oct 92 p 7

[Text] Kuala Lumpur, Thurs.—The United States' penchant for making rules for others will discourage international trust and confidence in its relations with other countries and in multilateral diplomacy, Foreign Minister Datuk Abdullah Haji Ahmad Badawi said Wednesday.

Referring specifically to issues relating to human rights, environment, and democracy, he said the U.S. should be able to appreciate that the situation varied from one country to another.

"What causes deep resentment that sometimes borders on humiliation is that an informed body like Congress could pass a resolution or a law that impinges on the sovereignty of another country without caring two hoots about the conditions prevailing in that country," he told an Asia Society gathering in New York. The text of his speech was released here.

Abdullah, who is in New York for the United Nations General Assembly, said Malaysia had been very fortunate that no such resolutions or bills had hampered efforts to improve the well-being of its people through trade and economic development.

"But some of these bills and resolutions, even if they are not adopted, create uncertainties and ill-feelings between our countries," said Abdullah who spoke his mind about ways to enhance Malaysia-U.S. bilateral ties.

Abdullah also explained the proposed formation of the East Asian Economic Caucus (EAEC) that had drawn sharp opposition from Washington.

"An intriguing geopolitical and geostrategic rationale has been offered for the United States' opposition that the EAEC will draw a line in the Pacific and undermine the strategic alliance between United States on the one hand and Japan and Korea on the other.

"Many observers believe that the United States opposes EAEC because of Japan. It is assumed here that Japan will stake its leadership of EAEC, being the most powerful economic power in East Asia and EAEC will provide Japan a constituency which it has lacked all this while, which will make it all the harder to push around," he said.

Abdullah said a successful EAEC committed to free trade and promoting interregional cooperation would be complementary to the Asia-Pacific Economic Cooperation (APEC) that was being strongly backed by the U.S. He believed any misconceptions or suspicions between Malaysia and U.S. could be cleared or clarified if regular discussions were held between the leaders and diplomats.

"The time is well past when Congressmen would send their staffers out once or twice in a decade on a visit to the respective ASEAN countries and on the basis of such visits draw up policies directed at us," he said.

He spoke of the growing trade between the two countries with the U.S. taking in some 18 percent of Malaysia's exports, second only to the ASEAN countries. On the other hand, U.S. exports to Malaysia increased from nine percent in 1971 to 17 percent last year with the volume of the two-way trade at \$11 billion [ringgit].

"If services and other invisibles including the enormous amount we spend on our students in the U.S. are taken into account, our trade is about balanced."

Retaliation Against Austrian Eco-Labeling Considered

*BK0510073492 Kuala Lumpur BERNAMA in English
0636 GMT 5 Oct 92*

[Text] Kuala Lumpur, Oct 5 (OANA/BERNAMA)—Malaysia plans to retaliate against Austria for its recent eco-labelling of tropical timber, Primary Industries Minister Dr. Lim Keng Yaik said Monday.

Malaysia would take such a move through cooperation with other ASEAN countries, he told reporters after opening an international forestry symposium here.

He said the retaliatory measures could be in the form of eco-labelling of Austrian dairy products and other goods imported by Malaysia and the ASEAN countries. However, he did not elaborate.

Malaysia has protested against the new Austrian law which requires all commercial timber to have a label with the inscription "made from tropical timber or contains tropical timber".

Malaysia would initiate a move to get other tropical timber producing and consuming countries to fight the Austrian move, which he described as setting a dangerous precedent to other developed nations and temperate timber producing countries like Holland, Germany and the United Kingdom which had shown indications of following suit.

Dr. Lim said he would bring up the proposed action plan at the ASEAN agriculture ministers meeting in Bandung, Indonesia, next week to prevent any widespread effect of the Austrian move from damaging the country's timber trade, Malaysia's second biggest foreign exchange earner.

He also called for a prompt and comprehensive follow-up action to the agreed forest principle taken at the earth summit in Rio de Janeiro last June.

"Malaysia wants the forest principle to cover all types of timber in all countries and not only timber from certain tropical nations as expounded by the temperate timber producing and developed nations," he said.

Dr. Lim also criticised local importers of goods with "no palm oil" labels for their "irresponsible and destructive act".

"They should be charged in court for giving flimsy excuse for their damaging action," he said on local importers found having such products despite the government spending millions of ringgit countering the anti-palm oil campaign by American soybean producers.

THAILAND

State of Nuclear Generating Industry Viewed

*BK0210033592 Bangkok THE NATION in English
2 Oct 92 p A6*

[Text] First came reports that Egat, the Electricity Generating Authority of Thailand, wanted to build two nuclear power plants over the next 15 years. Then, at a seminar on the subject in July, an Egat official said his organization was looking for a site to fit four such plants.

And finally, just two weeks ago, plans for six 1,000-megawatt plants were submitted for inclusion in the Eighth National Plan, which runs from 1997 to 2001. Although the type of technology to be used has not yet been decided, Egat estimates the six plants would cost around Bt97 billion each and go into operation between 2006 and 2008.

But approval is still a long way off. Former prime minister Anan Panyarachun noted in a recent interview that such development plans typically include "everything under the sky".

"Nuclear is an option," he added. "But in all my two years of administration, we [his cabinet] never once discussed this particular option."

The nuclear plan comes at a time of turmoil for Egat. While energy demand is expected to grow by 9-10 percent annually for the foreseeable future, Egat is facing increasing political pressure due to the environmental impact of its power plants.

The most recent example of this phenomenon was the shelving of plans to build a massive coal-fired power plant at Ao Pai due to its environmental impact. Piya-sawt Amranan, head of the National Energy Policy Office (Nepo), says "it is likely there will be no plant at Ao Pai." Pending a final decision, Egat has been asked to look for alternative sites.

Even tapping the country's own lignite deposits is no longer so easy. The huge mine at Mae Moh in Lampang province has hit the underground water table. Local villagers are protesting against the digging of a new mine at Mae Chaem in Chiang Mai. And Egat officials reportedly aren't even being allowed in to check the deposits at Saba Yoi in Songkhla, a politically sensitive area inhabited by Muslims.

Natural gas has been touted as another possible source. But while a long-term supply agreement has been signed with Indonesia, plans to import gas from Malaysia, Vietnam and Burma are still little more than "pipe dreams". And Thailand will face competition for use of these resources from other countries in Asia, including Japan.

Public opposition to hydroelectric dams remains strong, and the same could be true for nuclear power.

In short, many experts now agree that Egat is in supply trouble. The only viable energy "source" which everyone can agree on is energy efficiency—that is, a concerted attempt to reduce demand.

But Egat's demand-side management (DSM) programme is still a fledgling affair. During the current five-year plan, this programme is receiving only Bt5,000 million—which should yield energy savings of 225 MW—compared to an investment of Bt250,000 million for increasing supply.

With all its supply problems, it would be natural for Egat to focus more on reducing demand. The International Institute for Energy Conservation (IIEC), a non-governmental organization (NGO), reckons that doubling the DSM budget could double the savings, and that potential savings could reach 2,000-3,000 MW.

But power generating authorities, staffed largely by engineers, tend to be conservative by nature. Despite the success of DSM abroad, Egat's latest power development plan states that "(There is) greater risk to invest in the DSM programs than to invest in new power plants... the potential for DSM as an energy resource cannot be evaluated until the DSM pilot programs have been carried out for at least two years." As things stand, Thailand will pay for this short-sightedness during the Eighth Plan, when Egat says it will seek a staggering Bt637,000 million in capital for its supply-side projects. Because there is a debt ceiling on foreign borrowing, Egat will gradually be privatized, so that financing can be sought through "equity injection". The supply crisis raises a couple of key issues. First there is the question of what kinds of fuel Thailand will rely on to meet its future energy needs. But even more basic is the question of who will make these decisions.

Egat offers its proposals through the submission of its power development plans. But energy policy-making is overseen by Nepo. Piyasawat claims that he has a team of researchers who specifically look after environmental interests.

To be sure, Nepo has not been shy to flex its muscles when it comes to protecting the environment. Starting early last year, it forced Egat to install scrubbers on all new coal-burning power plants. More recently, Piyasawat has leaned on oil refineries to reduce the sulphur content in diesel fuel, and he has teamed up with Dr Phaicit Uathawikun, the acting environment minister, to

confront Egat on the Ao Pai plant and to battle the Ministry of Industry over seeking new auto emissions standards.

In general, it's a good idea to have the environmental impact evaluated within policy-making institutions, so that it is integrated into the policymaking process. But there remains a case for independent energy planning from a purely environmental perspective, either to advise Nepo or serve as its ally.

"It's time to have a strategy on the complex question of energy and the environment. We need to expand energy planning to include costs of things like pollution control equipment and greenhouse gas emissions by fossil fuels," suggests Dr Thira Phanthumwanit, head of the Environment and Natural Resources Programme at TDRI. "Perhaps this can be done by the Ministry of Science, Technology and Environment (Moste)."

Ironically, Piyasawat points out that five years ago energy policy-making functions were moved to Nepo from Moste (though some DSM planning remains). At that time, the "e" in Moste stood for "energy". But with its new brief, says Thira, Moste can help fight policies such as the subsidizing and promotion of lignite for the industrial sector, which is not required to use scrubbers.

While such changes are still just proposals, Egat is in the process of radically reshaping itself. The huge projected growth in energy demand is not only spurring on privatization, but will also force Egat to change the way it sees itself.

"Carrying out the DSM project will also help Egat get to know the needs of the people better," points out IIEC's Peter du Pont, who is helping Egat set up the programme. "It will help them to realize that they are not just producing electricity, but actually providing a service to their customers."

"In effect, the idea is to turn Egat into an energy services provider, rather than simply a wholesaler of electricity," he concludes.

Another trend in the power generation sector is towards decentralization. Cogeneration—in which private industry sells electricity produced as a by-product from their operations—is allowed now, notes Thira, and British Petroleum has already signed a contract to supply it. It is estimated that cogeneration could eventually produce an extra 2,000 MW of power for Thailand.

Still, some critics would like to see reform go further. "We have to change the structure of energy management and stop subsidizing power generation for industry," says Whitthun Phoemphongsacharoen head of the Project for Ecological Recovery NGO.

"With the current system, the public doesn't have a chance to know how much the government is subsidizing energy production," he continues. "Egat spends a lot of money on plans it can't implement, for instance at Nam Choan and Ao Pai. Who pays for this? Why don't they

start with a public debate? They should have pre-feasibility studies with alternatives provided by NGOs. If the public turns out to be against a project, it would save money.

"Decentralizing energy management, reducing Egat's monopoly, is important for sustainable development. When the system is centralized, we inevitably get large-scale solutions in which local people pay the social and environmental costs. But if we can improve the system, then maybe there is no need to look at big projects.

"Small-scale and micro-scale solutions are environmentally friendly. They make it easier to mitigate the social and environmental costs. The costs are paid more equally."

New Industry Minister Stresses Liberalization, Environment

*BK0610050992 Bangkok BANGKOK POST in English
6 Oct 92 p 28*

[Text] A seven-point industrial policy announced yesterday by Industry Minister Maj-Gen Sanan Khachonprasat is, in essence, similar to that of his predecessor.

During the ceremony for the handover of the ministerial post, the Democrat MP also vowed to fight corruption at the ministry and to solve problems unsolved by the previous administration.

His policy statement envisages:

- Liberalising domestic industries;
- Reducing protection for local industries and promoting competition;
- Speeding up the provision of basic services with special emphasis on decentralising industries to upcountry areas;
- Accelerating the development of skilled labour and technology;
- Honouring all contracts and commitments the ministry has with private enterprises and, if changes or amendments are needed, they will be made on the basis of fairness and to serve the best interests of the public;
- Solving environmental problems created by factories and he will not allow plants with environmental problems to be set up;
- Coordinating efforts with the private sector, such as the Federation of Thai Industries, in identifying problems faced by the private sector.

Maj-Gen Sanan, along with his two deputies, Phonthep Tetchaphaibun and Kiatchai Chaichawarat, delivered the statement to ministry officials.

Report Explores CFC Phase-Out Schemes

*BK0210041592 Bangkok THE NATION in English
2 Oct 92 p B3*

[Text] Thailand needs to spend roughly Bt [baht] 10 billion over the next five years to phase out the use of chlorofluorocarbons [CFCs] and other ozone-destroying substances according to a report by the Thailand Development-Research Institute and two other research firms.

The report, conducted for the Ministry of Industry to explore possible phase-out schemes for all ozone-depleting substances in Thailand, is expected to be submitted to the Cabinet for consideration soon.

Since the early 1980s, scientists around the world have warned that certain man-made chemicals including chlorofluorocarbons (CFCs) and halon are destroying Earth's ozone layer, which protects against strong ultraviolet radiation.

The reduction of ozone is expected to increase the incidence of skin cancer and affect the immunity system in humans.

In addition, stronger ultraviolet radiation can cause mutations in crops and marine animals as well as threaten the Earth's ecosystem.

Signs of the disturbing depletion of the ozone layer have been reported by scientists for many years.

Last year, Thailand imported 15,648 tonnes of ozone-depleting substances, a nine percent increase from 1990.

Most of these substances are used by the country's booming electronics and refrigeration-related industries.

Moreover, smaller amounts are used by other industries in the production of spray cans, foams, insulation and fire prevention equipment.

Thailand in 1989 agreed to sign an international agreement that committed it to limiting the consumption and production of these substances.

Called the Montreal Protocol, the agreement was later amended to phase out all production of the more harmful substances such as CFCs, halon, and carbon tetrachloride by the year 2000 while production of less important ozone-destroying substances must cease by 2005.

The agreement, however, also allows a 10-year grace period in the deadline for domestic use of ozone-harmful substances to help developing countries switch to non-ozone harming substitutes.

This enables developing nations to extend the deadline to 2010, and further 2015 for less substances. Thailand falls into this category.

The grace period, however, was offset by a condition in the agreement that restricts trade between countries which sign the agreement and those that don't. This

condition, the study found would greatly affect Thailand since most of the industries using ozone-destroying substance are in the export sector.

Due to the trade restriction, the study suggested that it would be better if the nation were to step up the phase-out plan earlier than under the 10-year grace period.

According to a plan outlined by the study, Thailand should gradually phase out all ozone-destroying substances and eliminate the use of these substances by 1997.

However, the plan also allows for a stockpile of these substances to service old equipment requiring ozone-destroying substances to operate until the year 2010.

The cost of the plan is projected at about \$US418 million, roughly Bt10 billion. About 93 per cent of the cost would cover phasing out the substances for domestic consumption while the rest would go for phasing out their use by export-related industries.

Funding for this phase-out project could come from the Interim Multilateral Fund, set up by the Montreal Protocol to help offset the cost of switching to non-ozone destroying substitutes.

Following are the more important items of implementation suggested by the study:

- The Thai government should announce a commitment towards phasing out ozone-destroying substance to eliminate the perception that Thailand places a low priority on the project.
- The Board of Investment [BOI] should prohibit the renewal of BOI promotional privileges for industries using ozone-destroying substances.
- A new unit should be set up by the Department of Industrial Works to deal with the phase-out project. The unit should have the power to determine policy and monitor the plan's progress. The unit, on the other hand, should also set up a sub-sector working group consisting of representatives from the industry, government agencies and academic institutions to advise the government on policy.

Management of the financial and technical assistance should be handled by the Industrial Finance Corporation of Thailand, which would also be given the authority to manage and disburse funds received from overseas for the phaseout project.

To encourage the phase-out, the government should gradually increase the duty on ozone-destroying substances while reducing the duty on less harmful substitutes that are imported.

CFC Import Freeze Shows Results

BK0610052992 Bangkok *THE NATION* in English
6 Oct 92 p B8

[Text] The government's policy of freezing imports of ozone depleting substances such as CFCs [chlorofluorocarbons] at the 1991 levels is working, says the Ministry of Industry's Department of Industrial Works (DIW).

Hazardous Substances and Chemicals Control Division Director Wira Mawichak said last week that up until August, the weighted quantities imported were in line with last year's total of 10,044 tonnes.

In Wira's opinion, this result is a positive step towards taking on board the recommendations of the Montreal Protocol, enforced in 1989. This is an international agreement to protect the ozone layer, of which Thailand is one of the 81 signatories.

But when compared to similar countries, imports and local consumption of ozone depleting substances are still very high. Even a nation such as Malaysia has enacted successful policies that have substantially reduced their use, yet Thailand still has made no firm commitment or enacted legislation.

Existing controls relate to permits on importing, and these appear to be working as only a handful of large trading firms hold licences. The only other action is the establishment earlier this year of a committee, which is allegedly yet to meet.

Under the protocol, it was hoped that by 1989 consumption in each country would remain frozen at the level recorded in 1988. Thailand is way over this, more than three times as much, but as it is classified as a developing nation under Article 5, then a 10- year grace period is allowed.

According to Wira, both the ministries of Science, Technology and Environment and Industry acknowledge the importance of rapidly reducing the use. He is recommending that a recently commissioned country study on the phasing out of ozone depleting substances be implemented at ministerial level.

Four scenerios have been detailed by the report writers, a combination of American and Thai consultants including academics from the Thailand Development and Research Institute (TDRI). United Nations Environment Programme (UNEP) researchers were also involved. Costs of implementing such a policy range from Bt7 to Bt 11.6 billion and are dependent on the time frame enacted under a policy.

To comply with the protocol, Thailand must phase out the entire use of ozone depletion substances within a period that differs between chemicals, and on whether their use is for export or local consumption. If in default, then imports could be stopped at the source, most of which are in Japan, Germany and the United States.

This would drastically effect the electronics and printed circuit board industries and refrigerator and air conditioner manufacturers and a host of other affiliated sectors, including end consumers who need to refill mobile air cooling units.

The report recommends a strategy that combines substitute technologies within a reasonable length of time, calculated to cost Bt 10.5 billion up to the year 2010 and allowing for a total phaseout five years after this. This is in line with the protocol and exceeds its minimum targets.

"Support for this plan of action appears strong at the technocrat level," says UNEP CFCs project coordinator Ingrid Kokeritz. "But the government must realize that the cost should not be looked at alone, as financial support from the Montreal Protocol Multilateral Fund will surely be taken into consideration should Thailand speed up its efforts."

External assistance to subsidize the cost to a country's economy is available through various implementing agencies, one of which is the World Bank. The idea of the fund is for the so-called rich nations to subsidize the poorer ones who don't consider environmental concerns, such as ozone depletion, as the most economically pressing.

But Kokeritz warns that the plan to phase out ozone depleting substances won't stop at the government's acceptance of the report. "Getting middle managers in companies that use the chemicals to comply will be difficult," she adds. "There doesn't appear to be enough knowledge circulating at that level so their actions are likely to be prolonged."

DIW's Vira estimates that more than 90 percent of the users of the chemicals are multinational companies. This would appear on the surface to enhance the prospects of a rapid phaseout as those companies are likely to comply with their home country's regulations, rather than wait to be forced into rules enacted by the Thai Government.

However, both Kokeritz and Mark Radka, one of the authors of the country report and a senior associate of Washington-based ICF Incorporated, say that this is not necessarily the case. They are of the opinion that only the very largest companies take an international approach in this fashion, and as such Thailand must take a firm stand through regulation.

Calls have also been made for more cooperation from the private sector. Sources say that up until recently, the Federation of Thai Industries has been reluctant to even concede that a problem exists with ozone depleting substances. A chapter dealing exclusively with the electronics sector, a chief area of concern, does not exist within the FTI's structure.

FTI Secretary-General Praphat Photthiworakhun welcomed the country report's recommendations but added

that restrictions on imports, tariff increases, the dropping of related Board of Investment privileges, or any other actions taken to limit ozone depleting substance use should not be taken by the government until after his organization has been heard. "We don't want a fait accompli," he said.

Thailand's domestic use of ozone depleting substances lies mainly with commercial and mobile air conditioning systems and refrigeration which operate on chlorofluorocarbon (CFC) 12 and 113. Areas such as aerosol packs, solvent cleaning and polyurethane products are not so worrying as considerable substitute technology has already been implemented and the costs absorbed.

VIETNAM

Assembly Approves Ministry Status for Science, Environment Body

BK3009135492 Hong Kong AFP in English 1344 GMT 30 Sep 92

[Text] Hanoi, Sept 30 (AFP)—Following fierce debate, Vietnam's National Assembly approved Wednesday several changes in the government's structure but rejected others proposed by Prime Minister Vo Van Kiet, sources said.

The debate, which focused largely on Kiet's proposal to merge the agriculture and forestry ministries, forced the deputies to postpone for one day the ratification of a new cabinet, originally scheduled for Wednesday.

But the National Assembly approved the names of six of Vietnam's top leaders to form the newly created National Defense and Security Commission, which would lead the country in time of war.

President Le Duc Anh is chairman of the commission. He named Kiet vice chairman, while the other members are National Assembly Speaker Nong Duc Manh, Defense Minister Doan Khue, Interior Minister Bui Thien Ngo and Foreign Minister Nguyen Manh Cam, officials said.

The 395 deputies ratified a list of 20 ministries and seven state commissions after three days of what was probably one of the fiercest debates ever heard in Hanoi's National Assembly hall, the sources said.

Kiet was obliged to drop his proposal to merge the agriculture and forestry industries in the face of strong opposition, particularly among deputies from the mountainous regions who feared the move would leave no check on deforestation.

The assembly also blocked some ministerial name changes proposed by Kiet, arguing that changing stamps and letterheads would be a waste of money.

"He has a lot of support along the broad lines of his policies, but the small things like name changes were

considered vanities," a source close to the assembly said about Kiet, who is the leading voice of economic reform in Vietnam.

"Besides, the deputies want to show that they are independent, that the government can't push them around."

But the newly-elected assembly did approve the bulk of Kiet's proposals, including the elevation of the State Committee for Sciences into a Ministry of Science, Technology and the Environment and the dropping of the State Bank from ministerial to state commission level.

In a bid to fight graft, the government watchdog Inspector's Department was lifted to the state-commission level, and a post of director of the office of the government was created on the same level.

Tourism, sports and posts were pared off from various ministries and made government departments directly under the prime minister. Kiet brought oil and gas directly under his control earlier this year.

The assembly was to discuss and ratify Thursday the list of ministers proposed by Kiet, with only two or three incumbents in low-profile posts now expected to be replaced, sources said.

Vietnam's Rare Wildlife Species Face Decimation

*BK0810032692 Hong Kong AFP in English 0235 GMT
8 Oct 92*

[By Andrew Sherry]

[Text] Hanoi, Oct 8 (AFP)—Ho Dac Hoai was incensed. For years he had used ground-up tiger bones to keep rheumatism at bay, but now the powder had virtually disappeared from Hanoi's traditional medical markets.

"The Chinese are buying it all," complained the 60-year-old petroleum geologist.

But the opening of Vietnam to foreign traders is not the only reason exotic animal products are scarce.

Tigers, elephants and many other forms of wildlife are becoming increasingly rare in Vietnam as their forest habitat, already scarred by years of war, is eaten away by logging and the demands of an ever-growing population.

Some of the rarest species on earth make their home in Vietnam's highlands, including the goprey, a giant chocolate-brown wildcat of which only about 20 are believed to survive in the mountains bordering Laos.

Other threatened animals include the wild buffalo, the leaf-eating monkey, and a small group of 10-15 rhinoceroses that may be the last in Indochina, according to biologist Vo Quy, head of Hanoi University's Environmental Studies Center.

In July, a British researcher reported finding what may be a new species of mammal, known locally as the forest goat, in the Vu Quang nature reserve near the rugged Laotian border.

Vietnam's unusual ecosystems may harbor many more endemic species that are as yet uncatalogued. Some may never be, as forest destruction and hunting drive them toward extinction.

Two million hectares (4.9 million acres) of forest were destroyed by U.S. chemical defoliants during the war, according to Quy. Topsoil eroded, transforming jungle into savannah that has proved resistant to reforestation.

Forest cover has declined even more rapidly since 1975 due to commercial logging, firewood gathering and demand for farmland by Vietnam's 70 million population.

While Vietnam had 19 million hectares (47 million acres) of primary forest in 1943, it now has just 7.0 to 9.0 million hectares (17 to 22 million acres) and is losing up to 200,000 hectares (500,000 acres) each year, official estimates say.

Prime Minister Vo Van Kiet banned the export of unprocessed timber in March in a drastic move to slow deforestation. But convincing distant provinces to give up the profitable trade is not easy.

Authorities have also banned the hunting of elephants, tigers and other threatened animals, but it's still possible to order elephant-skin upholstery for your car in Ho Chi Minh City if you know the right people.

Asia's insatiable appetite for rhino horns, tiger parts and other products believed to enhance health or virility has made poaching more profitable since Vietnam opened its economy to the outside world in the late 1980s.

Tigers had it better during the war, when they converged toward the sound of gunfire knowing it might mean a meal.

"After the battle, our soldiers would have to fight the tigers," said Quy, who estimated that the tiger population had dropped from more than 1,000 in 1975 to 200 today.

In the past two years, the Vietnamese have also sent countless snakes, frogs and turtles off to the dining tables of China, relieving rats and insects of their natural predators.

Vietnam's leaders—thanks in part to Quy and other "green crusaders"—have recognized the environmental perils facing the country, but their means are limited.

They are pressing ahead with a reforestation program, and have designated 87 areas as nature reserves. An environmental protection law is due to be considered at the next National Assembly session.

The United Nations Development Program is funding several support projects, including one launched in July to train conservation guides and catalogue the country's endangered species.

The measures may come too late for some animals, however, as a recent Forestry Ministry report acknowledges.

"It is feared that some species have already been exterminated or are close to extinction."

BULGARIA

New Proposal on Ruse, Giurgiu Ecological Problem Discussed*AU3009202292 Sofia BTA in English 1955 GMT
30 Sep 92*

[Text] Ruse, September 30 (BTA)—Professor Ivan Baychev and Florya Bold, deputy mayors of Ruse and Giurgiu, co-chairmen of the Bulgarian-Romanian Commission on the Ruse-Giurgiu environmental problems, met today. The meeting was occasioned by the expiry of the deadline, by which the Romanian side had to submit written observations on the causes for the failure of the commission's latest regular meeting in Giurgiu last Friday.

The Bulgarian side made a declaration last Friday, assessing the actions of the Romanian side as a violation of the rules of the commission's work. Bulgarian experts were not admitted to the Verachim Chemical Works and were refused information on specific questions about the pollution of Ruse's air in the last two months. On these grounds the Bulgarian side stated that unless the rules were observed, it would review its plans for participation in the commission.

Mr. Bold today presented the so-called declaration of the Romanian side of the commission, which was discussed for four hours. In spite of certain positive points, it theorizes at great length that Ruse's air is not polluted by the Giurgiu-based works, Prof. Baychev said, adding that he could not accept such a declaration. According to him, the sides should continue their joint work in a spirit of candour. That is why the Bulgarian side proposed that experts reconsider the actions of the Romanian side and present new written observations at a meeting on October 2. It should give an accurate account of the events and the true causes for the failure of last Friday's meeting.

Electricity Rationing Possible After Kozloduy Accident*AU3009182492 Sofia BTA in English 1512 GMT
30 Sep 92*

[Text] Sofia, September 30 (BTA)—After last week's incidents at the Kozloduy N-Plant which destroyed some of the circuit breakers in Generating Units 5 and 6 and some of their spare equipment, it would be only logical to ask when the damages of the accident will be recovered and whether Bulgarians are faced with the prospect of yet another cold and dark winter of electricity rationing.

According to the spokesman for the N-Plant, Eng. Yordanov, cited on the National Radio today, the N-Plant is expecting a shipment of circuit breakers from Russia. But even if they are delivered immediately, their installation would take at least a month. It would take another month to start-up the generating units. This

means that the N-Plant will see winter in generating very little electricity which will necessitate electricity rationing, Mr. Yordanov warned. The preparations for the start up of the reactor of Generating Unit Four have been almost completed and if everything goes smoothly it will be put into operation in the next few days and feed an additional 400 MW. to the national grid. But Generating Unit 3 of the same capacity will be switched off at the same time for regular annual repairs and refueling.

In an interview for the National Radio the chairman of the Committee for the Peaceful Uses of Atomic Energy, Associate Professor Yanko Yanev, said that the problem of power generation is not within the competence of the committee. The committee is responsible for the N-Plant solely from the point of view of the safety of its generating units. On the whole the reports about possible difficulties in electricity supply correspond to the truth, Mr. Yanev confirmed. The switching off of Generating Unit 3 may leave us without a single operating unit at the N-Plant, Mr. Yanev said. He added that the committee would require the conducting of additional inspections of Generating Unit 6 before its possible start-up as well as measures for bringing all generating units in line with the safety norms.

Mr. Yanev categorically ruled out the possibility of the committee yielding to external pressure for a quicker start-up of the generating units at the expense of the N-Plant's safety.

Environmental Commission With Romania To Resume Activity*AU0310174392 Sofia BTA in English 1647 GMT
3 Oct 92*

[Text] Ruse, October 3 (BTA)—The Joint Bulgarian-Romanian Commission on the Environmental Problems in the Region of the Danubian Cities of Ruse and Giurgiu will continue its work. A declaration presented by Mr. Florian Bold, deputy mayor of Giurgiu, expresses regret over the unhappy session of September 25 which was discontinued after the walkout of the Romanian delegation. The declaration explains this with political obligations in the elections and the negotiations with U.S. businessmen at the Verachim Chemical Works to which a Bulgarian delegation was refused access.

The next session of the commission has been scheduled to take place late this month in Ruse.

CZECHOSLOVAKIA

Soviet Property Sales Profit Not Enough For Ecological Cleanup*AU0210121692 Prague HOSPODARSKE NOVINY
in Czech 29 Sep 92 p 2*

["(rop)"]-signed report: "Decontaminating the Property Is a Prerequisite"]

[Text] The property and financial settlement associated with the withdrawal of Soviet forces from the CSFR will end in a deficit for our side. This announcement was made by Dr. Jaroslav Vlcek, director of the Office For Dealing With the Consequences of the Soviet Forces' Presence on CSFR Territory, at a news conference in Prague yesterday.

However, this deficit should be smaller than originally forecast. The former Soviet Army left property in our country worth around 1.75 billion korunas. It will transfer to the Federation's ownership and be divided between the two republics according to the territorial principle. We have also taken over the joint bank account in which money from the sales carried out by the Soviet side was deposited. On the other hand, there is considerable ecological damage; however, responsibility for only part of it can be attributed to the Soviet side. The Czechoslovak-Soviet Commission for Ecology has estimated the cost of this damage at 3.5 billion korunas. Some 300 million korunas from the sale of Russian facilities on our territory will be used to construct apartments in the Russian Federation for the members of the Soviet forces withdrawn from the CSFR.

As Engineer Marian Tkac, the Slovak Government's plenipotentiary, said, 85 percent of the vacated facilities in Slovakia will transfer to the Army's ownership and only 24 of them will be used for civilian purposes. These facilities are in very poor condition and, in certain cases, are simply unsalable. The profit from these sales may not even cover the cost of decontaminating the land on which they are located.

Compensation for injury to life, health, or property caused by the entry into and presence on our territory by Soviet forces should be completed by the middle of next year.

On 30 September a competition will be announced to decide how the former military exercise areas in Ralsko and Mlada will be used. The Mlada base, comprising 58 square kilometers, is located roughly 40 km north-east of Prague. The Bozi Dar military airfield in Milovice is also part of this base. Ralsko is located some 80 km north of Prague and it comprises 250 square kilometers. A former military airfield for small and medium-sized aircraft is also located within this base. At the moment, however, there is greater interest in Mlada. A condition for participating in the competition is, among other things, an undertaking by the future winner to decontaminate and clean up the appropriate territory. The competition should close on 15 February 1993 and the winner should be announced by the Czech Government on 15 March 1993.

Green Party Elects New Chairman

AU0610133492 Prague CSTK in English 1838 GMT
3 Oct 92

[Text] Zdar nad Sazavou, South Moravia—The main concerns of the Green Party's two-day extraordinary

congress, starting here today, are the evaluation of the party's activities, the setting of its future direction and the election of a chairperson.

Differences emerged from the outset in a debate on the wisdom of the party leadership's decision to enter into the Liberal Social Union (LSU) in this past June's elections.

Party Chairman Ales Mucha was accused of abandoning the party's election programme and failing to promote the Greens within the LSU coalition. ***

Zdar nad Sazavou, South Moravia—The Green Party elected Jaroslav Vlcek their new chairman here Saturday [3 October].

He replaces Ales Mucha, who was accused by members of manipulating party slates in the June elections and mismanaging party funds.

At today's session of the Greens' federal congress, delegates voted to remain in the Liberal Social Union (LSU), a coalition of the Greens, the Czechoslovak Socialist Party (CSS) and the Agrarian Party (ZS).

HUNGARY

Talks on Joint Hungarian-Romanian Conservation Area

AU2409090792 Budapest MTI in English 1653 GMT
21 Sep 92

[Text] Budapest, 21 Sep (MTI)—Romania will examine possibilities for setting up a conservation area adjoining Hungary's planned national park in the southeast region near the Koros and Maros rivers, Parliament's Environmental Protection Committee Chairman Nandor Rott told the press on Monday.

The news briefing followed the Budapest talks with Peter Weber, chairman of the Romanian Senate's Committee for Ecological Balance and Environmental Protection.

The discussions resulted in an agreement on thorough environmental examinations along the common border, in addition to joint river testing agreed upon earlier, and a regular exchange of related experiences.

An opportunity will arise for conservation area management in cooperation with, and with the help of, the European Community.

Both sides attached great importance to the meeting.

Minister Says International Court To Settle Gabcikovo Issue

LD0810125892 Budapest MTI in English 0949 GMT
8 Oct 92

[Text] Budapest, October 8 (MTI)—"The Hungarian Government cannot legalize the violation of the country's territorial integrity by consenting to negotiations

while the other side diverts the Danube 'on the side,'" Minister Without Portfolio Ferenc Madl said, in a full-page interview carried in Thursday's national daily 'MAGYAR NEMZET'.

Madl's remarks referred to the fact that the Czechoslovak side violates the 1947 Paris Peace Treaty by the so-called 'C' version of placing the Gabčíkovo power plant into operation, through the unilateral diversion of the Danube.

That Hungary would consent to the diversion of the Danube is also excluded by a resolution of the National Assembly, Madl said.

"The basic issue is, first and foremost, that the Danube is a border river, and it cannot be unilaterally directed to Slovak area. It should be understood that if there is a power plant, then that must have a reservoir, and then the Danube has to be diverted. Hungary cannot at all consent to this, or we would otherwise become the injured party in an environmental catastrophe.

"We now have no other way—nor does the Czechoslovak side—than the International Court in The Hague, and the negotiations in the proposed trilateral committee (a scientific and expert committee consisting of representatives of the two sides and experts of the EC) on the ecological issues. The international professional expert committee will define the actual situation in a correct manner, as well as the way out of the problems, which will hopefully be rational and acceptable," Madl said in conclusion.

POLAND

German Waste for Recycling Seen as Threat

92WN0767 Warsaw RZECZPOSPOLITA (ECONOMY AND LAW supplement) in Polish 28 Aug 92 p II

[Article by Krystyna Forowicz: "Greenpeace Is Not the Only Warning: Poland Risks Being Invaded by Garbage"]

[Text] Greenpeace ecologists say Poland runs the risk of another assault of waste, especially from Germany. They think that the draft law on solid waste the Sejm is preparing will make it possible to use recycling as a pretext to permit solid waste to enter our country.

Andrzej Walewski, chief inspector of environmental protection, told RZECZPOSPOLITA that the threat is real, and that more and more solid waste will be smuggled into Poland, as other countries firm up their regulations on the international transportation of solid waste.

The Germans have rigid regulations. Therefore, we can expect an influx of solid waste from that country, particularly inasmuch as German law permits harmful substances to be exported as long as they are designated to be reused for economic purposes. Minister Walewski stated that Poland had strict regulations providing fully

protection against the importation of solid waste, and he said that environmental and customs cooperation was well organized. We also signed the Basel Convention on the control of transborder transportation and removal of hazardous waste. Our regulations here are stricter than those of the rest of the pact's signatory countries.

The new draft law—it was put forth at the initiative of a deputy—actually allows some solid waste to be imported as a recycled material. According to Minister Walewski, however, the regulation in the law will be formulated in such a way that the inspectors of PIOS [State Environmental Inspectorate] will issue individual single-entry permits to import specific waste, such as nonferrous metals.

Poland's prohibition against importing solid waste and Greenpeace's claim of numerous smuggling attempts have temporarily discouraged people engaged in the smuggling business. Iza Kruszkowska, a Greenpeace expert and representative for Central-Eastern Europe warns that Poland's current officials may bring about another influx of solid waste by issuing permits to import solid waste for "economic use."

Greenpeace considers the new draft law's chapter on the international turnover of solid waste to be especially controversial. In this chapter the authors refer to the imperfect Basel Convention, mentioned above. They anticipate the present prohibition against importing any sort of solid waste to be mitigated through the issuance of permits for importing so-called "safe solid waste." The concessions may be issued if, for example, the waste is to be used as a secondary raw material and its processing does not threaten the environment or if the supplier of the solid waste provides for the extraction/ collection of that part that will not be fully processed during recycling.

The draft law does not specify, however, which of the existing classifications of hazardous waste will be used. Greenpeace agrees that certain waste, such as paper and glass, is actually safe, but we must consider the fact that many "harmless" substances become hazardous in the "recycling" process.

Moreover, Poland will of necessity be pressed to adopt the waste classification of the OECD, which is made up of the 24 most advanced countries. The OECD is in the process of creating a special agreement known as the "red, yellow, and green agreement." Each color will designate a different control method. The three colors will be used for the various waste lists. Greenpeace considers this project absurd. The green list ("safe waste"), for example, includes "lead waste and scrap," as well as plastic materials, but "liquid hog manure" has been put on the yellow list, with hazardous waste.

Up until now, Poland has been against the proposed waste classification methods presented at the OECD forum, with its red, yellow, and green list, on the grounds that there is no scientific justification for the lists.

Nearly all waste can be considered "beneficial" or "useful" in poor countries.

The new version of the Polish law will subject Poland to successive onslaughts of "garbage." We do not have the technology to process harmful materials. The Polish ecological services do not have the technical capacity to assess the "utilization process." One example testifying to this fact is the former environmental minister's permission last September to import waste lye sulfide from Norway to be employed to produce copper using an outmoded technology. At the time, the minister explained his decision saying: "Lye is a toxic substance reflecting the properties of the waste, but this is only true when it is not fully utilized." He did not take into consideration the fact that when lye is used, there are tremendous sulfur emissions into the atmosphere. This would be one of the factors underlying the absurdity of requiring assurance that the remnants from the recycling process are returned to the supplier. Actually, they do return to him, in the form of pollution along the border.

The influx of solid waste that Poland was so concerned with in 1989 and 1990 has been arrested, owing to consistent enforcement of the law, which compelled business people to alter their routes, sending waste to Romania, Bulgaria, the Baltic nations, and the countries of the CIS instead.

Owing to our lack of technical resources and our shortage of corresponding agencies engaged in environmental protection, and given our country's proximity to Germany, the West European "champion" exporter of solid waste, Greenpeace thinks that Poland should maintain a strict total ban on importing any waste or post-production products.

Contaminated Drinking Water Poses Problem for Poland

92WN0783A Poznan WPROST in Polish No 35,
30 Aug 92 pp 59-60

[Article by Marek Kochan: "Poison From the Faucets: The Permissible Norms of Chloroform in Drinking Water Are Being Exceeded Even Tenfold"]

[Text] Chloroform is a substance which years ago used to be employed in operating rooms as an anaesthetic. At present we are regularly consuming this substance in copious doses by drinking water "treated" with it.

Chloroform is a carcinogenic product of the chlorination of water. World norms, which also are binding in Poland, permit up to 30 micrograms of chloroform per liter of water. This is a so-called safe risk level, meaning that just one out of 100,000 persons drinking piped water all their lives has a considerable "chance" of developing cancer.

Polish water treatment stations often process water of particularly low quality, which must be more intensively chlorinated (among other reasons, in order to eliminate

bacteria and so-called bloom). Sometimes chloroform norms are exceeded by a factor of 2.5 or even tenfold. This means that three to five persons are condemned to develop cancer.

In the opinion of Dr. Stanislaw Sadowski of the State Institute of Hygiene [PZH] what matters most is to inform the public about the days on which the norms are exceeded. At the PZH research has been initiated to determine, among other things, the number of days in the year on which piped Warsaw water is suitable for drinking. Example: One day on Okinski Street in Warsaw water sampled from a faucet was found to contain 209 micrograms of chloroform (seven times the norm). No such analyses are conducted at the central offices of water systems, but the amount of chlorine used can serve to determine where and when the norms were exceeded. Chloroform is anyway just one of many noxious substances present in piped water.

Wherever surface waters are less contaminated, it suffices to build special reservoirs for collecting potable water. Poznan has such a reservoir in Jeziorsk, and Lodz in Sulejow. As for Czestochowa, it benefits from unusually pure karstic waters which, however, owing to their geological positions, are readily amenable to industrial pollution.

The cities located on the highly salinated Vistula are in an extremely difficult situation. The chemical composition of Vistula water is such that its chlorination results in the formation of a large number of noxious substances, including carcinogenic and mutagenic ones.

Noteworthy is the water situation of the nation's capital, of which the well-known hydrogeologist Antoni Chrzanowski said 30 years ago that it is a world-scale event.

Warsaw, while located above an aquiferous Oligocene stratum (present only in central Poland) almost totally lacks pure water. The Oligocene water is used chiefly by industry, which expels liquid wastes that are treated and then channeled into the municipal water supply system (the northern water pipeline collects water from Lake Zegrzyn).

In the opinion of Professor Jozef Bazynski of the State Geological Institute, the Oligocene stratum is the sole source of pure water for Warsaw. (the surface waters, and even the subsurface Quarternary-horizon waters, are too polluted in that region to be usable).

The problem is how to organize the distribution of Oligocene waters. In the 1960's a project for building a special water supply system providing for a separate faucet for drinkable water in every apartment or house in Warsaw had been considered. During the subsequent era of frugal Gomulka apartments with skimpy kitchens this idea was rejected, and nowadays it is practically infeasible.

Finding the funds for building an intake for Oligocene waters will not solve the problem. An expert contractor

still has to be found. An improperly installed facility may result in water contamination. This danger arose, among other instances, during the construction of an intake linked to the well in the Warsaw Citadel, where a study pointed to the presence of *E. coli* bacteria, previously absent in the water.

Pollutants may penetrate the Oligocene horizon also through old unused intakes that were not properly secured. Early this year, when terrorist attacks were feared in connection with the transit of Soviet Jews to Israel, all the wells in Warsaw were monitored, and it was found that the intake next to the garbage dump in Bemow was unsecured.

There is hardly anything we can do about the threat to the purity of the Oligocene waters from the saline waters (below the Oligocene horizon) and Quarternary waters (above, the pollutants can penetrate through so-called hydrogeological windows or improperly built wells). Anyhow, the bacteriological time bomb is ticking not only in Warsaw.

[Box, p 59]

Over the year water losses in the municipal water supply systems increase by one-fifth. According to Swedish experts, even now water losses in Poland could be reduced by 40 percent.

The inhabitant of Warsaw or Krakow consumes 100 liters of water daily more than, for example, the inhabitant of Hamburg. We most often bathe in bathtubs, which take 80-100 liters of water, instead of showering (40 liters). To clean a soiled plate in Poland a home-maker uses on the average 10 liters, although, if appropriate measures are taken, it can be cleaned with only one liter.

[Box, p 59]

Sanepid [Sanitary-Epidemiological Stations] studies have shown that some imported mineral waters contain an excessive number of *E. coli* bacteria. It turned out that, "for export needs," they were collected from polluted surface sources. In view of this, shipments of, among others, French waters "Mont Dore" and "Saint Armand" have been halted. Likewise, all imported waters sold in plastic bottles cannot be stored long.

Analyses of Polish-produced mineral waters have found several times that they were being sold in improperly washed bottles.

[Box, p 60]

The Killing Well

The public well at the marketplace in Swarzedz is used by dozens of people daily. Studies have shown that its water is in no case drinkable; that is is "hard" and contains manganese, ammonia, and *E. coli* (fecal material enters the water), and that it is bacteriologically polluted.

Nitrates are especially dangerous to health. The Swarzedz well contains three times as many nitrates as the norm, but there also exist water sources in which this norm is exceeded by a factor of 20.

The ingested nitrates block hemoglobin and prevent its combining with oxygen. In 1991 a child with cyanosis was brought to a Poznan hospital. It turned out that the cyanosis was due to cooking meals for the child with water taken from a farm well. Subsequent studies showed that the water was "simply roiled with nitrates." The child died.

Slask Region Environmental Ills Examined

92WN0783B Poznan WPROST in Polish No 35,
30 Aug 92 pp 15-19

[Article by Mateusz Cieslak and Mariusz Urbanek:
"Katanga '92"]

[TEXT] The Movement for Silesian Autonomy demanded of three voivodes that they hold a referendum which would decide on new boundaries of the region, determine an electoral law for elections to the Silesian Sejm, and stop paying all taxes and fees to the Polish central government.

At Tychy Ewa Spsychalska, Marian Jurczyk, Rajmund Moric, and Andrzej Lepper stood together in accord for the first time. In Silesia the KPN [Confederation for an Independent Poland] and SdRP [Social Democrats of the Republic of Poland] are rehearsing future electoral campaigns.

"Silesia is a place that God forgot," said the miners exiting from an shaft at Staszic Mine, Katowice's largest.

It was also forgotten, in their opinion, by Warsaw, which "has for so many years ruthlessly been exploiting Silesia and now prefers to turn its back in order not to see how this region is dying now."

"Silesia nowadays is a powder keg under which the fuse has been lit long ago," said Zbigniew Wilk of the Regional Solidarity Board.

"It is up to us to extinguish that fuse in time."

Within the small area of Upper Silesia (Katowice Voivodship accounts for 10 percent of Poland's population but barely 2 percent of its area) are concentrated all the adverse trends and perils which appear singly in other regions of Poland: obsolete industry, recession, unemployment, polluted environment, and perils to health.

Maria C. moved to Katowice shortly after the war. Nowadays she keeps saying that she is living in a cursed place. The two dogs she kept died in torment one after the other. The third was found to have lead poisoning. The windows of Maria C.'s apartment in Welnowiec face

directly the ruins of a no longer operating zinc and lead smelter which, though classified as a historical relic, has a horrifying appearance. Maria C. resolved never again to keep a dog, but children at play can still be seen near a huge slag heap.

In Upper Silesia, four zinc and lead smelters, which represent the environmentally most noxious areas, are still operating.

The lead concentration in the air over the voivodship exceeds the maximum permissible norms fivefold, but in the immediate vicinity of the smelters it is as much as 28 times higher than the norm.

Dr. Antoni Pyrkosz of the Genetics Laboratory of the Silesian Medical Academy said that, although in Silesia no records are being kept of factors adversely affecting health or of the congenital defects of neonates, it is certain that environmental pollution has caused changes in the genetic code in some people.

Professor Rozalia Osuch-Jaczevska of the Neonatology Clinic at the Central Clinical Hospital in Katowice claims that heavy metals such as cadmium and lead exert a particularly negative influence on the course of pregnancy and the health of newborn. In addition, as studies have shown, the concentration of these metals in the meconium of newborn is four times as high as it is in the mother's blood, thus resulting in congenital defects.

The infant mortality indicator in Silesia is 6 times higher than the nationwide average in Poland, and in certain localities, such as Rozbark, Bukowno, and Swietochlowice, it reaches 40-50 deaths per 10,000 births. The number of stillbirths and premature infants also is higher. In the Pszczyn-Tychy region, which is considered "clean," the number of newborn with congenital defects is the highest. Of the total of 1,300,000 children living in Katowice Voivodship more than 300,000 must be kept under constant medical supervision owing to acute and chronic illnesses.

Dr. Jan Stasiak, director of the Central Clinical Hospital, added that as recently as a couple of years ago nerve cord tumors had been diagnosed only in children upward of 10-15 years of age, whereas now tumors of the nervous system are detected as early as in children 2-3 years ago, and recently an infant six months old with a nerve cord tumor was brought to the clinic.

Each month freaks—children with congenital defects—are born in Katowice: lacking a brainpan, hydrocephalous, frog-faced, born with the intestines sticking out, or with lumbar hernia, or lacking extremities. No statistics of these congenital defects has ever been kept: Instead there is the sight of crippled children on the streets of cities.

Dr. Antoni Pyrkosz contends that hidden disorders, which become consolidated and cause disorders of the genetic code, are much more dangerous than the visible

congenital defects. They may manifest themselves even after many years, in successive generations, as in the case of Hiroshima.

According to the Director of the Ecology Department of the Katowice University Wojciech Beblo, Upper Silesia is nowadays Europe's largest experimental medical laboratory.

The lifespan of the inhabitants of Katowice Voivodship is on the average six years shorter than in other regions of Poland, and excessive male mortality is a special problem. The environmental pollution in this voivodship menaces half of Poland, as it accounts for more than 50 percent of the country's industrial wastes and 64 percent of its sulfur dioxide emissions; 30-40 percent of Krakow's pollution derives from Silesia.

Director Beblo said, "Each year 70 million metric tons of metallurgical waste is created in Katowice Voivodship. Altogether, by now there are 2 billion tons in the dumps. Soon now we shall run out of places to store it."

In Katowice voivodship there are no recultivated metallurgical waste dumps on which trees and bushes might grow. All that grows on these dumps is weeds whose roots reach the interior of the dumps and serve as conduits for air, thus triggering spontaneous combustion and causing the surface temperature of the dump to reach 60-70 degrees Centigrade. Any living matter dies.

The dumps have been burning for dozens of years now. Only century-old, completely burned out dumps are suitable for recultivation.

The earth under Upper Silesia resembles Swiss cheese. Silesia is sinking. In some places it has sunk several meters and in others several dozen meters. The areas in which the earth has sunk have to be excluded from housing construction. Wherever buildings already are standing, people continue to live in them. Entire quarters of Ruda Slaska have had to be demolished because the buildings were no longer usable and were going to collapse at any moment. Several years ago the upper wall of an apartment building in Welnowiec suddenly literally plunged into the earth. Following a recent earthquake plaster fell from many buildings in Tychy.

Owing to soil subsidence one corner of the Voivodship Administration Building in Katowice is positioned half a meter lower than the opposite corner. The cracks in the wall are wide enough to put a fist in. The Rawa River, which now is one big stream of liquid wastes, flows half a meter above the market level in Katowice, and any sudden rise in its level could result in flooding the downtown area.

The Klodnica River flows six to seven meters above the villages located along the Gliwice-Katowice route. Gliwice will soon become a segment of a vast dam.

Bytom is in the worst situation. While it was German-occupied, plans were being made already to evacuate the entire town, because the need to pay fines for mining

damages made coal-mining unprofitable. The town of New Bytom had been rising. Nowadays, several pumping stations must work for the needs of Bytom, which after the war had sunk about a dozen more meters. An interruption in their work would cause the entire town, whose downtown area is below the water level, to become flooded.

At the high-rise housing project located not far from the Wujek Mine all the tenants know each other well.

"When we had first moved in here," the women standing in front of 10-story apartment building said, "every time there was a shock and crystalware began to fall and the chandeliers began to swing dangerously, we would grab whatever we could and run outside."

After several such alarms they got used to them, but the acquaintance ships they had formed remained.

To most inhabitants of Upper Silesia the fear of losing jobs, fear for the future of the family and of the future, is more important than fear of ecological dangers. Last July unemployment in Katowice Voivodship had reached 140,000, rising at a faster rate than anywhere else. It is estimated that in two years unemployment may reach as high as 400,000, meaning that every third able-bodied person would be jobless.

"People fear the unknown most. It is an open secret that the Canadian consortium that worked out a program for restructuring the steel industry expects to lay off at least several dozen thousand steelworkers. Yet no one has personally seen such a plan, not even at the Voivodship Office," said Zbigniew Wilk of Regional Solidarity.

More than 60 percent of the steelplants are nearing bankruptcy, and they all are money-losers, including Baildon, the most modern of them. The mining industry, which last year operated at a loss of 3.6 trillion zlotys [Z], is expected to lose Z12 trillion this year. Alongside roads in Katowice there appeared boards advertising "Cheap high-quality coal."

Eighteen mines will probably be designated for liquidation, although, according to Tadeusz Kiecka-Niechajowicz, deputy director of the Economic Department of the Katowice Voivodship Office, this does not mean that it is precisely the most regularly unprofitable mines that will be thus designated.

Fear of the future is aggravated by the experience of the Walbrzych Basin, which was to be the proving ground for the liquidation of some Silesian mines. In Walbrzych that experience was not good, although it contains only four mines. So why should it work in Silesia? The miners ask. "We are told that mines have to be liquidated. Good, but what comes after?" asked Jerzy Bohn of Staszic Mine, a Solidarity-80 member.

"Minister Jacek Kuron admitted that as yet no regional plan has been worked out for Silesia. Yet by now 70

percent of enterprises in Katowice Voivodship have lost creditworthy status," said Director Kiecka-Niechajowicz.

"At first, miners were promised that the cost of liquidating money-losing mines would be offset from the state budget. But now forming holding companies is being proposed and, according to official assurances, they are to streamline the organization of coal sales, whereas in the opinion of miners they are intended to deprive mines of their autonomy," said Jerzy Bohn.

The estimated cost of liquidating a single mine is about Z2 trillion, and besides no mine can be closed 100 percent, because that would involve too big a risk.

The water pumps would have to work forever, properly speaking.

Jan Kowalski, a vice chairman of Solidarity-80 at the Staszic Mine, said that the Katowice region has been all this time exploited ruthlessly, and miners were treated as second-class citizens and not given anything in return. Zbigniew Wilk of Solidarity explained that even in the 1970's when people in other regions of Poland used to say that the Silesians were Gierek's pets, the situation in Katowice Voivodship was not all that good.

The miners themselves do not want the past to return. Nowadays, they prefer to speak of their destitution: Their monthly wages are enough to live on for two weeks out of the month and their wives must, contrary to long-time family tradition, increasingly often look for work.

"Every time we go down a mine shaft, we do not know whether this might be our last time," said Zygmunt Grygiel, a blasting worker. "We are being treated like superfluous people."

Zygmunt Grygier [as published] donated 26 liters of blood, yet, when he asked the mine health service to help a son who had an accident, he was treated like a pest. To get help he had to "show his wallet."

Officially the average monthly wage at the Staszic Mine is about Z4.3 million, but miners claim that they cannot make more than Z2.0-2.5 million, with the exception of those working at stope faces. Jerzy Bohn, a supervisor with several dozen years of seniority, claims that he is paid Z800,000 less than the average monthly wage, and the three other miners in his family are altogether underpaid by Z6.9 million compared with that average wage.

Miners wonder what is happening to the missing money. Who is getting it? In the opinion of the representatives of Solidarity-80 at Staszic, a mine whose condition is not so bad compared with others, that money was spent on so-called application and labor-saving bonuses (on which Z15 billion was spent in the last year and a half). During the last strike miners tried to find out why the coal

cutting machine had to be imported from England for Z24 billion whereas a similar machine at the Katowice Famur cost Z8 billion.

"Everything becomes clear once we consider that the bonus for 'introducing' the English machine was Z1.2 billion and that for introducing its Polish counterpart, 'only' Z400 million," said Jerzy Bohn.

Rajmund Moric, chairman of the Federation of Trade Unions of Miners, contends that while Mazowiecki still appreciated the importance of mining and asked miners to excavate more coal, Bielecki preferred to write miners off as a loss.

As for Olszewski, he simply did not "move a finger" about the miners.

"As for the present government, for the love of God, it does not have any program at all," added Moric, who also signed the declaration of six trade union federations, "Polish Copper," and FSM Tychy [compact car plant], establishing the National Inter-Trade Union Negotiation and Strike Committee.

At Tychy, for the first time, Ewa Spychalska, Marian Jurczyk, Rajmund Moric, and Andrzej Lepper stood in accord. In Silesia KPN and SdRP politicians are rehearsing future electoral campaigns. The postulates of 21 August can only accelerate parliamentary elections and change the alignment of the Sejm. Solidarity, which began clearly to lag behind other trade unions, is now desperately trying to make up for lost time and announcing a protest action with the object of providing moral support for the trade unions negotiating with the government.

Zbigniew Wilk contends that this does not mean that Solidarity fears being left behind; the stance of his trade union ensues chiefly from its feeling of responsibility for this country.

Embittered and discouraged people are readily persuaded of the rightness of the most demagogic slogans. This mood is being exploited by representatives of groupings that officially declare only their concern for the good of Upper Silesia.

"I firmly believe that together we shall create already in the not distant future in this ridiculous 'Polish zoo' our own Upper Silesian 'Disneyland,' full of joy and realized dreams," said Edward Poloczek, chairman of the Alliance of Upper Silesian Trade Unions and Associations.

Poloczek claims that the aspirations of Upper Silesia are being promoted nowadays by the nationwide "mess and political-economic chaos."

The slogans extolling partial autonomy of Upper Silesia appeared as early as in the end of 1989, when the Upper Silesian Union, proclaiming the need to recreate the Silesian Voivodship in its prewar shape, was formed with the blessing of the Katowice Curia.

The Upper Silesian Union is the actual ruler of the region. Its members include Wojciech Czech, who speaks of an Upper Silesia stretching from Czeszochowa to Brno and from Opole to Bielsko, and a majority of councilmen. However, the Union as an organization is not a signatory to the Upper Silesian Alliance, although Edward Poloczek himself is its member.

The signatories to the Alliance are: The World Union of Upper Silesians, the Union of Upper Silesians from Opole, the German Minority of Katowice Voivodship, the "Reconciliation and the Future" German Work Community, the Society of Friends of Katowice, and the Movement for Silesian Autonomy.

"Prompted by a deep concern for a deliberately ruined Silesia and for the continuing impoverishment of its industrious inhabitants," the Movement for Silesian Autonomy demanded, in an open letter addressed to the Katowice, Opole, and Bielsko voivodes, holding a referendum to determine the boundaries of an autonomous Silesia, issuing electoral regulations governing elections to a Silesian Sejm, and discontinuing the payment of all taxes and fees to the Polish central government "in view of its notorious wastage of every zloty transferred thereto." Furthermore, it demands "inventorying all the material and artistic treasures lawlessly removed from Silesia" and "acknowledging that crimes against Silesians are not subject to the statute of limitations."

"This is such a difficult topic that it cannot be discussed without consulting the head office in Warsaw," said Wojciech Szram, the head of the Katowice UOP [Office for State Protection].

When asked whether activities like those of the Upper Silesian Alliance are of interest to the UOP, its head office in Warsaw answered through the mouth of the UOP's press spokesperson Irena Popoff, that any state ment aimed against national security is of interest to the UOP.

The fuse under the powder keg in Upper Silesia has already been lit. The cord is, it seems, still fairly long, but it is burning more and more rapidly.

REGIONAL AFFAIRS

Caribbean States Consider 'Nuclear Materials Offenses Act'*FL0110145292 Bridgetown CANA in English
1159 1 Oct GMT 92*

[Text] Castries, St. Lucia, Sept 30, CANA—Legal and foreign affairs ministers from the Organisation of Eastern Caribbean States (OECS) are likely to adopt individual positions on reports of a planned shipment of plutonium through the Caribbean, a Grenada minister said here.

Dr. Francis Alexis was reacting to the Caribbean Conservation Association's [CCA] notification of regional governments last month that plutonium may soon be moved through sea lanes in the area. The CCA said its message has apparently gone unheeded.

OECS ministers said that while the matter had not been discussed "in detail" during their two days of talks here, they took the threat of environmental contamination such a shipment could pose "seriously."

"If we were not taking it seriously, (the issue) would not be before us in the first place," Dr. Alexis, Grenada's attorney general, said.

The OECS countries have discussed the possibility of enacting a Nuclear Material Offences Act, which Alexis said would "ensure as far as possible that we do not have nuclear waste material brought into our jurisdiction. There has been an understanding that the draft act would be given very serious consideration for enactment in the participating states," he reported. "... I do not know what individual states are likely to do; I do not want to preempt them," Alexis said. He said the Grenada "cabinet has not yet focused on it."

The CCA's concern is linked to reports by Greenpeace International, a major environmental watchdog, that in October the "Akatsuki Maru" would slip out of the French port Cherbourg with a cargo of more than a tonne of plutonium.

ARGENTINA

'Dangerous' Plutonium Cargo To Be Given Right of Passage*PY2009231192 Buenos Aires BUENOS AIRES
HERALD in English 19 Sep 92 p 11*

[Text] A Japanese ship carrying over a ton of plutonium is to be given permission to sail through Argentine waters, passing with its highly dangerous and toxic cargo around the volatile waters of the Cape Horn off the southern tip of the country.

The Akatsuki Maru is currently on its way to the French port of Cherbourg, where it will load up with the plutonium, which will be used to power nuclear energy plants

in Japan. The cargo is said to be highly dangerous and the equivalent of 120 atomic bombs.

Environmentalists claim that the decision to allow the ship to pass by the southern tip of the country could lead to a disaster because these are some of the most difficult waters in the world to navigate.

The ship is due to pass through Argentine territory in three weeks' time and will be given an escort by the Argentine Navy to ensure its safe passage. Representatives of the campaigning environmental group Greenpeace are meeting the government after reports that the United States, New Zealand, Australia and other countries in the Pacific region have refused the ship entry to their waters.

"The United States has refused to allow the ship to pass through the Panama Canal, and this is why it is taking the long route back to Japan. The plutonium is dangerous and the equivalent of 10 atomic bombs. If the ship was to crash, it would be one of the worst nuclear disasters in the world," said Juan Schroeder of Greenpeace.

The US Embassy in Buenos Aires was not available for comment but the Argentine government has said that it will ensure that the ship stays at least 200 miles from the coastline and that all precautions will be taken to prevent any accident.

"Most of the ship's journey is through international waters and only a small part of it is through Argentine waters. Other ships carrying similar substances have passed through our waters before without any problems," said a spokesman.

Japan transports more than five tons of re-processed plutonium a year to and from the nuclear power plant in Sellafield, north-west of England, and others in France.

Patagonia Facing 'Desertification' Through Overgrazing*PY2809033492 Buenos Aires BUENOS AIRES
HERALD in English 27 Sep 92 p 7*

[Text] (DYN)—Patagonia is losing a portion of its territory to Chile, the ashes from the Hudson volcano still cover vast stretches of the region and crude oil carriers wash out their tanks off its shores causing the death of thousands of penguins. But probably the most urgent problem facing the area is its desertification, which if not halted in time will cause the vast expanse to become just another of the world's deserts.

A recent report prepared jointly by the Agriculture Secretariat and the National Institute of Farming Technology (INTA) has warned that Patagonia's desertification is being caused by indiscriminate over-grazing "without using any judgement or techniques to preserve natural resources." It goes on to say that 30 percent of

the area south of the Rio Negro river and as far as the Magellan Straits is already badly or severely affected by wind and water erosion.

Evidence of this desertification process is seen in towns where the atmosphere is polluted with dust as well as in water courses which are contaminated by dust particles in suspension.

In 1990 INTA set up the Prevention and Control of Desertification in Patagonia programme which has tried to make local sheep ranchers and the population at large aware of the problem as well as trying to implement technologies that would halt the process. The programme also aims to get local and national government authorities to adopt legislation that would protect the region's ecology. INTA says that with only a budget of 1.5 million dollars and five years in which to carry out the campaign they have managed to get 30 percent of the region's producers to adopt proper grazing techniques and that some desertified areas have been stabilized or recovered.

BRAZIL

Foreign Minister Lafer Addresses UN General Assembly

PY2409213692 Sao Paulo O ESTADO DE SAO PAULO in Portuguese 22 Sep 92 p 5

[Text] Here is the text of the speech given by Brazilian Foreign Minister Celso Lafer at the opening session of the 47th UN General Assembly:

Mr. President, I congratulate Your Excellency on your appointment as president of this 47th session of the UN General Assembly. As a reputed politician and jurist, your presence promises success for these deliberations and a relevant contribution from the Republic of Bulgaria to multilateral diplomacy.

2. [number as published] I hereby express Brazilian recognition for the work of Ambassador Samir Shihabi, from Saudi Arabia, who inspired and constructively presided over the 46th UN General Assembly.

3. I hereby greet Secretary General Butrus Butrus-Ghali, whose election was supported by Brazil from the outset. His experience and vision as a statesman—which I witnessed during the Environment and Development Conference in Rio de Janeiro—will certainly help him to carry out with talent his international post.

4. Brazil greets the representatives of the new UN members: Armenia, Azerbaijan, Bosnia-Herzegovina, Kazakhstan, Croatia, Slovenia, Georgia, Moldavia, San Marino, Kirghizia, Tadzhikistan, Turkmen Republic, and Uzbekistan. My country wishes to maintain the broadest cooperation with these new member states.

5. The opening of the general debate of this assembly requires us to invoke national and regional wishes

without disassociating ourselves from our universal concerns. We must seek to express our identities in international harmony. We must be efficient and fair.

6. By virtue of the radical changes of the current times, our greatest challenge is to seek a new consensus in the international order. The United Nations, overcoming stagnant attitudes and structures forged by ideological confrontations, has been called to reassert its role of synthesizing a genuine and reinvigorated international communion of efforts and wills.

7. This challenge is prompted by an acceleration within history. The resulting change within societies and international relations requires new parameters of conduct which, in turn, defines new responsibilities.

8. This historic change must not be regarded as a natural chaotic process that is outside our control, like a hurricane. It must also not be compared with a theatrical play whose plot and end are known by the author and the actors, and which the audience discovers little by little. The most appropriate analogy through which to understand the lessons from history is that of a labyrinth that describes the way to conceive history—in individual and collective life—stressing aspects of surprise without rejecting the creative rationality of man and nations. It points out, through successive approximations, the blocked passages within the labyrinth of collective coexistence and recognizes that there are exits and that one must struggle to find them.

9. In today's world, the role of reason in seeking exits from the labyrinth is in harvesting, based on the experience of history, values that can lead to qualitatively superior standards of life within an organized society: the primacy of freedom, democracy, respect for human rights, and the concept of sustained development, justice, and peace.

10. I am saying this because I think these moments of accelerated and complex transformation require clear values and concepts as a foundation of international life. Stopping and thinking, in an attempt to discern the basic guidelines of significant historical movements, is an initial and necessary stage that will allow us to take advantage of opportunities of joint action in the current world.

11. This process simultaneously generates hope and uneasiness. In it we find an interaction of centripetal forces, which unite and favor a universal spirit, and centrifugal forces which are separated by prioritizing particular interests.

12. On one hand societies are moving toward practices and values that are becoming universal, such as the strengthening of democracy and human rights, the concept of sustainable development, economic freedom, and the integrating impulse of markets.

13. On the other hand, we are witnessing the resurgence of ethnic conflicts and nationalisms, religious passions,

and discriminatory fervor which increase tensions and threaten world peace when exacerbated.

14. In its pursuit for dialogue and cooperation, Brazil seeks to contribute to the joint task of consistently and fairly shaping humankind's age-old desire for development.

15. The United Nations, and the General Assembly in particular, should be the undisputed focal point for the various trends that are participating in this complex moment which requires a new international order based on the democratic participation of all nations.

16. Brazil is proud of its diplomatic tradition. With ten neighboring countries along its almost 17,000 km border—all of which was negotiated peacefully—Brazil is a country predestinated to live in harmony with all of them.

17. The democracy we now fully enjoy in our country guarantees stability and unity. It teaches us to coexist with the differences and disparities characteristic of a pluralistic society. It allows us to face crises and vicissitudes within a constitutional framework as well as giving us courage to defend its principles and methods also within our framework of coexistence with other countries.

18. The rules of democracy, embodied in the state of law, substantively refer to the distribution of power and the limitations of power: Under these rules the government must represent many in order to be able to resist the imposition of a few, and power must be limited by rules to prevent the discretionary arbitration of whoever holds it. The purpose of accepting these rules in our collective life is to make a qualitative change from the kingdom of violence to the kingdom of non-violence by conquering power through law. This is what grants the law an irrevocable ethical content that in Public International Law seeks to solve controversies peacefully because its procedures of election and action are precisely designed to curb the fear that is inherent to a state of violence.

19. Brazil intends to participate in the reorganization of the international system with this spirit of democratic civility.

20. This exceptional historic moment demands a new agenda that includes both a perception of the present moment and a foresight of the future.

21. We need a new scale of values. Every value is achievable and at the same time inexhaustible. A value cannot survive if it cannot become a social achievement and a norm. Likewise, no historic achievement can exhaust it: There is always room to become more free and to obtain more justice.

22. Brazilian foreign policy upholds these two theories in its response to a new international situation, as a permanent exercise of creative adjustment and foresightedness.

23. A creative adjustment means that we are willing to work within the current world reality, with all its limitations, to find new and better coexistence parameters. Our foresightedness inspires us to go beyond pragmatic actions and work to realize the ideals that inspire us. Consensus is a process which needs to be worked on permanently. It is not part of the classic social contract theory, as if social organization represented a completed conquest. On the contrary, the national and international "social contract" must be constantly updated. That is the importance of foresightedness.

24. The creative adjustment and foresightedness dichotomy is appropriate to examine the topics of this UN General Assembly agenda: Disarmament, Peace, and Security.

Mr. President,

25. The starting point from which to review international order is the understanding that peace, security, and disarmament are not separate elements. Disarmament is a decisive instrumental contribution to peace and security. These two elements are essential to ensure respect for human rights, for the domestic stability of reborn democracies, and for a democratization of international relations. Efforts to achieve development and to preserve the environment also depend on disarmament, peace, and security.

26. When he consolidated his ideas in the "Agenda for Peace" document, Secretary General Butrus Butrus-Ghali suggested new and broader forms for the discussion on the role of the United Nations. Stimulating and creative, his proposals call for deep meditation in which all UN members must participate. Brazil will actively contribute to the analysis of these proposals during this General Assembly.

27. The "Agenda for Peace" includes elements like preventive diplomacy, the promotion of peace, post-conflict peace building, and preventive peace building. Innovative yet fluent, these concepts open new prospects for exploration, with the caution inspired by a fascinating encounter between as yet little-known realities and bold and imaginative ideas.

28. The measure of idealism, envisaging a better world cannot, however, be overlooked in any debate on world order. Realism, the starting point of any political action, must not be its point of arrival. Justice represents a synthesis-value which, in the end, must permeate the notion of order.

29. Peace building should be an uninterrupted process. In addition to the concepts formulated over the forms of operation in current or potential conflict situations, we must also seek to arrange the logical corollary of "preventive peace building" [three preceding words published in English] in order to prevent the unfolding of crises arising out of economic and social factors.

In this regard, the strengthening of the UN role is an urgent need, not just as a factor for the reestablishment of peace and security but also as a factor for the fostering of socio-economic peace.

30. Thus, other elements must also be added to those voiced by the secretary general, elements such as the promotion of a more just international economic atmosphere, unrestricted respect for human rights and the rule of law, general and complete disarmament, and the democratization of international relations within the context of full observance of the legal principles of peaceful coexistence among states, including sovereign equality and the non-use of force.

31. It is essential to fight the temptation of selectivity in the implementation of the Charter's provisions. Our commitment must involve a guarantee that the means to maintain international peace and security will not serve to confirm asymmetries based on power relations whose mere existence does not grant them legitimacy. This is so because the comprehensiveness inherent to humankind's concepts and prospects represents an essential attribute for legitimacy.

32. It is imperative to reassess the principles consecrated in the Charter; that keeping international peace and security represents a collective responsibility of the states that must determine the terms of its implementation.

33. The Security Council, which is primarily responsible for this mission, carries out this mission in the name of all UN members. Today the Security Council is called to play an increasingly decisive role and it is clearly necessary to delve deeply into the discussion of the scope of the powers of the Security Council, its members, and its representativity.

34. We must consider, prudently but also with the required perspective, adjustments to allow the Council to discharge its duties in a more representative way. As in the past, Brazil is prepared to contribute in an active and constructive way to this, fully considering the institutional balance among UN organizations as foreseen in the San Francisco Charter.

35. Brazil's decision to implement the principle of collective responsibility is concretely reflected in its frequent participation in UN peace operations.

Mr. President,

36. The proliferation of instable situations that followed the overcoming of global confrontation promoted an initial replacement of security issues by disarmament issues on the international agenda. The progressive reduction of arsenals, especially those capable of mass destruction, represents a basic element upon which to build a peaceful world.

37. It is true that a lot has been achieved in the field of disarmament, but there is still much to be done. The recent proposals that sought to reduce nuclear arsenals

and to enhance the atmosphere of international detente must be followed by concrete measures with legal effectiveness to guarantee a ban on nuclear tests, to suspend the manufacture of new mass-destruction weapons, and to implement effective commitments for their progressive reduction and eventual elimination.

38. Brazil's zeal in participating in proposals that favor disarmament is a natural consequence of the Brazilian people's peaceful vocation as demonstrated by the fact that our defense expenditures, in terms of gross domestic product percentage, are among the lowest in the world.

39. Brazil and Argentina reached an agreement on the implementation of security measures with the International Agency of Nuclear Energy. We promoted the initiative of fully implementing the Tlatelolco Treaty. This move will turn Latin America into the first denuclearized region in the world. Brazil believes that this is an exemplary way to establish commitments on nonproliferation with equal rights and obligations. The Mendoza Commitment, which was reached with neighboring countries, forbids the use of chemical and biological weapons in our territories. We thus anticipated the Chemical Weapons Agreement which establishes disarmament and lays own rules that equally apply to all signatory countries. We hope that other international and nondiscriminatory disarmament agreements may be signed in the future.

40. We envisage resurrecting the maritime environment protection project within the framework of the dialogue and joint actions on the geographical and political features of the South Atlantic, which is already a designated Peace and Cooperation Zone.

Democracy and Human Rights

Mr. President,

41. Security and disarmament are ways to reach peace, which is a true aspiration of humankind. Not just a partial peace, a situation without war, but as a positive value, a full peace that can lead to relations among states that are ruled by law and committed to the peaceful solution of controversies.

42. Peace should be linked to fair cooperation because a balanced coexistence generates common interests on which the rejection of conflicts is consolidated.

43. It is known that there is a strong connection between a democratic system of government and this government's vocation for peace, just as there is a connection between authoritarian regimes and their propensity to conflict. The values that are inherent to democracy—pluralism, respect for the will of the majority, tolerance, the search for consensus, and the supremacy of the law—are naturally reflected in a government's foreign policies. To consolidate democracy worldwide is, therefore, a decisive contribution to a more peaceful international system.

44. In addition to being an indisputable value in the domestic life of most countries, democracy is an important contribution to the organization of international order through the reinforcement of pluralism and broader participation in international decision-making processes.

45. Brazil believes that relations among states must be overwhelmingly aimed at stimulating—and not discouraging—cooperation. This must be translated into a positive—not negative—approach to topics on the agenda that refer to international relations, and these topics must be democratically negotiated.

46. Improved international cooperation, seeking to adequately and effectively deal with international problems like humanitarian and ecological problems, must be sought within guidelines compatible with the basic principles of international law, among which respect for the sovereignty of states is fundamental.

47. In the field of human rights, a new perception of the need to protect each country's most vulnerable groups is fortunately developing. Cultural, religious, and ethnic minorities, as well as children, refugees, and immigrants are often exposed to intolerance and their most elementary rights are frequently violated.

48. Particularly in this regard, we must swiftly convert what is desirable into what is possible. Human rights must be respected universally, as specified in the 1948 declaration and in the terms of the pacts and conventions treaty which enforce the issue. To summarize: Human rights should never be violated, no matter what.

49. Individual rights can only be fully enjoyed if objective conditions for social and economic organization are ensured and based on the idea of justice.

50. The World Human Rights Conference to be held in 1993, as well as the planned World Summit on Social Development, will offer the opportunity to reinforce measures that seek to protect and promote the dignity of humankind.

51. The Brazilian Government has done everything in its power to preserve and promote human rights. We maintain an open dialogue with international, governmental, and nongovernmental organizations and have joined the main conventions on the subject.

52. To attain our objectives, we need constructive international cooperation with a view to improving our chances of success in facing the perverse consequences of extreme poverty, and with a view to giving democratic states the materials to reinforce their preventive and corrective actions in those areas where human rights are still seriously violated.

53. The promotion in all countries of a firm and strong campaign against all forms of discrimination is among the most important of all United Nations tasks. Now is the moment to reassert the traditional concept of tolerance as a component of good coexistence within society.

Equality prevails only if there is respect for what is different, for what is heterogeneous.

54. Respect for human rights and equality before the law are universal values. Racial discrimination, whatever its denomination, will be always detestable. The idea that one ethnically homogeneous nation or social group could ever be superior is false, morally inadmissible, and politically unacceptable.

55. Humankind did not endure the horrors of a world war, 45 years of Cold War fears, and the sorrow of conflicts that have outraged the conscience of humankind only to witness the revival of the specters of xenophobia, discriminating nationalisms and ethnic, cultural, or religious intolerance. We cannot allow nationalism to be used to justify oppressive practices.

56. Being a multiracial nation, proud of its roots and of the welcome it has always extended to people from all over the world, Brazil repudiates these attitudes which offend humankind.

57. The new international society we would like to build cannot coexist with the fact that entire peoples go neglected, just as our countries cannot allow parts of their population go neglected.

Development and Environment

Mr. President.

58. We live in times when interdependence between the dynamic poles of the economy lays bare the shortcomings of global cooperation. Anyone can see that the gap between north and south is growing. We cannot allow this situation to continue.

59. We must work together to promote economic growth in all countries. There will be no peace or security as long as imbalances distort the international system. 60. An increasingly interdependent international community must take better advantage of international trade as a tool for growth. Thus, we must make sure that protectionist measures prompted by short-term factional interests do not jeopardize the negotiations at the Uruguay Round, which seek free competition and a broader distribution of benefits.

61. The difficulties and the sluggishness which mark the process of liberalization of trade are bound to develop within a multilateral framework, but they should not lead the parties involved to establish closed regional blocs. We would prefer to look upon regional free trade agreements as a side issue, justified by the fact that they open up additional opportunities to fuel the world economy as a whole, without harming third parties.

62. Brazil wants to trade with every region of the world. It is modernizing its economy through free trade and opening its doors to foreign trade. Our negotiations with foreign creditors are yielding positive results. We look

upon the Mercosur [Common Market of the South] as an indispensable regional base from which to seek a competitive role in the world.

63. In the quest for development, science and technology provide the edge that makes projects economically feasible. To attain development it is necessary to promote the dissemination of science and technology, and to guarantee open and fair access to knowledge. This is the spirit behind Brazil's initiative that is currently in the hands of the UN Disarmament Committee. This initiative seeks to establish nondiscriminatory and universally acceptable principles for international transfers of sensitive technology for peaceful purposes.

Mr. President

64. In June Brazil had the honor of hosting the UN Conference on Environment and Development [UNCED], perhaps the greatest diplomatic event in the history of the United Nations, and certainly one of the most innovative in devising ways and means to coexist and cooperate. We displayed creativity in ways to deal with present conditions and in our boldness in preparing for the future.

65. The UNCED conference did not simply try to reorient this or that aspect of our economic activities or social life. It did not try to produce transitory corrections or partial solutions. It tried to redesign and redefine the basic notion of development, orienting it over a more rational basis: Sustainable development.

66. The Rio Declaration, Agenda 21, the Declaration on Forests, the Convention on Climatic Changes, and the Biodiversity Convention define a legal framework for international cooperation of basic importance. In time the relevance of these documents will be even more evident. Support for these principles and swift ratification of these two conventions will pave the way for a new stage in international cooperation.

67. The UNCED created a new model, a new social contract around the basic concept of sustainable development. This new model defined the basic concerns for a more rational balance between the legitimate desire for development and the need to preserve our planet's health and well-being for future generations. Sustainable development is the modern definition of progress and the basis for a new international environmental order.

68. As President Fernando Collor said at the UNCED while greeting the chiefs of state and government who honored us with their presence, "the world has decided to meet to consider nothing less than life on our planet." The conference concluded that social imbalances within the international system cannot continue the inhuman practice of poverty, where shortage is coupled with squandering. This approach reflects the thinking of the Brazilian chief of state, which he has repeatedly expressed, about the magnitude of the environmental issue. In his evaluation of the results of the UNCED in

his capacity as conference president, he said: "We cannot have an environmentally healthy planet and a socially unjust world."

69. The Rio Conference thus strengthened the idea that environmentally sustainable development should be both socially and economically acceptable.

70. This achievement, like all other achievements of the UNCED, was made possible thanks to the unprecedented involvement of the community of nations, at the highest political level. The UNCED was exemplary, because it allowed for deliberations on problems of universal interest with the equitable participation of all countries, thus placing the exercise of democracy in international relations on a new level and strengthening multilateral democracy. Everyone at the UNCED, the big and the small, the rich and the poor, proved their capacity to coordinate their specific interests with broader and universal interests.

71. That is the "Spirit of Rio," which we hope will inspire UN action in other areas: Reciprocal confidence among nations, the will to act with determination toward common objectives, the greatness of working together to promote cooperation under democratically established rules.

72. Brazil has the support of the international community in the environment area. Nevertheless, I would like to point out that my country, on its own initiative and considering its own legitimate interests, has already concretely shown its determination to contribute to international efforts in this area. The destruction of Amazon region forests dropped by 85 percent between 1987 and 1991 thanks to internal measures and to Brazilian society's growing concern for defending the environment.

73. This General Assembly session has the major task of taking the first steps toward implementing the conclusions of the UNCED and fulfilling UNCED commitments. We therefore attach particular importance to the installation of the Sustainable Development Commission. The objective of sustainable development, as recognized in Chapter 33 of Agenda 21, is to provide additional and fresh financial resources under appropriate and predictable terms. We now expect developed countries to announce their initial plans for making real the deliberations of the UNCED. Equally crucial is the availability of technology for developing countries in order to make feasible the designed programs. Follow-up decisions and measures are also needed in other areas. Among these, I would like to emphasize the creation of a negotiating committee to address the desertification issue and the development of small inland states.

74. Brazil wishes to give an additional impulse to the efforts of the UNCED by offering to host an International Research Center for Sustained Development. We expect state and private support for this initiative which is really a follow-up to the UNCED. The initial measures for its implementation have already begun. The center

will be an academic institute that will contribute to sustained development by providing an international forum for an exchange of information and research for the implementation of the decisions made during the UNCED.

Mr. President,

75. When discussing the dichotomy between what is real and what is ideal, which is necessary in the construction of a new world order, I referred to the many opportunities for cooperation among countries to begin solving problems in the field of peace and security, democracy and human rights, development and environment. These are the priority fields on which every country expects this organization will concentrate.

76. The power of joint action by the United Nations must emerge from the voice of every member country. The United Nations will become more legitimate when its decision-making process becomes more representative and democratic.

77. A peace agenda cannot exclude a development agenda.

78. We all have a lot to loose if the current distortions and unbalances of the international scene persist. Brazil considers very important the work underway to reconstruct and revitalize the economic and social organizations of the United Nations, seeking greater efficiency and especially to obtain greater international cooperation for development.

79. To obtain successful results in this effort, realism is required if we are to give the United Nations the necessary instruments and vision of the future and enable it to transform this universal forum of democratic deliberations into an axis of collective efforts for the permanent improvement of relations between peoples and countries.

80. In Brazil and in the rest of Latin America, like in other regions, brave and necessary reforms seek to eliminate the obstacles to development, economic competitiveness, technological progress, and to the unrestricted exercise of creativeness and business capability based on market forces.

81. Brazil joins the rest of the world with an open spirit, understanding the need to creatively adapt ourselves to the new realities and challenges, but with a vision of the future and with utopistic generosity.

82. Public liberties and the rights of man, tolerance and pluralism, the state of law and international cooperation, and peace and sustained development must become the utmost philosophy of our times.

83. Transforming these principles into tangible realities for all men and women is the best legacy we can leave the generations of the third millennium. The time to begin has begun.

Thank you.

Lower Burning Rates Observed in Amazon Region

PY2509011692 Brasilia Voz do Brasil Network in Portuguese 2200 GMT 24 Sep 92

[Text] Environment Secretary Flavio Perri, the president of Ibama [Brazilian Institute for the Environment and Renewable Natural Resources], has reported a reduction in the burning of forests in the legal Amazon region. The information is based on data gathered by satellites and processed by the National Institute of Space Research.

Perri said that burnings dropped 63 percent between 20 August and 17 September compared with the same period in 1991. According to Perri, the daily average figure in this period in 1991 was 9,207 fires, compared with 3,478 in 1992. Perri explained that this reduction was achieved thanks to a combination of factors ranging from Ibama measures—forbidding burnings on land-holdings of more than 50 hectares and suspending previous authorizations—to the region's early rainy season. Perri added that despite the reduction, the forest-burning period in the northern Amazon region will last until the end of November. This will intensify the campaign during this period, in which the Secretariat for the Environment, Ibama, and all the region's states will join efforts.

COLOMBIA

Colombian Lumberjacks Force Out Secoyas Indians

PY0610115292 Lima EL COMERCIO in Spanish 30 Sep 92 p A13

[Text] Hundreds of Secoyas Indians of the Upper Putumayo border area left their communities last week after being threatened by unscrupulous Colombian adventurers who continue to fell valuable species of lumber in the Loreto area.

Margot Peixoto de Orbe, of the Amazon Center for Applied Actions (CAAP) [Centro Amazonico de Aplicacion Practica], has reported that about 200 Secoyas Indians from Bellavista, San Martin, Santa Rita, Nuevo Belen, Mashunta, Yaricaya, and San Belin, met and decided to leave their lands because of persistent harassment and armed attacks by foreign lumberjacks.

Peixoto visited the region between 9 and 17 September as a CAAP adviser in a meeting convened by the Indians.

She said that after three days travelling through the forest and one day navigating most precarious river conditions, the Secoyas reached the Santa Maria River, a tributary of the Napo River where they plan to establish their community.

She stated that the 370 Secoyas who still live in the Upper Putumayo region might also leave their lands in the next few weeks to settle near the Napo River.

Peixoto said that the situation deteriorated when the Colombians refused to honor a pact to give the Indians a share in the profits of the lumber.

On behalf of the 570 Secoyas Indians, Peixoto requested the help of regional authorities and the central government border commission to stop the Colombians from seizing part of the homeland. The Colombians have already established three sawmills and brought in machinery to fell trees.

CUBA

Reforestation To Supply Energy Needs

92WN0800A Havana GRANMA in Spanish 19 Aug 92
p 2

[Article by Raisa Pages]

[Text] Promoting the development of forests for energy and industrial purposes is now the principal task of forestry officials. To plant millions of seeds without meeting the specific objectives that have been set for the territories means wasting time in obtaining firewood and lumber.

Last year a program was devised to identify fast-growing species that would yield approximately 100 cubic meters of firewood per hectare in five to six years.

So far, this program has been unable to meet planned goals. In 1991, only 12,393 hectares was planted in trees for energy purposes, compared to a projection of over 19,000 hectares. And as of July, the planted trees had not yielded the "boost" that is necessary. Only the territories of Granma and Santiago de Cuba reported favorable results.

In the national reforestation system, all organizations are behind schedule, and the Ministry of Sugar Industry (MINAZ), which is a major consumer of firewood, has achieved only 13 percent of its annual program.

Neither the agriculture-livestock and forestry enterprises nor the municipal mountain enterprises have been able to obtain good results. Comparatively speaking, the planting done by the population (50 percent of the plan) is further ahead.

Among the woodlands known as productive forests (from which timber is extracted for lumber, pulp, railroad ties, posts, and pencils), the results of 1992 are also characterized by dissatisfaction. What the territories have proposed is below the levels required by the economy in these categories. Only Matanzas has achieved more positive results.

It is no surprise that there are serious material limitations hampering reforestation, but the lack of initiative and alternatives for overcoming the present difficulties cannot be blamed on that.

Wood is a component of a variety of products: storage P73 containers, pallets for citrus fruit, "cuje" branches used in tobacco production (which, incidentally, is the only product exceeding production goals, aside from species intended for protective purposes).

The country's energy situation demands that "we make firewood even of fallen trees" [an expression meaning to beat a dead horse], although this old proverb does not mean that we should ignore the regulations governing the cutting of trees, because forests should not be considered "free zones" for depredation.

DOMINICAN REPUBLIC

Reforestation Urged in Slowing Hydroelectric Silting

92WN0779A Santo Domingo EL SIGLO in Spanish
28 Aug 92 p 4

[Article by Marino Zapete C.]

[Text] To ensure the useful life of dams and other works for water utilization constructed in the Nizao River basin, 80 percent of the total surface of that basin must be kept under dense plant cover.

This statement is made in the Integrated Project for Reforestation and Communal Conservation of the Nizao River Basin recently devised by the FAO [Food and Agriculture Organization], the INDRHI [National Institute of Water Resources], Foresta, the State Secretariat of Agriculture [SEA], and the Association for the Development of San Jose de Ocoa.

The same document notes: "Despite the impoverished condition of the soil in the basin, it is estimated that only 20.68 percent of its surface is covered with forest plants."

This figure suggests that the useful life of the Jigüey, Aguacate, and Valdesia dams, the Las Barías equalizing reservoir, and the Valdesia-Santo Domingo waterworks would not be very long if 59.32 percent of the surface of the Nizao River basin is not covered within a reasonable period of time. The document explains that the Nizao River basin is a very important source of natural resources for the socioeconomic development of both the region and the country, considering the large amount of money invested in it.

It states that the Valdesia dam and the Las Barías equalizing reservoir, constructed in 1976, with a capacity to store 156 million cubic meters, at a cost of \$60 million, supply the Bani area's irrigation systems, and produce 60 megawatts of electric power.

The Jigüey and Aguacate reservoirs, with a storage capacity of 167 and 391 million cubic meters of water, respectively, and a capacity to generate 150 megawatts, cost \$460 million.

The Valdesia-Santo Domingo waterworks, costing \$150 million, meets a considerable portion of the capital population's demand for water.

After reviewing the costs, the specialists who prepared the project express their belief that the investment of 109 million pesos to protect the useful life of the works constructed is justified.

The document declares: "From the biophysical analysis of the basin, we conclude that it belongs to a fragile ecosystem and that, if a management plan is not executed, the useful life of the waterworks constructed will not be ensured. This holds true of the Valdesia dam, which currently has two thirds of its capacity silted. Therefore, the basin management and conservation plan must be considered a priority."

The document also calls attention to the soil erosion problem, regarded as one of the major aspects of the basin management.

"The figures on erosion and silting occurring in the basin, and reaching the dams' reservoirs, should be given close attention," claim the specialists who participated in the study. They remark that experiments were conducted on plots with reunoofs, and a soil loss volume of 1,254 tons per hectare annually on bare soils was obtained, and a similar loss of 121 tons per hectare on plots containing bean and corn crops with living barriers.

They add that, according to the measurements made at the Valdesia dam reservoir during the period from 1975 to 1991, a silt production of 49 million cubic meters was observed. This is equivalent to a washout of 3,500 cubic meters of silts per square kilometer each year.

The study indicates that the erosion produced by natural phenomena is compounded by that caused by agricultural-livestock activities on unfit soil and very steep grades, highway and road construction with very pitched slopes on unstable soils, and the lack of maintenance on pedestrian roads.

The document states: "Generally, the unstable conditions and the activities in which humans participate are putting the Nizao basin in a state of high silt production."

The microbasins most affected by the erosion process, which must be treated as a priority, are those of the following streams: Bibi, La Esperanza, Los Mineros, Juan Roman, Zumbi, Pio, Los Calimetes, La Cantera, Dos Arroyos, Leonor, Mucha Agua, El Congo, Los Candonguitos, Jiguey, Prieto, La Cienaga, La Laguna, Las Vacas, Mata Barraco, and Santana.

Also included are those of the Banilejo, Alto, La Torre, Lower Mahoma, and Lower Banilejo Rivers, among others.

With regard to landholding, the study establishes that there is a high concentration of ownership in the hands of a small group of large estate holders, most of whom have no property titles.

It claims: "Over 60 percent of the existing plots were acquired without titles, and the majority are state lands used unilaterally for the benefit of farmers who received them from past generations."

The study prepared by the FAO, the INDRHI, the SEA, Foresta, and the Ocoa Board also states that the use made of the soils in the Nizao River basin is unsuitable.

PANAMA

President Endara Addresses UN General Assembly

PA2909225392 Panama City Radio Soberana Civilista in Spanish 1620 GMT 29 Sep 92

[Speech by President Guillermo Endara at the 47th UN General Assembly in New York City—recorded]

[Text] Mr. President, Mr. Secretary General, Delegates, Special Guests: It is a great pleasure to address this UN General Assembly once again. On behalf of the people and Government of the Republic of Panama, I wish to congratulate you, Mr. President, on your election to the UN General Assembly, an appropriate recognition of your background and personal merits. Before I continue, I also wish to express my country's pleasure at the election of UN Secretary General Butrus Butrus Ghali and the excellent work he has done in his few months in office. I am sure that with his leadership we will attain the necessary consensus to carry out specific actions that will promote political and economic stability, human and social development, and renewed credibility in the principles that guide this organization. This is especially important because of the positive changes occurring throughout the world, changes that characterize the so-called new order. We strongly support your peace agenda.

Undoubtedly, the end of the cold war gives the world new and great possibilities for putting forth its best efforts and additional resources for the improvement of social and economic areas in our countries rather than investing those resources in defense. We are pleased to see the progress achieved and the attempts being made in various regions of the world to attain peace, security, and cooperation.

The Salvadoran people's experience represents, for the rest of the world, an example of peaceful solution to conflicts. With the signing of the peace agreements in that nation, 12 long, sad years of struggle, bloodshed, mourning, and sorrow of the Salvadoran family came to an end. For those reasons my country, as well as the other countries of the world, must reiterate their commitment to the Salvadoran people to help consolidate

that peace, an important element for the economic, political, and social recovery of that sister nation.

Along these same lines, the recent end to the 100-year border conflict between Honduras and El Salvador, following the accepted ruling of the International Court of Justice, ends one era and begins another; one that is characterized by understanding and friendship between those two countries. My government is pleased with the decision to find peaceful solutions to controversies.

In those areas where war unfortunately continues to be waged, it is necessary to take actions not only to end the war but also to struggle against the causes of it. Panama supports the preventive deployment of UN peacekeeping forces in those areas of hostility and, above all, supports the use of preventive diplomacy and the peace plan being promoted by the secretary general.

In matters relating to regional disarmament, Panama has committed itself, through the Tlatelolco Treaty and the recently proposed amendments and the Ayacucho Treaty, to cooperate in this effort as well as to support the banning of nuclear weapons and the elimination of conventional weapons in Latin America. Keeping the concepts of peace and stability in mind, our country has, in a real and effective manner, abolished the army. It is now in the process of making changes to the Constitution that will eliminate all possibilities of creating another military organization in Panama. If approved by the Panamanian people in the November referendum, we will be, together with Costa Rica, the two Latin American countries whose laws and Constitution prohibit the existence of an army. This will remove all possibilities of another sad and ill-fated military regime being established in our country.

At home and abroad we support spending the resources heretofore allocated for military activities on efforts that seek the economic and social development of the people and environmental protection. If the big and powerful countries have understood the need to reduce military spending, we small countries have to understand just the same that our wars must be waged against poverty and illiteracy. The Rio Summit no doubt marked the start of a new era in the concept of a new style of development for the planet and its inhabitants. We must bring harmony to the economic, social, political, and ecological spheres. The concepts of sustained development and integration constitute key elements to build the future of our planet beyond the borders and individual interests of nations. The equity in which development takes place must also be an important topic on our agendas.

Panama accepts the challenge of changing models of development and attitudes toward the environment. To do that, it needs the decisive support of the international community so we can preserve the biogenetic heritage entrusted to our care. I reiterate that the creation of a special fund to provide developing countries with new and additional resources is necessary to be able to implement national strategies of sustained growth.

It is also necessary to make a concerted effort, joining the governments and private sectors with international organizations, to achieve this. We must look at the results of the Rio Summit as a great opportunity to undertake efforts and pledge resources at all levels and to draft and implement national strategies for development based on Agenda 21.

Two years ago, in my first speech before this forum, I expressly mentioned our support for the incorporation of the ROK into the United Nations as an act in step with the climate following the end of the cold war. We are happy that decision was made one year ago. Today and with the same spirit, we must ponder on the absence of the Republic of China from this organization and the impact of such an absence on the role this forum must play to achieve world cooperation and coordination. We must recognize the impressive economic growth and progress achieved in the democratization of the Republic of China, factors that will contribute to resolve many of this organization's problems. We invite the member countries to begin a serious study of this process in the spirit of peace and joint action that now prevails.

In the field of human rights, we have regarded with satisfaction the decision to summon a world conference during the summit on world development. We are also pleased that preparations are being made for a world conference on human rights. It becomes important for the UN system to assume leadership in these fields, giving priority to social problems that do not allow an improvement in the living conditions of the neediest sectors of society.

As I said one year ago, Panama has created package of social development programs for the next five years. I am greatly pleased to say today that the UN Development Program has effectively contributed to this national effort to resolve on a priority basis the areas of extreme poverty in our country. Thanks to that cooperation, we have achieved significant progress, although I admit much remains to be done.

As a part of the Isthmus of Central America, our country continues to put forth its best efforts to strengthen the grounds for commitments that will be beneficial for its six countries. With this purpose in mind, during our 12th summit held in June in Managua, Nicaragua, the Central American presidents drafted a working agenda. This agenda is aimed at giving our future generations better conditions to improve democratic institutions, integration, and social and economic development. We wish to take advantage of the new times experienced by the region as an historic opportunity to strengthen the idea of a united Central America in light of the challenges of the 21st Century. For this reason, the Central American presidents have decided to use the 13th summit, which we will proudly host in Panama in December, to discuss the agricultural sector, the pillar of our economy and main job source in the region. Our efforts to participate in the activities of all international organizations, thus recognizing that dialogue is the best way to promote

relations among nations, have led us to beginning our role as permanent member of the GATT and to signing the (?Montreal) Protocol regarding the ozone layer.

I wish to speak of the efforts our countries are making in the EC to protect our banana exports. Following the visit of some of the Central American presidents to several European countries, we view with optimism the determination of several of those countries to oppose the EC resolution that recommends imposing quotas on the import of bananas to EC countries. Such an action would affect thousands of people who work in this area. I believe the time is appropriate to stress that the consolidation of democracy and social peace must be interpreted and promoted within the new scheme of economic relations. To impose such measures on banana imports is not in accordance with this new scheme. At a time when commercial access is a characteristic of the exchange of goods and services, it is contradictory to have our banana market restricted by protectionist measures.

Panama views with optimism the negotiations for the North American Free Trade Agreement, NAFTA, which concluded last month. These negotiations have been the result of the Enterprise for the Americas Initiative sponsored by the United States. That agreement will allow other countries of the region to join, thus creating a climate of equality in the fields of investment, markets, and technology transfer. I will take advantage of this opportunity to underscore that NAFTA could be the mechanism that will allow, in the short term, the drafting of a plan for an interregional free trade agreement. This will strengthen our economies within a framework of balanced competition.

At this forum I must mention our concern for the problem of drug trafficking. Our geographic position and our service economy make us unfortunate targets of this illegal and fateful trade. Consequently, my government has developed and will continue to develop serious and responsible actions to repress drug trafficking and money laundering activities.

We have signed international agreements. We are negotiating other similar agreements and we have conducted successful internal surveillance operations to confiscate drugs with the purpose of discouraging this wicked business on our territory. This problem, however, is adversely affecting us all, regardless of our condition as producer, transit, consumer countries. That is why it is necessary to reaffirm our commitment to fight and repress these activities, which do not only inflict damage on the health of our fellow countrymen but also encourage violence and terrorism, activities that deserve our strongest condemnation.

I take advantage of this opportunity to tell the world that the Panamanian people and their leaders are determined and unconditional allies of all those who fight drug trafficking activities and the sequel of crimes that characterizes it as a repulsive activity.

I must inform this world forum about the actions taken by Panama to assume the administration and operation of our interoceanic canal according to the 1977 treaties. As you know, our Republic will assume full control and autonomous management of the canal on the last day of this century.

Part of the property built by the United States in the interoceanic area has been handed over to the Republic of Panama. Other property will continue to be handed over until the canal is turned over. My government has held countless internal meetings and has designed a legal framework for the appropriate administration and management of the property. That is an unavoidable Panamanian commitment to the world.

Moreover, along with our canal associate the United States, we are forming various binational commissions that will prepare for the transfer of posts at the proper time.

In another commission that has been formed by my country, the United States, and Japan, studies of alternatives for the Panama Canal are being undertaken to decide on the best solution that will ensure the effective continuity and competitiveness of our interoceanic waterway in the next century.

The last decade of this century finds Panama building its future with optimism. We are strengthening our democratic system and the institutions that support it, including our preparations for an exemplary and clean electoral process in 1994 that can guarantee the replacement of government authorities according to the legitimate wishes of the people.

We are enjoying the benefits of an economy that is recovering significantly and this will have favorable repercussions on our social development. We are preparing ourselves responsibly to administer our canal, starting on the last day of this century.

We live in freedom and at peace with our neighbors. The Panama of today has a future and it is promising. These policies guide our actions internally and mark the norm for our international policies, therefore we support all the actions and initiatives promoted by the United Nations that are in keeping with our principles and interests.

From this world forum, we call on all countries to promote and consolidate peace, to generate development and growth with equality, and to strengthen democracy and justice as the proper systems to live together in a better world. Thank you very much.

PARAGUAY

Foreign Minister Addresses UN Assembly

PY3009213292 Asuncion PATRIA in Spanish 30 Sep 92
p 8

[Address by Paraguayan Foreign Minister Alexis Frutos Vaesken to the UN General Assembly in New York on 29 September]

[Text] Mr. Chairman: First I want to congratulate and convey my best wishes to your excellency upon your designation as the head of this 47th Assembly. We are sure that, under your intelligent chairmanship, our work will yield the results that we all desire.

I will begin by conveying to Mr. Butros Butros Ghali, the United Nations Secretary General, a cordial greeting from the Paraguayan people and government and their commitment to permanently support him in his difficult task of directing this organization toward international peace and security.

Greeting the arrival at the United Nations of Armenia, Azerbaijan, Bosnia-Herzegovina, Croatia, Georgia, Kazakhstan, Kyrgyzstan, Moldova, San Marino, Slovenia, Tajikistan, Turkmenistan, and Uzbekistan, we celebrate the victory of freedom and of their common aspiration to live in peace and democracy, in harmony with their own identity. Old flags have again been hoisted proudly in those fatherlands.

A new order is taking shape in the universe. On one hand the reappearance of old nationalisms and, on the other, the integration of countries that have resorted to this method to promote economic development and to find appropriate answers to the people's demands for improved living standards, as is being done in Mercosur [Common Market of the South]

The integration of Argentina, Brazil, Uruguay, and Paraguay through the Mercosur is more than a mere blueprint for development. It involves a commitment by nations that share the same origin, the same cultural, historical, linguistic, and religious traditions, and that share the common destiny of nations that were born in a land of equality and hope.

The timetable of our young integration process is being complied with. The Las Lenas presidential meeting of 26 and 27 June approved and began to implement a "Program of Measures" which establishes tariff reductions and eliminates non-tariff restrictions. The presidential meeting also set forth the gradual coordination of macroeconomic and specific area policies. The recently signed agreement with the European Community is a major factor within the extra regional cooperation foreseen under the Mercosur.

Within this integration spirit, Paraguay is promoting the implementation of the necessary legal instruments for the development of the Paraguay-Parana waterway. This

waterway project, which has the support of the United Nations and other international organizations, will become one of the major river transportation routes and an efficient tool for development of Mercosur countries and of our sister Republic of Bolivia.

Mr. Chairman: The danger of nuclear war, which jeopardized the existence of mankind, has disappeared. Common sense and moral values prevail. Today, there are very few armed conflict around the world. Never before has mankind enjoyed perhaps so much peace as now. Yet the problems are not all solved. Starvation, disease, lack of education, intolerance, and prejudice still affect most regions of the earth. If we love freedom, if we love democracy, we must look for a solution to these problems. There can be no stable political situation if people do not enjoy the minimum standards of decent life. If there is no tolerance, there will be hatred and animosity. If there is no education, the future will be uncertain.

This is the time for continental solidarity. This is the time for removing prejudice and selfishness. Now that the arms race is over, the most powerful countries seem to be getting ready for another war, an economic war. Alliances are being created and efforts are being made to increase competitiveness. Victory will be for he who produces more and sells more, no matter the social cost, no matter the decreasing price received by underdeveloped countries whose possibilities for achieving development will thus become increasingly difficult. The hope that developing countries have placed on freedom of trade collides with the protectionist barriers of industrialized countries, which paradoxically preach the victory of free market policies.

Solutions must be found to alleviate the drama of countries affected by poverty. We are confident that Chile's positive initiative to call a Summit Meeting for Social Development will offer an opportunity to design a global plan to promote development in poorer countries.

Hatred, misery, and constant human rights violation in the former Yugoslavia, in Bosnia-Herzegovina, and in Somalia remind us that the battle for peace is not over. The preservation of peace demands constant effort. Paraguay will decisively and firmly support any effort by the UN Security Council to find definitive solutions to this serious situation through its vote in support for Resolution 46/242 of the UN General Assembly. Exacerbated nationalism, racism, religious hatred, and prejudice must disappear from a world that seeks to live under more brotherly and humane conditions.

We follow with special interest the negotiations carried out to find a definitive solution to the Palestinian issue. We hope that they will positively contribute to a peaceful, negotiated and permanent solution that can entail, as we already stated, the rights of the Israeli State and the Palestinian people to live in peace within the area.

The new international order that has followed East-West rapprochement demands that the UN organization and agenda be reviewed. Social development and the preservation of peace should be the main targets. Appropriate mechanisms and unrestricted support for those who decisively cooperate will be essential instruments for meeting these objectives.

The "Program for Peace" presented by the UN secretary general deserves our full support. It is the starting point for new structures and new ways to build a constructive and lasting peace.

The Rio Group believes that international peace and security will find true guarantees when the underlying causes of the conflicts are eliminated. Therefore, we reaffirm the urgent need to promote socio-economic development as a way to consolidate the peace process. The imbalance of wealth between North and South should be rectified so as to prevent frustrations that can lead developing countries into deep crises or to readopt systems that have caused great suffering among our peoples.

Mr. Chairman: We cannot talk of a future of peace and sustained development without the full observance of human rights. It is also the responsibility of the UN to ensure the implementation and permanent respect for human rights.

All changing processes should be based on respect for human rights. We therefore applaud the decision to hold an international human rights conference in Vienna in June 1993.

Flagrant human rights violations still prevail. Once and for all we must admit that terrorism is one of the greatest violations of human rights because it threatens the essential human rights, like life, security, and the people's patrimony.

A few days ago we were moved by the speech of the Colombian president who spoke of the struggle of his people and government against drug trafficking. Murder, extortion, kidnapping, and bribery stem from drug trafficking. Judges, government officials, and those who oppose this criminal activity constantly receive death threats, and many of them died with courage and dignity for the sake of their principles.

We share the Colombian president's opinion that the huge consumer countries must assume their responsibilities and participate in an all-out war against drug trafficking. As the Colombian president stated, the international community must mount a decisive and multi-lateral action on all fronts against this scourge.

Mr. Chairman: The courage and imagination of Christopher Columbus marked a new era 500 years ago. America, a hopeful continent, joined the adventure of the human race and deeply influenced its future. Our present world is also enjoying a promising and hopeful

stage, and it is up to this generation to consolidate the future, and to the UN to preserve peace and promote social development.

In the spirit of the 500th anniversary of the discovery of America], Ibero-American countries met last year in Guadalajara, Mexico, seeking to project into the future the community's strength. The response was positive. During the second summit of heads of state and heads of government in Madrid this year, effective projects to favor Ibero-American nations were approved.

Joint efforts like the one I have just mentioned, the "Americas Initiative," or indeed the support my country receives from countries like Japan and Germany, raise hopes of joint efforts in favor of the development of those who need it most.

Mr. Chairman: This year, my country attended the UN Conference on the Environment and Development in Rio de Janeiro, willing to join efforts with other countries committed to environmental protection. My country has reported on the measures it has already taken, such as declaring an area of about 60,000 hectares of forest, with Indian population and natural fauna, as an ecologic reserve. Moreover, a project on the development of my country's western region is underway. This project, with the support of the EC, mainly involves environmental protection of an area of more than 240,000 square kilometers, which represents more than half of our territory.

The Rio de Janeiro conference allowed the entire world to become more conscious of the relationship between the environment and development. It will be difficult to achieve effective and lasting successes in sustainable development unless those countries that are responsible for the planet's contamination contribute with the required funds.

Mr. Chairman: In this new era, Latin American democratization process, to a certain extent, promoted other liberalization movements in other parts of the world. Today, in our America, with some exceptions, governments enjoy the legal status of having been consecrated in free and undisputable elections. Final outbreaks of violence are ending and nations live in liberty and democracy with respect for human rights.

The civil war in El Salvador is already history. That country, along with Honduras, has given an example to the international community by submitting the settlement of their conflicts to the International Court of Justice.

Peru is returning to the path of institutional normality through constituent assembly elections in November with the participation, at Peru's request, of OAS observers. We hope Peru will find solutions to its serious problems, thus enabling us to rejoice in its return to the Group of Rio.

The Group of Rio has demonstrated that it is a reliable mechanism for political consultation and agreement, as proven during the crisis that jeopardized Venezuela's institutional system and through the sending a delegation to actively engage in the search for the reestablishment of full democracy in Peru.

Moreover, through the Group of Rio, meetings were held and a cooperation agreement was signed with the EC and meetings were also held with the Persian Gulf countries, Japan, China, and Canada.

Beside the Mercosur, the regional integration process, whose final goal is a great common economic region throughout the American continent, has achieved great advancements through the Andean Pact, the Caricom [Caribbean Common Market], and especially the NAFTA [North American Free Trade Agreement]—an already established integration system among the United States, Mexico, and Canada to whom, in the name of my country, I extend my congratulations and my best wishes for success.

Mr. Chairman, Messrs. Delegates: Let me tell you something about Paraguay, my country, where democracy and freedom were restored less than four years ago. In this hall, addressing the 44th UN General Assembly, our president, Andres Rodriguez said: "Paraguay is engaged in a democracy that is political and irrevocable...." Today I can say, with legitimate pride, that the Paraguayan Government is complying with its commitment. In our country, we are experiencing a legitimate, true, and fruitful democracy, based on unrestricted respect for human rights and basic freedom.

As of 20 June 1992, a new Constitution governs my fatherland's destiny. It is the result of the democratic debate of a National Constituent Assembly that was elected by the people in free elections with the participation of all political forces. It was observed by governmental and non-governmental international organizations.

In the economic and social field, our country continues to advance in its commitment to strengthen its economy through an adjustment and stabilization process. We have deregulated commerce and are granting priority attention to regional integration.

Our entire democracy enhancement goal, along with the required economic and financial stabilization process, has been made possible through the resolute will of the Paraguayan people who clearly pointed out to their rulers that there is no longer any room for dictatorships or totalitarianism in our country.

Although the Paraguayan people were the resolute promoters of their new democratic and free destiny, we are forced to acknowledge the international community's resolute support for our process of enhancement of democracy and economic and financial stabilization. We especially want to thank the UN Development Program, the OAS, and the EC for their cooperation and trust.

Mr. Chairman: In conclusion, a few words on the UN anniversary. Celebrating what we may call the first stage of its existence, the balance is favorable. UN participation in support of peace has been effective. The nearly unanimous opinion recommending structural changes, favoring a strengthening and an increased dynamism within the UN is based solely on the profound changes experienced in the world, changes that require every organization to better meet the new challenges. Preserving peace will remain the main duty of the UN, but a more agile organization is required to help to reduce the causes of conflicts. The entire world trusts in the effectiveness of the UN, seeking a future of liberty, justice, peace, and security.

ST CHRISTOPHER AND NEVIS

Caribbean Plutonium Transshipments Condemned
FL2609175892 Bridgetown CANA in English
1606 GMT 26 Sep 92

[Text] Basseterre, St. Kitts, Sept 26 (CANA)—The opposition St. Kitts Nevis Labour Party (SKNLP) says it views with grave concern the proposed use of the Caribbean Sea for transshipments of large quantities of plutonium from France to Japan next month.

Party leader Dr. Denzil Douglas said in a statement issued here on Saturday he had been reliably informed that the quantity, in excess of one tonne, would be the largest single shipment over water in history.

"The situation becomes even graver when we consider that this is the first of many shipments which will eventually transport 45 tons of plutonium from France to Japan through the Caribbean Sea by the year 2000," he added. Douglas, who is also leader of the opposition in parliament, also sought to inform other Caribbean countries of what he called the grave danger and threat to the region if a single accident should occur aboard the plutonium freighter.

"In such an event, this large quantity of plutonium has the capability of terminating life in the Caribbean as we know it," he added. Because of this serious threat for human life, all other nations have prohibited the transshipment of this dangerous substance through their national waters.

The Caribbean Sea is the only area in the world where this can still be done with impunity, Douglas added. The labour party leader said he was surprised government did not seek to condemn the move during the recent visit here of the Japanese ambassador to the eastern Caribbean.

He called on Prime Minister Dr. Kennedy Simmonds, as minister of foreign affairs, to use his diplomatic relations with Japan to ensure that the proposed transshipment was terminated immediately, and to consult with other Caribbean heads of government and those in the wider region in order to bring to an end "this great threat to human existence in the Caribbean."

REGIONAL AFFAIRS

Libyan, Egyptian Officials Review Oil Market, Carbon Tax*LD0310204292 Tripoli JANA in Arabic 1755 GMT
3 Oct 92*

[Text] Tripoli, 3 Oct (JANA)— Brother 'Abdallah Salim al-Badri, the great jamahiriyyah's secretary of the General People's Committee for Oil, conferred with Dr. Hamdi al-Banbi, Egypt's minister of petroleum and mineral resources, in Tripoli at midday today. After the meeting the following press release was issued:

On the sidelines of the meetings of the third session of the higher joint Arab Libyan-Egyptian Committee for Cooperation, which are being held in Tripoli, a meeting took place today, 3 October, between Brother al-Badri and Brother al-Banbi. During the talks they reviewed the situation in the international oil market following the recent OPEC ministerial committee meeting.

They expressed support for this committee's efforts, aimed at consolidating the oil market and preserving the minimum bench mark of \$21 per barrel for the OPEC crude oil basket. They urged all producers and consumers to work for the stability and consolidation of the oil market in such a way as to serve the interests of all parties and help in bringing about economic development to all countries in the world.

They also reviewed measures by a number of consuming countries to impose a carbon tax. They expressed doubts about the reports on the reasons for the deterioration in the environment and global warming; they called for international efforts to find the real reasons and suitable solutions for these phenomena. They urged countries which are about to impose a carbon tax to refrain from doing so, because oil products are already heavily taxed. Any further taxation would lead to discrimination against the use of oil and encourage a switch to alternative energies, particularly nuclear energy, without due consideration for safety and the effect of such a switch on the social, economic, and technical development of Third World countries in general, and oil producing countries in particular.

Syria, Iraq, Turkey Hold Water Talks*NC0110154992 Paris AFP in English 1505 GMT
1 Oct 92*

[Text] Damascus, Oct 1 (AFP) - Syrian, Iraqi and Turkish experts will extend by two days talks aimed at finding "acceptable" proposals on sharing the waters of the Euphrates and Tigris Rivers, official sources said Thursday.

The talks which opened on Monday had been scheduled to end Thursday.

The delegates are trying to reach "acceptable and fair proposals on sharing the waters of the Euphrates and

Tigris Rivers," the source said. An Iraqi official said here Wednesday that Turkey should allow more water from the Euphrates River to flow into neighbouring Syria and downstream to Iraq.

'Abd-al-Sattar Husayn complained that Iraq's current share of 58 percent of 500 cubic metres (per second) was "insufficient," saying it covered only half the country's needs.

Under a 1987 protocol with Turkey, Syria receives 500 cubic metres (650 cubic yards) per second of water from the Euphrates, which rises in Turkey and flows 2,800 kilometres (1,700 miles) through Syria and then to Iraq.

Syria has described the protocol as "temporary" until the reservoir behind Turkey's massive Ataturk Dam, straddling the Euphrates, fills up.

The dam, officially opened in July, is part of a huge irrigation project involving the construction of 22 dams on the Euphrates and the Tigris, which flows from Turkey into Iraq along a section of the Turkish-Syrian border. The irrigation project has heightened concerns in Syria and Iraq over the continued flow of sufficient water from the rivers.

INDIA

Defense Minister Urges Cooperation in Exploiting Ocean Resources*BK2909093092 Delhi All India Radio Network
in English 0830 GMT 29 Sep 92*

[Text] The defense minister has called upon the Indian Ocean littoral states to cooperate with India in the exploitation of marine and sea bed resources. Opening a two-day international naval seminar, Indian Ocean—Challenges and Opportunities, in New Delhi today, Mr. Sharad Pawar said they should insure that the Indian Ocean remains a zone of peace. He said the Indian Navy has no extra-oceanic designs and joint naval exercises are being held with friendly countries for building up mutual confidence and good will. The defense minister said vast mineral resources waits to be exploited from the sea bed. He reviewed the global scene and drew attention to the serious menace posed by religious fundamentalism.

The seminar organized by the Naval Foundation is dwelling upon the developments during the last two years which led to the emergence of a unipolar world. Twenty-eight delegates from India and other countries, including Pakistan, Bangladesh, China, Iran, Indonesia and Singapore are taking part.

PAKISTAN

Environmental Awareness Program Launched

92WN0807A Lahore THE PAKISTAN TIMES
in English 4 Aug 92 p 8

[Unattributed report: "CEEP Scheme To Improve Environment"]

[Text] Islamabad, Aug. 3— Federal Minister for Environment Mr. Anwar Saifullah Khan today told the National Assembly that a project entitled "Coordinated Environment Education Programme" (CEEP) has been launched in collaboration with the Ministry of Education aiming at to create environmental awareness through the formal education system.

In a written reply to a question by Mian Abdul Waheed, the Environment Minister said through this activity curriculum and text material on environment was developed and incorporated in the existing text books of schools. Three teachers guides have also been developed and a sizeable number of educational experts have been trained on environmental education throughout the country.

Khan informed the House that following steps have been taken by the government to improve the environmental condition.

—Environmental protection agencies at federal and provincial level have been established and necessary powers have been delegated to them to control the pollution and preserve the living environment.

—Two mobile laboratories are being procured from the Economic European Community (EEC) for monitoring of air pollution in Sindh and Punjab.

—Traffic police at national and provincial levels have been geared up to take remedial action against smoke emitting vehicles.

The government has arranged a number of environmental awareness activities for education of general public regarding problems of environmental pollution. Besides, the mass media like Radio, TV and Press have also been engaged in creating environmental awareness in the public.

—A National Conservation Strategy (NCS) has been formulated to develop ways and means for conservation, protection and management of our national resources.

The cabinet in its special meeting held on March 1, 1992 while approving the NCS also constituted a cabinet committee on implementation and coordination of NCS.

An NCS implementation unit has been created in the division for coordination and implementation of the recommendations of NCS.

A national environmental policy has been formulated which will soon be presented to the government for approval.

In order to elicit the support of the masses, to control the environmental pollution, the non-governmental organizations which work at the grass root level are being provided financial assistance to enable them to undertake their environmental projects.

REGIONAL AFFAIRS

World Bank To Aid Shift From Ozone-Depleting Substances*92WN0798 Moscow IZVESTIYA in Russian 19 Sep 92 Morning Edition p 2*

[Article by Kim Smirnov: "World Bank To Aid Russia: Will Fulfill Its Obligations To Save the Planet's Ozone Layer"]

[Text] On September 15-16 in Moscow, a seminar took place on the regulation of production and the use of ozone-depleting substances in Belarus, Russia and Ukraine. It was organized by the World Bank and the Russian Federation Ministry of the Ecology.

According to an announcement made to IZVESTIYA by Viktor Danilov-Danilyan, Russian Federation minister of the ecology and utilization of natural resources, the World Bank has decided to go along with a Russian government proposal to take part in the resolution of our country's most acute ecological problems. After a series of negotiations, the same problem to which the seminar was dedicated was given top priority. The World Bank finances environmental protection projects through the Global Ecological Fund on the important condition that the problem under consideration be an urgent one not only for the given state, but for the entire planet, as well. That condition is met here.

Among the destroyers of the ozone shield over the globe, we are the undisputed leaders. As we know, ozone-depleting substances are widely used in air conditioners, industrial and residential refrigeration units, and in the preparation of aerosol. The USSR has been responsible for 10 percent of their utilization (mostly in Russia). Now, this share has increased. Because it is exactly in recent years that many countries have experienced a real revolution in the search for safe substitutes for these substances and in the way they are utilized.

While we, for all practical purposes, have cut off the corresponding reconstruction of our economy, which we were supposed to have conducted in compliance with the requirements of the Montreal Protocol of 1987 on the protection of the ozone layer, at the bottom of which stands the signature of the Soviet Union. Neither Belarus, nor Russia, nor Ukraine have rejected that signature even today. But neither the 1991 USSR budget nor the 1992 Russian Federation budget allotted any funds whatsoever to this program.

We don't have any money for the environment. And now the World Bank has come to our aid, agreeing to finance ozone-protection projects in Belarus, Russia and Ukraine. It is true that we will have to rewrite the program developed for our nation and the CIS. When it was compiled several years ago, it was aimed at substances that caused serious depletion of the ozone layer. Now, substitutes have been found in the world for the weaker ozone-depleting substances, as well. And so, as is

obvious, it will have to address the fact that 1995, which was the date set for us by international accords for the transition to new technologies that do not utilize serious depleters of the ozone layer, will be pushed back two-three years. And the less potent ozone-depleting substances are a problem, the keys to which we are still searching for.

The danger, even with this reconstruction, will not disappear on its own. Because today substances produced 30-40 years ago are affecting the ozone layer. Even if we pin our hopes to technological reform, to new ideas, the threat will still be hanging over the planet for 20-30 years.

The principal decision will become the restoration of the ozone layer through human will. But for now, that is only a distant dream. And the economical methods—improving technology, searches for safe alternative substances, strict control—are completely realistic, and are full of promise.

RUSSIA

Yablokov Backs Proposal for Multinational Afforestation Effort*92WN0797A Moscow ZELENYI MIR in Russian No 29-30, Aug 92 p 3*

[Unattributed report: "Back to the Subject: All Humanity Will Win"]

[Text] With a selection of materials under this headline (ZM No. 21-22), ZM began an important discussion of possibilities for resolving global ecological problems through integrated efforts by the world community. That publication talked about an initiative by the German parliament and a German businessman to decrease the carbon dioxide gas content in the planet's atmosphere through large-scale afforestation. After discussing this idea, the Russian president's Coordinating Council on Ecological Policy has adopted this decision:

1. To approve and support the proposal for a large-scale afforestation program on Russian territory.
2. That the Russian Ministry of Ecology's Committee on Forests, together with interested ministers and departments, develop and present to the government a state program to be known as "The Russian Forest." (Executive—V. A. Shubin).
3. That the Russian Ministry of Internal Affairs prepare a response for the Russian embassy in Germany on the advisability of conducting negotiations on large-scale afforestation in Russia to be financed by the FRG. (Executive—F. V. Shelov-Kovedyayev).
4. If events develop favorably, taking into consideration that enormous economic, methodical and organizational problems concerning the program's implementation and

the attraction of significant material-technical and financial resources must be resolved, that the Ministry of the Ecology and the Ministry of the Economy, together with interested ministries and departments, conduct research toward forming a bilateral agreement between Russia and Germany, stipulating their requirements in terms of funding, technical equipment and state-of-the-art technologies. That in doing so, they direct special attention to the legal aspects of the program as a whole. (Executive—V. I. Danilov-Danilyan).

5. That the Russian Ministry of Internal Affairs, during negotiations on a limited Convention on Climactic Changes, continue to strive at the negotiations for the inclusion of a statute on equivalent steps towards decreasing carbon dioxide gas emissions and increasing its drainage.

Forests

- We Need a Restoration Program
- The Chainsaws Are Buzzing in the Wildlife Preserves
- Biocenosis and the Well-Being of Arable Lands

Coordinating Council chairperson, state advisor to the Russian Federation and corresponding member of the Russian Academy of Sciences, A. V. Yablokov, comments on the Council's decision.

From a Multinational European Idea—to a Multinational European Action

—The idea of large-scale afforestation in order to improve the ecological situation in Europe and the world is a good one from any point of view. Its ecological nature is described in detail in ZM's prior publication on this subject. In fact, its economical nature is also evident. Nevertheless, I would once again like to emphasize this side of the matter, as today, the environment cannot exist outside of the economy.

Now, one of the main problems for our country is the problem of economic survival for the state and society, and this problem has, unfortunately, pushed ecological concerns into, at the very least, second place. Although I personally believe that there cannot be a non-ecological economy—this is, it seems, a fact that our government does not realize.

The idea of large-scale afforestation has my heartfelt support, as well as that of all the members of the Coordinating Council. With its implementation, for our country, first of all, opportunities would open up for obtaining new solid investments—opportunities to provide work for millions of people. At the same time, the growth rates for visible unemployment are, fortunately, three or four times less than what was predicted, but hidden unemployment here is already enormous. Towards the end of the year, one and a half million people may be without work, and an afforestation program could greatly soften the blow unemployment will have on our society.

Secondly, the implementation of this program should lead to a significant rise in the production of agricultural goods. Fields protected by forests increase their harvest by a third, if not by a half. The structure of land-use will change—we won't need to give up as much arable land for grain crops. There will finally be significant opportunity to avoid water and wind erosion! Just as, at the same time, for the Germans: having spent less money on the project, in the end they will obtain the desired result—they will decrease their share of responsibility for the state of the Earth's atmosphere.

In the Germans' proposal, the idea that is perhaps the most attractive and has the best prospects is that of the world community's joint concern for the fate of our common home—the Planet Earth. And today this idea, which is very heartening, is being transformed into an action taken by an integrated Europe. We will say that the Scandinavians and the Finns know very well that their ecological well-being depends on the ecological state of our northwestern region. They have come to the realization that to squander enormous sums of money on cleaning up their environment is senseless unless the source of the pollution, which is on our territory, is eliminated. For this reason, enterprises like "Pechenganikel" or "Severonikel" will have the opportunity to introduce low-waste technology at the expense of foreign investments.

Besides the idea, nothing further has been done so far on the afforestation program. There is not even a draft for its implementation. We must move towards each other, so that the idea can acquire realistic outlines. And these will be not only economic moves, but legal and political, as well.

I will not conceal the fact that some care in approving decisions will not hurt—because from profit to loss, there are a few steps that are not entirely correct. Now, for example, they are proposing that we exchange our unreliable nuclear reactors for more reliable ones manufactured by the concern called "Siemens." To do this, Russia would have to spend about 45 billion dollars. This they will be happy to give us, and they will offer to settle accounts, of course, in oil and gas.

But we have our own excellent gas-turbine plants—they are produced by VPK [military-industrial complex] factories, and calculations show that less than one billion would have to be spent on equipping our nuclear power plants with turbines of this type!

Resolving ecological problems within this country today is very complicated: in reaction to the recoil from the first wave of the market economy, with the appearance of various forms of property, it is impossible to accept, as before, a state program of directives. But we cannot move forward without outlining state priorities. I propose the formation of a multinational program for the ecological rebirth of Russia—it would bring together state efforts and the efforts of businessmen, banks, various commercial structures and, without a doubt, of

Russian citizens. Without the population's active support, we are unable to resolve the smallest of serious regional problems concerning Russia's ecology. And we cannot assure that active support unless we create, unless we put together a system for ecological information, ecological education, training—here, the roles of publishers like ZM are invaluable. Of course, the absence of support from state publishers is amazing, but I hope that the leaders of the state environmental protection system will gain an understanding of the necessity and importance of this kind of support.

When, for example, the large-scale afforestation program actually begins to take shape, it will be especially important for us to unite our efforts and those of the various economic structures and the population. Otherwise, a grandiose project like this will not be realized in a multinational manner.

Plans for Destruction of CW Outlined

PM2509093792 IZVESTIYA in Russian 23 Sep 92
Morning Edition p 2

[Article by Viktor Litovkin: "Destruction of Chemical Weapons Could Make Russia Rich"]

[Text] Preparations have been completed for stage one of the program to destroy chemical weapons in Russia. It will be discussed at a government session and at the Supreme Soviet.

The total cost of the program will be 3,334 million rubles [R] in 1991 prices. It was devised by the Committee on Chemical and Biological Weapons Convention Problems under the Russian president, the Academy of Sciences, the ministries of defense, security, economics, industry, finance, ecology, and communications, and other interested departments.

At stage one the plan is to make three facilities fully operational. They will destroy 45 percent of all Russian chemical agents. That is 7,000 tonnes of lewisite, mustard gas, and lewisite-mustard gas mixture, some of which the country has been storing ever since World War I and which are to be found in the settlement of Gornyy, Saratov Oblast, and also in the city of Kambarka, Udmurt Republic. Moreover, at one of the plants, a former producer of chemical weapons, the destruction of 3.5 million projectiles will be organized.

How will it be done? The concept elaborated by Academicians A. Kuntsevich, O. Nefedov, Zh. Alferov, G. Devyatikh, and other eminent scientists demands that lewisite be regarded as a national raw material resource and that it be processed into a raw material of strategic value to microelectronics—extremely pure arsenic. The kind that could be used for home production and for sale on the world market. The price of it there hovers around \$2,000 per kg.

The Russian State Scientific Research Institute of Chemical Technology (formerly GSNIIOKhT) has taken the

lead in the open competition for the best lewisite processing technology. It offered the most effective and safest, "wet" method of preliminary neutralization of lewisite with an alkali, and subsequent electrolysis of the reaction products. This method gives off no gas, there are no furnaces involved, and nothing is burned. There is practically no effect on the environment.

In second, third, and fourth places you have the techniques proposed by the branch of the Karpov Physical Chemistry Institute in Obninsk, a scientific research institute in Nizhny Novgorod, and the Institute of Chemical Technology again, which devised, as a second option, a method of chlorinating lewisite.

The competition for the best technique continues. Scientists and industrialists from other states can participate. The results were recently discussed by a Russian scientists' conference at the Academy of Sciences Institute of Chemical Physics, and a similar international conference is planned for next year.

"The Russian-American agreement states that our experts will examine all the proposals, irrespective of state or national origin," Academician Anatoliy Kuntsevich, chairman of the concept committee, said.

The intention is to pay the winners in rubles and hard currency. They will be selected with the participation of the population, the public and authorities of the places where it is proposed to construct the chemical agent processing facilities. They will have guaranteed access to all the materials and documents and an equal vote when approving the final decision. Incidentally, there is a provision whereby regional businesspeople and working people at the enterprises involved in destroying chemical weapons will receive a share of the profits from the processing of them.

The mustard gas is also to be processed, after detoxification, into reaction products which can be used, for example, in the rubber industry, to accelerate the vulcanization of rubber. Corrosion-resistant, fireproof compounds to treat cross ties and timber and antiseptic liquids will be obtained from organophosphorus agents (sarin, soman, V gases).

But the most important thing, set out perhaps for the first time on such a scale in the program, is its social orientation. Some 13-15 percent of all the sums will be spent on infrastructure development, housing construction, health services, and social benefits for the residents of the places where it is proposed to site the chemical agent destruction facilities.

For example, at stage one, in Kambarka, it is planned to put an inverted siphon through the pond, construct purification installations, a water main from the city center to the military quarters, and reservoirs to supply the residents of the lower, fenced-off part of the city with water. A road will be built to Chaykovskiy and housing, a boilerhouse, and an electricity substation will be constructed... This is scheduled to cost R385 million.

Provision of social amenities will begin well before the processing facilities are constructed and it will be a priority task. The program coordinators reckon that the population will derive real benefit from this process and will be the convention committee's allies, actively cooperating with it.

In juridical terms, stage one of the destruction of the chemical agents begins on 1 April 1993. It is then that the ecological evaluation begins, along with the feasibility study of projects, manufacture and testing of pilot facilities, refinement of them, testing of technology, and training of specialists. The plants will not start up until 30 June 1997.

They have to be ecologically safe and highly efficient in economic terms. It will mark the start of the return of Russian money squandered on the ruinous and senseless arms race.

Scientists Assess Effect of Nuclear Testing on Kuzbass

92WN0815A Moscow SOVETSKAYA ROSSIYA in Russian 29 Sep 92 p 1

[Article by V. Danilov: "Behind the Lines of the Deputy Inquiry: Nuclear Cloud over the Kuzbass"]

[Text] Kemerovo—In answer to the official inquiry of Aman Tuleyev, chairman of the Kemerovo Oblast soviet, concerning the possible influence of the nuclear explosions in Semipalatinsk on the Kuzbass [Kuznetsk Basin], Kazakhstan scientists, members of the "Nevada-Semipalatinsk" international antinuclear movement, gave the following answer.

Three hundred and fifty underground, 26 surface, and 86 air nuclear tests were conducted on the Semipalatinsk nuclear test range. Especially great damage was caused by the surface and air nuclear explosions. Of the 26 surface tests, 13 produced fallout that went far beyond the boundaries of the range. Of the 26 air bursts, 11 crossed the range boundaries. Aerial photographs taken after the explosion of just the first atomic (plutonium) bomb showed that the nuclear cloud reached Kemerovo Oblast. The exposure dosage from this, according to data of I. Chistyakov, a corresponding member of the Academy of Sciences of Kazakhstan, constituted not more than seven rem [roentgen equivalent]. The permissible limit for a person is below 0.5 rem in a year.

According to USSR Cabinet of Ministers Decree of 8 April 1991, an increase in dosage of 0.1 rem per year above the level of the natural and technical radiation background for a given locality allows the right to compensation, benefits, and guarantees, including improved public health service, full-value food, radiation monitoring of the environment, and so forth.

The scientists' answer to A. Tuleyev's inquiry also says that alpha contamination, which increases in activeness over the years, is the most dangerous for a human being,

and that ailments caused by a nuclear source are 10 times stronger in people of the second, third, and subsequent generations. Therefore, the threat of hereditary anomalies increases over the years.

The answer corroborates the validity of the fears of the chairman of the oblast soviet concerning the aftereffects of nuclear tests for the Kuzbass and the justification of his appeal to the government.

Kazakhstan scientists, who are studying the declassified documents on the Semipalatinsk test range, are ready to conduct ecological and medical research in Kemerovo Oblast and to open a regional section here. A.M. Tuleyev has once again turned to the Supreme Soviet and the government, and the president, with a request to allocate 1 million rubles to improve public health service and to deliver food products to people who live in the contaminated zone.

U.S. Nuclear Experts Praise Novovoronezh Plant Reliability

LD2309212792 Moscow ITAR-TASS in English 1650 GMT 23 Sep 92

[By ITAR-TASS correspondent Vladimir Lebedev]

[Text] Voronezh, the Voronezh region, September 23, (TASS)—The vice-president of the U.S. Consolidated Edison Company, New York, told a news conference here today they were pleased with what they saw at the Novovoronezh nuclear power plant, as it has skilled personnel, devoted to their work.

The state of plant equipment is very good. Radiation fields are exclusively low. He said their fears, fortunately, did not come true.

Other U.S. specialists also praised the reliability of the Novovoronezh nuclear power plant, that has been operating for 28 years, and skills of the plant personnel.

The U.S. guests came to the plant on a technical information exchange tour within the framework of the non-governmental World Association of Nuclear Plant Operators created three years ago with four offices - in Atlanta, Paris, Tokyo and Moscow.

The training center, protection and fire-fighting centers of the plant also made a good impression on visit participants.

Experts See 'No Improvement' Since Chernobyl

LD2809152892

[Editorial report] Moscow Russian Television Network in Russian at 1455 GMT on 26 September broadcasts a 15-minute program on the dangers resulting from the Chernobyl disaster in the series "Parliamentary Herald of Russia."

In the program, people's deputy Rasul Mikhaylov interviews Fedor Grigoriyevich Gosporyan, chairman of the

radiation safety subcommittee of the Supreme Soviet of the Russian Federation; D.D. Tikhomirov, head of the department of medical and social programs of Chernobyl Aid; V.L. Grishin, first deputy chairman of the council of trustees [popechitel], and V.I. Fedin, executive director of Chernobyl Aid.

Gosporyan says that since Chernobyl, there has been no improvement. In Bryansk Oblast, radiation levels are still far too high. He says: "For seven years now, the people have been subjected to nuclear genocide, and Russia is unable to protect its fellow citizens." Russia has hushed everything up: only in 1990 did information, albeit incomplete, begin to find its way into the press. Meanwhile, many mistakes have been made and "the whole policy being pursued in that region was criminal." New settlements and new streets were built in polluted areas. Radiation levels are not being measured, and no information is being provided. The children remained in the polluted zone throughout the summer. New settlements for the people to move to are being built "unforgivably slowly." The oblast administration is not doing all it could: "If there's macaroni in the shops, it is considered that people are getting pure foodstuffs," but try eating nothing but macaroni for a while. No meat is being brought in from outside.

Tikhomirov says it should be explained to the people that it is harmful to live in these areas. Pollution data which have been averaged-out can be misleading, and there is much confusion. All the conditions of life in the areas are "extremely uncomfortable." There are very few travel vouchers for children and parents to take a holiday together in an unpolluted zone. People are very poorly informed about the dangers.

Grishin says the Supreme Soviet is to hear a government report on the situation. By the end of October it should give a first reading to a bill on the status of the disaster zone. In Russia there are insufficient safeguards against the production of polluted food.

The main problem is the lack of objective and complete information, especially in the central press. The causes of the disaster have not been analyzed in Russia.

Fedin agrees that there is not enough information or facilities for those at risk.

Mikhaylov says all this will shortly be aired at Supreme Soviet hearings. The Supreme Soviet and the ecology committee plan regular visits to Bryansk Oblast to keep an eye on the situation.

Plutonium-Producing Reactor Shut Down in Krasnoyarsk

LD0110135092 Moscow ITAR-TASS World Service
in Russian 0518 GMT 29 Sep 92

[By ITAR-TASS correspondent Yuriy Khots]

[Text] Krasnoyarsk, 29 September—Yet another page in the history of our country's military-industrial complex has been turned. The last single-flow [pyramotochnyy] reactor producing weapons-grade plutonium—for nuclear warheads—was shut down today at the Krasnoyarsk chemical ore-processing plant in the presence of Russian and foreign journalists.

Two such reactors were in operation at the plant for over 30 years. Deep underground, they faithfully manufactured enough of their deadly substance for several all-out nuclear wars. They also did considerable damage to the Yenisey, pouring into it radioactive water that had been used for cooling. The first reactor was shut down at the start of this summer, so further pollution of the Yenisey has been averted. The reactors, even though shut down, will remain under expert supervision for a long time to come. Only in 50 years' time will they be finally interred in shafts.

The question already arises of what further use to make of the reactor staff's scientific expertise. One option under consideration is to manufacture some demonstration models of small reactors that could be used in outlying northern regions to generate heat and electricity.

Environmentalists Support Nuclear Fuel Regeneration Plant

OW0710173392 Moscow INTERFAX in English
1447 GMT 7 Oct 92

[Following item transmitted via KYODO]

[Text] The proposed construction of a plant for nuclear fuel regeneration in Krasnoyarsk-26 does not produce any objections on the part of the local ecological organization "Greenpeace-Revival," said chairman of the environmentalist organization Nikolay Taran at a press conference in Krasnoyarsk (regional center in Siberia).

In the words of the head of this ecological organization, the "environmentalists" are fully content with the fact that the projected output of the enterprise will be three times below that proposed originally. They are also satisfied with the arrangements when no nuclear wastes will be buried on the territory of the region. Following the nuclear fuel regeneration, the wastes will be returned to the customers. The plant's principal customers will apparently become the nuclear power production capabilities in Ukraine.

Mr Taran says that the Russian government has already begun funding the development of the technological and economic project for the construction of the plant. The project development will have to be completed by January, 1993, when it will be subjected to different evaluations by the experts, including independent ecological agencies.

Commission Investigates 'Radiation Anomalies' in Mendeleyevsk

92WN0781B Moscow TRUD in Russian 10 Sep 92 p 1

[Article by Yevgeniy Ukhov, Kazan: "Radiation in the Streets and in the Homes"]

[Text] More than 2,000 points of radiation anomalies were discovered in the city of Mendeleyevsk in the old center of the chemical industry. Instruments fix a dangerous background in streets, on river banks, in homes, and in production establishments.

A state commission is at work in the city. The traces of trouble hanging over the city led...to the archives.

The documents exposed a secret that was carefully concealed for more than 70 years. It was learned that radium preparations were received for the first time in the Soviet Union in Bondyug (the previous name of Mendeleyevsk). In 1920, a caravan of barges with radium raw materials arrived here. It was unloaded right on the shore, and workers transported it in wagons and wheelbarrows to the chemical plant. Wastes were not buried then—they were discarded helter-skelter. A sand-lime brick plant was later built on the spot of a uranium enrichment shop...

All these years, Mendeleyevsk had very strong "radiation readings" ["fonil"]. In the former mining section, Geiger counters fixed radiation at 2,800 microroentgens. Work is being carried out on digging up contaminated soil and the localization of harmful wastes.

Government Ratifies Procedure for Inventorying Radiation Sources

92WN0792B Moscow ROSSIYSKAYA GAZETA in Russian 17 Sep 92 p 4

[Official Report: "Documents Have Been Signed"]

[Text] ON RADIOACTIVE MATERIALS.

The Government has approved the Procedure for Inventorying Locations and Sites for the Extraction, Transportation, Processing, Use, Gathering, Storage and Burying of Radioactive Materials and Sources of Ionized Radiation on the Territory of the Russian Federation. This work will be carried out by the organs of the state authorities of republics, krays, oblasts, the cities of Moscow and St. Petersburg, autonomous formations, ministries and departments. Local administrative organs may be enlisted to conduct inventories. Appropriate administrative organs will conduct inventory of military units (according to military units' subordination). Organs of the State Inspection and Control of Radiation Security [Gosudarstvennyy Nadzor i Kontrol za Radiatsionnoy Bezopasnosty] will monitor the conduct of inventories and the authenticity of the information presented by enterprises (Government Resolution No. 505).

Draft Law on Handling Nuclear Waste in Preparation

PM2909153792 Moscow ROSSIYSKAYA GAZETA in Russian 18 Sep 92 First Edition p 2

[Unattributed report: "Radiation Within the Law"]

[Text] The law "On State Policy in the Sphere of Handling Radioactive Waste" will be the first blow intended to breach the vacuum in the use of nuclear energy. In the White House yesterday there were joint hearings on the draft law, which is currently being evaluated in parliamentary committees and commissions and is expected to be submitted for examination by the fifth session of the Supreme Soviet in October, in fact.

Yevgeniy Nesterov, physicist, member of the Supreme Soviet, and chairman of the working group to prepare the draft law, noted that the general economic crisis is dominated by the radiation component. The scientist pointed out that for many years the Soviet leadership tackled defense tasks and economic development problems without giving much thought to people's safety and health. "Even now there are no signs of any fundamental advances in this policy and nuclear energy complex enterprises are continuing to operate in the old way," the deputy said. According to him, the Russian Nuclear Energy Ministry is not particularly concerned about restructuring the enterprises of the military-industrial complex and it remains a monopolist, not allowing any alternative market structures to develop. The scientist stressed that the country will continue to face the threat of further Chernobyls as long as there is no nuclear law blueprint and no law on the use of nuclear energy.

The draft law "On State Policy in the Sphere of Handling Radioactive Waste" was given a high rating during the hearings. This is not surprising when you consider that American specialists were closely involved in its preparation.

Greenpeace Resumes 'Pressure Tactics' With Novaya Zemlya Expedition

92WN0815B Moscow ROSSIYSKAYA GAZETA in Russian 29 Sep 92 p 2

[Interview with John Sprendzh (name as transliterated), leader of a Greenpeace expedition to Novaya Zemlya, and Dmitriy Litvinov, Greenpeace representative in Russia, by ROSSIYSKAYA GAZETA correspondent Aleksandr Mozgovoy; place and date not given: "Greenpeace Attacks Russia"]

[Text] The vessel "Solo" of the international ecological organization Greenpeace put to sea yesterday from Amsterdam, heading for Novaya Zemlya. The purposes of this trip were explained in an exclusive ROSSIYSKAYA GAZETA interview with John Sprendzh, one of the leaders of the expedition.

"Next year the date on the moratorium prohibiting the dumping of radioactive wastes (RAO) at the bottom of the sea expires," he noted. "According to our information the authorities of Great Britain, which still has not become concerned about the creation of technology for the utilization of such wastes, intends to return to the practice of burying them in the ocean depths.

"First and foremost, the question concerns reactors of decommissioned nuclear submarines. As is known, the former Soviet Union in its time submerged almost 17,000 containers of radioactive wastes and several submarine reactors near Novaya Zemlya. Now imagine: If Great Britain resorts to submerging reactors, what will prevent Russia from doing the same? Britain plans to get rid of 10-12 reactors, but Russia's 'requirement' numbers many dozens. As a result, a situation could develop in which the world ocean is transformed into a radioactive dump and a permanent radiation danger zone.

"This is why our expedition is called on once more to draw the attention of the world community to the problem of utilization of nuclear wastes. After all, this is an international problem. It confronts not only the Russians but the Americans, the English, the Chinese, and the French. It must be resolved through common efforts. The second objective of our voyage is to monitor the radiation situation in the Kara and Barents Seas."

[Correspondent] Recently a joint Russian-Norwegian expedition conducted similar research and confirmed that the radiation situation in this area was close to normal.

[Sprendzh] We are not raising doubts about the results of the Russian-Norwegian expedition, the more so because processing and analysis of the data it collected have not yet been completed. But this is the kind of a case where more research will do no harm.

[Correspondent] Will representatives of Russia be on board the "Solo"?

[Sprendzh] Yes, including People's Deputy Anatoliy Mostovoy from the Commission on Human Rights of the Supreme Soviet of the Russian Federation.

[Correspondent] Why are you taking a representative on the voyage who is specifically from this commission, but not a parliamentary specialist in the field of ecology?

[Sprendzh] We believe that the right to a healthy environment is one of the paramount and inalienable human rights.

[Correspondent] In October 1990, without the permission of the authorities, a group of Greenpeace members landed on Novaya Zemlya, where it conducted research on the nuclear test range. This action caused a scandal at that time. Is a landing planned on the archipelago during the expedition at hand?

[Sprendzh] Not for the time being. But we are concerned about reports that preparations are continuing on Novaya Zemlya for nuclear testing. [end Sprendzh]

"Solo" is heading on a course for the Arctic, and on 3 October another Greenpeace vessel arrives in Vladivostok—"Rainbow Warrior," which, with an international crew on board, will complete a month-long voyage along the Far Eastern shores of Russia. Of course, this will not be a recreational cruise.

"The expedition on the 'Rainbow' will engage in three programs immediately," says Dmitriy Litvinov, a representative of the international Greenpeace organization in Russia. "The first is similar in many ways to the 'Solo' mission. It is associated with the problem of the utilization of nuclear submarines and the guarantee of radiation safety. The second is the protection of the fish resources of the Far Eastern region.

"The situation there is becoming critical. Every Russian knows that fish is found less and less frequently in the stores, and most often it is not available at all. Meanwhile, more and more fish are being caught. The secret to this paradox is simple: The old socialist monopolistic structures were ordered to work by the new market rules, so to speak, to build capitalism. Komrybkhov [Committee for the Fishing Industry], which has concentrated the lion's share of the trade and processing of products of the sea in its hands, is in charge of protecting resources and restoring them. Which is absurd in itself: The fox is guarding the chicken coop. After all, this is the department that regulates catch quotas. The effort to increase the size of currency earnings forces the issuance of licenses practically in unlimited amounts to foreign professional fishermen. Moreover, at a low price. Thus a powerful blow is delivered to fish reserves. Some species are on the verge of extinction, and it may not be possible to restore them."

[Correspondent] The third "Rainbow" program is also, apparently, associated with the sea?

[Litvinov] No. This is a program for the defense of the forests of the Far East. The multibranch South Korean Hyundai corporation concluded an agreement with the administration of Primorskiy Kray on a concession for timber cutting in the upper reaches of the Bikin River. The question concerns 300,000 hectares of forests. Greenpeace has already more than once exposed Hyundai in barbarous felling in other countries. Such a fate also awaits the unique Ussuriysk taiga. The Udegeytsy, whom they want to deprive of their traditional dwelling environment, and who are supported by the local Cossacks, have initiated a protest campaign. The Ministry of Ecology and Natural Resources of Russia and the Primorskiy Soviet are recommending the creation of a protected territory in this area and putting it under the control of the Udegeytsy. We are joining the demand for a revision of the contract with the South Korean concern.

[Correspondent] Your organization has not conducted a large-scale operation in Russia similar to the current one

for almost two years. Is this connected with some kind of change in Greenpeace policy with respect to the Russian authorities?

[Litvinov] Greenpeace does not conduct any kind of political actions against the governments of individual countries. We seek resolutions of problems that have vitally important significance for all mankind. We are not patriots of America or of Russia. If you wish, we are patriots of Earth. Undoubtedly, we hoped that the new authorities of Russia would pay considerably more attention to the protection of the environment. Alas, this did not happen. This is why Greenpeace once again has to return to pressure tactics. [end Litvinov]

So, the international ecological organization Greenpeace is attacking Russia. It is attacking to help it avoid many misfortunes.

Reduced Radiation Levels Noted in Kara, Barents Seas

PM0210112592 Moscow KRASNAYA ZVEZDA
in Russian 29 Sep 92 p 3

[Captain Second Rank Aleksandr Veledeyev report: "Sea Becoming Cleaner"]

[Text] A Russian-Norwegian joint expedition to study the present levels of pollution of the marine environment has completed its work in the Kara Sea and the Barents Sea. T. Hamilton, an International Atomic Energy Agency expert, and Russian Navy specialists participated in it in addition to the researchers.

A large number of measurements of samples of water and of the surface layer of bottom sediments were taken from on board the scientific research ship Viktor Buynitskiy, and certain types of bottom-dwelling fauna were studied. According to preliminary appraisal data, the present levels of radioactive pollution of the regions investigated are low and are not dangerous from a radiological viewpoint. Indeed, on the basis of comparisons of the results of this year's appraisal measurements and of the measurements taken in 1982 by the scientific research ship Otto Schmidt, in the opinion of the participants in the international expedition it is possible to speak of a reduction in the level of pollution of the Kara Sea with cesium-137.

Procedure for Determining Size of Fines Paid by Polluters

Resolution Implementing Procedure

925D0717A Moscow ROSSIYSKAYA GAZETA
in Russian 16 Sep 92 p 6

[Russian Federation Government Resolution No. 632 dated 28 August 1992: "On Ratifying the Procedure for Determining Fines and Their Maximal Amounts for Environmental Pollution, Dumping of Waste, and Other Forms of Harmful Effects"]

[Text] In accordance with the RSFSR law of 19 December 1991, "On Environmental Protection," the Russian Federation Government hereby resolves:

1. To ratify the proposed Procedure for determining fines and their maximal amounts for environmental pollution, waste dumping and other forms of harmful effects, to become effective as of 1 January 1993.

Until the Procedure ratified by the present resolution goes into effect, the fines for environmental pollution established by the RSFSR Council of Ministers resolution No. 13, dated 9 January 1991, shall remain in effect, with application of a five-time increasing coefficient, and the sources of payment for the indicated pollution shall be defined in accordance with the Russian Federation Government Resolution No. 552, dated 5 August 1992.

2. That the Russian Federation Ministry of Ecology and Natural Resources, in conjunction with the State Committee for Sanitary-Epidemiological Control and other interested ministries and departments, organs of executive authority of the republics within the Russian Federation, krais, oblasts, cities of Moscow and St. Petersburg, and autonomous formations, and in cooperation with the Russian Federation Ministry of the Economy and the Russian Federation Ministry of Finance, prior to 1 November 1992 ratify base standard fines for emissions, dumping of pollutant substances into the environment, dumping of waste and other forms of harmful effects, as well as coefficients which take into consideration the ecological factors.

The Russian Federation Ministry of Ecology and Natural Resources, in cooperation with the Russian Federation Ministry of Economics and the Russian Federation Ministry of Finance, may introduce clarifications into the indicated standards of payment and coefficients in connection with changes in the ecological situation in individual regions and the level of prices, as well as in the definitions of new types of pollutant substances and harmful effects on the environment.

3. That the Russian Federation Ministry of Ecology and Natural Resources, the Russian Federation Ministry of Economics, and the Russian Federation Ministry of Finance develop and submit for ratification to the Russian Federation Government by 1 November 1992 proposals for maximal amounts of fines for environmental pollution, differentiated with consideration for the economic capacities of individual sectors of the national economy.

4. That the organs of executive power of the republics within the make-up of the Russian Federation, the krais, oblasts, cities of Moscow and St. Petersburg, and the autonomous formations:

a) with participation of the territorial organs of the Russian Federation Ministry of Ecology and Natural Resources, establish differentiated rates of payment for

environmental pollution on the basis of the base standard payments and coefficients which take into consideration the ecological factors, as ratified in accordance with paragraph 3 of the present resolution, and also introduce corrections in the amount of payments by environmental users with consideration for their assimilation of funds for implementing environmental protection measures and crediting of these funds toward the indicated payments;

b) in cooperation with territorial organs of the Russian Federation Ministry of Ecology and Natural Resources and the State Committee for Sanitary-Epidemiological Control, may reduce the amounts of fines for environmental pollution or excuse from payment individual organizations of the social and cultural sphere, as well as organizations financed from the Russian Federation republic budget, the republic budgets of the republics within the make-up of the Russian Federation, and the budgets of national-state and administrative-territorial formations of the Russian Federation.

5. That the Russian Federation Ministry of Ecology and Natural Resources, the Russian Federation Ministry of Finance, and the Russian Federation State Tax Service, with participation of the Russian Federation Central Bank, approve in 1992 the standard documents defining the mechanism for recomputing environmental use payments for environmental pollution and the order of forwarding these funds to the income of the Russian Federation republic budget and to extra-budgetary ecology funds.

6. That the Russian Federation Ministry of Ecology and Natural Resources, in cooperation with the Russian Federation Ministry of Economics and the Russian Federation Ministry of Finance, develop and approve instructional-methodological documents for collecting fines for environmental pollution, as well as a list of environmental protection measures, expenditures for whose implementation may be credited toward the payments.

[Signed] Ye. Gaydar

Text of Procedure

925D0717B Moscow ROSSIYSKAYA GAZETA
in Russian 16 Sep 92 p 6

["Procedure for Defining Fines and Their Maximal Amounts for Environmental Pollution, Waste Dumping, and Other Types of Harmful Effects"]

[Text] The present Procedure extends to enterprises, institutions, organizations, foreign legal and physical persons performing any type of activity on the territory of the Russian Federation associated with environmental use (subsequently referred to as environmental users), and provides for collection of payments for the following types of harmful effects to the environment:

dumping of pollutant substances from stationary and mobile sources into the atmosphere;

dumping pollutant substances into the surface and underground water facilities;

dumping waste;

other types of harmful effect (noise, vibration, electromagnetic and radiation effect, etc.).

2. Two types of base standard payments have been set:

a) for dumping or disposal of pollutant substances, waste dumping, or other types of harmful effect within the limits of the allowable standards;

b) for dumping or disposal of pollutant substances, waste dumping, or other types of harmful effect within the limits of allowable limits (temporarily coordinated standards).

The base standards of payment are paid for each ingredient of the pollutant substance (waste), due to the harmful effect and with consideration for the degree of danger to the environment and the health of the population.

For individual regions and river basins, coefficients to the base standard payments are set, taking into consideration the ecological factors—natural-climatic peculiarities of the territory, importance of natural and socio-cultural objects.

The differentiated rates of payment are determined by multiplying the base standards of payment by the coefficients which take the ecological factors into consideration.

3. Payment for pollution of the environment in amounts not to exceed the maximal allowable standards of emissions, dumping of pollutant substances, volumes of waste dumping, or levels of harmful effect established for the environmental user, is determined by multiplying the appropriate rates of payment by the amount of indicated types of pollution and totalling the obtained product by types of pollution.

4. Payment for pollution of the environment within the established limits is determined by means of multiplying the appropriate payment rates by the difference between the limit amounts and maximally allowable amounts of emissions, dumping of pollutant substances, volumes of dumped waste, or levels of harmful effect, and totalling the obtained products by types of pollution.

5. Payment for above-limit pollution of the environment is determined by means of multiplying the appropriate payment rates for pollution within the margins of the established limits by the amount to which the actual mass of emissions, dumping of pollutant substances, volumes of dumped waste, or levels of harmful effect exceeds the established limits, totalling the obtained

products by types of pollution, and multiplying these sums by a five-time increasing coefficient.

6. If the environmental user does not have a properly formulated permit for emissions, dumping of pollutant substances, or waste dumping, the entire mass of pollutant substances is considered as being over the limit. The payment for environmental pollution in such cases is determined in accordance with point 5 of the present Procedure.

7. Payments for marginally allowable emissions, dumping of pollutant substances, waste dumping, or levels of harmful effect are paid at the expense of the production cost of the product (work, services), and payments for exceeding them are paid at the expense of the profits remaining at the disposal of the environmental user.

8. Maximal amounts of payment for polluting the environment above the marginally allowable standards are set in percentages of the profits remaining at the disposal of the environmental user, differentiated by individual sectors of the national economy with consideration for their economic specifics.

If the indicated payments, defined separately in accordance with the present Procedure, are equal to or exceed the amount of profit remaining at the disposal of the environmental user, then specially authorized state organs in the field of environmental protection, organs of the sanitary-epidemiological inspection and appropriate organs of executive power shall review the question of ceasing or terminating the activity of the corresponding enterprise, institution or organization.

9. In accordance with the RSFSR law, "On Environmental Protection," funds collected for environmental pollution are transferred by the environmental users in indisputable order, in the amount of 90 percent to special accounts of extra-budgetary state ecology funds, and 10 percent to the revenues of the Russian Federation republic budget for financing the activity of the territorial organs of state administration in the sphere of environmental protection.

Transfer of the funds is performed by the environmental users within the times established by the territorial organs of the Russian Federation Ministry of Ecology and Natural Resources. When the specified time periods have elapsed, the sums of payments are collected from the environmental user in non-acceptance order.

10. Contribution of payment for environmental pollution does not absolve the environmental user from fulfilling environmental protection measures and from rational application of natural resources, nor from compensating in full volume the harm inflicted upon the environment, health and property of citizens, or the national economy by pollution of the environment, in accordance with the effective legislation.

Norilsk Metalworks Fined for Environmental Damages

92WN0801A Moscow ROSSIYSKAYA GAZETA in Russian First Edition 19 Sep 92 p 1

[Unattributed report: "Even the North Pole Is Crying Out Now"]

[Text] The Norilsk Mining-Metallurgical Combine must pay 1.8 billion rubles in fines for environmental damages. That was the decision adopted by the Krasnoyarsk Kray arbitration court in the case filed against the combine by the kray's forestry administration.

Having received this report, the ROSSIYSKAYA GAZETA news service posed a brief question to its own correspondent in Krasnoyarsk Kray, Valeriy Yaroslavlsev: "Evidently, they have had enough?"

"And how! According to the evaluations of specialists, in the last 20 years alone the combine has inflicted economic loss upon the territory of Taymyr Autonomous Okrug in the sum of 98 billion rubles (in 1991 prices). Thirteen million hectares of reindeer grazing land and hunting and trapping areas have been taken out of economic circulation, and over 380,000 hectares of forest have been destroyed. The harmful emissions, gases, and industrial sewage are destroying the habitat of the native northern peoples and undermining the traditional foundations of their life. The Norilsk residents themselves are also suffering. Every year, 13 tonnes of various harmful emissions rain down on their heads. Altogether their combine enterprises emit 2.4 million tonnes into the atmosphere. Even in the North Pole, the sulphurous smoke from the gas emissions of the Norilsk Combine has been detected.

At the same time, the ecological program adopted at the combine provides for bringing the harmful emissions to a "norm" only after the year 2000. The managers of the combine and the city persistently tried to create their own Taymyr Committee on Environmental Protection, independent from the kray's, with which they could always "agree." But the kray authorities did not agree to this.

The "lion's share" of the fine levied against the combine will go toward the solution of ecological problems and the restoration of forests.

Russians Suffer Effects of Polluters' 'Chemical Warfare'

92WN0809A Moscow PRAVDA in Russian 26 Sep 92 p 2

[Article by Valentina Proskurina: "The Poisoning of a Century"]

[Text] An undeclared chemical war has been going on in our state for a long time now. We, of course, knew about it. But on such a scale....

"Even pure water can be poisoning," Professor Yevgeniy Alekseyevich Luzhnikov, supervisor of the Russian Republic Center for the Treatment of Severe Poisonings, stupefied us. "If you drink a bucket of it all at once. There have been such cases in our practice. Altogether seven million chemical substances surround us. And each of them can be poisonous in excessive doses."

The chemical "war" in Russia is being waged on all fronts: from the air and the ground, from the water, from forests, orchards, and gardens, and from store counters and industrial production facilities.

A Gas Attack

When you come to Dzerzhinsk, Nizhegorod Oblast, on the train and you see clouds of smoke enshrouding the city, you think with involuntary sympathy about the people: "How can you stand it here?" They simply live, with everyday miserable smells that bring tears to your eyes and threaten pulmonary and oncologic illnesses. But is it really only here? Podolsk, Novokuznetsk, Magnitogorsk, Ufa, Sterlitamak, and many other unfortunate cities of Russia are constantly smoky. In 64 industrial centers the amount of harmful substances in the air exceeds 10-fold the established sanitary norms. And here is the result: the overall morbidity of the populace exceeds by 50 to 100 percent the average Russian indicators, which are high in the first place. The gene pool of our nation is being affected: in these areas, infertility is encountered and children are born sick and with various abnormalities twice as often. A slow, gradual but merciless poisoning of the body not only of those now living but also of future generations is occurring.

And here also the automobile makes its contribution. In such cities as Moscow, Saint-Petersburg, Khabarovsk, and Vladivostok they are the main polluters of the air. They like to say about Muscovites: "They rush about like mad." And they indeed actually are mad—from the carbon monoxide gas that cars discharge into Moscow's streets.

How to repel this gas attack? The sanitary and epidemiological inspectorate has tried to close down especially harmful production facilities. Fat chance! Whereas previously the ministries and agencies fought for them, now the collectives themselves torment the sanitation doctors. People are now afraid most of all of losing work.

But vehicle monitoring can be established, even in our critical times! In the past five years harmful discharges by cars has doubled—and no one considers it his affair. All the automobile refuse from Europe and Japan go to Russia without any monitoring.

Pesticides in the Food, Dioxin in the Water

If, according to the professor's statement, one can be poisoned by pure water, then it is even more so with dioxin ingestion. Twenty percent of the water from our mains do not meet sanitary and chemical standards. And water sources that appear on the surface are actually

polluted with highly toxic organic compounds, phenols, petroleum product, salts, and heavy metals. For example, in Karelia and in Arkhangelsk, Astrakhan, and Saratov oblasts one-third of the drinking water is not disinfected at all. And the residents of Tomsk, Tyumen, and Amur oblasts, in which every second glass of water is stuffed with chemicals, suffer worst of all.

If only babes in arms knew about nitrates in fruits and vegetables. Incidentally, although they also cause poisoning, all the same they are not as dangerous as pesticides. Alas! These poisons also get into our food. More than anything else, pesticides contain cadmium, mercury, lead, and arsenic from Archangelsk, Murmansk, Ryazan, and Tomsk oblasts and Stavropolskiy Kray. Things are not well in the Ural and West Siberian areas. I would simply like to say sarcastically in turn regarding our "freedom": "Eat up what you are given—for that is all our freedom is."

Poisons Are Making Merry Around Russia

People are not only being poisoned, they are actually poisoning themselves. But the state is actively helping them. You do not believe it? Let's take a look.

Under the aegis of the Russian Republic Center for the Treatment of Severe Poisonings are 35 regional centers. They all operate with a full workload. And although there are no precise statistics on severe chemical poisonings in Russia right now (they were abolished three years ago as superfluous (!)) the doctors estimate that there are about a million (!) cases of this kind per year. Incidentally, there are actually many more: for the hospitals get only those who are in grave condition.

The first category is suicides. We shall not touch on the causes of such acts; however, without the state's help suicide would be much more difficult to accomplish with deliberation. Where would they get, for example, distilled vinegar (a method of poisoning typical only for Russia)? However much the doctors have tried to get a ban on the sale of this acid in such a lethally dangerous concentration, nothing has come of it. It is so convenient for the producers, you see.

Half of all poisonings are medicinal. The constant shortage forces people to keep reserves in large quantities. Indeed, is this not in the hands of the state? But we ourselves are subject to reproach. How many times have medical personnel said that medicine must be kept in an inaccessible place, but we do not get accustomed to doing it. Well, what of it? Children swallow pills instead of vitamins, and grandmothers treat their grandchildren to liquid ammonia.

At one time DDT powder did a lot of harm. Its sale was finally banned. And now, what is better? Khlorofos [chlorinated phosphorites], Dikhlofos [dichlorinated phosphorites], "pryma," and all possible kinds of poisonous pencils occupy all the shelves in the housegoods stores. Not many people are qualified to use these poisons intelligently. In all countries they are trying to

develop appropriate services, but we put poisons in the hands of all who want them. And as a result? The number of persons poisoned by these products continues to grow. And the children suffer most of all.

And the Hangover—Is in the Next World

Drinking is bad, a disgrace. Some deny it. But let us omit the moral, ethical, and social sides of this problem. Let us take two others: the medical and the human. Doctors have remarked: each rise in the price of vodka produces a rise in poisonings. The number of lethal sources grows: 4.3 percent of those who arrived at the toxicological center in 1990 died, 6.3 died in 1991. Those afflicted with alcoholism drink everything: from methanol and brake fluid to Khlorofos solution. Professor Luzhnikov expressed the common view of toxicological physicians on this problem.

"The government wants to resolve economic problems at the expense of the people's health. The unavailability of vodka leads to the search for surrogates. Because of their use, the liver is destroyed and work efficiency drops. If someone would compute these losses, I am sure that the income from vodka would prove to be less."

Alas, even the fear of death does not stop the thirst for alcohol. Moscow's chief toxicologist, Yu. N. Ostapenko, has cited a typical example: foreign tourists on a bus observed a bottle of champagne (actually it was brake fluid) and they drank it. Several deaths resulted. And a month later a group of mechanics boarded a bus of this same fleet: they drank it deliberately, considering the foreigners weaklings. And again—there were deaths.

Not so long ago the sanitation and epidemiological inspectorate managed to avert mass poisonings from Armenian cognac. It proved to be methanol instead of brandy. Naturally, the cognac was not produced in a distillery.

Nevertheless, there is nothing to prevent the government from weighing all the pluses and minuses of its "alcohol" policy and listening to the doctors' opinion.

And Mushrooms Also Had Chemicals to Your Heart's Content

Against this background, mushroom poisonings seem trifling. But if one considers that last year alone there were 300 cases and more than 30 deaths in Russia alone, then it is no longer a joke. It was not for nothing that the Minister of Health of Russia sent a government commission to Voronezh which, sadly, had become famous, in order to clarify the causes of mass fatal poisonings.

"Still, it is said correctly that chemistry is guilty, since they made up a commission of chemists," the mushroom gatherer noted with full assurance, which the professor quickly denied. And so it happened that Luzhnikov was outraged at this assumption:

"Your brother journalist literally was stirring up sensations. He came up with the idea that the white is

poisonous. This is nonsense. The mushrooms that contain poison have been known for a long, long time. In the forested-steppe zone, among others, there are 20 times more of them than around Moscow. It is not for nothing that practically no poisonings come to us from the Moscow region.

"As for our service, we are doing everything possible. Right now we have made up a data bank on mushroom poisonings, we are studying the histories of the illness, and we are making the necessary analyses. But where are our biologists? Why are there no books about mushrooms? Of course the people themselves are guilty, they line them all up in a basket. Life compels people to save. But someone in our state should caution them against this danger?"

These questions still remain unanswered. Incidentally, in Russia, with its vast forest expanses, has no specialists at all on edible mushrooms.

* * *

The chemical aggression against our citizens is not by far restricted to the named factors. There are no statistics on criminal poisonings, but there are not so few of them. Recently a woman came to the toxicological center, the victim of a robbery on a train. She and two of her male traveling companions were "felled" after being refreshed with Armenian cognac sprinkled with klofelin. So much has been written about this, but people again fall for the charm of Caucasian hospitality. In Zarayskiy Rayon of Moscow Oblast not so long ago a mass poisoning by biomass that was purloined from a poultry plant and was abundantly seasoned with vitamin D. This was written about, and it was on the radio—and recently a similar case occurred again in Cherepovets.

There is little that can be said even now about the contribution of military chemicals. But that which is known is impressive: for example, there are warehouses in the Volga region with poisonous substances. Is the population's safety during their destruction guaranteed? It is known only that destroying them is much more difficult than making them.

Add to all this vocational poisonings, including servicemen and peasants, and an extremely depressing picture is drawn. Poisoning of the people goes on on an unprecedented scale. It is not accidental that the life span in Russia is 69.4 years versus 78 in the U.S. and 79 in Japan. Forty-two percent of our men die at an age when they are able-bodied. Hardly anyone doubts that the role played by severe and chronic poisonings is not a small one.

"You do not frighten the people very much," Professor Luzhnikov suggested at parting. "As it is, there is gloominess all around."

Well, Yevgeniy Alekseyevich! And indeed, can we frighten our people? At the exit from the toxicological center I encountered some orderlies. An unconscious man lay on the stretcher.

"He took a drink to get rid of his hangover," the orderlies said to the doctor who came out from the resuscitation unit.

Is it possible that we thus have not learned anything?

The data for this article were obtained at the State Institute of the Sanitary-Epidemiological Inspectorate of the Russian Federation and at the Russian Republic Center for the Treatment of Severe Poisonings.

Udmurtia Levies Pollution Charges on Industry

PM3009142192 Moscow Russian Television Network in Russian 1900 GMT 26 Sep 92

[From the "Vesti" newscast: Video report from Udmurtia by V. Dynin and S. Fedorov]

[Text] [video shows city skyline] [Dynin] The Udmurtia government has now quintupled its charges to industrial enterprises for the use of the environment. It has been estimated that this item of budget revenue will yield 30 million rubles to the treasury. In exchange for this payment enterprises will be allowed to discharge 147 million cubic meters of industrial effluent into the rivers and release 115,000 tonnes of waste into the atmosphere. In the conditions of economic chaos the directors' lobby advises against raising the issue of progressive, environmentally friendly production processes. Three years ago, the "Greens" virtually forced the leadership of the "Izhevstal" association to shut down its worn-out open-hearth furnaces. Now the smokestacks are causing the people of Izhevsk even more problems. And it has all been paid for. [video shows factories, smoke, scenes of pollution]

Moscow Briefing Addresses Mortality, Health, Hygiene Statistics

92WN0792A Moscow ROSSIYSKAYA GAZETA in Russian 17 Sep 92 p 2

[Article by Tatyana Smolyakova: "Without Pure Water, Without Good Food"]

[Text] One of the primary indicators of the level of development of a state is the longevity of its citizens. Today, we Russians live for an average of 69.4 years. This is not only less than in the developed countries, it is even less than what we had in 1970. Almost half of the men are dying at an able-bodied age. Infant mortality is still another eloquent indicator. Here too we are suffering defeat: out of every 1000 live births in Russia, 17.4 die (For comparison, in Japan the figure is 4.4).

There are many reasons for this, and most of them are involved with the concept of the "sanitary-epidemiological situation." "Today it is very severe,"

declared Yevgeniy Belyaev. "In some places it approaches the critical." Belyaev, chairman of the State Committee for Sanitary and Epidemiological Inspection [Goskomsanepidnadzor], is Chief State Sanitary Physician of Russia. Every year industrial enterprises release more than 30 million tonnes of harmful materials into the atmosphere, while motor vehicle transportation contributes nearly 20 million tonnes. The radiation situation remains tense as well.

Supplying the public with pure drinking water has become a problem. Surface water sources are being actively polluted by highly-toxic organic compounds, carboxylic acids, petroleum products, salts of heavy metals, and so on. At the same time one in every three water pipes with intake from open sources does not have purifying facilities. According to data from Goskomsanepidnadzor, 12 percent of water from tested pipelines is dangerous in an epidemiological respect, and 20 percent does not meet sanitary-chemical standards. We must also consider the fact that our State Standards [GOST] do not come up to world standards. Our standards, for example, contain only 34 indicators of bacterial contamination, while in the United States (for comparison) there are nearly 100. As Yegor Belyaev reported, new State Standards will soon be approved. That means that the indicators will turn out even worse.

The quality and the chemical composition of foodstuffs are becoming worse, which is causing mass illness and outbreaks of an epidemiological nature on the one hand, and on the other—immunity deficiency [immunodeficiency], especially among children. Incidentally, the situation in protecting the health of children and juveniles today is highly alarming. Eleven percent of Russian newborns have one kind of pathology or another, and every other elementary school pupil has a chronic disease. Most of the infectious diseases strike primarily children.

The prognosis for the development of the sanitary-epidemiological situation in Russia is unfavorable for the immediate future. Specialists from sanepidnadzor believe that the situation with respect to supplying the public with good-quality drinking water and safe, high-quality foodstuffs will get worse. Job-related illnesses [profzabolevaemost] will increase. The problem of disposal of toxic and radioactive waste materials is becoming acute as well.

The question naturally arose at the press conference, on what can and must Goskomsanepidnadzor do in order to improve the gloomy prospects, if only a little. The reply was, that more than 20 federal programs have been and are being worked out (Anti-AIDS [AntiSPID], Vaccine-Prevention [Vaktsinoprofilaktika], Children of Russia [Deti Rossii], and others). A system of hygienic certification of food products is being introduced, while a state register of potentially dangerous chemical and biological substances and a principally-new system of sanitary-hygienic norm-setting are being set up.

All this is indisputably useful and necessary. But they will probably be completed only under certain conditions, to include such prosaic conditions as the financial and material-technical support of the programs and measures. By any accounts, the present situation in the sanepidnadzor service, especially in remote areas, leaves no illusions whatsoever.

Pollution in Vladimir Causes Tumors in Infants

PM0710131992 Moscow Russian Television Network in Russian 1100 GMT 4 Oct 92

[From the "Vesti" newscast: Video report by S. Muravkin and V. Yevstigneyev, identified by caption, from Vladimir]

[Text] [Muravkin over video of a backwater] Even professionals who had seen a thing or two, gasped at the figures announced by Russian experts a few days ago at the Vladimir City soviet. The maximum limits of certain metals alone present in effluent have been exceeded 580-fold. Yes, 580-fold, you have not misheard. As a consequence, the incidence of asthma, pneumonia, and diabetes has increased by 300 percent in the city.

In the case of adults it may still be possible to argue that this is due to harmful working environments and bad habits. But the three-fold increase of malignant tumors among children is a direct result of environmental pollution.

There has also been an incredible expansion of industrial zones. They now occupy 40 instead of the prescribed five percent of territory. Even springs—the city dwellers' pride and joy—are no longer safe. Water from these springs can be drunk only after it has been boiled.

What are the deputies doing about this? Instead of adopting emergency measures, they have decided to proceed with the work of the public expert inquiry in order to establish to what extent it is dangerous to live in the city, and what else can be done to prevent the city from being declared an ecological disaster zone. [video shows backwater, baby in incubator, industrial installations, a spring, a street scene]

Officials Note Worsening Environmental Situation, Birthrate Decline

OW0810130892 Moscow INTERFAX in English 1101 GMT 8 Oct 92

[Following item transmitted via KYODO]

[Text] Data related to the state of the nation's health as well as the environment in Russia in 1991 are worrisome. This was indicated by the Moscow news conference on Wednesday [7 October] held by the presidential advisor on environmental problems Aleksey Yablokov, the Minister for Natural Resources Viktor Danilov-Danilyan, the Chairman of the State Committee for

Sanitation Yevgeniy Belyayev and the President of the Academy of Medical Sciences Valentin Pokrovskiy.

The rate of population growth continues to shrink. While between 1980 and 1988 the population grew by about one million a year, in 1991 the figure dropped to 200,000. While the birth rate has been falling, the death rate has been growing. In 1991 the birth rate per one thousand of the population was 12.1 and the death rate 11.4. The number of territories where the death rate exceeds the birth rate grew from 10 in 1989 to 29 in 1991. The average life span has remained practically unchanged: 64 years for men and 74 for women.

By May 1, 1992 Russia had registered 558 AIDS-carriers, 81 of them diagnosed patients. 51 persons died of the fatal disease. 31 percent of the sick are children.

The environmental situation is also worsening. Only 15 percent of urban dwellers live in territories with pollution below the permitted norms. Almost half of the drinking water does not meet hygienic requirements. The annual dumping of polluted water increased from 15 bn [billion] cubic meters in 1985 to 28 bn in 1991.

In 1991 in 84 cities with a combined population of 50 mn [million] air pollution exceeding the norm 10 times and more was registered many times.

Khanty-Mansi Authorities Declare Ecological Emergency

92WN0809B Moscow LESNAYA GAZETA in Russian 25 Aug 92 p 2

[Article by V. Doroshenko (Khanty-Mansiyskiy Autonomous Okrug): "The 'Ecology' Program"]

[Text] Consider the okrug's land a zone with an emergency ecological situation that is what the small Soviet of People's Deputies of Khanty-Mansi Autonomous Okrug decided. And the high pace of the development of oil and gas fields, the logging of forests, and other economic activity of recent decades have intensified it, as was noted.

Considering the intolerability of the situation that has prevailed in the floodplain of the Ob, Irtysh, Konda, Northern Sosva, and Vasyugan rivers, at oilfield installations, and on the outskirts of cities, it has been recommended that the administration search for means for developing criteria for assessing also the status of the territory as an exceptional zone for conducting independent consultancy and for developing an Ecology program. The people of Khanty-Mansi intend to address the Supreme Soviet and the Government of Russia with a recommendation that it adopt decrees and legislative enactments to preserve nature in the West Siberian region.

WESTERN REGION

Ukraine's Kravchuk Terms Dnieper Ecology 'National Priority'

Drinking Water Threatened

92WN0803A Moscow ZELENYY MIR in Russian
No 29-30, Aug 92 p 2

[Unattributed report: "Problems of the Dnieper—Highest National Priority"]

[Text] "The existence of 30 million of our citizens is associated with the Dnieper and its basin," said Ukrainian President Leonid Kravchuk, opening the first session of the Extraordinary Commission on Problems of the Ecological State of the Dnieper River and the Quality of the Drinking Water.

"The problem of the Dnieper is among the highest national priorities of Ukraine," emphasized the chairman of this commission, Ukrainian Minister of Environmental Protection Yuriy Shcherbak.

Many years of departmental-monopolistic tyranny, extensive water usage and low ecological culture have mutilated the river. From the territory of Ukraine alone, up to 10 billion cubic meters of sewage is dumped into its basin every year. A great loss has been inflicted upon the Dnieper by radionuclide pollution as a result of the accident at the Chernobyl Nuclear Power Plant, and these radionuclides are gradually spreading to practically the entire river basin and adjoining territories.

Unfavorable circumstances have been formed in the republic in terms of providing the population with good quality drinking water. In the centralized water supply systems of 109 populated areas located in the Dnieper basin, its quality does not meet the standard.

The decision has been made to complete by December of this year the development of a conception for a national program to save the Dnieper, and by April of next year to develop the program itself and submit it for public discussion.

Regional Recovery Plan Proposed

92WN0803B Moscow DELOVOY MIR in Russian
14 Aug 92 p 11

[Article by Sergey Sadoshenko Yuzha, DELOVOY MIR correspondent: "Ecologization—An Article of Income"]

[Text] Ukraine has no money to reconstruct one of the primary polluters of the Dnieper River and of the air in the city—the Dnepropetrovsk Metallurgical Plant imeni Petrovskiy (it is over 100 years old). To close it altogether—for that too they do not have the spirit, because that would mean throwing several tens of thousands of metallurgists out into the street and stopping production of certain types of rolled stock which are in short supply.

In this situation, the enterprise with the antediluvian equipment continues to exist and poison everything in the okrug.

Nevertheless, money for ecologization of the metallurgical plans may be obtained even today. Judge for yourselves. In the nearest time, the plant will have to pay a fine for poisoning the air and the water, which will comprise the tidy sum of several tens of millions of rubles. This money will go to the budget, and then... return to the workers of this same plant in the form of wages or sick leave. Would it not be more logical to direct this fine directly toward the ecologization of the plant?

"This is hindered by our devotion to the conception of environmental protection, which has long ago been rejected in the developed countries," says Vilyam Zadorskiy, academician of the Academy of Ecology and the Ukrainian Academy of Sciences Center for Technological Cybernetics. "All the efforts by the state and society, as before, are directed toward environmental protection. They are spending huge sums of money on monitoring the environment and are creating state and public organizations for its protection... Meanwhile, the world community has long ago attributed the former USSR to the list of ecological disaster zones.

Instead of protecting the environment, we must stop crippling it. Instead of an analysis of the consequences, it is time to deal with identification and elimination of the causes of environmental pollution.

Vilyam Zadorskiy, who heads up the Dnieper Ecology Fund, the republic's Academy of Sciences Dnieper Scientific Center for Technological Cybernetics, and Ukraine's first consulting company in the sphere of ecology "INKO-NEKS," has together with his associates developed a conceptual program for ecologization of the Dnieper region's economy.

The program provides for such directions as training ecologization cadres, managing and financing this process, creating an ecological market and a world ecological community, solving global and national economic problems, and implementing regional ecologization. The scientists affirm that ecologization must be not an expenditure, but an income article in the state budget. And since this is so, it may interest domestic as well as foreign investors.

Among the first priority facilities of the Dnieper region which require dollar injections and which promise a sizeable profit from ecologization, scientists cite the following:

1. Completion of construction and operational introduction of the drinking water ozone treatment plant (25 million rubles and \$5-6 million U.S. dollars);
2. Development of production of electro-aerosol farm equipment in the region for application of pesticides (\$2-5 million U.S. dollars);

3. Development and organization of production of mobile installations for gathering, initial technological processing and transport of industrial waste; equipment for local purification of metal compounds from sewage waters (\$2-10 million U.S. dollars);

4. Development of an enterprise in Dnepropetrovsk and Verkhnedneprovsk for processing industrial and agricultural waste (\$15-20 million U.S. dollars);

5. Creation of an East Ukrainian information-educational center on ecologization (\$2-3 million U.S. dollars).

Some of these programs have already attracted the interest foreign investors. For example, an Israeli firm has recently expressed an interest in purchasing electro-aerosol equipment, and one of the developers of the new aerosol equipment has recently set off for Egypt at the invitation of potential buyers. There is a market for sale of this equipment in the countries of the Near East, India and China.

One or several joint ventures may be created on each of the above-named programs. There are already candidates from the Ukrainian side, and the contribution of foreign investors into the joint venture charter fund may be made not only in monetary means, but also in equipment, control systems and technologies.

Germany To Help Remodel Ukrainian Power Plant

92WN0801B Kiev *RABOCHAYA GAZETA* in Russian
9 Sep 92 p 3

[Unattributed report: "Ukraine-FRG: Cooperation of Power Engineers"]

[Text] An agreement has been signed in Bonn on the fulfillment of a model project for environmental protection, which provides for the reconstruction of the Dobrotvorskiy Heat and Power Plant in Lvov Oblast. From the Ukrainian side the agreement was signed by Ukrainian Minister of Power and Electrification V. F. Sklyarov and Ukrainian ambassador to the FRG I. N. Piskovoy. From the German side, it was signed by the FRG Federal Minister of Environmental Protection, Nature Conservation and Reactor Safety K. Topfer.

The agreement was signed within the framework of programs for replacing nuclear power plants in Ukraine with safer thermal ones. It provides for the assembly of a sulphur purification complex at one of the power production units of the Dobrotvorskiy Power Plant. This will be the first such complex in Ukraine, and in the CIS countries in general. This complex is capable of extracting 85-90 percent of the sulphurous compounds from the spent smoke fumes. The amount of sulphur emissions into the atmosphere will decline by 25,000-27,000 tonnes a year. The air will become much cleaner, and the amount of acid rain will decrease.

The project makes is possible to fully utilize the gypsum obtained during extraction of the sulphur as a raw material for industry and for the production of building materials.

In today's prices, the cost of the equipment, construction and installation work comprises 53 million German marks and approximately 70 million kupons. The German side is providing free aid for the realization of this project in the amount of 17,250,000 German marks.

The operational introduction of the complex for extracting sulphur from the exhaust gas is planned for 1 December 1995.

The parties have expressed satisfaction at the signing of the agreement, and stated their desire to cooperate in the future in the sphere of power engineering and environmental protection.

Chernobyl First, Third Blocks Back in Operation

WS2909131592 Kiev *NEZAVISIMOST* in Russian
16 Sep 92 p 1

[Text] After a six-month stoppage of all three remaining Chernobyl atomic power station blocks, the first and the third blocks are being prepared for work.

The second block was stopped in October last year after a fire broke out in the generator. According to V. Vasilchenko, chief engineer of the Chernobyl station, the station personnel have worked out all the necessary normative technical documentation for the station to operate at 50 percent of the reactor's capacity, which will exclude any possible destruction of the block.

The two remaining blocks were put out of operation after the incident at the Leningrad atomic station on 24 March 1992, when the stop valve was damaged. After that, a decision was made to replace stop valves on the reactors of that type.

The staff is currently working to complete the replacement of stop valves at the first and the third blocks, which will be put into operation in October.

The plans of the Chernobyl station leadership to put into operation two atomic blocks were seriously criticized by the leaders of the Ministry of Ecology and the association "Shelter." According to them, turbines functioning close to the sarcophagus may cause the breakdown of radioactive substances inside the sarcophagus.

Ukraine, Russia Urged To Compensate Chernobyl Losses

WS2409131592 Minsk *BELINFORM* in Russian
0804 GMT 18 Sep 92

[Text] Ivan Smolyar, chairman of parliamentary commission on problems connected with the Chernobyl disaster, declared at the press conference at the Belarus Supreme Soviet that Ukraine, Russia, and Kazakhstan, as successors of the USSR Ministry of Atomic Industry,

should compensate Belarus for its losses in accordance with the amount of values received. He noted that in international law, there are no clauses appropriate for this unique case. Lawyers are reluctantly working out the guidelines for pleading guilty and subsequent compensation payments.

The deputy's conclusions are based on the extremely complicated financial situation of the state, which is trying to overcome the disaster on its own. Russia is the only country that voluntarily allotted 7 billion rubles for this purpose. None of the other republics are helping Belarus. According to Ivan Smolyar, in Belarus one can witness the worst variant of the prepared prognosis on the consequences of Chernobyl. Now the state has to tackle two problems. The first is to protect people's health and the second is to learn to struggle with this disaster. Unfortunately, financial resources are poor. The program on recovery from the consequences of Chernobyl requires 49 billion rubles a year. The sum allotted for this program, including Russia's financial support, constitutes only 32.6 billion rubles.

Radiation Incidents at Zaporozhye Power Station

LD2209204792 Kiev Ukrayinske Telebachennya Television Network in Ukrainian 1600 GMT 18 Sep 92

[Text] And now some information on the radiation situation in the area of some nuclear power stations in Ukraine in August of this year. Correspondents reported that it met the requirements of international standards entirely and did not surpass the natural background radiation for that area.

All five power units at the Zaporozhye atomic power station were working last month. However, less than half of the capacity of the installation was used. Three disruptions occurred in the third unit in one month, and two of these occurred in just one day at the beginning of August. Both were classified as first level atomic power station incidents, according to the relevant international scale.

The third disruption occurred three weeks later and was classified as zero level. While the station personnel carried out all work there was no violation of the limits and safe conditions for the work of the station.

Smugglers Cause Hazards With Mercury Contraband

AU2909204792 Kiev DEMOKRATYCHNA UKRAYINA in Ukrainian 19 Sep 92 p 6

[Commentary by A. Rudenko, DEMOKRATYCHNA UKRAYINA correspondent: "Mercury on the Asphalt"]

[Text] Lvov—Mercury has recently joined the category of metals that smugglers are trying hard to take to countries where it is quite expensive. Some of our citizens and guests, driven by the profit urge, tend to forget that mercury can cause a lot of trouble. Its vapors

are extremely toxic. The tiniest drops of it scatter all over the floor and fall into smallest cracks and other inaccessible places. It is very difficult to collect them, and even those drops that are invisible to the eye begin to evaporate at a fast rate.

Recently, the Polish Republic's Consular Agency in Lvov turned to the Oblast Headquarters of Civil Defense with a request for assistance in demercurizing a passenger bus on the route from Stryy to Przemysl. In the evening, during a customs inspection at the border-control post "Shegyni," a woman had dropped a glass jar containing heavy mercury....

Last month, there was a special emergency in the health resort Truskavets. Holiday-makers noticed spilled mercury near a pump-room. The local authorities immediately turned for help to the command of a civil-defense regiment stationed in Drohobych. The military had efficiently to delineate the territory that had been contaminated, find out how and from where the mercury had got into the health-resort zone, and to find those involved in the crime. After the place had been thoroughly cleaned, the people had hardly had time to extend their thanks to the rescuers, who were already about to return to their routine duties, when news became known about yet another contaminated location—near the entrance to No. 10, Sahaydachnyy Street.

The traces left by the criminal led the militiamen to the apartment of Mykhaylo Yanko, a locksmith employed by the "Prykarpattya" (Cisrarpattia) sanatorium. When they went down to his basement, they saw four rubber retorts containing seven kilograms and 630 grams of mercury. There would have been even more of it in the storage place if the owner had not been overcome by the mercury fumes and spilled it on the way home.

"Criminal proceedings have been initiated against Yanko," says Damir Shafigullin, chief of the Oblast Civil Defense Headquarters. "Even before, there used to be cases when mercury was spilled as a result of negligence or accident. What has happened at the Truskavets health resort has exceeded all limits. For the sake of profit, the wrong-doer disregarded the health of his neighbors and those people who arrived here to improve their health."

CAUCASUS/CENTRAL ASIA

Nuclear Waste Disposal Hampered by Lack of Funds

92WN0804A Alma-Ata KAZAKHSTANSKAYA PRAVDA in Russian 1 Aug 92 p 6

[Interview with V. I. Slavgorodskiy, head of the Ministry of Ecology and Bioresources Radiation Ecology Administration, conducted by KAZAKHSTANSKAYA PRAVDA correspondent T. Svan: "Radioactive Waste Burial Site: No Data on Leaks as Yet. Because There Is No Money for Study"]

[Text] At the beginning of last month, a scientific-practical seminar was held in the city of Kurchatov on problems of radioecology and radiation safety. This seminar was organized by the Ministry of Science and New Technologies and the Ministry of Ecology and Bioresources. Among the problems examined was that of burying radioactive waste on the territory of Kazakhstan. Seminar participant V. I. SLAVGORODSKIY, who is head of the Ministry of Ecology and Bioresources Radiation Ecology Administration, answered questions posed by our correspondent.

[Correspondent] Viktor Ivanovich, let us first define—how much radioactive waste is there in the republic?

[Slavgorodskiy] For the present day, 18 cities have been studied. In these, 67 anomalies have been discovered, with rate in individual cases of up to 200 roentgen per hour. This is a very high rate. After all, people working with radionuclides may receive no more than five roentgens per year.

Four hundred children's preschool institutions were studied. At 139 of them, 732 sources of radiation with rate of from 50 to 25,000 microroentgens per hour were found—also a rather high dose.

According to my computations, in a year we should have around 3,000 curies. Yet due to the absence of burial sites, already now we have accumulated over 200,000 curies of radioactive waste.

[Correspondent] At what stage is work on their burial?

[Slavgorodskiy] Today we are only at the stage of collecting data. Everything comes down to the lack of funds. Out of the 180,000 rubles (R) which we needed in 1991, we were allocated R50,000. This was enough to develop the form of the cadaster [survey]—a document which must be filled out in order to obtain an overall picture of the radioactive waste. Fulfilling the cadaster today costs R740,000. Yet alas, not a kopek was allocated, although there is shouting about the burial sites in the millions...

[Correspondent] What was the situation with burial sites earlier, before the disintegration of the USSR?

[Slavgorodskiy] I do not remember than anything was ever brought in and buried here. But we took the waste out to Chelyabinsk, Krasnoyarsk, and Zagorsk. In Kazakhstan there were no burial sites which would have met the requirements and standards of MAGATE [International Agency on Atomic Energy].

[Correspondent] And what about the burial site of the Nuclear Physics Institute near Alma-Ata?

[Slavgorodskiy] It had the status of republic subordination and was built in violation of one of the two main safety conditions—hydroimpermeability.

The burial site is located in water-bearing strata. If a leak should occur, there are no guarantees that the radionuclides will not get into the water. For the present day we have no data on leaks as yet.

[Correspondent] Why?

[Slavgorodskiy] Because no studies have been conducted. All this once again comes down to money. I had insisted and still insist that engineering-geological surveys must be performed wherever there is this type of management. But that is very expensive, because drilling is required. The least expensive—hydrological—would cost R500 per meter. It would be necessary to drill about 30 wells, each up to 80 meters in depth.

They were planning to build a second line in the region of the institute, but permission for this was denied. Today the burial site is not yet full. In the future, evidently, it will have to be liquidated. It cannot be left in this condition.

[Correspondent] There were rumors circulating about proposals from the American side to bury radioactive waste on the territory of Kazakhstan...

[Slavgorodskiy] According to my information, certain foreign joint-stock companies offered to create a commercial enterprise for burial of such waste in the republic. Kazakhstan would rid itself of filth, they said, and at the same time there would be an influx of currency (up to a million dollars for one tonne). Such proposals came both to our ministry and to the government. Our response was totally synonymous. The question is so serious from the standpoint of safety, and particularly nuclear safety, that this work should not be built on a commercial basis. The slightest oversight of safety technology in the race for profits would lead to dangerous consequences.

Our trouble lies in the fact that the study of the radiation situation here is in a sad state. Radiophobia has led to the fact that no oblast wants to have a burial site located on its territory. Yet if it is built in accordance with the MAGATE technical requirements, it will not pose any danger to the population or the environment.

Both for radioecology and for propaganda of radiological knowledge we need money. But... In 1991, for questions of radioecology of an environmental protection direction (without science!), only R180,000 were allocated instead of the necessary R4.5 million, and in 1992—R1.3 million out of R7.5 million. If the financing continues at this rate, we do not foresee an improvement in the radiation situation in Kazakhstan.

International Effort Urged To Revive Caspian Sea
92WN0781A Baku BAKINSKIY RABOCHIY
in Russian 14 Aug 92 pp 1-2

[Article by Professor A. Akhmedov, doctor of economical sciences, under the "Point of View" rubric: "What Threatens the Caspian Today?"]

[Text] As a result of the intensive recovery of oil on Apsheron and its coastline—and subsequently the construction of oil refining and chemical plants on the eastern shores of the Caspian—the residue of oil and chemical products, oily water, and sewage has been released into the sea for decades. The exploitation of deposits on the shelf was accompanied by an efflux of these components into the open sea in increasingly large volumes. Oil, spread by the winds, moves toward the surf line and accumulates in the form of a long strip, disturbing and dangerously changing the ecosystem.

The Caspian is threatened not only by these pollutants. Added to this is a continuous leakage from oil pipelines, poorly capped exhausted wells, and oil springs that are formed nearby. Just by virtue of the enumerated factors, more than 110,000 tonnes of oil and oil products are released into the sea annually.

At the present time, the unique ecological system of the Caspian is extremely overloaded and not in condition to "digest" the huge mass of poisonous sewage draining into it. Baku Bay and the Sumgait seacoast have become lifeless zones and are perishing before our eyes. It is the mother country that transformed the Caspian into a colonial garbage bin, making significant profits from the raw materials received at chemical, petrochemical, and other enterprises. But the resolution of the ecological problems was kindly left to the outlying republics that had neither the resources nor the capabilities to build purification plants.

The damage that was caused to the environment through the recovery of oil exceeds by many times the income derived from the oil recovery and oil refining enterprises.

The current and unusually swift rise in the level of the Caspian is partly connected to the pollution, especially to the oil, for the oil film sharply reduces the process of evaporation of the water. The submergence of the shores leads to an even greater pollution of the sea with oil and industrial wastes. And nature and people are suffering from the pollution and the rise in the level of the Caspian. The human-caused destruction of the ecology of the sea threatens the future of the people of the entire region.

The pollution of the Caspian has an especially disastrous effect on fish. The fish resources of the sea, which was celebrated for its catches, are exhausted. The catch of the most valuable species of fish—sturgeon, beluga, shamaika, and others—has dropped almost to zero. The catch of these species of fish in 1913 was 800,000 tonnes, and now the main portion falls to sprats.

The accumulation of harmful substances in the sea has sharply increased diseases among fish.

As a regrettable result, Azerbaijan lags in the consumption of fish products behind other regions of the USSR and is now almost in last place. A resident of the former USSR consumes 18 kilograms of fish a year, on the

average; but a resident of Azerbaijan consumes four (for example, in Japan the figure is 40).

To prevent the further intensive pollution of the Caspian, it is necessary first of all to lower the recovery of oil here, which is apparently highly unlikely, because the sea makes it possible to increase the total volume of its output in Azerbaijan. In addition, it is necessary for the republic to purchase foodstuffs, but this requires hard currency, associated with the export of fuel.

The list of our troubles is great, and resources are needed for many pressing purposes. But the rescue of the sea is the paramount task. The Caspian is capable of giving much more of a "yield" of valuable fish products, and this can be achieved in a very short period, if its pollution is stopped. Restoration of the ecology will help, owing to an increase in the fish catch, to effectively overcome the severe shortage of foodstuffs in the republic. Let us look truth in the eyes: A quick increase in agricultural production in the near future, especially in cattle breeding, should not be particularly counted on. There is no doubt that we will have to cover our needs by importing food products from the outside. In order to ease this dependence, it is already necessary now to think about establishing strong fishing zones on the Caspian. This requires significant investments and the newest technological purification facilities from foreign countries, which in from two to three years will facilitate a sharp increase in the fish fry and the fish catch in the Caspian. Two aspects are opened up here—the provision of food for the population of the republic and the export of fish products to other countries. It is indicative that in the supermarkets of the United States, a kilogram of chicken costs \$3, but a kilogram of cod—\$17.6, and of black caviar—\$400-\$500. The price of sturgeon is extremely high.

Today, under conditions of a market economy, immediate interests prevail in many farms of the republic of the former USSR, and there is no time to be concerned about the environment. The pollution of the Caspian is reaching critical scales, and it could have catastrophic consequences if we do not recognize the impending catastrophe; its rescue will prove illusory as a result of the technological and, to put it simply, the poorly reasoned activity of the oil producers, and setting hopes on future work to clean the sea. The preservation of the Caspian is the responsibility of Russia, Kazakhstan, Azerbaijan, Turkmenistan, Iran, and also the contiguous states whose rivers flow into the sea—Armenia, Georgia, and Turkey.

In this connection, it appears necessary to speed up the creation of an association of Caspian countries for the restoration and protection of the ecology of the sea, with a headquarters in Baku. This idea has been approved, and besides Azerbaijan, the association will include Russia, Turkmenistan, Kazakhstan, Iran, Turkey, Georgia, and Armenia. The next order of business is the development of a single ecological policy for all concerned countries on the use of Caspian resources. It is clear that the

Caspian is a closed system, and that it is impossible to conduct ecologically useful measures on one of its shores, and on the other—to put its nature in the service of strictly production needs, transforming the sea into a sedimentation basin of plants and factories. And in a financial respect, the problem is so serious that it is impossible to improve the Caspian water area without the involvement of the world community.

Colossal resources are required to revive the Caspian, and the problem has to be resolved at an international level. Foreign developed countries can provide substantial technical assistance and the support of highly qualified specialists. The Caspian area states, in my opinion, should submit a request to the World Bank and the Asiatic Development Bank for the allocation of \$3 billion to \$5 billion to clean the Caspian Sea in the next two to three years and to undertake systematic measures to prevent the negative consequences of an increase in its level.

Incidentally, TASS recently reported that the World Bank intends to render assistance to the republics of Central Asia and Kazakhstan in the resolution of ecological problems associated with the drought and catastrophic shallowing of the Aral Sea.

It is entirely probable that investors from the industrially developed countries will want to participate in the work on the Caspian, inasmuch as a degradation of the ecological situation in its basin is not only a sword of Damocles for us, but for all of mankind as well!

I will note that the Caspian is the main source of oxygen for the European and Asiatic parts of the former USSR.

It is well known that the third world, to which we also belong, is too poor to finance major environmental protection measures. Not possessing the resources, it looks to the developed countries for help. Moreover, the program of assistance is implemented based on the personal interests of the industrial countries, because the planet as an ecological environment for habitation has become the concept for the common home.

As is indicated by the general world trend, great significance is given today not only to maximizing profits—free support with equipment, mediation, and personal participation in large-scale scientific developments are considered prestigious activities. In this respect, the Caspian Sea is recognized as a place to apply the efforts of the whole world community.

It is necessary for us to appeal to the UN, to governmental and nongovernmental organizations, to all people of goodwill, and to all countries of the world with a request to render all possible material, scientific, technological, and moral assistance to prevent impending calamities.

It is necessary also to come to an agreement with influential foreign corporations concerning the organization of joint enterprises or a joint-stock company for the

restoration of the ecology of the Caspian. Even under conditions of instability in the Caspian area countries, foreign states, I believe, will make loans for specific projects. the "Restoration of the Ecology of the Caspian" can become such a project.

It is known that at the initiative of Kaspromneftegaz [Caspian Sea Oil and Gas Administration] the possibility is being examined of developing one more major deposit on the Caspian under the symbolic name Azeri, the establishment of a joint enterprise. Foreign countries that are offering their services advertise their ecologically clean advanced technology and experience in work on shelf deposits in the North Sea as a model in comparison with other regions that are remote from Europe. However, the European environmental protection agency thinks that these companies have not yet resolved the problems of environmental protection, and...the North Sea is very polluted.

In principle, now, after 60 years since the sea development of oil, there is no time left for serene observations and statements of facts. The threat of pollution of the Caspian will become even more serious and tragic in the near future if the negative process is not stopped.

To rescue the Caspian, of important significance will be the immediate elaboration of a concept which, without discourse and promises, as was the case in previously adopted resolutions, should reflect the following proposals: First, freezing projects for the development of oil recovery on the Caspian until their complete ecological rehabilitation. Only then will it be possible to organize the development of new oil and gas deposits according to a confirmed strict ecological program. Second, the urgent allocation or transfer of capital investments for the replacement of operationally and physically antiquated and obsolescent equipment and for purification facilities. Third, to recognize as permissible the establishment of joint enterprises on the Caspian for the recovery of oil only after the execution of an independent ecological expert analysis of the projects.

BALTIC STATES

Riga Major Polluter of Baltic Sea

92WN0770A Riga DIENA in Latvian 8 Aug 92 p 8

[Article by Iveta Tomsone: "Riga: Still a Major Polluter of the Baltic Sea"]

[Text] Riga, 7 Aug.—Although the biological treatment facilities in Riga have been recognized as being the best of their kind in Eastern Europe, and have been in operation for almost one year, Riga is releasing about 100,000 cubic meters of untreated wastewater into the Baltic Sea every 24 hours, as well as 200,000 cubic meters of insufficiently treated wastewater. The reason for this is—due to a lack of funds, it has been impossible to complete various pumping stations, local treatment facilities, and collection points. This information was

given to DIENA by Vaclavs Galanskis, Head of the Board of Water Ecosystems of the Environmental Protection Committee of the Republic of Latvia (EPC RL).

As DIENA already reported in July, a major portion of the untreated wastewater is being released into the Daugava River by Rigas Miesnieks, a meat processing plant, and by an autoelectric machinery manufacturing plant, a paint and varnish plant, and the Riga diesel plant; the VEF plant is also to blame, because its treatment facilities are not regulated and it operates indiscriminately.

In carrying out complementary inspections of the above-mentioned plants, the EPC RL specialists found that the plant managers were under the impression that they were not polluting the water to such a great extent. A portion of the wastewater from Rigas Miesnieks is already being treated, and they are also considering building their own treatment facilities. The paint and varnish plant has cleaned up the territory it had polluted by paint pigments, which, during a rain storm, would run off with the water into the Daugava River. The managers of this plant have promised to complete their treatment facilities in 1994. If it is not done by then, the plant will have to close. Major problems exist at present with the wastewater from the diesel and autoelectric machinery manufacturing plants, which contains heavy metals. Removal of the latter requires a different type of treatment facility.

In follow-up inspections of these plants, the EPC RL revealed many unpleasant facts—much of the Riga district's residential sewage is flowing, untreated, into the Daugava River. Only the sewage from Purvciems, Teika, Ciekurkalns, Sarkandaugava, and Mezaparks is being treated.

The treatment facilities for the Press House are not working effectively, because they are not connected to the communal sewage treatment system. The job is supposed to be carried out by the city enterprise, Water Supply and Canalization, but the enterprise workers, who were responsible for the sewage drainage until now, have refused to do the job, although they have received payment for work in all previous years. The enterprise leader, Uldis Bambe, explain to DIENA on his behalf, that he has not received any money this year, and the enterprise under his leadership has no funds to connect the treatment facilities.

After 20 years of construction, the sewage pumping station in Riga on the left bank of the Daugava has been completed, although it is also not operating to full capacity, because the pumping station by Akmens (formerly Oktobra) Bridge has been put out of commission due to a lack of funds.

Sewage from Agenskalns, Tornakalns, and Marupe is also flowing untreated into the Daugava River.

Due to a lack of funds, the managers of the Straume factory are also debating whether or not to put their

pumping station out of commission, because in these hard economic times, it is impossible to obtain 15 million rubles for the completion of construction. However, placing the station out of commission will require 4 million rubles. If this money is not available, then damage caused by the untreated wastewater can amount to over 20 million rubles.

"I can't believe that the city of Riga, after selling off its property for the purpose of getting funds for the construction of treatment facilities and pumping stations, was not able to find 15 million rubles for this ecologically super-important construction," said V. Galanskis, adding that 15 million rubles is not such a large sum in these times. It is not clear to him why funds could be found for setting up the Dunte-Bukulta collection point, which is no longer as important an objective as the mentioned pumping stations in Pardaugava.

"Last week, representatives of some Baptist congregation paid us a visit and offered to donate money for completion of the pumping stations," recalled Janis Zirnis, chief specialist of the EPC RL. In his opinion, along with the Children's Fund and various mercy funds, there could also be a fund for the Daugava River and Baltic Sea, which would not be any less important.

Speaking about the treatment facilities in Riga, V. Galanskis explained to DIENA that the methane tanks are already operating at full capacity, and the result of their sludge processing is 2,000 cubic meters of gas per 24 hours, which is readily used as fuel.

There is no foundation for the statement made by specialists that sludge will present problems for the treatment facilities because there is no place to put it. V. Galanskis explained that already today, forest and garden overseers, as well as agricultural managers can receive sludge, which is an excellent organic fertilizer, since it has been possible to remove most of the water from the sludge.

'Pro Terra' Sees Threat From Ignalina Nuclear Reactors

93P50011A Vilnius THE LITHUANIAN WEEKLY
in English 18-24 Sep 92 p 1

[Unattributed report in the "Newsline" column: "Ignalina Nuclear Reactors: Dangerous!"]

[Text] Speaking in Casablanca, Morocco, Peter von Liebig-Knips, representative of the international ecological organization "Pro Terra," stated that the nuclear reactors of the Ignalina nuclear power plant pose a threat to mankind and the environment.

According to Liebig-Knips, similar reactors which currently operate in Bulgaria, Bosnia, Turkey and Greece are also potentially dangerous. It is impossible to remake them into western technology-based nuclear facilities.

"Pro Terra" was set up in Germany, in May of this year, with the financial support of European governments and banks.

Problem of Protected Nature Areas in Lithuania
93P50011B Vilnius THE LITHUANIAN WEEKLY
in English 18-24 Sep 92 p 3

[Article by Alis Balbierius: "Protected Nature Areas"]

[Text] The problem of protected nature areas - reservations, preserves, national parks, etc. - has always been very acute in Lithuania. There were practically no state-guarded territories in pre-war independent Lithuania. During the five decades of Soviet occupation certain attempts were made to improve the ecological situation, but even the few Soviet-established nature reserves did not fulfill their direct function of protecting landscape and wildlife. For ideological and economic reasons, the process of creating national parks was suspended for several decades. For a long time, there was only one national park and one reserve in Lithuania. In some areas, nature conservation was hindered by the presence of Soviet military bases. For example, in Zemaitija, Lithuanian lowlands, a nuclear missile base located in a unique nature area was liquidated only in 1988, after the USSR and USA agreed to reduce their nuclear arsenals.

After Lithuania had proclaimed independence on March 11, 1990, environmental protection was finally recognized as a matter of state importance. In 1991, national parks were set up in Dzūkija (southern Lithuania), Zemaitija (lowlands) and Kuršių Nerija (Courland Spit) along with the Trakai Historical Park and Viesvile Reserve.

The nature conservation project provides that 10-15 percent of Lithuanian land be turned into state protected territories. At the present moment, there are 4 reserves, 5 national parks, 248 various preserves which make up only 6.07 percent of the total land area. The system of

national parks also includes extraordinary and spectacular scenic, biologic and geologic attractions: huge old trees, monumental and unusual stones, mineral and freshwater springs, colorful rock exposures; in all, 700 nature exhibits of this kind. Local authorities are also ready to declare some of their territories protected by the law. The Lithuanian Department of the Environment will present the Parliament with a list of 200 newly-established preserves for approval in the nearest future.

During the Soviet rule, environmental interests were always sacrificed for the so-called "planned" agriculture, economy, and, of course, communist ideology. Relentless land-reclamation, construction of gigantic industrial centers in the most picturesque spots of the countryside, unbalanced development of urban and rural areas stripped the Lithuanian landscape of its natural beauty and diversity.

However, even today, the current economic and agricultural reforms sometimes result in a bitter clash between ecological and industrial concerns. With a deepening economic crisis and lack of financial resources, the authorities do not pay enough attention to the problems of nature conservation. The Parliament is in no hurry to pass a package of laws on environmental protection, while the government is willing to return environmentally valuable plots of land to their pre-war owners instead of buying them out. Environmentalists, scientists and the Green movement speak out against this rash governmental policy but their demands are not always heeded to.

It is of major importance to officially include all sites of ecological and historic significance into the system of national parks so as to avoid fatal environmental mistakes which cannot be rectified. Of course, this is hard and painstaking work - not a one-day job - since the interests of various ministries, departments, land owners and environmentalists must be carefully sorted out. The road toward green and unpolluted Lithuania has proved to be a long and bumpy one.

REGIONAL AFFAIRS

Russians Ask Finland, Norway To Double Kola Cleanup Funds

92WN0796B Helsinki HELSINGIN SANOMAT
in Finnish 6 Sep 92 p 2

[Unattributed report: "Russian Pollution Blackmail"]

[Text] Russia tries hard to turn the environmental concerns of Finland, Norway, and other countries into hard cash. The latest twist in the modernization of the nickel foundries on the Kola Peninsula is a good illustration of the ugliness of Russian politics in this area. The Russians demand that Finland and Norway double their earlier offer of 400 million markkas in aid for the project. It is not enough for the polluters to receive credits and favorable repayment terms from Outokumpu and state-of-the-art technology from Elkem.

The cleaning of sulfur emissions from the nickel foundry would cost almost 3 billion markkas, but the attitude taken by Russia is still not conducive to good-neighbor relations. The nickel mill spews out 300,000 metric tons of nickel into the atmosphere every year, part of which also reaches Finland and Norway. Over a period of time, the mill could easily use a moderate part of its annual revenues to pay for the offered technology, which would also considerably prolong the life span of the foundry.

It is really a question of domestic wrangling in Russia. The Russians want to convert to a market economy but still maintain their earlier control. A business cannot, without permission from the state, use its revenues for necessary renewal projects. Aside from the supplementary expense calculations, the negotiations were also slowed down by old attitudes and old *modi operandi*. During the time of the USSR, many projects required years and demanded persistence and patience from the Finns. And that is what is also needed today.

The inclination by the disappointed Norwegians to let the nickel mill fall apart is understandable but irresponsible. The terrible destruction caused by sulfur on the Kola Peninsula has occurred quickly, in only 20 years from the time the local nickel mine was depleted of ore. Even five more years of worsening nickel fallout is too great a threat. The continued negotiations require even greater efforts, as no other options to stop the destruction are available.

FINLAND

Trial Project To Manage Private Forest Areas Initiated

92WN0796A Helsinki HELSINGIN SANOMAT
in Finnish 5 Sep 92 p 7

[Article by Timo Siukonen: "Forestry Boards To Manage Protected Private Forest Areas"]

[Text] The Environmental Ministry and Metsakeskus Tapio have reached a joint agreement about the marking and management of protected, privately owned forests. A trial project was initiated by the county governments through the Forest Boards of central Finland and Uusimaa-Hame, in 11 regions, on the behalf of the Environmental Ministry. The total fund allocation for this project is about 700,000 markkas.

The trial constitutes a step forward in an effort to organize management of protected areas. Last winter, Metsakeskus Tapio made its expertise and Forest Boards available, for a fee. After considering some other options, such as using the rural districts, the Environmental Ministry agreed to the proposal.

Endangered Species To Be Classified

The work commenced at 11 different locations, on 20 to 30 hectare areas. The total number of nature preserves in the whole country is almost 1,000. The size of the total area is almost 20,000 hectares, and the water area is almost 40,000 hectares.

Doctor of Agriculture and Forestry Ari Laaperi, who is employed by the Forestry Board of Uusimaa and Hame, told us with great enthusiasm about the interesting nature of the work. He also noted how exacting and demanding the work is. The detailed study of the nature preserves requires excellent biologists, the country's foremost botanists, ornithologists, and entomologists, as well as forestry experts.

The work in the protected areas is performed in sections as small as 100 square meters each. The endangered species are classified and their living conditions are studied. The trees and other flora and fauna are observed. Finally, ecological plans are prepared and submitted for approval to the county governments and the forest owners.

According to Laaperi, it is important that lasting rules for cooperation are established with public officials and landowners. Some positive examples can already be seen, such as the landowners who, among other things, have organized volunteer workers for the marking of boundaries.

Water, Land Pollution in South To Be Surveyed

92WN0796C Helsinki HELSINGIN SANOMAT
in Finnish 7 Sep 92 p 9

[Article by Jukka Perttu: "Helsinki Pollution Survey"]

[Text] The Helsinki Water and Environment District has prepared a preliminary study on soil pollution. About 700 polluted areas were found.

The study was part of a national survey and cleaning project involving soil pollution. The main purpose was to locate areas on land which had been polluted by chemical and waste dumping. In groundwater areas, sites at risk for groundwater pollution were located.

The Helsinki Water and Environment District encompasses the Province of Uusimaa and parts of the Province of Häme. The primary soil polluters in the district consist of sawmills, service stations, and auto repair shops, and garbage dumps. The largest and most polluted areas are mainly located in larger urban regions.

The main problems in rural areas are chemicals used by sawmills and impregnating plants, as well as industry located in groundwater areas.

Cleanup Considered

Planner Kaija Savolainen told us that the next task for the Water and Environment District is, among other things, to study which areas should be cleaned up during a period of five to 20 years from now.

Cleanup will become imminent if chemical compounds seep into the environment from the area, and the pollutants are, for example, endangering the groundwater, or if housing units are built in the area.

Cleanups are very expensive, and no fund has yet been set up to provide money for the study of polluted areas.

In principle, the studies and the cleanup should be paid for by the polluter and the landowner.

Senior researcher Tapio Strandberg, from the National Board of Waters and Environment, estimates that the cleanup efforts will pick up again during the next boom, as construction again regains speed.

In rural areas, it is common for old sawmills to occupy valuable lots near the center of the community and on lakeshores.

"We in Finland have only practical experience from a few cleanup efforts," said Strandberg. Composting has been used to clean up sawmill yards polluted by chlorophenol and areas polluted by oil. The Ekokem hazardous waste plant has destroyed pollutants by burning them. Also, for some time, mounds of polluted soil have been covered by concrete. For the most part, however, polluted soil has been taken to dump sites. But lately dump site requirements have become more and more stringent.

The soil pollution cleanup project is most likely going to present its cleanup cost estimate for the areas involved at the end of the year.

GERMANY

Partnerships Concluded With Eastern European Nuclear Plants

AU3009162692 Hamburg DIE WELT in German
30 Sep 92 p 13

["HH" report: "Help for Eastern European Nuclear Power Plants"]

[Text] Bonn—In order to improve the safety of nuclear power plants of the Soviet type, the operators of German nuclear power plants will support their Eastern European colleagues free of charge in the future. As Joachim Grawe, general manager of the Association of German Electric Power Plants (VDEW) told DIE WELT, the basis for cooperation was created with partnerships for all 17 nuclear power plants in the Commonwealth of Independent States (CIS) and in Eastern Europe (except for Kozloduy).

The German operators have an advantage because of the mere fact that since German unification in virtually all the sites there have been eastern German experts who speak Russian and formerly worked in the Greifswald nuclear power plant (of Soviet production), which has meanwhile been closed down, it was stated. There a simulator for Eastern European reactor operators is planned since they are familiar with this model.

The question of partnerships with reactors of the Chernobyl type (RBMK) was regarded as particularly delicate. Originally, it was accepted that these reactors would soon be closed down, so no cooperation was planned. "In the West, it is beginning to be accepted that it is not possible to switch them off immediately because of the high level of dependence on their output," Grawe stressed.

The compromise: For RBMK reactors, cooperation contracts (for example, Grohnde with Chernobyl) were limited to one year, while for the rest they are unlimited. According to Grawe, "no responsibility is assumed" with the conclusion of the contracts. Moreover, according to the knowledge of the World Association of Nuclear Operators (WANO), which also supported the conclusion of the German cooperation contracts, measures to improve operations and safety have been taken in the former Soviet Union since the Chernobyl catastrophe. Question of organization, quality securing, the training of reactor operators, maintenance, measuring, radiation protection, public relations, and contacts with the authorities are in the foreground of the German help.

This know-how transfer, that is, the software, cannot replace the hardware—the "real investments." A financier has not yet been found for the relief program for the improvement of plants that was presented by Environment Minister Klaus Toepfer at the Munich world economic summit and whose costs are estimated at between \$12 and 20 billion.

It has recently also been heard in Moscow that the producers want to pursue the development in the CIS itself and "only" want to avail themselves of Western financing.

Hesse, Lower Saxony Plan To Phase Out Nuclear Energy

AU0110152692 Frankfurt/Main FRANKFURTER RUNDSCHAU in German 1 Oct 92 p 1

["me" report: "Two Laender Are Planning To Phase Out Nuclear Energy"]

[Text] Wiesbaden, 30 September—The laender of Hesse and Lower Saxony, both of which are governed by a coalition between the Social Democrats and Greens, are planning to propose a "law on phasing out nuclear energy" in the Bundesrat, in response to the plans of Federal Environment Minister Klaus Toepfer (Christian Democratic Union) to amend Bonn's nuclear law. The objective of the initiative is a "multi-laender draft" as a replacement for the current nuclear law, Hesse Environment Minister Joschka Fischer (Greens) said in Wiesbaden on 30 September, and thus a clear opposite position by the majority of the laender chamber to the course of the Federal Government. In a "situation that is dramatically changing, in terms of power policy on the federal and laender level," the issue of nuclear energy also urgently requires a "decision."

The Hessian-Lower Saxon motion first intends to adopt ten "vital points" for a phase-out law in the Bundesrat, on the basis of which a subsequent draft law should be worked out. These vital points include that no new licenses for building and operating nuclear plants will be granted, with the exception of plants for the treatment of radioactive waste (such as plutonium). Only final storage without reprocessing should be accepted as valid evidence for the disposal of nuclear plants.

Contracts on nuclear reprocessing abroad should be canceled, and reprocessing in Germany should be banned. Under this condition, Hesse will not refuse to make "its contribution" in order "eventually to phase out" the plutonium economy, Fischer said.

TURKEY**Environmental Cooperation Agreement Signed With Germany**

TA0610080892 Ankara TRT Television Network in Turkish 1800 GMT 5 Oct 92

[Text] Turkey and Germany will conduct closer cooperation in the field of environmental protection. During the signing ceremony of an agreement on the subject in Istanbul today, Environment Minister Dogancan Akyurek said that bilateral and regional cooperation activities play an important role in the resolution of global environmental problems. Announcing that Germany will give Turkey 40 million Deutsche marks to be used in the field of environment, Akyurek stressed that the project, which will be implemented next year, will contribute to the solution of the problems.

In his statement, German Environment Minister Klaus Toepfer pointed out that Germany and Turkey have similar environmental problems.

UNITED KINGDOM**Rules on Factory Emissions Testing Changed**

92WN0765A London THE DAILY TELEGRAPH in English 24 Aug 92 p 5

[Article by Charles Clover, environment editor: "Water Pollution Controls May 'Slip Back to '50s' Level"]

[Text] Standards for controlling pollution in rivers may deteriorate to those of the 1950s, claim staff of National Rivers Authority which is to stop testing water for emissions from Britain's 5,000 major factories.

Companies are to test their own emissions and will be responsible for reporting when they have broken the law, according to changes disclosed in a leaked NRA memo.

Only last month, the Royal Commission on Environmental Pollution criticised the "poor monitoring" of river pollution and called for testing to be stepped up.

NRA staff believe the changes could significantly reduce standards, particularly in the industrial heartland on the Tees and the Mersey.

The change follows the transfer of responsibility for monitoring industrial pollution in rivers from the NRA to HM Inspectorate of Pollution (HMIP) under a new system of integrated pollution control, which began in 1991.

Under this system the inspectorate becomes responsible for monitoring water pollution as well as air pollution and waste.

The inspectorate has a far smaller staff than the NRA and has decided to make the operators of chemical plants, refineries and smelters responsible for their testing.

A spokesman for the Department of the Environment said yesterday that the inspectorate would make spot checks to ensure that the companies' testing procedures were working properly.

HMIP has a far weaker track record than the NRA on prosecuting polluters, and environmentalists believe the new system is likely to mean fewer prosecutions.

HMIP was also criticised by the National Audit Office last year for carrying out too few plant inspections.

There has been confusion between HMIP and the NRA since the NRA was set up in 1989 and there has been an overlap of responsibilities.

The leaked memo clarifies the situation and NRA staff were astonished to find mooted changes were to proceed.

Mr Tim Birch, toxics campaigner for Greenpeace, attacked the decision.

"People were expecting a tighter system of regulation. We are now taking 10 steps back instead of moving forward. To all intents and purposes the polluters will be responsible for prosecuting themselves," he said.

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